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DIFFERENTIATING STRICT PRODUCTS LIABILITY'S COST-BENEFIT ANALYSIS FROM NEGLIGENCE

Paul F. Rothstein & Ronald J. Coleman

ABSTRACT: Dangerous products may give rise to colossal liability for commercial actors. Indeed, in 2021, the U.S. Supreme Court denied certiorari in Johnson & Johnson v. Ingham, permitting a more than two billion dollar products liability damages award to stand. In his dissenting opinion in another recent products liability case, Air and Liquid Systems Corp. v. DeVries, Justice Gorsuch declared that “[t]ort law is supposed to be about aligning liability with responsibility[.]” However, in the products liability context, there have been ongoing debates concerning how best to set legal rules and standards on tort liability. Are general principles of negligence enough to protect the public or is a strict liability system preferable? If a strict liability system is preferred, what system should be adopted and how can standards be set that are stricter than negligence but not overly draconian? The current strict products liability paradigm is predicated upon—at least in many courts and for certain categories of product defects—a “risk-utility” or “cost-benefit” analysis conducted by the fact-finder. While such cost-benefit form of strict liability offers flexibility, many have charged that it is really no different from ordinary negligence, which itself contemplates very similar balancing. We disagree. In this Article, we isolate a discrete decisional framework within which strict liability balancing can be situated, and we then identify and discuss five plausible standards that preserve a cost-benefit balancing, are stricter than negligence, and do not constitute absolute or excessively strict liability.

I. INTRODUCTION

Dangerous products may give rise to colossal liability for commercial actors. Indeed, in 2021, the U.S. Supreme Court denied certiorari in *Johnson & Johnson v. Ingham*, permitting a more than two billion dollar products liability damages award to stand.¹ In his dissenting opinion in another recent products liability case, *Air and Liquid Systems Corp. v. DeVries*, Justice Gorsuch declared that “[t]ort law is supposed to be about

¹ See *Johnson & Johnson v. Ingham*, 141 S. Ct. 2716 (2021) (Mem); *Ingham v. Johnson & Johnson*, 608 S.W. 3d 663 (Mo. Ct. App. 2020); Tiffany Hsu, *Johnson & Johnson Loses Bid to Overturn a \$4.7 Billion Baby Powder Verdict*, N.Y. TIMES (Dec. 19, 2018), <https://www.nytimes.com/2018/12/19/business/johnson-johnson-baby-powder-verdict.html>; *J&J loses Bid to Overturn Baby Powder Verdict, But Damages Cut to \$2.1 billion*, CNBC (June 23, 2020), <https://www.cnbc.com/2020/06/23/jj-loses-bid-to-overturn-baby-powder-verdict-but-damages-cut-to-2point1-billion.html>; Tucker Higgins, *Supreme Court Rejects Johnson & Johnson's Appeal of \$2 billion Penalty in Baby Powder Cancer Case*, CNBC (last updated June 1, 2021, 12:36 PM), <https://www.cnbc.com/2021/06/01/supreme-court-rejects-johnson-johnsons-appeal-of-2-billion-baby-powder-penalty.html>; Edward Segal, *Johnson & Johnson Faces Another Crisis After Supreme Court Decision*, FORBES (June 2, 2021), <https://www.forbes.com/sites/edwardsegal/2021/06/02/johnson--johnson-faces-another-crisis-after-supreme-court-decision/?sh=7e5faf1579a1>; Greg Stohr & Jef Feeley, *J&J to Pay \$2.1 Billion Talc Award as Top Court Nixes Appeal*, BLOOMBERG (June 1, 2021), <https://www.bloomberg.com/news/articles/2021-06-01/j-j-must-pay-2-1-billion-talc-award-as-top-court-rejects-appeal>.

aligning liability with responsibility[.]”² However, in the products liability context, there have been ongoing debates concerning how best to set legal rules and standards on tort liability. Are general principles of negligence enough to protect the public? Is a strict liability system preferable? If a strict liability system is preferred, what system should the law adopt and how can standards be set that are stricter than negligence but not overly draconian?

In the early to mid-Twentieth Century, U.S. courts had begun to feel that something stricter than negligence should be applied to commercial defendants releasing mass consumer products causing injury, in particular personal injury.³ It was felt that manufacturers—and potentially wholesalers, dealers, and other commercial sellers—were best-placed to handle and distribute the losses connected with their profit-making activities, that these commercial actors should bear such costs, and that incentives might reach a more optimal level under a strict liability regime than under negligence.⁴ Even as the paradigm has shifted from negligence to strict liability, however, absolute or excessively strict liability has continued to largely be disfavored.⁵

The current strict products liability paradigm is predicated upon—at least in many courts and for certain categories of product defects—a “risk-utility” or “cost-benefit” analysis conducted by the fact-finder.⁶ The fact-finder may balance the risks of designing a product in a certain way, or of failing to provide a certain warning on a product, against the benefits of designing or labeling the product as is.⁷ For instance, a fact-finder might need to balance the risk that a certain lawnmower designed without a safety guard will cause injury to a user against the utility of the lawnmower designed as is (e.g., its inexpensive price, lighter weight, and superior maneuverability).

While such cost-benefit form of strict liability offers flexibility, many have charged that it is really no different from ordinary negligence, which itself contemplates very similar balancing by the fact-finder.⁸ We disagree. In this Article, we isolate a discrete decisional framework within which strict liability balancing can be situated, and we then identify and discuss five plausible standards that preserve a cost-benefit balancing, are stricter than negligence, and do not constitute absolute or excessively strict liability.

The remainder of this Article will proceed as follows. Part II will offer background on strict products liability and briefly consider negligence principles. Part III will present our decisional framework and discuss our five plausible strict liability standards. Part IV will conclude. We hope that this Article will provide guidance for courts and future researchers, and add to the broader academic dialogue on strict products liability standards.

² *Air and Liquid Systems Corp. v. DeVries*, 139 S. Ct. 986, 999 (2019) (Gorsuch, J., dissenting).

³ See *infra* Part II.

⁴ *Id.* Interestingly, the same reasoning was not applied to certain other areas, such as the provision of services.

⁵ *Id.* Strict liability appears less about making a defendant absolutely liable whenever her product injures someone—without any other standard than cause, harm, and absence of the defenses—and more about applying a standard somewhat stricter than negligence’s “reasonable person” standard.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.* Negligence calls for a “reasonableness” balancing—what a reasonable person would do in the circumstances—and negligence’s Hand Formula, in particular, contemplates balancing the burden of taking precautions against the probability and gravity of resulting injury. *Id.*

II. STRICT PRODUCTS LIABILITY BACKGROUND

Modern products liability law in the U.S. may be fairly traced to the rise of strict products liability in the 1950s and 1960s, but the history began much earlier.⁹ The modern law may be seen as having largely evolved from the inter-relation of two concepts: (1) the idea that sellers should be considered strictly responsible for the defects in goods that they sell (i.e., a concept of strict liability drawn from a contract of sale); and (2) the idea that someone injured by a product that is defective may hold the product manufacturer responsive even in the absence of a contract of sale between the two (i.e., the irrelevance of contractual privity, drawn from tort law).¹⁰ In essence, it is a story of contractual warranty, the tort of negligence, and eventually the rise of “strict” tort liability for defective products. Although it is not here possible to trace a full history of products liability law, we will emphasize selected important events.¹¹

A. Early U.S. Law: Warranty, Negligence, and Privity

Products liability law’s development in the U.S. was slowed by two doctrines: privity of contract and *caveat emptor*.¹² *Caveat emptor* (“let the buyer beware”) found favor in certain early U.S. courts, perhaps reflecting the nation’s dedication to free

⁹ See David G. Owen, *The Evolution of Products Liability Law*, 26 REV. LITIG. 955, 956 (2007) [hereinafter *Evolution of Products Liability Law*] (noting “[i]mportant aspects of the modern law of products liability rest on principles of strict seller liability for defective goods rooted in custom and law as far back as the eye can see, at least to Roman law, which imposed an implied warranty of quality against defects on sellers of certain goods, a rule that may be traced to ancient Babylon, one or two thousand years before.”).

¹⁰ See *id.* at 956-57.

¹¹ There is also not much need to cover a more fulsome history, since that history has been adequately covered elsewhere. See, e.g., Keith N. Hylton, *The Law and Economics of Product Liability*, 88 NOTRE DAME L. REV. 2457, 2461 (2013) (“So much has been written on the development of products liability doctrine that there is little need for an extended discussion here.”); Gary T. Schwartz, *New Products, Old Products, Evolving Law, Retroactive Law*, 58 N.Y.U. L. REV. 796, 796–802 (1983) [hereinafter *New Products*]; George L. Priest, *The Invention of Enterprise Liability: A Critical History of the Intellectual Foundations of Modern Tort Law*, 14 J. LEGAL STUD. 461, 461 (1985) (“Since 1960, our modern civil liability regime has experienced a conceptual revolution that is among the most dramatic ever witnessed in the Anglo-American legal system.”); Kyle Graham, *Strict Liability at 50: Four Histories*, 98 MARQUETTE L. REV. 555, 558 (2014) (presenting “additional narratives” of the emergence of strict liability); David G. Owen, *The Intellectual Development of Modern Products Liability Law: A Comment on Priest’s View of the Cathedral’s Foundations*, 14 J. LEGAL STUD. 529, 529–30 (1985); John W. Wade, *Strict Product Liability: A Look at Its Evolution*, 19 THE BRIEF 8, 9 (1989) (providing the “story” of strict products liability); *Evolution of Products Liability Law*, *supra* note 9, at 955 (reviewing “from whence the law of products liability has come” and “where it presently resides.”).

¹² See *Evolution of Products Liability Law*, *supra* note 9, at 961.

enterprise and individualism.¹³ Privity of contract might have encompassed the concept that those not party to a contract could generally not sue upon it.¹⁴

In the later part of the 1800s, manufacturers were increasingly utilizing third-party retailers, which meant consumers typically dealt only with retailers contractually rather than with manufactures.¹⁵ This allowed manufactures sued in warranty in the late nineteenth and early twentieth centuries the “no privity of contract” defense, which defense was also proving effective in connection with negligence actions.¹⁶ Perhaps the most famous example in the negligence context was the English case, *Winterbottom v. Wright*, which also became a leading stateside authority.¹⁷ In *Winterbottom*, the Exchequer-

¹³ See *id.* at 958-62 (noting that “[w]hile some American courts toward the end of the [nineteenth] century finally began to abandon caveat emptor (replacing it with the opposite doctrine, caveat venditor, the implied warranty of quality), the caveat emptor principle persisted in most states in retailer cases even into the twentieth century.”). *Caveat emptor* has also been more recently defended, for instance, on the basis of freedom of exchange principles. See James M. Buchanan, *In Defense of Caveat Emptor*, 38 U. CHI. L. REV. 64, 72 (1970) (“As an economist who studies market processes, disciplinary prejudice alone suggests to me that departures from *caveat emptor* should be carefully scrutinized and accepted only after specific argument accompanied by convincing evidence. As an individualist, who places a high value on freedom of exchange, any limitations on the exchange process, either directly or indirectly, arouse my initial skepticism.”).

¹⁴ Friedrich Kessler, *Products Liability*, 76 YALE L. J. 887, 887-89 (1967) (“In the common law, for instance, courts were long reluctant to recognize that by assuming a contractual obligation to a buyer, a seller may also incur a duty to observe care for the protection of third parties. Tort liability arising out of breach of contract was limited (at least in the common law) by notions akin to privity.”); *Negligence in Relation to Privity Of Contract*, 30 YALE L. J. 607, 609-610 (“No doubt it was a current view that if A had made a contract with B, its operative effect was limited to legal relations between A and B, and that it excluded or limited any liability of A to C, apart from a contractual duty, arising out of an act which as between A and B was a breach of contract.”); Graham, *supra* note 11, at 561. One theory for strict liability placed it on a contractual basis—that there was some type of warranty of safety, express or implied, given by the defendant to the customer. However, application of contractual warranty principles in this context raised issues. For example, would there be privity between the ultimate consumer and a manufacturer or intermediary? If courts decided to find that national advertising by a manufacturer created a contract expressly or impliedly warranting safety to the ultimate consumer, what if the consumer did not read or rely on the relevant portion of the advertising (as required by warranty law)? Or, suppose a mere *bystander*—such as a pedestrian hit by a defendant’s defective car—were injured? The bystander would presumably not be in privity with anyone in the chain of producing or bringing the product to market, nor would the bystander have relied on any express or implied representation by relevant commercial actors.

¹⁵ *Evolution of Products Liability Law*, *supra* note 9, at 962.

¹⁶ See *id.* at 962-63 (“As was true with warranty claims, products liability claims brought in negligence were frustrated at an early date by the doctrine of privity of contract.”); Fleming James, Jr., *Products Liability*, 34 TEX. L. REV. 44, 61 (1955) (“As we have seen, however, courts were long unwilling to apply ordinary negligence principles between a victim and the maker of an article that injured him, unless the two stood in privity of contract.”); see also William L. Prosser, *The Implied Warranty of Merchantable Quality*, 27 MINN. L. REV. 117, 118 (1943) (noting “[i]n its inception, breach of warranty was a tort. The action was upon the case, for breach of an assumed duty, and the wrong was conceived to be a form of misrepresentation, in the nature of deceit and not at all clearly distinguished from deceit.”).

¹⁷ *Winterbottom v. Wright*, 152 Eng. Rep. 402 (1842); Kenneth S. Abraham, *Prosser’s The Fall of the Citadel*, 100 MINN. L. REV. 1823, 1826 (2016) (“The appropriate starting point for understanding the nature and history of the citadel [of privity] is the English case of *Winterbottom* . . . It was in *Winterbottom* that the citadel of privity was erected, or at least first recognized.”); Graham, *supra* note 11, at 561 (“The first landmark event in the history of modern products liability is the decision of the English Court of Exchequer in *Winterbottom*[,] . . . [which] quickly became the leading stateside authority for a ‘privity of contract’ (or simply ‘privity’) requirement for the recovery in negligence against a manufacturer, wholesaler, or retailer for injuries associated with a defective product.”); Wade, *supra* note 11, at 11 (“[T]he next 75 years after

Chamber found that an injury victim was unable to maintain a negligence suit against the provider of a defective product absent privity of contract.¹⁸ *Winterbottom* was understood to have held that plaintiffs could not recover for products-related injuries in tort absent privity of contract.¹⁹

Even in the post-*Winterbottom* nineteenth century, however, certain U.S. courts may be seen to have partially cut back on the protections of privity. For example, in *Thomas v. Winchester*, a case concerning falsely labeled poison, the New York Court of Appeals seemingly recognized an exception for inherently dangerous products like poison.²⁰ The scope of products falling into this exception was expanded, for instance, in *Devlin v. Smith*, a case concerning a contractor who built a painter's allegedly defective scaffolding, but could still be held liable when the painter's workers were injured.²¹ Limitations on the privity rule would continue in the twentieth century.

