ORDER OUT OF CHAOS: PRODUCTS LIABILITY DESIGN DEFECT LAW

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Order from chaos.

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I. Introduction

Products liability design defect law appears to be in a state of disorder. All of the different design defect tests used by the state courts give the appearance of chaos in American products liability law. The states have failed to develop a strong consensus on a legal test for design defect. It is, of course, an exaggeration to say that there are as many different legal tests for design defect as there are states, but in a world in which products are routinely shipped in foreign and interstate commerce, there is a need for more uniformity than we have. Fortunately, appearances are not all they seem. There is surprising harmony among the states in the proof requirements to establish a prima facie case of design defect. The treatment of design defect cases has been remarkably uniform throughout the United States at the proof level despite what might seem to be inordinate disorder at the design defect test and jury instruction levels. There is a simple elegance at the proof level that does not exist at the legal test level.

It is a familiar story of how the judicial opinions of two American state court judges, Justice Roger Traynor of California and Justice John Francis of New Jersey, and the torts scholarship of Dean William Prosser, culminated in the American Law Institute’s adoption in 1964 of strict products liability in Restatement 2d, § 402A. Section 402A caught on like wildfire in American state courts. No single doctrinal common law principle was ever so widely adopted so quickly in the United States as strict products liability. This undoubtedly reflected the consumer age, the high level of accidents involving consumer products, and the considerable inadequacies of warranty law. The wave of reform subsequently led to a European Union strict products liability law in the form of the European Directive on Products Liability in 1985. The primary hopes and promises of products liability legal reform were the development of a liability law that emphasized a consumer safety perspective and reduced the burdensome proof requirements of negligence law. These objectives were to be achieved by moving from negligence to strict liability principles of culpability and the use of a consumer safety expectations test of defectiveness. Justice Traynor eloquently made the case for this shift as early as 1944:

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. Those who suffer injury from defective products are unprepared to meet its consequences. 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. However intermittently such injuries may occur and however haphazardly they may strike, the risk of their occurrence is a constant risk and a general one. Against such a risk there should be general and constant protection and the manufacturer is best situated to afford such protection. 4

In the years since, it is clear that these goals have not been achieved in the most significant area of products liability litigation—design defects. 5 Product design defects are the predominate type of litigated case today, 6 and they have proven to be the most intractable to such reforms. American courts have openly shifted back to negligence principles in design defect cases in substance, if not in language, by requiring risk-utility proof which is the crux of negligence. European courts, essentially, have come to the same place by treating their expectations test as a normative test – a reasonable person expectations test – allowing consideration of risk-utility proof in design defect cases. 7

The many different design defect legal tests that developed in the fifty states in the U.S. after § 402A give the appearance of disorder in American products liability law. But such an impression is inaccurate. If we focus not on the legal tests, but on the proof acceptable to make out a prima facie case of design defect, there is considerable uniformity among the courts.

The years of experience with products liability litigation have taught us not only that most design defect cases of necessity require consideration of risk-utility proof to ascertain defectiveness, but also importantly, that experience has also taught us that some do not. Those design defect cases that require risk-utility evidence to establish defectiveness – herein described as the “safety adequacy” cases -- require a balancing of competing considerations in determining whether the product was reasonably safe, and are essentially indistinguishable from applying negligence law. 8 The safest location for a gas tank under a car to avoid leakage and fires after a collision, the height of front bumpers on SUVs to lessen interior penetration of other vehicles in side collisions, and the feasibility of a safety device to turn off the ignition on power boats towing water skiers if the operator is thrown overboard, are examples where risk, feasibility, cost and utility impairment must be considered in determining if a product is defective, or in other words, has a reasonably safe design.

On the other hand, there are design defect cases in which courts allow the use of alternative types of proof such as circumstantial evidence establishing defectiveness when products malfunction under normal use, safety regulation violations, misleading safety representations arising from product advertising or promotional literature, easily curable manifest defects such as the failure to use skid-proof material in slippery situations, unwholesome food, and other categories developed below. 9 Allowing alternative proof in such situations is more consonant with the initial consumer safety protection law reform goals underlying § 402A. Identifying such alternative proof categories permits breathing space for a meaningful consumer safety-oriented liability principle to operate in some design defect contexts.
rather than yielding to the negligence risk-utility standard across the board in all design defect cases.

The SUV rollover cases can serve as a useful paradigm for some of the problems discussed in this article. The defectiveness of a Toyota 4Runner SUV that tripped and rolled over on a highway while the driver was performing an every day, ordinary road-hazard-evasive-maneuver can be shown at trial through traditional risk-utility evidence, but it is a complex and difficult process requiring extensive discovery and the services of expert witnesses, and it is very expensive. Such an evidentiary undertaking can only be done in cases involving catastrophic injuries which would warrant the expense. In some SUV accidents it might be possible instead to merely prove through the driver and other witnesses that the driver was proceeding at the speed limit on a clear, dry day, when a deer dashed out in front of the vehicle, and the driver undertook a normal evasive maneuver by turning the steering wheel to the right to avoid the deer, and then back again once past the deer, to regain his position in the roadway. However, instead of regaining the roadway in a stable position, the witnesses describe how the SUV tripped on its self and rolled over injuring the passengers. This circumstantial evidence, without additional risk-utility evidence on how the SUV could have been more safely designed, could alone be sufficient to raise a jury question regarding the defectiveness of the SUV. In some situations even TV commercials and other advertising materials showing the SUV performing evasive maneuvers in similar circumstances may be enough to establish a prima facie case of a defective design. Attorneys in such cases typically introduce risk-utility proof in addition to the misleading advertising if they can, but in some circumstances it should be enough to prove the misrepresented performance capabilities presented in the advertising.