B. Decline of Privity

In *MacPherson v. Buick Motor Co.*, a negligence case in New York, then-Chief Judge Benjamin Cardozo, writing for the court, seemed to largely abandon the "privity" rule.²² The *MacPherson* defendant was a car manufacturer, who sold a car to a dealer,

Winterbottom . . . were spent in trying to find some legitimate means of circumventing the barrier created by the requirement of privity of contract. The case was regarded as laying down the common law rule in the United States, too.").

¹⁸ See *Winterbottom*, 152 Eng. Rep. at 402-03; *Evolution of Products Liability Law*, *supra* note 9, at 960.

¹⁹ Abraham, *supra* note 17, at 1826 (noting "[t]ort actions for negligence in making or supplying products that resulted in bodily injury were therefore precluded, in the absence of privity between the maker or supplier and the injured party."); *Evolution of Products Liability Law*, *supra* note 9, at 960 ("[*Winterbottom*] held that an injury victim could not maintain a negligence action against a seller of a defective product in the absence of privity of contract."). In England, it would not be until the famous case of *Donoghue v. Stevenson* in 1932 that England would abolish the privity defense for negligence. See *Donoghue v. Stevenson* [1932] UKHL 100 (action based on snail in ginger beer bottle); *Evolution of Products Liability Law*, *supra* note 9, at 960.

²⁰ *Thomas v. Winchester*, 6 N.Y. 397, 408-09 (1852) ("But the case in hand stands on a different ground [than *Winterbottom*]. The defendant was a dealer in poisonous drugs. . . . The death or great bodily harm of some person was the natural and almost inevitable consequence of the sale of [the poison] by means of the false label."); Graham, *supra* note 11, at 563-64 ("the New York Court of Appeals [in *Thomas*] genuflected to *Winterbottom*'s reasoning and result, but found its rule inapposite in situations where the product involved was 'imminently dangerous to human life.'").

²¹ *Devlin v. Smith*, 89 N.Y. 470, 478 (1882) ("[The contractor] undertook to build a scaffold ninety feet in height, for the express purpose of enabling the workmen of [the painter] to stand upon it to paint the interior of the dome. Any defect or negligence in its construction, which should cause it to give way, would naturally result in these men being precipitated from that great height. A stronger case where misfortune to third persons not parties to the contract would be a natural and necessary consequence of the builder's negligence, can hardly be supposed, nor is it easy to imagine a more apt illustration of a case where such negligence would be an act imminently dangerous to human life. These circumstances seem to us to bring the case fairly within the principle of *Thomas v. Winchester*."); Abraham, *supra* note 17, at 1826. Other perceived exceptions were also observable in the late nineteenth and early twentieth centuries. See, e.g., *Torgesen v. Schultz*, 192 N.Y. 156, 157-61 (1908) (explosion of aerated water siphon bottle); *Statler v. George A. Ray Mfg. Co.*, 195 N.Y. 478, 480-82 (1909) (explosion of large coffee urn); Graham, *supra* note 11, at 564 (discussing exceptions in other jurisdictions).

²² See *MacPherson v. Buick Motor Co.*, 217 N.Y. 382 (1916); Hylton, *supra* note 11, at 2461 ("The privity requirement was effectively abandoned in Cardozo's celebrated decision in *MacPherson*."); see also Douglas A. Kysar, *The Expectations of Consumers*, 103 COLUM. L. REV. 1700, 1709 (2003) ("Products

from whom plaintiff purchased it.²³ Plaintiff was thrown out of the car and injured, allegedly due to a defect in one wheel, which defendant had purchased from another manufacturer.²⁴ The question to be decided was whether defendant owed a duty to anyone aside from the immediate purchaser.²⁵ Judge Cardozo found the *Thomas v. Winchester* principle was not limited to “poisons, explosives, and things of like nature,” and that “[i]f the nature of a thing is such that it is reasonably certain to place life and limb in peril when negligently made, it is then a thing of danger.”²⁶ He determined that if, to the danger element, was added knowledge that the item would be used by those other than the item’s purchaser (and without new tests), the manufacturer would be under a duty to make the item carefully irrespective of contract.²⁷ He proclaimed:

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.²⁸

Other U.S. courts would begin adopting the *Macpherson* principles in the years to follow,²⁹ and close to thirty years later, the California case of *Escola v. Coca-Cola Bottling Co. of Fresno*, was decided.³⁰ In *Escola*, a waitress plaintiff was injured when a Coke bottle broke in her hand.³¹ She pursued a negligence action to recover from Coca-Cola, who had been responsible for bottling and delivering the allegedly defective Coke bottle to the waitress’s employer.³² The waitress prevailed on a negligence theory and the judgment was affirmed by the California Supreme Court, but the case is most noteworthy for Justice Roger Traynor’s concurrence.³³ Justice Traynor believed that product manufacturers should incur an “absolute liability” when they put a defective article on the market that they knew would be used without inspection and that caused injury.³⁴ As Justice Traynor said:

liability law was much simpler prior to Judge Cardozo’s landmark opinion in *MacPherson v. Buick Motor Co.*: It did not exist.”); James A. Henderson, Jr., *Judicial Review of Manufacturers’ Conscious Design Choices: The Limits of Adjudication*, 73 COLUM. L. REV. 1531, 1545-46 (1973) (“Chief Judge Cardozo . . . overturned the defense of lack of privity in negligence actions involving flawed products, and denied forever to American courts the no duty-privity rule escape route.”).

²³ *MacPherson*, 217 N.Y. at 384.

²⁴ *Id.* at 384-85.

²⁵ *Id.* at 385.

²⁶ *Id.* at 389.

²⁷ *Id.*

²⁸ *Id.* at 390.

²⁹ See Graham, *supra* note 11, at 567 (noting “a substantial majority of states adopted the *MacPherson* rule between 1916 and 1960.”); see also *New Products*, *supra* note 11, at 798 (“[I]n the decades following *MacPherson* (and its sequelae), manufacturers became subject to broad liability, under a negligence theory, for what the law now refers to as ‘manufacturing defects.’”).

³⁰ *Escola v. Coca-Cola Bottling Co.*, 24 Cal. 2d 453 (1944).

³¹ *Id.* at 456.

³² *Id.*

³³ *Id.* at 461.

³⁴ *Id.*

Even if there is no negligence . . . public policy demands that responsibility be fixed wherever it will most effectively reduce the hazards to life and health inherent in defective products that reach the market. It is evident that the manufacturer can anticipate some hazards and guard against the recurrence of others, as the public cannot. . . . The cost of an injury and the loss of time or health may be an overwhelming misfortune to the person injured, and a needless one, for the risk of injury can be insured by the manufacturer and distributed among the public as a cost of doing business. It is to the public interest to discourage the marketing of products having defects that are a menace to the public. If such products nevertheless find their way into the market it is to the public interest to place the responsibility for whatever injury they may cause upon the manufacturer, who, even if he is not negligent in the manufacture of the product, is responsible for its reaching the market.³⁵

Justice Traynor found that a manufacturer's obligation to consumers needed to keep pace with changes in the manufacturer-consumer relationship and could not be escaped because marketing of products had become more complicated and sometimes required intermediaries.³⁶ He noted that there was more reason to impose liability on a manufacturer than a retailer, who is simply a conduit and is unable to test the manufacturer's product.³⁷

Then, in 1960, *Henningsen v. Bloomfield Motors, Inc.* may be seen as marking the true decline of privity.³⁸ In *Henningsen*, husband and wife plaintiffs had sued the dealer and manufacturer of an allegedly defective car for injuries sustained by the wife.³⁹ In considering the implied warranty argument, the court recognized that the movement toward jurisdictions departing from the privity requirement was "gathering momentum[.]"⁴⁰ Under modern conditions, an ordinary layman had neither the capacity nor the opportunity to inspect the car or decide on its fitness for use.⁴¹ Instead, the layman had to rely on the

³⁵ *Id.* at 462.

³⁶ *Id.* at 467-68.

³⁷ *See id.* at 468; *see also* William L. Prosser, *The Assault Upon the Citadel (Strict Liability to the Consumer)*, 69 *YALE L. J.* 1099, 1120-24, 1148 (1960) [hereinafter *The Assault Upon the Citadel*] (discussing *Escola* and arguing "[t]he assault upon the citadel of privity is proceeding in these days apace."); James, Jr., *supra* note 16, at 44 ("The citadel of privity has crumbled, and today the ordinary tests of duty, negligence and liability are applied widely to the man who supplies a chattel for the use of another.").

³⁸ *See Henningsen v. Bloomfield Motors, Inc.*, 32 N.J. 358 (1960); *Evolution of Products Liability Law*, *supra* note 9, at 963 (noting that in *Henningsen* "the New Jersey Supreme Court forcefully repudiated the privity bar[.]"); Graham, *supra* note 11, at 556 ("In 1960, the New Jersey Supreme Court breached the walls of the 'citadel' of privity in *Henningsen*[], a warranty case."); *see also* Kysar, *supra* note 22, at 1710 ("[J]ust as MacPherson earlier had recognized a negligence-based cause of action for injuries caused by defective products, *Henningsen* firmly established a warranty-based cause of action for such injuries.").

³⁹ *Henningsen*, 32 N.J. at 364-70. The wife was not party to the purchase agreement. *Id.* at 412.

⁴⁰ *Id.* at 380-83 (noting "[m]ost of the cases where lack of privity has not been permitted to interfere with recovery have involved food and drugs.").

⁴¹ *Id.* at 384.

manufacturer or dealer.⁴² In such a context, the manufacture’s obligation should not be based solely on privity, but should rest upon “the demands of social justice.”⁴³ If privity were required, under modern circumstances, it “exist[ed] in the consciousness and understanding of all right-thinking persons” and an implied manufacturer’s warranty may accompany the car into the ultimate purchaser’s hands. Accordingly, where manufacturers placed cars into the “stream of trade” and promoted their purchase to the public, the implied warranty that the car was reasonably suitable for use accompanied the car “into the hands of the ultimate purchaser.”⁴⁴ The court found it unnecessary to consider the negligence claim given the result the court reached on other aspects of the case.⁴⁵

One of the foremost torts authorities, William Prosser, fixed the *Henningsen* decision as the “date of the fall of the citadel of privity[.]”⁴⁶ Other states, such as New York, soon followed New Jersey and also eliminated or pared back the privity requirement for warranty claims.⁴⁷ Prosser would call what followed *Henningsen* “the most rapid and altogether spectacular overturn of an established rule in the entire history of the law of torts.”⁴⁸

C. Rise of Strict Liability

In the years before Justice Traynor’s *Escola* opinion—and echoed in such opinion—William Prosser had written on the merits of strict products liability.⁴⁹ Indeed, the concept of strict liability more generally evolved long before, including in the famous 1868 English case of *Rylands v Fletcher*, in which Lord Hugh Cairns seemingly endorsed the following strict liability-type language:

⁴² *Id.*

⁴³ *Id.*

⁴⁴ *Id.* (finding “[a]bsence of agency between the manufacturer and the dealer who makes the ultimate sale is immaterial.”). In connection with the wife specifically, the court acknowledged that past cases had generally considered actions against a manufacturer where the purchaser only had contractual privity with a dealer, but determined that past principles were similarly applicable to the wife’s context. *Id.* at 413.

⁴⁵ *Id.* at 416.

⁴⁶ See William L. Prosser, *The Fall of the Citadel (Strict Liability to the Consumer)*, 50 MINN. L. REV. 791, 791-93 (1966) [hereinafter *Fall of the Citadel*] (noting “[t]he method of storming [the citadel of privity] was not unlike that of Cardozo in *MacPherson*[.]”); see also Abraham, *supra* note 17, at 1824 (describing Prosser as “the foremost torts authority of his time.”).

⁴⁷ See Graham, *supra* note 11, at 575-76; see also *Goldberg v Kollsman Instrument Corp.*, 12 N.Y. 2d 432, 436 (1963) (“A breach of warranty, it is now clear, is not only a violation of the sales contract out of which the warranty arises but is a tortious wrong suable by a noncontracting party whose use of the warranted article is within the reasonable contemplation of the vendor or manufacturer.”); *Codling v Paglia*, 32 N.Y. 2d 330, 335 (1973) (“We hold that today the manufacturer of a defective product may be held liable to an innocent bystander, without proof of negligence, for damages sustained in consequence of the defect.”).

⁴⁸ *Fall of the Citadel*, *supra* note 46, at 793-94 (noting “[o]ther courts, in steadily increasing numbers, fell into line.”); *New Products*, *supra* note 11, at 804 (noting “Prosser also recognized from an early date that ‘an honest estimate might very well be that there is not one case in one hundred brought against manufacturers in which strict liability would result in recovery where negligence does not.’”).

⁴⁹ Graham, *supra* note 11, at 569 (“In the first edition of his Handbook of the Law of Torts treatise, published in 1941, William Prosser related the case for the imposition of strict liability upon the manufacturers of defective products.”).

[T]he person who, for his own purposes, brings on his land and collects and keeps there anything likely to do mischief if it escapes, must keep it in at his peril; and if he does not do so, is *prima facie* answerable for all the damage which is the natural consequence of its escape.”⁵⁰

Justice Traynor’s *Escola* opinion has been identified with several rationales for strict liability.⁵¹ Perhaps the most influential of these rationales have been referred to as the: (1) “deterrence” rationale (“strict products liability provides an incentive for the party best able to control product accidents to take steps to minimize their occurrence”); (2) “reliance” rationale (“strict products liability is an improvement over negligence because consumers in the era of mass production have relied on the assurances of manufacturers”); (3) “insurance” rationale (“strict products liability is desirable because it spreads the risks of injuries caused by defective products”); and (iv) “administrative costs” rationale (“strict

⁵⁰ *Rylands v Fletcher*, L.R. 3 H.L. 330, 339-40 (1868); see also Peter B. Kutner, *The end of Rylands v. Fletcher—II: Burnie Port Authority v. General Jones Pty. Ltd.*, 31 TORT & INS. L.J. 663, 663 (1996) (“Liability under ‘the rule in *Rylands v. Fletcher*’ has been a fundamental doctrine of strict liability in tort for more than one hundred years. Long accepted by the weight of authority in the United States as well as in other countries with legal systems founded upon English common law[.]”); Ezra Ripley Thayer, *Liability Without Fault*, 29 HARV. L. REV. 801, 801-815 (1916) (discussing doctrine of *Rylands*); *Torts—Collecting Dangerous Substances on One’s Premises—Rule in Rylands v. Fletcher*, 30 YALE L. J. 200, 200-201 (1920) (same). *Rylands* had recognized a kind of strict liability for defendant permitting water to escape from his reservoir, which caused damages to plaintiff’s mines. *Rylands*, L.R. 3 H.L. at 330, 338-42. The common law had previously recognized strict liability for the keeping of wild animals who escaped and did injury, to which the *Rylands* incident was analogized. *Id.* at 340. From these principles, there emerged a notion that the escape of unusually dangerous things from one’s land created a strict liability, which eventually evolved into an ultra-hazardous activity or abnormally dangerous activity doctrine. See, e.g., *Spano v. Perini Corp.*, 25 N.Y. 2d 11, 15 (1969) (finding that “one who engages in blasting must assume responsibility, and be liable without fault for any injury he causes to neighboring property.”). There are two connotations of “unusual” in the wild animals and escaped water context: (1) the unusualness of the activity (keeping wild animals or storing a reservoir), especially in certain locations; and (2) the unusualness of the degree of hazard. Subsequent doctrine is somewhat vague on what is currently required in this regard. The courts did eventually remove—at least most courts in most instances—the formal requirement of some type of “escape” from one’s “land.” Many lawyers and judges still refer to this as “*Rylands v. Fletcher* liability,” even though the requirements may have changed. Of course, the ancient writ of trespass may have involved truly strict liability for directly caused injuries—at least according to a widely subscribed scholarly school of thought—but that period was replaced (certainly by the nineteenth century) by a predominantly fault-based system of torts. See, e.g., Charles O. Gregory, *Trespass to Negligence to Absolute Liability*, 37 VA. L. REV. 359, 361-62 (1951); Morris S. Arnold, *Accident, Mistake, and Rules of Liability in the Fourteenth-Century Law of Torts*, 128 U. PA. L. REV. 361, 375-77 (1979); Gary T. Schwartz, *Tort Law and the Economy in Nineteenth-Century America: A Reinterpretation*, 90 YALE L.J. 1717, 1723-27 (1981); John C.P. Goldberg & Benjamin C. Zipursky, *The Strict Liability in Fault and the Fault in Strict Liability*, 85 FORDHAM L. REV. 743, 786-87 (2016); Gary T. Schwartz, *The Character of Early American Tort Law*, 36 UCLA L. REV. 641, 672 (1989); John Fabian Witt, *Toward a New History of American Accident Law: Classical Tort Law and the Cooperative Firstparty Insurance Movement*, 114 HARV. L. REV. 690, 704-05 (2001).

⁵¹ See *Escola*, 24 Cal. 2d at 462-68; *The Assault Upon the Citadel*, *supra* note 37, at 1120; see also James, Jr., *supra* note 16, at 44.

products liability gets courts to the same endpoint that they would reach under the negligence rule, but does so in a cheaper fashion”).⁵²

Then, in *Greenman v. Yuba Power Products, Inc.*, Justice Traynor had the opportunity to actually adopt strict products liability.⁵³ In *Greenman*, the plaintiff brought a negligence and breach of warranty suit against the manufacturer and retailer of an allegedly defective power tool for injuries suffered while using the tool.⁵⁴ The jury, among other things, returned a verdict for the plaintiff against the manufacturer, and the manufacturer appealed.⁵⁵ Justice Traynor, writing for the court, affirmed the lower court judgment, and found that a manufacturer was “strictly liable in tort when an article” she places on the market, knowing “it is to be used without inspection for defects, proves to have a defect that causes injury” to an individual.⁵⁶ Said Justice Traynor:

Although in these [past] cases strict liability has usually been based on the theory of an express or implied warranty running from the manufacturer to the plaintiff, the abandonment of the requirement of a contract between them, the recognition that the liability is not assumed by agreement but imposed by law and the refusal to permit the manufacturer to define the scope of its own responsibility for defective products make clear that the liability is not one governed by the law of contract warranties but by the law of strict liability in tort. Accordingly, rules defining and governing warranties that were developed to meet the needs of commercial transactions cannot properly be invoked to govern the manufacturer’s liability to those injured by their defective products unless those rules also serve the purposes for which such liability is imposed.⁵⁷

⁵² Hylton, *supra* note 11, at 2463-66 (noting, as to the fourth rationale, “[i]nstead of jumping through the hoops of asserting negligence and relying on the doctrine of res ipsa loquitur, consumers could sue on the basis of strict liability and forgo the extra costs of attempting to prove negligence.”).

⁵³ See *Greenman v. Yuba Power Products, Inc.*, 59 Cal. 2d 57 (1963); Graham, *supra* note 11, at 556 (“[T]he California Supreme Court formally adopted a tort theory of recovery for products liability, regardless of fault, in *Greenman*[.]”); Mason A. Leichhardt, *Big Tobacco’s Big Settlement: What Pharmaceutical Companies Can Learn to Protect Themselves in Opioid Litigation*, 60 U. LOUISVILLE L. REV. 161, 172 (2021) (“In 1963, the landmark case *Greenman v. Yuba Power Products, Inc.* solidified the rule of strict products liability.”); see also Kysar, *supra* note 22, at 1710 (noting Justice Traynor’s *Greenman* opinion “took the strict liability concept underlying warranty law and incorporated it directly into the law of torts.”); *New Products*, *supra* note 11, at 804-05 (noting “Justice Traynor’s concurring opinion in *Escola* and his opinion for the full court in *Greenman* . . . are rich with rhetoric that suggests the novelty of the strict liability doctrine. Yet much of his *Escola* and *Greenman* opinions are dedicated to showing why strict liability is a limited and sensible extension of modern negligence and warranty law.”).

⁵⁴ *Greenman*, 59 Cal. 2d at 59.

⁵⁵ *Id.* at 59-60.

⁵⁶ *Id.* at 62-63 (noting such liability started with food products and has been extended to other products, such as bottles, insect spray, and automobiles). On the facts, Justice Traynor found that: “[t]o establish the manufacturer’s liability it was sufficient that plaintiff proved that he was injured while using the [power tool] in a way it was intended to be used as a result of a defect in design and manufacture of which plaintiff was not aware that made the [power tool] unsafe for its intended use.” *Id.* at 64.

⁵⁷ *Id.* at 63 (stating that “rules defining and governing warranties that were developed to meet the needs of commercial transactions cannot properly be invoked to govern the manufacturer’s liability to those injured by their defective products unless those rules also serve the purposes for which such liability is imposed.”).

Justice Traynor would extend strict liability to retailers in *Vandermark v. Ford Motor Co.*, noting that retailers, like manufacturers distribute goods to the public and are an important part of the “overall producing and marketing enterprise that should bear the cost of injuries resulting from defective products.”⁵⁸

Despite the California Supreme Court’s important *Greenman* holding, other states failed to adopt strict liability for products grounded squarely in tort before promulgation of section 402A of the Restatement (Second) of Torts (“Section 402A”).⁵⁹ In 1965, the landmark Section 402A set out a general framework of products liability law.⁶⁰ As prepared by William Prosser, Section 402A “went through a series of drafts that endorsed strict liability for an ever expanding universe of products” and was followed by widespread acceptance.⁶¹

Justice Traynor did not feel the need to recount the rationales for strict liability, but noted its purpose was “to insure that the costs of injuries resulting from defective products are borne by the manufacturers that put such products on the market rather than by the injured persons who are powerless to protect themselves.” *Id.*

⁵⁸ *Vandermark v. Ford Motor Co.*, 61 Cal. 2d 256, 262-63 (1964) (“Strict liability on the manufacturer and retailer alike affords maximum protection to the injured plaintiff and works no injustice to the defendants, for they can adjust the costs of such protection between them in the course of their continuing business relationship.”).

⁵⁹ See Graham, *supra* note 11, at 577; see also *Hylton*, *supra* note 11, at 2466-67 (noting *Greenman* is “sometimes cited as the first case applying the strict products liability theory, but this theory appears in *Greenman* . . . only as a basis for upholding a lower court decision that was itself based on negligence and warranty theories. The same can be said of the other major case often cited, *Goldberg v. Kollsman Instruments Corp.*, [191 N.E. 2d 81 (N.Y. 1963),] where the plaintiff, a plane crash victim, brought a negligence claim against American Airlines, and breach of implied warranty claims against the airplane manufacturer (Lockheed) and an instrument supplier (Kollsman).”).

⁶⁰ See *Hylton*, *supra* note 11, at 2468; Graham, *supra* note 11, at 556 (stating Section 402A “prescribed a basic framework to govern strict products liability in tort.”). Specifically, Section 402A provided:

- (1) One who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused to the ultimate user or consumer, or to his property, if
 - (a) the seller is engaged in the business of selling such a product, and
 - (b) it is expected to and does reach the user or consumer without substantial change in the condition in which it is sold.
- (2) The rule stated in Subsection (1) applies although
 - (a) the seller has exercised all possible care in the preparation and sale of his product, and
 - (b) the user or consumer has not bought the product from or entered into any contractual relation with the seller.

See RESTATEMENT (SECOND) OF TORTS § 402A (1965); Robert F. Harchut, *Products Liability - Restatement (Second) of Torts - Section 402A - Uncertain Standards of Responsibility in Design Defect Cases - After Azzarello, Will Manufacturers be Absolutely Liable in Pennsylvania*, 24 VILL. L. REV. 1035, 1035 n.1 (1979); Joseph A. Page, *Generic Product Risks: The Case Against Comment k and for Strict Tort Liability*, 58 N.Y.U. L. REV. 853, 859 (1983) (“Section 402A of the Restatement (Second) of Torts gave impetus to a profound and far-reaching change in the law of product liability. It subjected sellers, including manufacturers, of all products to strict liability and grounded the cause of action in tort rather than warranty.”).

⁶¹ Graham, *supra* note 11, at 557-79 (“In the years that followed [the *Restatement Second*], courts (and a few legislatures) rushed to adopt a tort-based theory of strict products liability. By 1976, forty-two states

Commenters have advanced different reasons or theories for strict liability's rise, including the following five. First, the activism of the 1960s and 1970s and that activism's impact on judges.⁶² Second, plaintiffs and their lawyers provided the momentum for products liability's rise.⁶³ Pursuant to this theory, strict liability for products unfurled in tandem with evolving "claim consciousness" among potential plaintiffs and increased sophistication of their lawyers.⁶⁴ Third, certain kinds of lawsuits—in particular so-called "bottle cases" (relating to bursting or exploding bottles)—made a practical case for product liability.⁶⁵ Such bottle cases were ubiquitous around the mid-Twentieth Century, and as bottle case lawsuits mounted, arguments for a strict products liability approach did as well.⁶⁶ Fourth, there were certain contingencies that were associated with the rise of a strict liability approach grounded squarely in tort rather than in warranty.⁶⁷ For instance, the tort doctrine was able to capitalize on a period of transition for warranty law, and many states adopted strict liability for products during a period when a "preemption argument" premised upon "states' contemporaneous adoption of the Uniform Commercial Code (UCC) had not fully matured."⁶⁸ Fifth, and finally, the influence of legal scholars, in particular William Prosser and Fleming James, Jr.⁶⁹ Commentary and arguments from law

and the District of Columbia had jumped aboard the bandwagon, a progression so rapid that it amazed even some of the judges who joined in the movement."); *Fall of the Citadel*, *supra* note 46, at 793 n.9 (noting Section 402A "was adopted by the American Law Institute three times. As originally drawn (Tent. Draft No. 6, 1961), it was limited to 'food for human consumption.' Development progressed so rapidly that a revised section (Tent. Draft No. 7, 1962) was adopted, which included other products 'for intimate bodily use.' Two years later the Institute approved the again revised section (Tent. Draft No. 10, 1964), applying to 'any product.'"); Page, *supra* note 59, at 859 (referencing the "widespread judicial adoption of section 402A"); Hylton, *supra* note 11, at 2463 (stating "the adoption of the strict products liability doctrine by the *Restatement (Second) of Torts* . . . was followed by widespread acceptance in the case law."); Kysar, *supra* note 22, at 1711 ("[W]ithin a generation the section received nearly unanimous endorsement throughout the United States.").

⁶² Graham, *supra* note 11, at 580-81 (referencing, for instance, consumer movement gaining force and discrediting of corporations).

⁶³ *Id.* at 558.

⁶⁴ *Id.* at 558, 592 (noting as "consumers came to appreciate the possibility of legal redress for a growing array of products-related injuries, they could consult an increasingly sophisticated and well-organized pool of plaintiff's attorneys, who had reasons of their own for pursuing products claims.").

⁶⁵ *Id.* at 559-60 ("From the 1940s through the 1960s, exploding or bursting beverage bottles probably generated more products-liability lawsuits than did any other single consumer good.").

⁶⁶ *Id.* (noting "[w]ith bottle cases now rare, it is easy to underestimate how they once may have weighed on minds of even relatively conservative mid-century jurists.").

⁶⁷ *Id.* at 560.

⁶⁸ *Id.* (noting that if circumstances had aligned differently, a different products liability path may have been taken in many jurisdictions).