This article explores the borderland between the design defect cases requiring risk-utility proof to establish defectiveness and those categories of design cases where alternative proof is allowable. Risk-utility proof is required in most design defect cases – the safety adequacy cases, but there are design contexts which can be isolated in which alternative forms of proof are permissible. The alternative proof cases are often less expensive and less burdensome to prove thereby better achieving the law reform goals of the American Law Institute in § 402A. Case law has already identified several product accident contexts in which alternative proof is and should be allowed. At least eight existing or emerging categories of design defect cases allowing for alternative proof are discussed, and the types of alternative proof are identified and analyzed. There does not appear to be a unifying theme to these alternative proof categories, but their identification nonetheless serves a useful purpose in organizing and simplifying design defect law.

An understanding of the alternative proof categories is helpful because it provides guidance to courts in understanding the applicable legal test and the appropriate instructions to give juries, enables attorneys to plan and develop more easily the requisite legal and evidentiary strategy for their cases, allows products liability law to develop in a more sensible and coherent fashion; and allows the law to better approximate the original reform objectives of products liability law. Finally, the article demonstrates the continuing value of the common law process which allows the law to evolve over time as a result of the analysis of succeeding cases.
II. Evolution of Products Liability Design Defect Law

A. Historical Background

Prior to the 1960s, manufacturers were rarely held liable for defective products. The law previously had provided two principal theories for persons suffering injuries caused by defective products: (1) implied warranty of merchantability and (2) negligence, but interposed substantial barriers to recovery.10

Under the implied warranty theory of the Uniform Commercial Code, sellers provide an implied warranty that their goods are “merchantable,” i.e., “fit for the ordinary purposes for which such goods are used.”11 The buyer does not have to prove negligence to recover. However, sellers were able to eliminate or curtail liability through a number of strategies allowed by the Code.12 Many states eventually passed special consumer protection statutes to ameliorate some of these problems.

The common law allowed recovery where sellers were negligent. However, immediate sellers are rarely negligent regarding consumer goods because they have no hand in their design or production. Manufacturers, after MacPherson v. Buick Motor Co.,13 however, could be held liable in negligence to remote purchasers and bystanders for negligently designed or manufactured products. Even so, a plaintiff might identify a defect but usually could not prove the specific carelessness that resulted in the defect. And challenging product design decisions was virtually unheard of until the 1960s. Proving negligence, however, continued to be a difficult, if not insurmountable burden. Even if negligence could be proven, defenses such as the open and obvious danger rule, contributory negligence as a total bar to recovery, assumption of risk, and scope of liability limitations typically precluded liability. As a result of the difficulties with negligence and sales contract law, few persons successfully recovered for injuries caused by design defects before the mid-1960s.

Then, two important decisions in New Jersey and California in 1960 and 1962 took a dramatic common law turn and extended strict liability in tort concepts to product accidents: Henningsen v. Bloomfield Motors, Inc.14 and Greenman v. Yuba Power Products, Inc.15 The American Law Institute (ALI) in 1964 under the leadership of Dean William Prosser followed suit and adopted the principle of strict products liability in § 402A in response to deficiencies in the existing accident law.16 After the adoption of § 402A, court after court across the country decided that, in products accident cases, the Restatement’s principle of strict liability should apply. Courts adopted this new principle in light of the expanding consumer goods economy and to provide optimum safety incentives for manufacturers and a greater assurance of compensation for consumers. The number of product accident cases filed in the courts increased considerably in the ensuing decades.

The shift in American tort law towards greater protection for consumer and worker safety in the use of products actually was brought about by a number of changes. First in importance was the new strict liability focus presented by § 402A. Second, two reforms in the pre-trial discovery rules facilitated the planning and proof of products accident claims: (a) relevant
document discovery was enhanced considerably by eliminating the requirement that a party establish “just cause” to discover relevant documents, and (b) the ability to learn the defendant’s theory of the case before trial through expert report discovery and deposing defense experts before trial enabled plaintiffs to better prepare and present their cases. Also, a third important reason was the growing expertise and sophistication in the plaintiffs’ trial bar and the defense bar, in preparing and litigating complex defective product cases.

The comments to § 402A make it clear that the new “rule is one of strict liability, making the seller subject to liability to the user or consumer even though he has exercised all possible care in the preparation and sale of the product.” A plaintiff under § 402A must show that the product was in a “defective condition unreasonably dangerous to the user or consumer.” Thus, it appears that, sellers are liable for injuries from product defects without a showing of negligence. Additionally, under § 402A, disclaimers of warranty and liability are not enforceable, and privity of contract is not required.

In the flood of cases after the adoption of § 402A, courts began to recognize that there were three basic types of product defects: (1) manufacturing defects, (2) design defects, and (3) warning deficiencies. The drafters of § 402A probably only clearly had in mind that the provision would apply to manufacturing defects and also those design defects which made a product unfit for normal use. The language of § 402A, however, was not so circumscribed and the provision was applied by the courts to all types of defects in all situations. This caused considerable difficulties.

B. The Common Law Process in Design Defect Cases

1. The Early Period in the Courts

Section 402A was the guiding framework for products liability law for 34 years. It was not without its problems since it was drafted when product accident claims were not prevalent, and it did not anticipate the consequences of the inherently more difficult area of complex design defect litigation. In the design defect cases, the courts became accustomed to invoking § 402A's strict liability language in their opinions even though they often actually were applying negligence principles. The jury instructions often used the Restatement's consumer safety expectations test, but the proof required was usually the same or similar to the risk-utility proof in a negligence case.

The three cases upon which American strict products liability was originally premised, Escola, Henningsen and Greenman, actually were all cases of “product malfunction” under normal use. In the product malfunction context, the application of strict liability’s consumer expectations as to safety test makes eminent sense whether the defect is a manufacturing flaw or a design defect. In Escola v. Coca Cola Bottling Co., involving a bottle of Coke handled normally that exploded and seriously injuring a waitress, the majority applied the doctrine of res ipsa loquitur, but Justice Traynor concurred, arguing that strict liability principles should be applied. In the warranty case of Henningsen v. Bloomfield Motors, Inc., the power steering of a
recently purchased Chrysler locked up, causing a crash, and injuring the driver. The court prohibited defensive limitations written into the contract of sale and invoked the strict liability approach of implied warranty of merchantability.\textsuperscript{24} And, in \textit{Greenman v. Yuba Power Products Co.}, Justice Traynor in a tour de force transformed products liability law by applying strict liability principles to an accident involving a multi-purpose lathe whose normal vibrations caused the spinning wood block to fly out of the machine, injuring the operator.\textsuperscript{25} In each of the three cases, the products were being used in their normal, intended fashion and the products failed to perform in the manner reasonably expected in light of their nature and function. The products could not safely perform their intended or foreseeable functions; in other words, they malfunctioned.

It is important to recognize that the first two cases, \textit{Escola} and \textit{Henningsen} were actually manufacturing defect cases, that is, products that didn’t meet the manufacturers’ own design specifications. They were defective products that should have been caught by quality control systems. Not only do consumers reasonably expect that such products will be safe in normal use, they, and the law, also expect that manufacturers will meet their own design specifications. \textit{Greenman}, however was clearly a design defect case; the product was built according to its design standards, but could fail in some foreseeable circumstances of normal use. The lathe design was defective and dangerous because it didn’t meet consumer expectations that it would operate safely in normal use. Since § 402A was premised on these three cases, it is clear that the section was intended to apply to manufacturing defects, and at least to those design defect cases which fit within the product malfunction type of accident. What the courts learned fairly soon after the floodtide of products cases filed post § 402A, was that most product design problem cases did not fit the mold of product malfunction cases.

The vast majority of design related cases that are litigated today are not malfunction cases, but rather involve questions of whether the manufacturer incorporated adequate safety into the product. A determination of inadequate safety defines the defect, not malfunction. These types of defects are hereafter described as \textit{safety adequacy design defects}. The overwhelming numbers of design defect cases in the courts today are based on alleged inadequate safety in otherwise useful products.\textsuperscript{26}

Product designs with inadequate levels of safety can usually be determined to be defective only by concluding that the danger risks outweigh the benefits of the product as designed. In other words, these cases require a balancing of the risks of harm in the product and their gravity against the feasibility of a safer design at reasonable cost without unduly sacrificing the utility of the product.

Thus, most design defect cases are not malfunction cases but cases involving issues of how safe is safe enough – safety adequacy design cases. Since perfect safety in any product is not possible, consumers cannot expect perfectly safe products. Safety adequacy cases will typically involve expert proof of whether the design was an acceptable compromise of the multiple considerations including safety, functionality, cost, and esthetics.\textsuperscript{27} To establish the dangerously defective nature of the product, proof is usually required of an actual or potentially safer, feasible, cost effective alternative design that does not impair the utility of the product.
the safety adequacy design defect cases, the courts have required risk-utility proof, and moved to legal tests and, in some cases, jury instructions whose language has a better fit with the risk-utility proof submitted.\textsuperscript{28}

In this milieu, courts began to recognize that different legal tests and proof requirements were appropriate for different types of design defects. The safety adequacy design defect cases could be processed essentially under a “reasonable safe design” test requiring risk-utility proof, and the design malfunction cases and certain other categories of cases could be based on proof other than risk-utility evidence, and perhaps governed by different legal tests. With this recognition, however, came a difficult dilemma for the courts: How could strict liability principles apply to safety adequacy design defect cases where the risk-utility proof required, looks and feels so much like a negligence approach? Indeed, the risk-utility approach is based on Judge Learned Hand’s famous negligence balancing formula that he developed in the \textit{Carroll Towing} Case in 1947 and other cases.\textsuperscript{29} The next section develops how the courts have dealt with this conundrum.

\section*{III. Struggles to Bring Design Defects within a Regime of Strict Liability}

Since negligence is primarily based on a balancing of risk-utility evidence, judges and commentators initially believed that risk-utility proof would not be required to make out a prima facie case of product defectiveness under strict liability. It was assumed that other proof under the new consumer expectations as to safety test could be used instead. In the early period after § 402A was adopted by the ALI, the consumer expectations test as to safety (CET) became the dominant legal test and jury instruction. It turned out in the subsequent cases that the CET works well in the manufacturing defect and the warning defect contexts. But the formulation proved unsatisfactory in the predominant number of design defect cases -- the safety adequacy cases.

\subsection*{A. Consumer Expectations Test}

The basic rule of § 402A is that strict liability applies if a product “in a defective condition unreasonably dangerous to the user or consumer” causes injury. The comments to § 402A elaborate the basic rule by declaring that a design is defective if a product performs less safely than an ordinary consumer would expect. Somewhat circularly, each of the phrases of the basic rule, that is, “defective condition” and “unreasonably dangerous,” is defined in § 402A’s comments in terms of the ordinary consumer expectations test. Although the CET works well for manufacturing defects and design defect malfunction cases, it poses serious problems in the safety adequacy design defect cases.

The virtue of the CET is that it focuses on the point of view of purchasers and users of products and allows proof of customary uses of a product and the marketing, advertising, presentation, promotional materials, product manuals, instruction booklets and warnings in evaluating whether a product design is safe. The CET thereby heightens consumer protection as the significant factor in products liability.
The courts, in implementing the CET, have been clear that the test is an objective, not a subjective test, in that the focus is on the ordinary user’s expectations and not the expectations of the actual user. Moreover, where a product’s ordinary users are limited as with industrial or trade equipment, expert testimony on the subject of what the product’s actual ordinary users expect is appropriate.

There are, however, a significant number of situations where the CET falters, and indeed, one can question whether consumer expectations are capable of being measured in any meaningful way. Those contexts include products with open and obvious dangers, situations where bystander is the plaintiff rather than a user or consumer, product accidents involving children, and cases where the users do not have safety expectations to measure, but the technology is readily available to make the products safer at reasonable cost.