⁶⁹ *See id.* at 581 ("Per Priest's explanation, James brought passion and persistence to the debate over products liability, while Prosser contributed catchy prose, a willingness to exaggerate, good timing, and an unparalleled bully pulpit. Their combined efforts did the job."); Priest, *supra* note 11, at 464-65; *see also* W. Page Keeton, *Products Liability—Inadequacy of Information*, 48 TEX. L. REV. 398, 409 (1970) ("My principal thesis is and has been that theories of negligence should be avoided altogether in the products liability area in order to simplify the law, and that if the sale of a product is made under circumstances that would subject someone to an unreasonable risk in fact, liability for harm resulting from those risks should follow."). It was unclear whether "unreasonably dangerous" and "defective" were two different things, or one, and if two, whether the product had to be both, or either, in order for there to be strict liability.

and economics scholars also likely helped direct attention to liability rules, and systemic cost-benefit considerations more generally.⁷⁰

Regardless of the reasons for its rise, products liability law did not cease developing after Section 402A's promulgation. Indeed, confusion and controversy persisted notwithstanding the eventual promulgation of a Restatement (Third) of Torts in 1998.⁷¹

D. A Note on Modern Negligence and the Hand Formula

⁷⁰ See, e.g., GUIDO CALABRESI, *THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS* (1970) ("It is said that products liability law has become or is becoming an area of strict liability, that is, that users now often recover for defects regardless of the manufacturer's or seller's fault. But such a statement conceals more than it reveals. Does the user who is allergic to strawberries recover if the allergy occasionally kills? If not, is there a difference between such a case and one where, through no fault of the manufacturer, a drug that is put on the market causes dire effects in a few users?"); Richard Epstein, *A Theory of Strict Liability*, 2 J. LEG. STUD. 151, 151-52 (1972) (discussing "the conflict that has persisted in the common law between theories of negligence and theories of strict liability."); Guido Calabresi & Jon T. Hirschoff, *Toward a Test for Strict Liability in Torts*, 81 YALE L.J. 1055 (1972); Buchanan, *supra* note 13, at 64, 66-67 (discussing impact on manufactures of shift to strict liability); Richard Posner, *Strict Liability: A Comment*, 2 J. LEGAL STUD. 205, 205 (1973) (arguing "that the authors of [certain] articles fail to make a convincing case for strict liability, primarily because they do not analyze the economic consequences of the principle correctly."); Ronald H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 1 (1960) (discussing "those actions of business firms which have harmful effects on others"); John Brown, *Toward an Economic Theory of Liability*, 2 J. LEGAL STUD. 323, 347 (1973) (subjecting various standards of care and liability rules to scrutiny, and arguing that economic analysis is useful in organizing legal questions); see also Steven Shavell, *Strict Liability versus Negligence*, 9 J. LEGAL STUD. 1, 1 (1980) (comparing negligence and strict liability rules "on the basis of the incentives they provide to 'appropriately' reduce accident losses."); A. Mitchell Polinsky, *Strict Liability vs. Negligence in a Market Setting*, 70 AM. ECON. REV. 363, 363 (1980) (formally analyzing negligence and strict liability in market setting); William M. Landes & Richard A. Posner, *A Positive Economic Analysis of Products Liability*, 14 J. LEGAL STUD. 535, 535 (1985) (noting "modern products liability law seems at first glance a powerful contradiction to the efficiency model[,] but arguing "both the historical development of the law and its current doctrinal structure are in the main consistent with efficiency."); Ronald Dworkin, *Is Wealth a Value?*, 9 J. LEG. STUD. 191, 191 (1980) (considering and rejecting economic analysis of law).

⁷¹ See, e.g., *infra* Part III; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (1998); Michael J. Toke, *Restatement (Third) of Torts and Design Defectiveness in American Products Liability Law*, 5 CORNELL J.L. & PUB. POL'Y 239, 239 (1996) (discussing draft new restatement adopted in 1995); Victor E. Schwartz, *The Role of the Restatement in the Tort Reform Movement*, 10 KAN. J.L. & PUB. POL'Y 41, 41 (2000) (discussing the Restatement (Third) and noting it was "based on case law written by America's judges."); Michael D. Green, *The Unappreciated Congruity of the Second and Third Torts Restatements on Design Defects*, 74 BROOK. L. REV. 807, 808 (2009) (treating "conflicting claims about the scope of section 402A"); Aaron D. Twerski & James A. Henderson, Jr., *Manufacturers' Liability For Defective Product Designs: The Triumph of Risk-Utility*, 74 BROOK. L. REV. 1061, 1061, 1071-1106 (2009) (reviewing what has taken place in the ten years since the Restatement (Third)); Graham, *supra* note 11, at 579 ("The 1970s through the early 1980s represented strict products liability's awkward teenage years, in which courts sought to define the parameters of the new rule."); David G. Owen & Geraint Howells, *Products Liability Law in America and Europe* in HANDBOOK OF RESEARCH ON INTERNATIONAL CONSUMER LAW 224-255 (Geraint Howells, Iain Ramsay, Thomas Wilhelmsson & David Kraft eds., 2010); Tiffany Colt, *The Resurrection of the Consumer Expectations Test: A Regression in American Products Liability*, 26 U. MIAMI INT'L & COMP. L. REV. 525, 531 (2019) ("[B]oth [the Restatement (Second) and the Restatement (Third)] have received their fair share of optimistic and pessimistic commentaries. While it remains unclear whether the longer Restatement (Third) will completely displace the more concise Restatement (Second), most modern courts have adopted principles found in both.").

Even as strict liability has risen, negligence has remained a powerful theory for recovery in products liability actions.⁷² Since strict products liability purports to be a standard stricter than mere negligence, before proceeding to modern strict products liability claims, a short digression into relevant negligence principles is helpful.

Negligence actions generally require a plaintiff to establish the following: duty, breach, causation, and damages.⁷³ Proving a negligence-based products liability claim might therefore require a plaintiff to show that a “product’s supplier failed to exercise reasonable care for the plaintiff’s safety.”⁷⁴ Negligence normally requires “reasonable”—not necessarily “high” or “highest”—diligence in investigating for potential hazards and addressing them.⁷⁵ The defendant need know only what would have been known by a reasonable person in the “shoes” of the defendant at the time of the act, and the defendant need only have done what would have been done by a reasonable person.⁷⁶ A key challenge is determining what a product manufacturer or seller should have done in a given case.

⁷² David G. Owen, *Proving Negligence in Products Liability Litigation*, 36 ARIZ. ST. L. REV. 1003, 1003 (2004) [hereinafter *Proving Negligence*].

⁷³ See, e.g., David G. Owen, *The Five Elements of Negligence*, 35 Hofstra L. Rev. 1671, 1672-74 (2007) (discussing different variations in various jurisdictions); *Gazzara v. Pulte Home Corp.*, 207 F. Supp. 3d 1306, 1309 (M.D. Fla. 2016) (“To prevail on a negligence claim under Florida law, a plaintiff ordinarily has to prove the four elements: duty of care, breach of that duty, causation and damages.”); *Doe YZ v. Shattuck–St. Mary’s Sch.*, 214 F. Supp. 3d 763, 786 (D. Minn. 2016) (“The elements of Plaintiffs’ negligence claims are the existence of a duty of care, breach of that duty, proximate causation, and injury.”); *Murray v. Air & Liquid Sys. Corp.*, No. 3:18-cv-00889 (MPS), 2020 WL 837358, at *2 (D. Conn. 2020) (“[T]he essential elements of a cause of action in negligence are well established: duty [of care]; breach of that duty; causation; and actual injury.”); Christopher Brett Jaeger, *The Empirical Reasonable Person*, 72 ALA. L. REV. 887, 894 (2021) (“To prevail on a negligence claim . . . a plaintiff must demonstrate (1) that the plaintiff suffered an *injury*, (2) that the defendant owed a relevant *duty* to the plaintiff, (3) that the defendant *breached* that duty, and (4) that the defendant’s breach was both the (a) *cause-in-fact* and (b) *proximate cause* of the plaintiff’s injury.”); *Air and Liquid Systems Corp.*, 139 S. Ct. at 993 (considering “whether a manufacturer has a duty to warn when the manufacturer’s product requires later incorporation of a dangerous part . . . in order for the integrated product to function as intended.”).

⁷⁴ *Proving Negligence*, *supra* note 72, at 1003 (noting “[m]any aspects of proving negligence in a products liability case are similar or identical to proving other types of products liability claims.”).

⁷⁵ Jaeger, *supra* note 73, at 895 (“[O]ne is (in theory) assured that one will not be liable for negligence so long as one acts as a reasonable person would act. This reflects a recognition that it is impracticable, if not impossible, for people to take all possible precautions at all times. Almost every activity that people engage in creates some risk of injury to others, but ‘tort law is not meant to convert everyone into insurers whenever they undertake any action.’ ‘[T]he standard man is not infallible’ and ‘[m]istakes in judgment which the standard man might have made in the light of [his] limitations will not amount to negligence.’”) (citations omitted).

⁷⁶ The reasonable person standard is generally an objective one, although there are discrete instances where the specific attributes of defendants are relevant, such as in the case of young defendants, defendants with special expertise (such as physicians), or those with physical disabilities (such as blindness). *Id.* at 895-96. It has been said that the “reasonable person is endowed with the attributes and abilities expected of a generic member of the community rather than the attributes and abilities of the particular defendant.” *Id.* at 897. “Reasonable” here normally permits some degree of sloppiness, selfishness, and ignorance, as well as consideration of the actual practice of people in the defendant’s industry at the time.

Around the same time as Justice Traynor was releasing his *Escola* opinion, Judge Learned Hand discussed the so-called “Hand Formula” for negligence in *United States v. Carroll Towing Co.*, a case involving sinking of a barge.⁷⁷ As Judge Hand stated:

Since there are occasions when every vessel will break from her moorings, and since, if she does, she becomes a menace to those about her; the owner’s duty, as in other similar situations, to provide against resulting injuries is a function of three variables: (1) The probability that she will break away; (2) the gravity of the resulting injury, if she does; (3) the burden of adequate precautions. Possibly it serves to bring this notion 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 [B<PL].⁷⁸

This “Hand Formula,” which called for cost-benefit type balancing in connection with the degree of duty in negligence actions, proved quite influential and, for instance, in 1987 Judge Richard Posner cited to *Carroll Towing* and referenced the relevance of the “burden of taking care” for negligence in *Wright v. U.S.*⁷⁹ Many fact-finders may thus be seen as conducting a cost-benefit style “reasonableness” analysis in modern negligence cases, although fact-finders may not be specifically directed to conduct such analyses and several other conceptions of determining what is reasonable may exist.⁸⁰

E. Modern Strict Products Liability Claims

Current products liability law remains in a confused state and it is difficult to generalize due to a diversity of views. However, the law generally encompasses three important defect theories or claims: manufacturing, design, and warning.⁸¹

⁷⁷ *United States v. Carroll Towing Co.*, 159 F. 2d 169 (2d Cir. 1947).

⁷⁸ See *id.* at 173; Ashley M. Votruba, *Will the Real Reasonable Person Please Stand Up? Using Psychology to Better Understand How Juries Interpret and Apply the Reasonable Person Standard*, 45 ARIZ. ST. L.J. 703, 704 (2013) (“Judge Learned Hand, in *United States v. Carroll Towing Co.*, articulated the Hand Formula, a cost-benefit styled analysis which determines negligent liability by weighing the size of the loss of an accident, the probability that the accident would occur, and the cost of taking preventative measures.”); see also Guido Calabresi & Alvin K. Klevorick, *Four Tests for Liability in Torts*, 14 J. LEGAL STUD. 585, 586-91 (1985) (discussing “Learned Hand negligence calculus”).

⁷⁹ See *Wright v. U.S.*, 809 F. 2d 425 (7th Cir. 1987); see also Barbara Ann White, *Risk-Utility Analysis and the Learned Hand Formula: A Hand That Helps or a Hand That Hides?*, 32 ARIZ. L. REV. 77, 77-79 (1990) (“Although Judge Hand developed the Carroll Towing formula in 1947, courts virtually ignored it for two decades and only sporadically turned to it in the third. Recently, however, the Carroll Towing formula has experienced a renaissance with the appointment of Professor Richard A. Posner to the Seventh Circuit Court of Appeals.”); Stephen G. Gilles, *The Invisible Hand Formula*, 80 VA. L. REV. 1015, 1015 (1994) (discussing “status of Hand Formula negligence—and hence of cost-benefit analysis—in modern American tort law.”).

⁸⁰ See Votruba, *supra* note 78, at 708-18.

⁸¹ See, e.g., RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (“A product is defective when, at the time of sale or distribution, it contains a manufacturing defect, is defective in design, or is defective because of inadequate instructions or warnings.”); Robert D. Klein, *A Comparison of the Restatement (Third) of Torts: Products Liability and the Maryland Law of Products Liability*, 30 U. Balt. L. Rev. 273,

1. Manufacturing Defect

The first cause of action is for manufacturing defects. A manufacturing defect claim involves a plaintiff alleging that a product she received did not conform to the manufacturer's plan or blueprint for the product.⁸² For example, an individual might seek damages against a car manufacturer for injuries allegedly caused by a faulty radiator fan blade or against the manufacturer of certain farming equipment with allegedly faulty steps.⁸³ Similarly, a called for nut or screw might have been missing from a product, or a product might have had a microscopic, wholly undetectable bubble in its steel—not called for by the product's specifications—that caused it to break and injure a plaintiff. It may not even matter that no superhuman diligence could ever have detected the defect in advance or safeguarded against it.⁸⁴ Nevertheless, if it is proven at trial that the defect was present, and was responsible for the injury, a case of manufacturing defect may be established.⁸⁵

277-88 (2001) (discussing design defects, manufacturing defects, and inadequate instructions or warnings); Hylton, *supra* note 11, at 2468 (“Although the Second Restatement provides only one theory of liability, . . . the law would soon develop into a rich set of doctrines revolving around three theories.”); *Specter v. Texas Turbine Conversions, Inc.*, No. 3:17-cv-00194-TMB, 2021 WL 243776, at *4 (D. Alaska 2021) (“Under Alaska law, ‘[a] product may be defective because of a manufacturing defect, a defective design, or a failure to contain adequate warnings.’”) (citation omitted). Please note, these defects may exist in connection with negligence actions as well, so discussed cases may involve negligence.

⁸² RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (“A product . . . contains a manufacturing defect when the product departs from its intended design even though all possible care was exercised in the preparation and marketing of the product[.]”); Graham, *supra* note 11, at 579; Hylton, *supra* note 11, at 2468 (“The typical manufacturing defect case involves a product that deviates from the manufacturer’s design and from other units of the same product made by the manufacturer.”); Colt, *supra* note 71, at 530 (“manufacturing defects occur when a product is not made as intended[.]”).

⁸³ *Pouncey v. Ford Motor Co.*, 464 F. 2d 957, 957-58 (5th Cir. 1972) (radiator fan blade); *Beechler v. Kill Brothers Company*, 170 A.D. 3d 1606, 1606-1607 (N.Y. App. Div. 2019) (farm equipment).