1. Problems with Consumer Expectations

Many problems developed with the application of the CET in design defect cases. Foremost are the “open and obvious” defect cases that often equitably call for a conclusion the opposite of what the CET would require. For example, where a product has a known danger or an open and obvious danger, like the omission of a safety guard on an industrial punch press or the omission of child-proofing on butane cigarette lighters, the literal application of the CET excuses a manufacturer from redesigning or adding an available, feasible safety device even when the danger could be eliminated or substantially reduced at slight cost. The California court describes such products as “embodying excessive preventable danger.” Many courts when confronted with design defect issues in such products have found ways to circumvent the harsh implications of the open and obvious danger under the CET.

These open and obvious danger examples raise the issue of whether the CET is factual (descriptive and empirical) or normative (standard), i.e., does the test require an inquiry on what ordinary consumers a) actually do expect or b) what they should expect. As a factual test, the CET would inquire only as to the actual safety expectations of ordinary users and consumers, and apparent dangers or risks would bar recovery under the CET. As a normative test, however, the CET would inquire as to what ordinary users and consumers should expect in terms of safe use. This normative approach necessarily imports the concept of reasonableness. Thus, in a normative use of the term, if the question put to the jury is what reasonable consumers should expect by way of safety, a jury could consider an inexpensive alternative design that would eliminate the risks even though the danger was “open and obvious.” Under the normative approach, the appearance of the risk might then only be primarily relevant in comparative fault evaluations. Many courts, to avoid inequity, have created an exception in these “open and obvious” risk situations allowing consideration of risk-utility proof even if they continue to use a CET jury instruction.

The CET’s focus on consumer expectations also posed a problem for the courts because the consumer of a product frequently is not the ultimate “user.” Factory machinery, commercial vehicles and airplanes are typically “used” by persons other than the purchasers and operators. Courts as a result, have had to stretch the concept of users and the test to ordinary user expectations as to safety.
The CET also poses problems where the victims are bystanders rather than the purchasers or users of the product. The descriptive versus normative issue arises in this context as well. If the test is descriptive, must the perspective of the test shift from the ordinary users or consumers to foreseeable bystanders in such cases? In most cases the potential shift in focus does not matter if the defect risk is as great as or greater to the users than it is to bystanders, as where a defective power steering mechanism poses serious risks to the car users as well as occupants of other vehicles or pedestrians on the roadway. But in other cases, there may be a conflict of interest between users and bystanders. For example, it is well documented that many individuals buy SUVs because they believe them to be safer because of their weight, size and height, and they like riding higher than other passenger vehicles. Unfortunately, the higher bumpers on many SUVs present a major vehicle penetration risk to the occupants of other cars in side collisions. The increased penetrability of other vehicles at leg or waist level has resulted in many more serious injuries to occupants in other cars. Evaluating defectiveness solely from the ordinary purchaser or user’s perspective in this situation makes little sense. The risks to foreseeable third parties have to be a part of the calculus.

Moreover, consumers and users have the opportunity to inspect for defects and to purchase from reputable manufacturers, whereas such opportunities are not available to bystanders. Yet a test articulated in terms of bystander expectations would be absurd. This anomaly has resulted in a variety of legal solutions: retaining the consumer expectations test in bystander cases, expanding the notion of “consumer” to include a spouse or family member who is a bystander, changing the perspective from an ordinary to a reasonable consumer (descriptive to normative), or applying a risk-utility approach.

Similarly, children, particularly young children, typically have no safety expectations regarding the products they use or consume. In the butane lighter cases mentioned above, the children, of course, were oblivious to the risks of fire by their conduct. If the product is intended for children, the viewpoint is based on the ordinary parent or adult consumer. For adult products, the courts have held that the level of knowledge held by ordinary adult consumers should be used as the test, even if a child was actually injured by the product. The most sensible approach here would be to use a normative standard of reasonable safety expectations and allow the introduction of risk-utility evidence.

There is also the important question of what types of proof are allowable under the CET. As indicated earlier, the focus is not on the plaintiff’s expectations but objectively on what ordinary consumers expect. Experts and co-workers have been allowed to testify as to safety expectations. Cross-examination of the plaintiff as to her safety expectations has often proceeded without objection by plaintiff’s counsel. Parties may also look to the overall reported accident record of the product as a gauge of consumer expectations. Few reported accidents may indicate that consumers can work safely with the product; on the other hand, many reported accidents may indicate the opposite. If the product is in common usage, the courts allow jurors to exercise their common sense judgment as to what ordinary consumers expect. Where the product is not a matter of common usage, experts may testify as to what level of safety ordinary consumers of the product expect. There have been a few cases that have allowed the introduction of surveys of consumer expectations relying on the common practice of survey use.
in trademark infringement cases. This is a problematic development because of difficulties in framing unbiased questions, the representativeness of those surveyed, and the lack of knowledge of the backgrounds of the respondents. Reliance on surveys may indirectly tend to make the CET a culmination of subjective rather than objective expectations. It would be an unfortunate development in products liability law to turn these cases into dueling surveys. The imprecision of the CET and the lack of parameters to guide decisions have motivated courts to resort to risk-utility principles in design defect cases.

Most significantly, the overwhelming number of design defect cases involve products of great utility that cause harm, and these typically require a careful balancing of the risks presented against the potential safety improvements in order to determine if the products should be characterized as defective or not. These are the safety adequacy design defect cases alluded to earlier. In these cases, the ordinary consumer may have no safety expectations to measure. For example, the location of a gas tank in an automobile involves a complex analysis of different potential locations for the tank and the numbers and severity of accidents associated with each location, and also involves a complicated tradeoff of risks because of the potential of leakage and a resulting fire after a collision. The ordinary consumer has no clear safety expectations as to gas tank locations without being informed by experts. In such cases, courts have allowed, even required, plaintiffs to proceed by offering risk-utility proof.