⁸⁴ The Restatement (Third) provides a further illustration concerning an exploding champagne bottle. See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. b (“Jack purchased a bottle of champagne from the BBB Liquor Mart. The champagne was bottled by AAA Inc., utilizing bottles manufactured by CCC Glass Co. While Jack was opening the bottle it suddenly exploded, causing disfiguring cuts to his face. The trier of fact determines that, originating with CCC, the bottle contained a manufacturing defect and that the defect caused the bottle to explode. AAA, BBB, and CCC are subject to liability even though they exercised reasonable care in the preparation and distribution of the defective bottle of AAA Champagne. The weakness in the glass structure in the bottle that caused Jack’s harm was a departure from the product’s intended design, subjecting each of the sellers in the distributive chain to strict liability for selling a defective product.”).

⁸⁵ *Id.* § 2 cmt. a (“Strict liability without fault in this context is generally believed to foster several objectives. On the premise that tort law serves the instrumental function of creating safety incentives, imposing strict liability on manufacturers for harm caused by manufacturing defects encourages greater investment in product safety than does a regime of fault-based liability under which, as a practical matter, sellers may escape their appropriate share of responsibility. Some courts and commentators also have said that strict liability discourages the consumption of defective products by causing the purchase price of products to reflect, more than would a rule of negligence, the costs of defects. And by eliminating the issue of manufacturer fault from plaintiff’s case, strict liability reduces the transaction costs involved in litigating that issue.”). We assume here, as in certain other subsequent examples in this Part, that additional factors necessary for the tort plaintiff to prevail are also satisfied, such as damages, causation, and no defenses.

2. Design Defect

The second cause of action is for design defects. A design defect claim exists where plaintiff alleges that the product conformed precisely to its plan, blueprint, or specifications, but there is something wrong with that plan, blueprint, or design itself.⁸⁶ For example, an individual might seek to claim faulty design of the seat or other parts in a car, or argue that a safer design for a piece of farming equipment existed.⁸⁷

Viewpoints are more diverse in connection with design defects than in connection with manufacturing defects.⁸⁸ All product designs have some danger connected with them, yet the danger may be justified by usefulness or utility or affordable price. The question is whether the design poses an “unreasonable” danger, compared with its usefulness. In this connection, a jury might be asked to compare the risk (or danger) presented by the product’s design, with the utility of the product as designed, and decide whether the product as designed is unreasonably dangerous (a type of cost-benefit analysis). A court might go further than this, however, and require a plaintiff to also establish there is a safer alternative design for the product that does not have a more-than-offsetting downside and would not turn the product into a fundamentally different product.⁸⁹ For this safer design

⁸⁶ *Id.* § 2 (“A product . . . is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the alternative design renders the product not reasonably safe[.]”); Hylton, *supra* note 11, at 2469 (“The design defect claim asserts that the manufacturer’s design is itself unreasonably dangerous.”); Colt, *supra* note 71, at 530 (“[D]esign defects occur when there is a deficiency in a product that is made as intended by the manufacturer[.]”).

⁸⁷ See *Volkswagen of America, Inc. v. Young*, 272 Md. 201, 203-05 (1974) (car); *Beechler*, 170 A.D. 3d at 1608-09 (farm equipment); see also RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. b (“Some courts . . . while recognizing that in most cases involving defective design the plaintiff must prove the availability of a reasonable alternative design, also observe that such proof is not necessary in every case involving design defects.”). The Restatement (Third) also provides an example based on printers. See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. d (“ABC Co. manufactured and sold a high-speed printing press to XYZ Printers, by whom Robert is employed. The press includes a circular plate cylinder that spins at a very high speed. On occasion, a foreign object, known in the trade as a ‘hickie,’ finds its way onto the plate of the unit, causing a blemish or imperfection on the printed page. To remove a hickie, it is customary practice for an employee to apply a piece of plastic to the printing plate while it is spinning. Robert performed this practice, known as ‘chasing the hickie,’ and while doing so suffered serious injuries to his hand. All employees, including Robert, knew that chasing the hickie was a dangerous procedure. Plaintiff’s expert testifies that a safety-guard at the point of operation, which could have prevented Robert’s injury, was both technologically and economically feasible and is utilized in similar machinery without causing difficulty. The fact that the danger is open and obvious does not bar the design claim against ABC.”).

⁸⁸ This may be, in part, because if a design defect claim succeeds, it might mean that an entire product line is condemned. See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. d (“Absent proof of defect under [certain] Sections, however, courts have not imposed liability for categories of products that are generally available and widely used and consumed, even if they pose substantial risks of harm. Instead, courts generally have concluded that legislatures and administrative agencies can, more appropriately than courts, consider the desirability of commercial distribution of some categories of widely used and consumed, but nevertheless dangerous, products.”).

⁸⁹ See, e.g., *id.* (“This Section states that a design is defective if the product could have been made safer by the adoption of a reasonable alternative design.”); *Voss v. Black & Decker Mfg. Co.*, 59 N.Y. 2d 102, 108 (1983) (“It will be for the jury to decide whether a product was not reasonably safe in light of all the evidence presented by both the plaintiff and defendant.[] The plaintiff, of course, is under an obligation to

determination, a jury might need determine which design is more reasonable by balancing risks and utilities of the existing and alternative designs. For example, a plaintiff might allege that a certain lawn mower should have had an enhanced guard to prevent the mower throwing stones into the face of the operator. The defendant might respond that such an enhanced guard would have made the lawn mower much less maneuverable, and would increase its cost so those with limited resources could not afford it. The jury in such a case might be called upon to determine, among other things, whether the additional safety from the enhanced guard would offset the downsides of requiring it in the product's design.⁹⁰

3. Warning Defect

The third cause of action is for warning defects (or failures to warn). In a warning defect action, a plaintiff might claim that a product design is unreasonably dangerous unless there is a warning—or a more adequate warning—either placed on the product or otherwise communicated.⁹¹ For example, an electrician might seek to claim that manufacturers of asbestos-containing products failed to warn product users of the potential danger.⁹² The need for a warning—or the adequacy of an existing warning—might be determined by the jury on a “reasonableness” basis.⁹³

present evidence that the product, as designed, was not reasonably safe because there was a substantial likelihood of harm and it was feasible to design the product in a safer manner.”); *Hull v. Eaton Corp.*, 825 F.2d 448, 454 (D.C. Cir. 1987) (“We believe the District of Columbia would follow the risk/utility balancing test referred to by the Maryland courts. Under that test a manufacturer is strictly liable for damage caused by his product if there was a feasible way to design a safer product and an ordinary consumer would conclude that the manufacturer ought to have used that alternative design.”). Plaintiff here would seek to establish that there is an alternative design that is safer than the actual design and not itself defective. This alternative design requirement may theoretically help address courts’ reluctance to condemn an entire product line, which is what they would be doing if they declared a product’s design unreasonably dangerous when there is no better alternative design for the product. However, in many cases it may be ambiguous as to whether plaintiff’s argument for a safer design is really an argument for changing the product into a different product. For instance, imagine a plaintiff alleges that the design for an above ground swimming pool needs to have it placed deep enough into the ground to be safe for inadvertent dives. Would that new design still be for a safer “above ground” pool design, or for a different product (i.e., an in ground pool). Or, should the relevant classification not be “above ground swimming pools” but rather “swimming pools,” in which case plaintiff is advocating a safer swimming pool design?

⁹⁰ Or, a jury might be called upon to balance the argument from a plaintiff (that a drug’s design should change in a certain way to reduce side effects) with that of the defendant (that changing the drug’s design in plaintiff’s suggested way would increase its cost and make it less effective in treating the ailment).

⁹¹ See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 (“A product . . . is defective because of inadequate instructions or warnings when the foreseeable risks of harm posed by the product could have been reduced or avoided by the provision of reasonable instructions or warnings by the seller or other distributor, or a predecessor in the commercial chain of distribution, and the omission of the instructions or warnings renders the product not reasonably safe.”); Colt, *supra* note 71, at 530 (“[D]efective warning and instructions defects occur when a lack of adequate warning renders a product unreasonably dangerous.”); see also Hylton, *supra* note 11, at 2470, 2500-2501 (discussing failure to warn).

⁹² *Anderson v. Owens-Corning Fiberglas Corp.*, 53 Cal. 3d 987, 991-92 (1991).

⁹³ See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. i (“Subsection (c) [on warning defects] adopts a reasonableness test for judging the adequacy of product instructions and warnings.”). The Restatement (Third) provides an example based on chemical adhesives. See *id.* (“ABC Adhesives Inc. manufactures a chemical adhesive for home use. Sandra purchased a gallon for use in laying tile in her kitchen. The label on the container warned in large letters that fumes from the adhesive were flammable and toxic, that the product should be used with adequate ventilation, and that all sources of fire should be

4. Applicable Test or Standard

Section 402A recognized liability for products that were “unreasonably dangerous” and “defective,” obviously recognizing that products might also be “reasonably” dangerous.⁹⁴ All products have some risk or danger, and the question in many cases is whether the amount of danger posed is “reasonable,” perhaps in view of the degree of risk, utility of the product, or other factors.⁹⁵

In general, the two primary tests in modern strict products liability cases have been the consumer expectations test and the risk-utility test.⁹⁶ Pursuant to the consumer expectations test, a plaintiff would generally need to show “that the product failed to conform to the safety expectations of the average consumer.”⁹⁷ The risk-utility test implies

extinguished. Sandra opened the windows in her kitchen, but did not extinguish the pilot light in her gas stove. When she had partly completed laying the tile, the pilot light suddenly ignited the fumes from the adhesive, causing Sandra serious burns. In an action against ABC, Sandra contends that the warnings were inadequate in failing specifically to state that gas-stove pilot lights should be extinguished. Whether the warning actually given was reasonable in the circumstances is to be decided by the trier of fact.”).

⁹⁴ See RESTATEMENT (SECOND) OF TORTS § 402A; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2; Sheila L. Birnbaum, *Unmasking the Test for Design Defect: From Negligence [to Warranty] to Strict Liability to Negligence*, 33 VAND. L. REV. 593, 598 (1980) (“As [Section 402A] comment i made clear, the addition of the term ‘unreasonably dangerous’ was intended to qualify the notion of defect and to preclude the possibility that manufacturers would be held liable for any and all injuries caused by the use or consumption of their products.”). It should be noted that Section 402A remains important notwithstanding the Restatement (Third), since modern courts continue to apply Section 402A’s principles. See, e.g., Colt, *supra* note 71, at 531 (“While it remains unclear whether the longer Restatement (Third) will completely displace the more concise Restatement (Second), most modern courts have adopted principles found in both.”).

⁹⁵ See RESTATEMENT (SECOND) OF TORTS § 402A; Birnbaum, *supra* note 94, at 598 (“There probably is no absolutely safe product; all products have inherent potential to cause harm if overused or misused. Even a seemingly innocuous product like butter has the inherent danger of depositing cholesterol in the arteries, which leads to heart attacks; but this does not make butter unreasonably dangerous.”).

⁹⁶ See Hylton, *supra* note 11, at 2468-69; RESTATEMENT (SECOND) OF TORTS § 402A; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. d (“Subsection (b) [on design defects] adopts a reasonableness (‘risk-utility balancing’) test as the standard for judging the defectiveness of product designs.”); Kysar, *supra* note 22, at 1711-13 (discussing “various doctrinal means of assessing the adequacy of product designs”); Twerski & Henderson, *supra* note 71, at 1074-77, 1104-07 (discussing consumer expectations and risk-utility analyses); David G. Owen, *Design Defects*, 73 MO. L. REV. 291, 299 (2008) [hereinafter *Design Defects*] (noting these two tests as the “basic standards” in judging the adequacy of products’ designs); John C.P. Goldberg & Benjamin C. Zipursky, *Thoroughly Modern Tort Theory*, 134 HARV. L. REV. F. 184, 194 (2021) (noting “battle” between these two tests); see also *Feuerstein v. Home Depot, U.S.A., Inc.*, No. 2:12-CV-01062 JWS, 2014 WL 2557122, at *4 (D. Ariz. June 6, 2014) (“Under Arizona law, two tests may be used when determining whether a product has an unreasonably dangerous defective condition: the consumer expectation test and the risk/benefit analysis test.”).

⁹⁷ See, e.g., Hylton, *supra* note 11, at 2469; Colt, *supra* note 71, at 532 (“Prior to the implementation of the Restatement (Third), courts focused on section 402A’s comments to develop the consumer expectations test. Accordingly, Courts held that, under the consumer expectations test, a product is defective in design ‘if the plaintiff demonstrates that the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner.’ As a result, when a product fails to meet the expectations of an ordinary consumer, there is a rebuttable presumption that the product is defective.”); *Design Defects*, *supra* note 96, at 299 (describing test in design defect context as “whether the design meets the safety expectations of users and consumers”); *Feuerstein*, 2014 WL 2557122, at *4 (“Under the consumer expectation test, the fact-finder determines whether the product ‘failed to perform as

a cost-benefit type balancing, and, for instance, a plaintiff might need to show “that the product is unreasonably dangerous in the sense that the incremental risk associated with the defendant’s chosen design far exceeds the incremental utility when compared to an alternative safer design.”⁹⁸ The pure consumer expectations test may have somewhat receded in importance as compared to risk-utility balancing principles.⁹⁹ These two tests

safely as an ordinary consumer would expect when used in an intended or reasonable manner.’”) (citation omitted); David G. Owen, *Bending Nature, Bending Law*, 62 FLA. L. REV. 569, 584 (2010) [hereinafter *Bending Nature*] (“In interpreting the liability standard of § 402A—‘defective condition unreasonably dangerous’—courts first sought guidance from the Reporter’s Comments that Dean Prosser wrote explaining that section of the *Restatement (Second) of Torts*. Comment g, entitled ‘defective condition,’ explains that the new strict liability rule ‘applies only where the product is, at the time it leaves the seller’s hands, in a condition not contemplated by the ultimate consumer, which will be unreasonably dangerous to him.’ And comment i, entitled ‘unreasonably dangerous,’ explains that this latter phrase means that the product ‘must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it.’ Thus, for a product to be in ‘a defective condition . . . unreasonably dangerous’ under § 402A, it must be more dangerous than an ordinary consumer would expect.”).