In these cases a subtle transformation of the CET into a normative standard takes place. The courts that continue to use the consumer expectations test in safety adequacy design defect cases and require proof based on risk-utility concepts, effectively modify the “ordinary consumer” into the “reasonable consumer.” Some courts openly use the concept of the reasonable consumer to allow a normative judgment to be informed by expert testimony on risks and safer alternatives. A number of courts, on the other hand, have replaced the CET with other legal tests based on the reasonableness of the design such as the reasonable prudent manufacturer test (PMT) or a risk-utility test (RUT)

In those jurisdictions that use both the CET and a RUT in the alternative depending on the nature of the case (the two prong test approach), the CET can be uniformly implemented in the appropriate cases as a descriptive test based on what ordinary consumers and users do in fact expect in terms of safety. States that rely on the CET as a universal test for all design defect cases have effectively given the CET a chameleon effect that leads to confusion. Sometimes the CET is treated as a descriptive test, and other times as a normative test depending on the nature of the case.

B. The Risk-Utility and Prudent Manufacturer Tests

1. The Risk-Utility Test

The risk-utility test (RUT) and the prudent manufacturer test (PMT) are the two most prominent legal tests used by the courts in design defect litigation. The RUT provides that a product has a design defect if the risk of danger exceeds the burden to the manufacturer of making the product safer. Risk-utility proof involves two basic types of evidence that are balanced against each other. The first is proof of the danger involved in the use of the product:
the probability that accidents will happen because of the product design and the gravity of the harm that will occur if accidents happen. On the other side of the balance, proof of the proposed alternative safer design, its feasibility, costs, and implications for the overall utility of the product are considered. The risk-utility balance in tort law has never been a mere economic summing up of the dollars and cents on each side of the equation. It is a device which helps decision makers determine if the safety costs are generally worth the preventable harm. The greater the danger such as grievous bodily harm or loss of life, then utmost precautions should be taken; at slight danger levels, minimal precautions may only be required. Importantly, the balance is not the risks of harm versus the overall utility of the product, but rather the much narrower question of whether a change in a particular design aspect that would have avoided the harm is practicable and cost effective.

Risk-utility proof, of course, is the most common basis for establishing a negligence claim. User safety expectations are actually properly includable within the matrix of factors in negligence analysis whether expressly spelled out or not. Some courts and the Products Liability Restatement 3d expressly indicate that consumer safety expectations are one of the factors to be considered in strict liability risk-utility analysis.

The California supreme court, while not giving an exclusive list of factors in the risk-utility balancing test, said that “a jury may consider, among other relevant factors, 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.” The “other relevant factors” as in negligence law, of course, include safety expectations and the social and moral justice concerns integral to personal injury tort law. Both Restatements used broad phraseology encompassing the justice factors as well as the economics of risk through the language of “unreasonably dangerous” in § 402A, and “reasonably safe” in the Restatement 3d. The California supreme court accomplishes this objective by its reasoning that a product is defective in design if the jury finds that it embodies “excessive preventable danger.”

2. The Reasonable Prudent Manufacturer Test

The reasonable prudent manufacturer test (PMT) used by a significant number of courts was developed because of the unworkability of the CET in many contexts as discussed above, and particularly in design defect cases involving safety adequacy issues which require a balancing of risk-utility evidence to determine defectiveness. The PMT, also generally relies on risk-utility evidence and analysis but frames the jury question in terms of what a reasonable manufacturer would have done in the circumstances. Many courts opt for the PMT because it seems more appropriate in cases where the evidence is of a highly technical nature beyond the experience of ordinary consumers. The PMT requires the trier of fact to determine whether “a reasonably prudent manufacturer or seller would have produced and marketed the product in the condition that it was at the time that it was placed into the stream of commerce, assuming knowledge of the particular risk of harm on the part of the defendant manufacturer or seller.”

In Ray v. BIC Corp., plaintiff, on behalf of her minor son, sued for damages for her child who suffered serious burn injuries including brain damage while playing with a BIC lighter.
Plaintiff alleged that the lighter was defective because it was not child resistant. The federal district court granted summary under the CET because he found as a matter of law that the lighter was not more dangerous than ordinary consumers would expect. On appeal, the Sixth Circuit certified the interpretation of Tennessee’s product liability statute to the Tennessee supreme court. The Tennessee court interpreted the statute to allow for the plaintiff to prove a design defect either on the basis of the CET or the PMT. The court compared the PMT to the RUT, stating:

In effect, the prudent manufacturer test, by definition, requires a risk-utility analysis. The determination of whether a product is unreasonably dangerous turns on whether, balancing all the relevant factors, a prudent manufacturer would market the product despite its dangerous condition. Naturally, a prudent manufacturer would consider usefulness, costs, seriousness and likelihood of potential harm, and the myriad of other factors often lumped into what plaintiff called a risk-utility test.\textsuperscript{58}

In a later case the Tennessee court explained that there are design defect cases that fall under the CET and others that appropriately are governed by the PMT: “the prudent manufacturer test will often be the only appropriate means for establishing the unreasonable dangerousness of a complex product about which an ordinary consumer has no reasonable expectation.”\textsuperscript{59}

Essentially, the court was differentiating between the safety adequacy cases requiring risk-utility proof and the alternative proof design defect cases.

A number of state courts have decided to use a risk-utility analysis either under a RUT or a PMT in design defect cases where the ordinary consumer would not know what safety to expect or how the product could be made safer.\textsuperscript{60}

The PMT is essentially a negligence standard but it eliminates the need to prove that the manufacturer knew or should have known of the risk in question by presuming that the manufacturer knew of the risk. In most cases this is a distinction without a difference from negligence because in virtually all cases it can be proved easily that the manufacturer in fact did know or when charged as experts in the field, as is customarily done, should have known of the risk. In the cases where foresight of the risk makes a difference, the developmental risk cases, courts generally have shied from applying the presumption.\textsuperscript{61} Risk-utility proof is, of course, the work-horse behind the PMT in the safety adequacy design defect cases. The PMT shifts the focus for resolving the risk-utility evidence to that of the reasonable manufacturer and away from the ordinary consumer under the CET. This shift in focus is likely of some significance in practice before juries.

Courts using either the RUT or the PMT often speak of the rules as imposing strict liability despite the virtual overlap with negligence analysis. This is, to say the least, confusing. However, a beneficial side effect of using the rhetoric of strict liability while employing essentially negligence principles in design defect cases, rather than openly applying negligence law, has been the willingness of the courts to re-examine some negligence rules and reform them in the strict products liability context. Perhaps the most notable is the remedial re-design rule. In negligence law, the cases are uniform that remedial repair evidence may not be introduced to
show negligence on the part of the defendant. Thus, the landlord who repairs the carpet in a common stairway of his apartment building after a tenant falls need not be concerned that his repair will be used against him if the tenant sues. Such a rule is anachronistic in the product manufacturing field for a number of reasons. First, the volume of product sales may actually necessitate re-design to avoid numerous additional injuries. Moreover with many consumer products of which automobiles are the best example, the re-designs are dictated by market considerations and competition, and plans for re-design may be in place long before accidents happen or lawsuits are filed. Another change from negligence law is the imposition of liability on all sellers in the marketing chain. Ordinarily, intermediate sellers cannot be liable in negligence because they haven’t been negligent. Strict liability recognizes that sometimes the importer or retailer is the dominant player in the marketing arrangement and should bear responsibility for unsafe designs. Our recent experience with lead in toys imported by major American toy manufacturers and sold by major U.S. retailers is a good example of the need for such liability.\textsuperscript{62}

3. Problems with the Risk-Utility and the Prudent Manufacturer Tests

The risk-utility test works effectively in most design cases but the important question is whether it differs from negligence at all. If not, the courts are effectively applying negligence principles under a strict liability flag.

The risk-utility test even when based on negligence principles is not without its problems. Some critics contend that it allows lay juries to second guess design engineers and safety regulations in complex design cases where safety choices must be made. It is also said that the RUT allows juries to second guess the marketplace and decide that, even though many people have purchased the product, it nonetheless does not have sufficient utility to outweigh the risks. Additionally, in many states, the design safety determination is criticized because it is often given to juries without adequate guidance for evaluating the risk-utility factors, for example, under a consumer expectations instruction. Most of these criticisms are really attempts to limit liability.

There is a serious criticism of using risk-utility proof that goes to the heart of the safety reforms that the strict liability pioneers were striving to achieve. Proving a defect through risk-utility evidence is usually difficult, excessively expensive, and time consuming. Consequently, only potentially high damage award products liability cases can be litigated. Most small recovery products liability claims are rejected by trial lawyers. The Products Liability Restatement 3d probably exacerbated this problem by expressly requiring proof of a reasonable alternative design as a part of its definition of a design defect.\textsuperscript{63} All this, however, essentially defeats one of the most significant justifications for strict products liability.

Even though most design defect cases – the safety adequacy cases – require the use of the risk-utility approach and essentially a return to negligence principles, this should not dissuade the courts from applying strict liability concepts to other categories of design defect cases where alternative proof, often less onerous and less expensive to plaintiffs, can logically and properly be used in place of risk-utility evidence. We should not treat all design defect cases alike in
terms of proof requirements. The alternative proof categories of design defect cases are addressed in Section V below.

Courts in allowing risk-utility proof and using a RUT or a PMT distinguish strict products liability from negligence by relying primarily on three grounds: 1) a focus on the product rather than the producer, 2) use of a hindsight test as contrasted with the foresight approach in negligence, and 3) a shifting of the burden of proof to the producer on the risk-utility balance. None of these differences are significant enough to create a meaningful distinction.

a. Focus on the Product

Many courts in distinguishing negligence from strict liability in product accident cases have insisted that in strict liability the product is evaluated rather than the conduct of the manufacturer as in negligence. A recent Illinois Supreme Court decision reiterated the product-conduct distinction: "In a defective design case sounding in negligence, the focus is on the conduct of the defendant, but in a strict liability defective design case, the focus is on the product." This product-conduct distinction is false. To find the product defective based on foresight of the risks and risk-utility analysis, as most courts do, is to find the design defective, and implicitly to find the design engineering conduct culpable. A distinguished commentator cogently criticized the Illinois court’s decision and the conduct-product distinction as follows:

The Products Liability Restatement 3d test requiring a "comparison between an alternative design and the product design that caused the injury, undertaken from the viewpoint of a reasonable person," is the identical test utilized in deciding whether a defendant was negligent. In both, a fact-finder must determine whether a reasonable person would find that the product did not meet the reasonableness standard. **Robots do not make design decisions, human designers do. Juries sit in judgment on those decisions and do so from an objective perspective. There simply is no difference between reviewing the conduct of the manufacturer and the product design. Ultimately, products are neither reasonable nor unreasonable; they are deemed so only because a human fact-finder utilizing risk-utility tradeoffs decides one way or another on the issue.**

The product-conduct distinction may have arisen in American products liability law because not only the manufacturer but all sellers are held strictly liable for a defective design. Intermediate sellers typically have nothing to do with the design of a product and in these contexts it is helpful for the legal test to focus on the product rather than design conduct. Even so, in the intermediate seller cases, the foreseeability of a risk is evaluated in terms of the producer’s, not the intermediate seller’s, reasonable knowledge.