⁹⁸ See, e.g., Hylton, *supra* note 11, at 2469; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. d. (“More specifically, the test is whether a reasonable alternative design would, at reasonable cost, have reduced the foreseeable risks of harm posed by the product and, if so, whether the omission of the alternative design by the seller or a predecessor in the distributive chain rendered the product not reasonably safe.”); Colt, *supra* note 71, at 533-35 (“[C]ourts began to apply section 402A of the restatement as a ‘risk-utility’ analysis. Under a risk-utility analysis, American courts considered factors outlined by John W. Wade, including public knowledge of danger, consumers ability to avoid danger, and a product’s general usefulness. A product is thus considered unreasonably dangerous if, after assessing all of the factors, a jury determines that the risks of the product’s design are greater than the product’s benefits. . . . [T]he Restatement (Third) adopts risk-utility analyses, but with a controversial addition. As previously stated, a product design defect occurs when the foreseeable risks of harm from the product could have been avoided by implementing [a] reasonable alternative design. Under this standard, a plaintiff must show not only the mere engineering feasibility or technical possibility of an alternative design, but also evidence establishing the effect the alternative design would have on the product’s safety, utility, and cost.”); *Design Defects*, *supra* note 96, at 299 (describing test in design defect context as “whether the safety benefits of designing away a foreseeable danger exceed the resulting costs.”); *Feuerstein*, 2014 WL 2557122, at *4 (“Under the risk/benefit analysis test, the fact-finder determines whether ‘in light of the relevant factors . . . , the benefits of the challenged design do not outweigh the risk of danger inherent in [the] design.’”) (citation omitted). A famous example of cost-benefit analysis in the design defect context is *Grimshaw v. Ford Motor Co.*, a case in which a car manufacturer (Ford) was sued in connection with its Pinto allegedly bursting into flames and causing injury. See *Grimshaw*, 119 Cal. App. 3d at 772-79, 813 (“Through the results of the crash tests Ford knew that the Pinto’s fuel tank and rear structure would expose consumers to serious injury or death in a 20- to 30-mile-per-hour collision. There was evidence that Ford could have corrected the hazardous design defects at minimal cost but decided to defer correction of the shortcomings by engaging in a cost-benefit analysis balancing human lives and limbs against corporate profits. Ford’s institutional mentality was shown to be one of callous indifference to public safety. There was substantial evidence that Ford’s conduct constituted ‘conscious disregard’ of the probability of injury to members of the consuming public.”); White, *supra* note 78, at 128-29 (“The [*Grimshaw*] court held that the defendant’s decision to engage in a prospective cost-benefit analysis for determining whether or not to install a safety feature constituted malice sufficient to uphold an award of punitive damages. The court’s decision in this regard is problematic and raises fundamental questions about the consistency with which courts wish to adopt a risk-utility analysis for determining manufacturers’ liability.”); W. Kip Viscus, *Corporate Risk Analysis: A Reckless Act?*, 52 STAN. L. REV. 547, 568-69 (2000) (“A useful starting point for considering the role of corporate risk analysis is the Ford Pinto case, *Grimshaw* Although the incident occurred a quarter century ago, it remains perhaps the best-known example of a corporate risk analysis provoking public outcry”).

⁹⁹ See, e.g., *Bending Nature*, *supra* note 97, at 590 (noting “the consumer expectations test withered over time, particularly in the 1980s and thereafter, as more and more courts abandoned it for a comparative

have also not been the exclusive tests, and variations on, or combinations of, these tests exist.¹⁰⁰

The form of strict liability—and applicable test—may turn on the type of defect involved in a given case.¹⁰¹ In manufacturing defect cases, courts have tended to focus on the word “defective” in Section 402A, often considering liability without resort to a Section 402A “reasonable,” “unreasonable”—or risk-utility—balancing analysis.¹⁰² In cases of

(cost-benefit) evaluation of the benefits of a manufacturer’s decision to forego untaken precautions in light of the foreseeable risks its product might contain.”); RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2; *Design Defects*, *supra* note 96, at 363-64 (“One of the most controversial aspects of the *Third Restatement’s* definition of design defect concerns the elimination of consumer expectations as an independent test of liability and the relegation of those expectations to mere ‘factor’ status in the list of risk-utility considerations.); *see also* Colt, *supra* note 71, at 528-53 (noting that “because of the Restatement (Second)’s consumer expectations test’s vagueness and exorbitant language, modern courts have adopted principles from the risk-utility analyses[.]” discussing recent design defect “outlier decisions” in Florida and Nevada, and stating “the consumer expectations test, alone, is unfit.”); *Golonka v. General Motors Corp.*, 204 Ariz. 575, 581 (2003) (“The consumer expectation test works well in manufacturing defect cases because consumers have developed safety expectations from using properly manufactured products of the same general design. In design defect cases, however, the consumer expectation test has limited utility as ‘the consumer would not know what to expect, because he would have no idea how safe the product could be made.’ . . . Consequently, when application of the consumer expectation test is unfeasible or uncertain in design defect cases, courts additionally or alternatively employ the risk/benefit analysis to determine whether a design is defective and unreasonably dangerous.”) (citations omitted).

¹⁰⁰ *See, e.g.*, Twerski & Henderson, *supra* note 71, at 1073-1108; *Grimshaw*, 119 Cal. App. 3d at 801 (“Some two weeks before this case went to the jury, the [California] Supreme Court in *Barker v. Lull Engineering Co.* . . . formulated the following ‘two-pronged’ definition of design defect, embodying the ‘consumer expectation’ standard and ‘risk benefit’ test: ‘First, a product may be found defective in design if the plaintiff establishes that the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner. Second, a product may alternatively be found defective in design if the plaintiff demonstrates that the product’s design proximately caused his injury and the defendant fails to establish, in light of the relevant factors, that, on balance, the benefits of the challenged design outweigh the risk of danger inherent in such design.’ The ‘relevant factors’ which a jury may consider in applying the *Barker* ‘risk-benefit’ standard include ‘the gravity of the danger posed by the challenged design, the likelihood that such danger would occur, the mechanical feasibility of a safer alternative design, the financial cost of an improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design.’”); Birnbaum, *supra* note 94, at 617 (“Clearly, this so-called consumer expectations test is, at its base, a risk-utility balancing analysis.”); *Design Defects*, *supra* note 96, at 353-60 (discussing the so-called “Wade–Keeton Test” relating to constructive knowledge); *Bending Nature*, *supra* note 97, at 586, 591 (same); Colt, *supra* note 71, at 537 (“[C]ourts have begun to apply both tests together by (1) defining one test in the terms of the other, and/or (2) establishing each test as a liability prong.”).

¹⁰¹ Graham, *supra* note 11, at 579 (“Today, the brand of ‘strict liability’ applicable to a case depends on whether the defect involved constitutes a ‘manufacturing defect,’ ‘design defect,’ or ‘warning defect.’”).

¹⁰² *See* RESTATEMENT (SECOND) OF TORTS § 402A; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2; *Prentis v. Yale Mfg. Co.*, 421 Mich. 670, 684 (1984) (“As a term of art, ‘defective’ gives little difficulty when something goes wrong in the manufacturing process and the product is not in its intended condition. In the case of a ‘manufacturing defect,’ the product may be evaluated against the manufacturer’s own production standards, as manifested by that manufacturer’s other like products.”); Birnbaum, *supra* note 94, at 599 (“In the case of a manufacturing defect, the meaning of defect creates no difficulty: the product at issue may be evaluated against the manufacturer’s own production standards, as manifested by other like products that roll off the assembly line.”). As noted above, manufacturing defect cases allege that a product did not conform to its design, for example, where a vital internal screw called for in the blueprint was missing in the particular item the consumer bought or where there was a totally undetectable bubble in the steel of the steering column of a car that breaks and causes an accident.

strict design and warning defects, however, the Restatement (Third) and many courts may prefer inclusion of “reasonableness” and “risk-utility” balancing principles.¹⁰³

Where reasonableness and cost-benefit (risk-utility) balancing is required in the strict products liability context, the question becomes whether such variety of liability is really any “stricter” than ordinary negligence. Negligence contemplates a reasonableness determination—what the reasonable person would do—and a cost-benefit analysis, as evidenced most prominently by the Hand Formula (B < PL).¹⁰⁴ Indeed, many commentators and courts have determined that design and warning defect risk-utility cases are—and must be—treated as negligence cases, meaning liability might only be “strict” in the case of manufacturing defects.¹⁰⁵ If, however, strict liability were intended to be a sufficiently

¹⁰³ RESTATEMENT (SECOND) OF TORTS § 402A; RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2; Colt, *supra* note 71, at 559 (discussing design defects and noting “[m]ost modern courts have adopted some form of risk-utility analysis[.]”); Graham, *supra* note 11, at 579. As noted above, design defect cases allege that the product conforms in every respect to its intended design, but it is the design itself—for instance of a dart gun, a very light plastic-bodied three-wheel car, a lawn mower without a safety shield, or an above ground swimming pool—that is unreasonably dangerous. Warning defect cases allege that warnings (or better warnings) should have been provided concerning the product.

¹⁰⁴ *Carroll Towing*, 159 F. 2d at 173; David G. Owen, *Defectiveness Restated: Exploding the “Strict” Products Liability Myth*, 1996 U. ILL. L. REV. 743, 754-55 (1996) [hereinafter *Defectiveness Restated*].

¹⁰⁵ *See, e.g.*, Graham, *supra* note 11, at 579 (“Only as to [a manufacturing defect]—defined as a defect whereby a product’s design does not conform to a manufacturer’s intentions—is liability truly ‘strict.’ The general principles most jurisdictions now apply to design and warning claims echo negligence rules[.]”); James A. Henderson, Jr. & Aaron D. Twerski, *Closing the American Products Liability Frontier: The Rejection of Liability Without Defect*, 66 N.Y.U. L. REV. 1263, 1277 (1991) (“[A]s informed observers understand full well, our courts have never extended true strict liability—liability without any judgment of unreasonableness or fault—very far beyond production defects. Although judges have talked repeatedly of imposing ‘strict liability’ for defective product designs and failures to warn, in reality they have retained a primarily fault-based approach to generic product hazards.”); Michael D. Green, *The Road Less Well Traveled (and Seen): Contemporary Lawmaking in Products Liability*, 49 DEPAUL L. REV. 377, 380 (1999) (noting “courts have moved away from the consumer expectations test for design defects, employed a risk-benefit standard in its place, essentially turning design defect law into a negligence standard[.]”); *Prentis*, 421 Mich. at 687-88 (“The risk-utility balancing test is merely a detailed version of Judge Learned Hand’s negligence calculus. As Dean Prosser has pointed out, the liability of the manufacturer rests ‘upon a departure from proper standards of care, so that the tort is essentially a matter of negligence.’”); Birnbaum, *supra* note 94, at 610 (“When a jury decides that the risk of harm outweighs the utility of a particular design . . . it is saying that in choosing the particular design and cost trade-offs, the manufacturer exposed the consumer to greater risk of danger than he should have. Conceptually and analytically, this approach bespeaks negligence.”); *Id.* at 601-48 (discussing cases and noting “after fifteen years of decisionmaking in the products liability area, courts have not only failed to fashion a legally sound definition of defect in design cases but have also failed in practice to separate conceptually the notions of strict liability, negligence, warranty, and absolute liability.”); *Design Defects*, *supra* note 96, at 353 (“Because negligence itself is grounded on both reasonableness and balance, one is led to inquire whether and how negligence and strict liability may differ in design defect litigation.”); *see also* RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. d (“Assessment of a product design in most instances requires a comparison between an alternative design and the product design that caused the injury, undertaken from the viewpoint of a reasonable person. That approach is also used in administering the traditional reasonableness standard in negligence. . . . The policy reasons that support use of a reasonable-person perspective in connection with the general negligence standard also support its use in the products liability context.”); Stephen G. Gilles, *Negligence, Strict Liability, and the Cheapest Cost-Avoider*, 78 VA. L. REV. 1291, 1291 (1992) (“The various historical and doctrinal accounts of the roles of negligence and strict liability in tort law lack a coherent conception of what negligence is, what strict liability is, how they differ, and what they have in common.”); *Defectiveness Restated*, *supra* note 104, at 755 (“Thus, the Third Restatement correctly endorses the widespread judicial practice of applying negligence principles (albeit in

heightened standard, the law would need an adequate framework of plausible strict liability standards that respects the cost-benefit balancing required in many design and warning defects cases, ensures a standard stricter than mere negligence, and is not overly draconian.

III. FIVE STANDARDS STRICTER THAN MERE NEGLIGENCE

We believe strict liability encompassing risk-utility or cost-benefit analysis need not necessarily revert to ordinary negligence principles. In this Part, we identify and present a decisional framework and five plausible standards that the law could explicitly adopt to preserve a cost-benefit balancing approach, ensure liability remains sufficiently strict, and not resort to absolute or excessively strict liability.¹⁰⁶

‘strict’ liability clothing) as the basis of liability for dangers in product design.”). In this regard, to try to distinguish strict products liability from negligence liability, some contend that while negligence is addressed to conduct, strict liability is addressed to the product. *See, e.g.,* Graham, *supra* note 11, at 579; Birnbaum, *supra* note 94, at 601 (“The courts, in attempting to avoid both the notion of fault implicit in negligence and the harshness of no-fault implicit in absolute liability, have focused the jury’s attention on the condition of the product rather than on the manufacturer’s conduct.”); *Prentis*, 421 Mich. at 687-88 (noting “many courts have insisted that the risk-utility tests they are applying are not negligence tests because their focus is on the *product* rather than the manufacturer’s *conduct*” but stating “the distinction on closer examination appears to be nothing more than semantic.”); *Sikkelee v. Precision Airmotive Corp.*, 522 F. Supp. 3d 120, 148 (M.D. Pa. 2021) (noting strict liability “examines the product itself, and sternly eschews considerations of the reasonableness of the conduct of the manufacturer.”). However, it is the conduct of defendant in marketing the product that is involved in both theories when they are applied in this area. *See Prentis*, 421 Mich. at 688 (“As a common-sense matter, the jury weighs competing factors presented in evidence and reaches a conclusion about the judgment or decision (*i.e., conduct*) of the manufacturer. The underlying negligence calculus is inescapable.”).