b. Hindsight of the Risk

A number of courts have attempted to distinguish strict liability design cases from negligence by declaring that in strict liability, the risk-utility balance is evaluated in hindsight rather than foresight. Thus, under the strict liability hindsight approach, if a risk of harm arising out of foreseeable uses becomes known by the time of trial, it is conclusively presumed that the
manufacturer had knowledge of the risk at the time of production. Then, in light of the imputation of the knowledge and the danger of the risks, the question is whether there was a cure for that risk – a safer feasible alternative--available at the time of production that would have prevented the accident. In other words, this odd construct requires hindsight to be used for the risk but foresight for a safer design. This would be a significant difference from negligence, at least in those cases in which the risk was not reasonably knowable at the time of production but later becomes known. Thus, if the risk was known by the time of trial, a manufacturer could be liable even though the risk could not have been known at the time of marketing. Such a distinction, however, is of no significance in almost all design defect cases because manufacturers, through their design and safety engineers and other personnel, actually do know of the risks presented in normal and foreseeable uses of their products. Furthermore, manufacturers are held to the standard of experts regarding their products, and in the highly unlikely event that they were unaware of foreseeable risks, they will nonetheless be held to have foreseen them because they are charged with the knowledge if reasonable experts in the field would have known.

Most risks in products accident cases, to be sure, are known from the time of production because they derive from conscious engineering and scientific design choices. Mechanical and engineering deficiencies typically are known by the design engineers at the time of production if sufficient planning and testing are done. Therefore, a hindsight rule actually would only have significance in a relatively small number of cases in which the risks could not reasonably have been known at the time of production. It is principally only in the pharmaceutical drug, over-the-counter consumable remedy products, and chemicals that so called “scientifically unknowable risks” are later detected. New technologies, such as nanotechnology, for example, if moved into the marketplace without adequate testing may be found ultimately to pose such risks. In most instances though, scientifically unknowable risks are very rare.

In the rare case where a risk could not reasonably have been foreseen at the time of marketing, a “developmental risk” in European Union terminology, the application of strict liability in such a case would be considerably different than in negligence. Whether it would be appropriate to create a whole new strict liability cause of action for all design defects when only a tiny number would truly be different from negligence claims and benefit from the new approach, is a matter of grave doubt.

Scientifically unknowable or developmental risks do arise occasionally in failure to warn cases involving pharmaceutical drugs. In this failure to warn drug product context, most U.S. courts that have faced the hindsight/foresight choice have concluded that foreseeability of the risk is required. The reality is that while courts recite the rhetoric of hindsight, they do not employ the concept when it counts. When it would make an important difference, i.e., when the risk was unknowable at the time of production, virtually all courts that have faced the issue squarely in the failure to warn cases have not been willing to eliminate foresight as a requirement. Only a few courts have held that foresight of the risk is not required in strict products liability. Thus, most courts fall back on foresight and forsake hindsight.

It is, of course, anomalous to require a manufacturer to warn of a risk that was not scientifically knowable at the time of marketing. Similarly in the design defect context, a major
conceptual difficulty of the hindsight test is the illogic of saying that a manufacturer had a duty to develop a safer design for risks that were unknowable at the time of manufacture and marketing but became known by the time of trial. In such situations the manufacturers, at least arguably, never had the chance to make their products safer. It is surely incongruous to say that there is producer design defect liability for risks not reasonably knowable at the time of production, and at the same time relieve the producer of such liability if a cure for the risk, a safer design, was not readily available at the time of production. To a large extent, it seems that most courts are caught up in the fictional language of strict products liability without admitting or understanding that their handling of the cases is inconsistent with their language.\footnote{73}

In another variation on the foresight issue, a few courts have differentiated strict products liability from negligence by placing the burden of establishing the absence of reasonable foresight of the risk at the time of production on the defendant. This makes logical sense in light of the expertise of product producers where the issue is in dispute, but it is not of much practical consequence because in most instances, if a manufacturer plans to produce expert testimony to show that the risk was unforeseeable, the plaintiff will have had to invest in the investigation and expertise to counter the defense testimony.

c.    Shifting the Burden of Proof on Risk-Utility

A few courts with California in the lead have created a basis for distinction between strict liability and negligence in design defect cases by shifting the burden of proof (production and persuasion) on the risk-utility balance to the manufacturer.\footnote{74} Under this approach, if the plaintiff can show that some design aspect of the product caused his injuries, the burden of showing that the utility of the product as designed outweighs the danger presented by the product is shifted to the defendant. The purpose of the burden of proof shift is to mitigate the proof difficulties in establishing a prima facie case.

The allocation of such burden is particularly significant in this context inasmuch as this court's product liability decisions … have repeatedly emphasized that one of the principal purposes behind the strict product liability doctrine is to relieve an injured plaintiff of many of the onerous evidentiary burdens inherent in a negligence cause of action. Because most of the evidentiary matters which may be relevant to the determination of the adequacy of a product's design under the “risk-benefit” standard, e.g., the feasibility and cost of alternative designs are similar to issues typically presented in a negligent design case and involve technical matters peculiarly within the knowledge of the manufacturer, we conclude that once the plaintiff makes a prima facie showing that the injury was proximately caused by the product's design, the burden should appropriately shift to the defendant to prove, in light of the relevant factors, that the product is not defective. Moreover, inasmuch as this conclusion flows from our determination that the fundamental public policies embraced in \textit{Greenman} dictate that a manufacturer who seeks to escape liability for an injury proximately caused by its product's design on a risk-benefit theory should bear the burden of persuading the trier of fact that its product should not be judged defective, the defendant's burden is one affecting the burden of proof, rather than simply the burden of producing evidence.\footnote{75}
This burden of proof procedural distinction, at least, demonstrates some difference between negligence and strict liability claims. As a practical matter, however, plaintiffs do not and cannot avoid proof of defect. No competent plaintiff’s lawyer will yield the floor on defectiveness to the defendant without first presenting proof of his or her version of the defect and how the design could have been remedied cost effectively. In modest damage claim cases which cannot justify the expenditures for experts and discovery, the procedural shift might prove to be helpful. Otherwise, only in the rare case where the jury is in equipoise on the defectiveness question might the burden of proof shift be meaningful.