¹⁰⁶ In connection with our framework and standards, we note a number of caveats. First, it is beyond the scope of this Article to argue in favor or against strict liability as a general mechanism for assigning tort liability for defective products. Second, this Article assumes that the courts will continue to employ a cost-benefit form of strict liability, and that courts will continue to find merit in the fact-finder conducting a balancing of risks and benefits. Our standards may be inapplicable in jurisdictions and circumstances where risk-utility balancing is not deemed appropriate. Third, our standards assume that the law would prefer a test stricter than negligence but one that does not resort to absolute or excessively strict liability. Use of the reasonableness language in Section 402A appears to underscore that the effort is not to create absolute liability, but to provide a standard something like the reasonable person standard in negligence law, but somewhat stricter. *See* RESTATEMENT (SECOND) OF TORTS § 402A; *see also* Birnbaum, *supra* note 94, at 598, 600-601. Absolute liability has generally been disfavored. *See, e.g.,* Victor E. Schwartz & Rochelle M. Tedesco, *The Re-Emergence of “Super Strict” Liability: Slaying the Dragon Again*, 71 U. CIN. L. REV. 917, 917-18 (discussing “super strict liability” and noting “the prestigious American Law Institute issued the Restatement (Third) of Torts: Products Liability, which indicated that super strict liability was an unsound doctrine to be confined to the waste bin of history.”); *Green v. Smith & Nephew AHP, Inc.*, 245 Wis. 2d 772, 812-13 (“This is not to say that strict products liability is tantamount to absolute liability. Strict products liability does not impose liability in every instance that a consumer is injured while using a product.”) (citation omitted); *Id.* at 855-56 (“But we must have some principled standards by which to evaluate product defectiveness in design and warning defect cases; otherwise strict liability will become absolute liability.”) (Sykes, J., dissenting); *Prentis v. Yale Mfg. Co.*, 421 Mich. at 681-82 (“However, this has never meant that courts have been willing to impose absolute liability in this context and from their earliest application, theories of products liability have been viewed as tort doctrines which should not be confused with the imposition of absolute liability.”); Birnbaum, *supra* note 94, at 600-601 (“[E]ven though courts agree that manufacturers can most effectively distribute the costs of injuries, they recoil at the prospect of making sellers insurers of their products and thus absolutely liable for any and all injuries sustained from the use of those products.”); *Phillips v. Kimwood Mach. Co.*, 525 P.2d 1033, 1036 (Or.

A. Our Decisional Framework

Our five identified standards are predicated upon altering the ways in which a fact-finder must make products liability risk-utility calculations. Accordingly, before proceeding to the standards, it will be helpful for us to set out the decisional framework from which our standards will flow.

In a typical risk-utility balancing case, there are two key determinations a fact-finder makes. First, the fact-finder decides the actual risks and utilities, such as the relevant dangers, costs, benefits, alternative safer designs, and probabilities. We will refer to this as “Step 1.” For Step 1, the law may seek to limit the types of information a fact-finder should consider to a discrete “body of knowledge.” For example, the fact-finder could be instructed to consider only the risks or utilities known at a certain point in time. Second, after having determined the bundle of risk and utilities, the fact-finder decides whether the risks outweigh the utilities and, sometimes, whether an alternative design would be preferable. We will refer to this as “Step 2.”¹⁰⁷ In connection with the Step 2 calculation, the law might seek to impose a specific “frame of mind” (or “lens”) on the fact-finder, such as that of a reasonable manufacturer.

In a typical negligence case, the fact-finder acts as follows. For the Step 1 determination, the “body of knowledge” a fact-finder uses is that information a reasonable person—a manufacturer or seller—in defendant’s circumstances would know. The fact-finder is limited to reasonable diligence, some degree of self-interest, and what is generally done in the industry. She is also limited to such information reasonably available at the time of manufacture or sale, and she may not rely on information subsequently discovered. In connection with Step 2, the fact-finder’s hypothetical “frame of mind” (or “lens”) is that of a reasonable manufacturer or seller.¹⁰⁸

We believe that both the “body of knowledge” in Step 1 and the “frame of mind” (or “lens”) in Step 2 may be altered from what they are under negligence to produce plausible strict liability standards that preserve a balancing approach. For instance, in Step 1, rather than a body of knowledge consisting of reasonable knowledge a reasonable person in defendant’s shoes would know or discover at the time of manufacture or sale (as in negligence), the fact-finder could consider an elevated body of knowledge, such as “state of the art” knowledge either at the time of manufacture or sale, or even at the time of trial.¹⁰⁹

1974) (“No one wants absolute liability where all the article has to do is to cause injury.”). Fourth, we in no way imply that our identified standards are the exclusive set of standards stricter than negligence but not overly strict. Instead, we present our standards as one set of plausible options flowing from a single coherent decisional framework. Indeed, in our conclusion in Part IV, we specifically mention a few additional standards as examples of other possible options.

¹⁰⁷ Step 2 generally requires assigning relative values to the risks and utilities.

¹⁰⁸ Again, certain biases and what is generally done in the industry may impact the Step 2 determination.

¹⁰⁹ This could be achieved by way of testimony at trial from the most knowledgeable experts. Such an elevated body of knowledge would make a meaningful difference in, for instance, asbestos cases, where relevant dangers may not have been known at the time of manufacture or sale, but would be known by the time of a current trial. The general concepts of use of imputed (or constructive) knowledge, hindsight, and “state-of-the-art evidence” have found at least some support in the strict products liability context. *See, e.g., Prentis*, 421 Mich. at 685-86; *Bending Nature*, *supra* note 97, at 593; *Cepeda v. Cumberland Eng’g Co.*, 386 A.2d 816, 825 (N.J. 1978) (“At this point of the discussion, the point to be made is that in design defect liability analysis the Section 402A criterion of ‘unreasonably dangerous’ is an appropriate one if

Similarly, in Step 2, rather than using the lens of a reasonable manufacturer or seller (as in negligence), the fact-finder could use some type of elevated lens, such as “the great, impartial, above reproach, utilitarian legislator.”

B. Our Five Standards

Having set out our decisional framework, we now turn to discussion of our five plausible strict liability standards. To aid our discussion, we will make use of an illustrative hypothetical involving Dr. Gregory House from the popular TV show, *House*.¹¹⁰ In our hypothetical, Dr. House has worked at Princeton-Plainsboro Teaching Hospital in New Jersey (“Princeton-Plainsboro”) for many years, and he has recently discovered that he has cancer. The cancer was caused by repeated exposure to Erat, a fictitious and dangerous substance found within building materials in his hospital’s lab, including in the countertops, floor tiles, wallboard, and insulation. All relevant building materials were manufactured and sold to Princeton-Plainsboro by the same company: Cameron, Chase, and Foreman Manufacturing, LLC (“CCF Manufacturing”). It is also relevant to the hypothetical that there is a small, top secret Institute of Advanced Scientific Study in Freiburg, Germany (“Freiburg Institute”), which has been conducting research on Erat but keeping such research strictly within the six-person, internal research team. For purposes of our hypothetical, we assume all conditions for liability, aside from those we specifically treat, are satisfied.

1. Freiburg Today/Impartial Utilitarian Test

understood to render the liability of the manufacturer substantially coordinate with liability on negligence principles. The only qualification is as to the requisite of foreseeability by the manufacturer of the dangerous propensity of the chattel manifested at the trial this being imputed to the manufacturer.”); *Phillips*, 525 P.2d at 1038-39 (“It is our opinion that the evidence was sufficient for the jury to find that a reasonably prudent manufacturer, knowing that the machine would be fed manually and having the constructive knowledge of its propensity to regurgitate thin sheets when it was set for thick ones, which the courts via strict liability have imposed upon it, would have warned plaintiff’s employer either to feed it automatically or to use some safety device, and that, in the absence of such a warning, the machine was dangerously defective.”); W. Page Keeton, *Products Liability—Inadequacy of Information*, 48 TEX. L. REV. 398, 404 (1970) (“[I]f the sale of the product under all the circumstances under which it was marketed subjected the consumer or others to an unreasonable risk of harm, the seller is subject to liability, and it is not relevant that he neither knew nor could have known nor ought to have known in the exercise of ordinary care that the unreasonable risk actually existed. It is enough that had he known of the risk and dangers he would not have marketed the product at all or he would have done so differently.”); Richard L. Cupp Jr. & Danielle Polage, *The Rhetoric of Strict Products Liability Versus Negligence: An Empirical Analysis*, 77 N.Y.U. L. REV. 874, 884-85 (2002) (discussing Wade-Keeton test); *Design Defects*, *supra* note 96, at 353-60 (same); *Bending Nature*, *supra* note 97, at 586, 591 (same); RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. m (“[S]everal courts have stated that a significant difference between negligence and strict liability is that knowledge of risk will be imputed in a strict liability case whereas such an imputation is improper in a case based on negligence.”).

¹¹⁰ See *House*, IMDB, <https://www.imdb.com/title/tt0412142/>. All aspects of our hypothetical—including the involved individuals, organizations and institutions, and the dangerous substance—are wholly fictitious.

Pursuant to our first standard, the fact-finder's body of knowledge would be today's perfect¹¹¹ knowledge and the fact-finder's lens would be "the great, impartial, above reproach, utilitarian legislator." In essence, Section 402A's "unreasonably dangerous" requirement would be interpreted as requiring the jury to conduct the weighing (or risk-utility analysis) for themselves, in hindsight, as they would were they: (1) a great, impartial, above reproach, utilitarian legislator, who is (2) possessed of perfect information, meaning all the information possessed by anyone, anywhere in the world today.¹¹² We refer to this standard as the "Freiburg Today/Impartial Utilitarian Test". "Freiburg Today," because it imputes to the defendant all the knowledge held anywhere in the world today, even at the fictitious, top secret "Freiburg Institute", which has superior knowledge known only internally and not known by anyone else (including by any defendants).¹¹³ "Impartial Utilitarian," to denote that it is a great, impartial, above reproach, utilitarian legislator doing the balancing—and making the choices—in view of the "Freiburg Today" knowledge.

This standard would be stricter than the negligence standard. Under negligence principles, the jury would be viewing information through the lens of how a reasonable person in the shoes of defendant—at the time of her producing or marketing the product—would have resolved the balance with a reasonable person's limited diligence, her imperfect view of things, her limitation to what a reasonable person would have known or considered or investigated and discovered at the time of manufacture or marketing, her reasonable selfishness, and the relevant industry bias. In contrast, the calculus the jury would be asked to make under the Freiburg Today/Impartial Utilitarian Test would be similar to that under negligence (i.e., similar to that under negligence's B<PL Hand Formula), but carried out: (1) on a different base of information (i.e., today's perfect information), (2) with certain benefits excluded from the weighing (e.g., selfish benefits),

¹¹¹ By "perfect knowledge" we mean all the knowledge anyone has anywhere in the world at the time of trial—as brought to light at trial—rather than what was known when defendant acted. Put differently, this would be the day of trial's "state of the art" knowledge. It should be noted that "state of the art" is used to mean different things in different contexts. See RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. d ("The term 'state of the art' has been variously defined to mean that the product design conforms to industry custom, that it reflects the safest and most advanced technology developed and in commercial use, or that it reflects technology at the cutting edge of scientific knowledge. The confusion brought about by these various definitions is unfortunate."). For instance, it may refer to knowledge at the time of manufacturing and marketing or knowledge at the time of trial. Similarly, it may refer to the full body of knowledge available in the world at that time or it may mean some lesser knowledge, such as what the industry or best practitioners in the industry knew (at the time of manufacture or marketing, or at trial). In the Freiburg Today/Impartial Utilitarian Test, we are using "today's state of the art" to mean everything known anywhere in the world (not just to the industry or to the best practitioners in the industry) at the time of trial.

¹¹² Such perfect information concerning risks, dangers, and availability of safer alternatives could be revealed by evidence at trial. Use of expert evidence, for instance, may already be more generally helpful in supporting certain products liability arguments. See, e.g., *Show v. Ford Motor Co.*, 659 F.3d 584, 585-87 (7th Cir. 2011); John F. Vargo, *The Emperor's New Clothes: The American Law Institute Adorns A "New Cloth" for Section 402A Products Liability Design Defects—A Survey of the States Reveals a Different Weave*, 26 U. MEM. L. REV. 493, 605-75 (1996) (discussing cases involving expert evidence).

¹¹³ In other words, even if something is only known at the top secret Freiburg Institute, it is "imputed to the defendant." We use "imputed to the defendant" when speaking of the heightened knowledge as a phrase of convenience. It is actually the great, impartial, above reproach, utilitarian legislator—or, at least, the jury instructed to be in the frame of mind of such a legislator or as near as they can be to that frame of mind—who is using the knowledge and conducting the balancing or making the choices. There is no way the defendant could have known the "Freiburg Today" level of information.

(3) with certain inflated weightings of benefits or costs prohibited (e.g., costs personal to oneself weighing more than similar costs to others), and (4) through a different lens (i.e., the personally disinterested, utilitarian, legislator or regulator, in the present, striving for a better than merely reasonable result for society as a whole). Significantly, the defendant's action would be judged in hindsight under the Freiburg Today/Impartial Utilitarian Test, unlike under negligence.

Dr. House's hypothetical tort action may illustrate the potential impact of the Freiburg Today/Impartial Utilitarian Test. As to the "Freiburg Today" portion of the test, suppose that in Dr. House's tort action defendant CCF Manufacturing did not—and could not—have known that Erat was unreasonably dangerous, even at the time of trial. Suppose further that the top secret "Freiburg Institute" discovered Erat's unreasonably dangerous nature the day before trial commenced. Under negligence principles, a reasonable jury should not find CCF Manufacturing liable, but pursuant to the Freiburg Today/Impartial Utilitarian Test, the Freiburg Institute's knowledge would be imputed to CCF Manufacturing and a reasonable jury could theoretically find liability.¹¹⁴ Similarly, as to the "Impartial Utilitarian" portion of the test, suppose that there was some indication of danger at the time of defendant CCF Manufacturing putting Erat-containing products out on the market, but that a reasonable manufacturer or marketer at the time would still have put the products out to market—perhaps due to some degree of reasonable industry bias. In such a circumstance, a reasonable jury should not find defendant CCF Manufacturing liable, but a jury utilizing the more objective "Impartial Utilitarian" lens would ignore industry bias and could find liability.

2. Freiburg Today/Reasonable Seller Test

Our second standard would also require the fact-finder to use the "Freiburg Today" (today's perfect knowledge) body of knowledge, but would only obligate the fact-finder to use the lens of a "Reasonable Seller" (i.e., a reasonable seller or manufacturer). We refer to this standard as the "Freiburg Today/Reasonable Seller Test."

This standard is somewhat similar to the Freiburg Today/Impartial Utilitarian Test, but not quite so divorced from the "reasonable person in defendant's shoes" negligence concept. Under the Freiburg Today/Reasonable Seller Test, the base of knowledge is the same as under the Freiburg Today/Impartial Utilitarian Test, but the person who does the balancing is the reasonable seller rather than the great, impartial, above reproach, utilitarian legislator. The present standard poses the question "would a reasonable seller knowing what we know at the present trial, manufacture or market this product?"

This standard is stricter than negligence because it uses the "Freiburg Today" (today's perfect knowledge) body of knowledge rather than negligence's focus on what a reasonable person would have known or found out at the time of manufacturing or marketing. The "Freiburg Today" portion of the test also permits the fact-finder to use hindsight unlike in negligence. In Dr. House's case, as noted above, the ability to impute to defendant CCF Manufacturing knowledge of Erat's dangerousness known only by the top secret Freiburg Institute—that such institute discovered the day before Dr. House's

¹¹⁴ There is, of course, the practical problem of Dr. House's legal team becoming aware of the information from the top secret Freiburg Institute in time to deploy it at trial. Since this hypothetical is merely illustrative, we ignore for now such practical difficulties.

trial, that is, knowledge not known by defendant at any point before trial or by anyone else at the time of manufacturing or marketing—may have a real impact on the trial’s outcome.

3. Freiburg Yesterday/Impartial Utilitarian Test

Our third standard would utilize the “Impartial Utilitarian” lens, but the body of knowledge would be “all the knowledge known anywhere in the world *at the time of manufacturing or marketing*.”¹¹⁵ We refer to this standard as the “Freiburg Yesterday/Impartial Utilitarian Test.”

This is a somewhat similar approach to the Freiburg Today/Impartial Utilitarian Test, but also more lenient on defendant. Under this standard, the body of knowledge is “state of the art” (perfect) knowledge, not at the time of the trial, but instead at the time the product was manufactured or put out into the market. Because the “Freiburg Yesterday/Impartial Utilitarian Test” test imputes perfect knowledge only from the time of manufacture or marketing and not from the time of trial, we refer to this test’s body of knowledge as “Freiburg *Yesterday*” (rather than “Freiburg *Today*”).

This standard is stricter than negligence because it utilizes the “Freiburg Yesterday” body of knowledge (perfect knowledge at the time of manufacturing or marketing) as opposed to negligence’s body of knowledge (what would have been known or discovered by the reasonable person in the shoes of the defendant). Similarly, the “Impartial Utilitarian” (great, impartial, above reproach, utilitarian legislator) lens elevates the strictness of the fact-finder’s balancing beyond negligence’s reasonable person (manufacturer or seller) lens. In Dr. House’s action, for instance, assume that defendant CCF Manufacturing had no knowledge of Erat’s dangerousness at the time CCF Manufacturing manufactured and marketed the products that harmed Dr. House. Assume also that the top secret Freiburg Institute had knowledge of Erat’s dangerousness at the time defendant CCF Manufacturing created and marketed the Erat-containing products. Under negligence principles, a reasonable jury should not find CCF Manufacturing liable. Under the Freiburg Yesterday/Impartial Utilitarian Test, however, the Freiburg Institute’s knowledge would be imputed to CCF Manufacturing and a reasonable jury could find CCF Manufacturing liable.

4. Freiburg Yesterday/Reasonable Seller Test

Our fourth standard combines the “Reasonable Seller” lens with the “Freiburg Yesterday” (perfect knowledge at the time of manufacturing or marketing) body of knowledge.¹¹⁶ We refer to this as the “Freiburg Yesterday/Reasonable Seller Test.”

This standard is still stricter than negligence because the “Freiburg Yesterday” body of knowledge imputes more than reasonable knowledge to the defendant. As noted above, in Dr. House’s action, if defendant CCF Manufacturing did not know of Erat’s

¹¹⁵ One could also call this “Freiburg Yesterday” body of knowledge “yesterday’s state of the art.” In the Freiburg Yesterday/Impartial Utilitarian Test, we are using “yesterday’s state of the art” to mean everything known anywhere in the world (not just to the industry or to the best practitioners in the industry) at the time of manufacturing or marketing.

¹¹⁶ Recall that the “Freiburg Yesterday” body of knowledge is all the knowledge known anywhere in the world at the time of manufacturing or marketing (i.e., yesterday’s “state of the art”).

dangerousness at the time of manufacturing or marketing the Erat-containing products and if the top secret Freiburg Institute did, CCF Manufacturing should not be found liable pursuant to a negligence standard but could be found liable under the Freiburg Yesterday/Reasonable Seller Test.

5. Reasonable Knowledge/Impartial Utilitarian Test

Our fifth standard combines the “Impartial Utilitarian” lens with the body of knowledge of “Reasonable Knowledge” (i.e., reasonable knowledge at the time of manufacture or marketing). We refer to this standard as the “Reasonable Knowledge/Impartial Utilitarian Test.”

Here, there is no heightened knowledge imputed to the defendant, but the balancing would still be conducted by the great, impartial, above reproach, utilitarian legislator. The relevant test would be: “would a great, impartial, above reproach, utilitarian legislator—knowing what a reasonable person in the shoes of the defendant would have known or discovered (about risks, benefits, and alternatives) at the time of manufacturing or marketing—market the product?”

This standard is still stricter than negligence because the jury is to put themselves in the shoes of an impartial, disinterested utilitarian, rather than the reasonable person, in making the relevant determinations. In Dr. House’s action, for instance, the jury would not be considering the risks and benefits of putting out the Erat-containing products from the perspective of a reasonable manufacturer or seller—which CCF Manufacturing might be—but instead from the perspective of an impartial disinterested utilitarian. This might mean, for instance, less selfishness, less consideration of personal costs and biases, and less consideration of what members of the relevant building products industry had in fact been doing.

We note that the next logical step down from the “Reasonable Knowledge/Impartial Utilitarian Test” would be a standard titled the “Reasonable Knowledge/Reasonable Seller Test.” That would be a standard utilizing the “reasonable seller possessed of a reasonable seller’s information at the time of manufacture or marketing.” We are not including such a standard, however, since that would simply be another name for the ordinary negligence standard.¹¹⁷

Our five standards are summarized in Table 1. We also include the ordinary negligence standard in Table 1 as a comparator.

¹¹⁷ Please note that, in connection with our above standards imputing yesterday’s or today’s “state of the art” knowledge (connoting, in our terminology, perfect knowledge known anywhere on earth), some courts water down this imputed knowledge base to “best available scientific knowledge” (either today or at the time of manufacture or marketing), which connotes something less than our phrase “perfect knowledge” (either today or at the time of manufacture or marketing). *See, e.g., Feuerstein*, 2014 WL 2557122, at *5 (“A strict liability failure-to-warn claim requires the plaintiff to prove ‘that the defendant did not adequately warn of a particular risk that was known or knowable in light of the generally recognized and prevailing *best scientific . . . knowledge available* at the time of manufacture and distribution.’”) (emphasis added and citation omitted). However, even “best available scientific evidence” is stricter than “a reasonable person’s (manufacturer’s or seller’s) knowledge” (either today or at the time of manufacture or marketing) and therefore still stimulates manufacturers and sellers to do more than just “reasonable” research. Another variant standard sometimes adopted is “best practices knowledge,” (now or at the time of manufacture or marketing), which is an even lower bar than “best available scientific knowledge,” but still higher than negligence.

Table 1: Negligence Standard and Our Five Plausible Strict Liability Standards

TEST	BODY OF KNOWLEDGE (OF COSTS, RISKS, AND ALTERNATIVES)	THE LENS (HYPOTHETICAL B<PL BALANCER)
Ordinary Negligence Test (a.k.a. Reasonable Knowledge/ Reasonable Seller Test)	Only information known at the time of manufacturing or marketing to reasonable person in circumstances or discovered then through reasonable diligence (“Reasonable Knowledge”)	Reasonable manufacturer or seller in industry with some selfish weighting and industry influenced standard of care (“Reasonable Seller”)
1. Freiburg Today/Impartial Utilitarian Test	Today’s perfect knowledge (i.e., all knowledge anyone has anywhere in the world at the time of trial) (“Freiburg Today”)	The great, impartial, above reproach, utilitarian legislator (“Impartial Utilitarian”)
2. Freiburg Today/Reasonable Seller Test	Same as 1 (“Freiburg Today”)	Same as ordinary negligence (“Reasonable Seller”)
3. Freiburg Yesterday/Impartial Utilitarian Test	Yesterday’s perfect knowledge (i.e., all the knowledge anyone has anywhere in the world at the time of manufacturing or marketing) (“Freiburg Yesterday”)	Same as 1 (“Impartial Utilitarian”)
4. Freiburg Yesterday/ Reasonable Seller Test	Same as 3 (“Freiburg Yesterday”)	Same as ordinary negligence (“Reasonable Seller”)
5. Reasonable Knowledge/Impartial Utilitarian Test	Same as ordinary negligence (“Reasonable Knowledge”)	Same as 1 (“Impartial Utilitarian”)

IV. CONCLUSION

In the Article, we have demonstrated that standards of strict liability contemplating cost-benefit balancing may indeed remain *strict* and need not devolve into mere negligence. Specifically, we have isolated a discrete decisional framework within which strict liability balancing may be situated, and then identified and discussed five plausible standards that are stricter than negligence but do not constitute absolute or excessively strict liability.

We fully understand that, in addition to the specific standards flowing directly from the decisional framework we present in this Article, different approaches stricter than negligence, but not excessively strict, are possible. For instance, rather than adopting one of our above standards as part of the risk-utility balancing, courts could simply adopt wholesale a heightened standard or test based on the “reasonable consumer.” Pursuant to this standard, the fact-finder would ask whether the product comported with the consumer’s reasonable expectations concerning overall safety.¹¹⁸ This standard would be somewhat akin to the “reasonable patient” test in negligence.¹¹⁹ Similarly, the law could engage in

¹¹⁸ Indeed, as discussed above, one of the primary strict liability tests has centered on “consumer expectations.” See *supra* Part II.

¹¹⁹ One phraseology of this reasonable consumer test might be: “Ladies and Gentlemen of the Jury, to be unreasonably dangerous and defective, the product must be dangerous to an extent beyond that which

burden shifting. The law could simply shift certain of the burdens of proof that normally rest upon the plaintiff in negligence to the defendant. Yet another approach could be for the law to establish a “like products” standard, pursuant to which the law would require the product to conform to the standard of other “like products.” As our primary purpose is simply to demonstrate that a non-draconian balancing approach stricter than negligence is possible, we do not explore or pass judgment on such other optional standards.

We also understand that there may be some concerns with our standards that impose elevated bodies of knowledge or frames of mind on a defendant.¹²⁰ Some may criticize as unfair, for instance, our standards that seek to “impute” to a defendant a body of knowledge she does not, and could not, have. However, since strict liability is generally not concerned with “fault”—but instead with enacting beneficial policy, such as disincentivizing objectively dangerous product designs—our elevated standards may theoretically be less concerning in a strict products liability context.¹²¹ A strict liability system would likely not actually expect individual defendants to have all relevant knowledge imputed to them and may not actually find them at “fault” for lacking such knowledge. Instead, such a system might simply be setting default rules that seek to eliminate truly dangerous products and reach an efficient cost allocation for harms caused by dangerous products. For instance, a defendant may be deemed liable since it makes economic sense to distribute the costs such that that defendant is liable or because society prefers to encourage future manufacturers or sellers—who would then be on notice—to seek out more knowledge than they might otherwise be inclined to seek out in a negligence-based system.¹²² If such instrumental and pragmatic rationales are the true justifications for products liability

would be contemplated by the ordinary consumer with the ordinary knowledge common to the community as to the product’s characteristics.”

¹²⁰ See, e.g., Birnbaum, *supra* note 94, at 622 (“A significant problem that emerges from a hindsight balancing test (in which knowledge of the risk at the time of trial is imputed to the manufacturer) is that manufacturers may be held liable for dangerous propensities that were scientifically unknowable at the time the product was placed into the stream of commerce.”); Cupp Jr. & Polage, *supra* note 109, at 896 (“[D]espite their bold rhetoric, courts are seldom willing to apply the imputed knowledge approach in those rare cases where it actually makes a difference.”); see also RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. m (discussing “the imputation of knowledge doctrine” as had been espoused by Wade, Keeton, and certain courts and “reject[ing] [it] as a doctrinal matter.”).

¹²¹ See, e.g., Epstein, *supra* note 70, at 153 (“[T]he phrase ‘no liability without fault’ was used to summarize the opposition to a system of strict liability on moral grounds.”); Posner, *supra* note 70, at 205 n.2 (“The concept of strict liability is a various one, but at its core is the notion that one who injures another should be held liable whether or not the injurer was negligent or otherwise at fault.”); see also RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. n (“Negligence rests on a showing of fault leading to product defect. Strict liability rests merely on a showing of product defect.”); Klein, *supra* note 81, at 286 (“Negligence rests on proof of fault leading to a product defect, whereas strict liability merely requires proof of the defect itself, not whether it arose from carelessness.”); *Hoven v. Kelble*, 256 N.W. 2d 379, 391 (Wis. 1977) (“Strict liability promotes the public interest in the protection of human life, health and safety. Strict liability is an effective deterrent; it deters the creation of unnecessary risks, or to put it positively, strict liability is an incentive to safety.”); Roland N. McKean, *Products Liability: Trends and Implications*, 38 U. CHI. L. REV. 3, 41 (1970) (“[I]f products liability laws make a type of product or action more expensive, people will find ways to take less of that item and substitute others.”).

¹²² See, e.g., *supra* Part II; *Escola*, 24 Cal. 2d at 462; see also RESTATEMENT (THIRD) OF TORTS: PRODUCTS LIABILITY § 2 cmt. a (“Society benefits most when the right, or optimal, amount of product safety is achieved.”).

stricter than negligence, it is unclear why the knowledge base utilized by the fact-finder need be limited to what given defendants *actually* knew at a given point in time.¹²³

In closing, we acknowledge that one potential impact of several of our proposed standards might to “force” technology forward. That is, businesses may feel they need to work harder to acquire more knowledge of their products’ risks and alternatives—and discover and invent more safety innovations and techniques—than they might otherwise have. Whether such a new balance of costs and benefits for producers, sellers, and society writ large is truly efficient and optimal is difficult to predict and beyond the scope of this Article. On this point—and on strict liability standards more generally—we would welcome further normative and empirical work, such that a coherent standard can be adopted that truly maximizes societal benefits.

¹²³ We emphasize, as noted previously, that we are not necessarily arguing that products liability stricter than negligence *should* be adopted, just that it *could* be, while maintaining a cost-benefit balancing approach.