C. Development of the Restatement 3d on Products Liability

The continuing difficulties with the implementation of § 402A motivated the American Law Institute to authorize a thorough study of the products liability field with a view towards adopting a new restatement to bring more coherence into products liability law. In 1998, some 34 years after § 402A, the Institute adopted a Restatement 3d on Products Liability. It provides that persons in the business of selling or distributing products are liable if a defective product causes harm to person or property. Product defects are expressly divided into the three categories of manufacturing defects, design defects and warning defects, and different standards of liability are adopted for each. Strict liability applies to manufacturing defects, but the design and warning defect sections reject strict liability principles. Instead, they both use language that evokes a negligence standard without using the “negligence” word. Design and warning defect liability arises only from foreseeable risks and products that are determined to be “not reasonably safe.” For design defects the Restatement 3d requires a risk-utility test and, additionally, claimants are required to prove that the harm suffered could have been avoided by a “reasonable alternative design.” The factors that may be taken into account in determining whether or not a product is “reasonably safe” are a detailed elaboration of risk-utility considerations. The consumer expectations test was expressly rejected as a legal test for design defect, but as a compromise consumer expectations were included as a factor that can be considered in the risk-utility analysis.

The comments to the Restatement 3d explain the “reasonably safe” factors as follows:

A broad range of factors may be considered in determining whether an alternative design is reasonable and whether its omission renders a product not reasonably safe. The factors include, among others, the magnitude and probability of the foreseeable risks of harm, the instructions and warnings accompanying the product, and the nature and strength of consumer expectations regarding the product, including expectations arising from product portrayal and marketing. The relative advantages and disadvantages of the product as designed and as it alternatively could have been designed may also be considered. Thus, the likely effects of the alternative design on production costs; the effects of the alternative design on product longevity, maintenance, repair, and esthetics; and the range of consumer choice among products are factors that may be taken into account. A plaintiff is not necessarily required to introduce proof on all of these factors; their relevance, and the relevance of other factors, will vary from case to case. Evidence that a proposed alternative design would increase production costs may be
offset by evidence that product portrayal and marketing created substantial expectations of performance or safety, thus increasing the probability of foreseeable harm.\textsuperscript{80}

Another comment expressly develops the role of consumer expectations as a factor:

Such [consumer] expectations are often influenced by how products are portrayed and marketed and can have a significant impact on consumer behavior. Thus, although consumer expectations do not constitute an independent standard for judging the defectiveness of product designs, they may substantially influence or even be ultimately determinative on risk-utility balancing in judging whether the omission of a proposed alternative design renders the product not reasonably safe.\textsuperscript{81}

The Restatement 3d was a considerable intellectual effort in striving for coherence and clarity in products liability law. Its structure of strict liability for manufacturing defects and the malfunction design defects, and essentially negligence principles for all other design and warning defects through the requirement of risk-utility proof, reflects to a considerable degree, what actually had been happening in the courts as products liability law matured. The courts tended to use the language of strict liability even as they required risk-utility proof in the safety adequacy design defect contexts. The reasonable alternative design requirement of the Restatement 3d, § 2(b) has been a considerable stumbling block to the adoption of its design defect provision.\textsuperscript{82} Thus, the plethora of design defect tests has not been reduced very much by the new Restatement.\textsuperscript{83} It is fair to say that § 402A continues to wield considerable influence in products liability law.

IV. Harmonization at the Proof Level in Design Defect Cases

A. Considerable Uniformity at the Proof Level Using Risk-Utility Proof or Alternative Proof

All of the different design defect tests, the CET, RUT, PMT, two prong tests and other combinations, used by the different state courts give the appearance of inordinate confusion in American products liability law. However, a close examination of the design defect cases reveals considerable consensus and harmonization at the proof level. The treatment of design defect cases has been remarkably uniform throughout the United States at the proof level despite the variation at the design defect test and jury instruction levels.

By focusing on the proof acceptable to make out a prima facie case of design defect in strict products liability, we find that there are two significant commonalities in the various courts. The first important commonality at the proof level is that in virtually all courts across the United States, risk-utility proof is accepted as a proper method for proving a design defect regardless of the legal test or jury instruction utilized.\textsuperscript{84} Indeed, in the safety adequacy cases, it has become increasingly clear that risk-utility balancing proof is required regardless of the legal test used.\textsuperscript{85}

The second important commonality among the states at the proof level is that “alternative proof,” i.e., proof other than risk-utility evidence, is allowable in a number of categories of design defect accident cases other than the safety adequacy cases. The alternative proof design
defect cases in litigation are considerably fewer in numbers, but nonetheless significant. The categories include: 1) the product malfunction contexts discussed above, 2) contaminated and unwholesome food cases, 3) safety statute and regulation violation cases, 4) manifest defect cases, 5) safety representation cases based on advertising and product promotion, 6) manufacturer safety performance standard failures, 7) intimate bodily use products, and 8) deviation from industry trade association safety codes. These are elaborated in the following sections. By identifying and recognizing these categories of design defect cases, courts typically allow plaintiffs recourse to less burdensome alternative proof to establish a case, and as a consequence uphold, at least in part, the consumer protection principles that underlie the original products liability reform effort.

### Proof in Design Defect Cases

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<th>Types of Design Defects</th>
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<td>Safety Adequacy Design Defects</td>
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<td>Specific Recognized Categories of Design Defects (e.g., product malfunction in normal use)</td>
<td>Alternative Proof or Risk-Utility Evidence</td>
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For the judge, the lawyer, the torts teacher, and the law student this is good news. In evaluating a design defect case or problem regardless of the applicable state law, one of the first things we can reliably focus on is whether the case involves a safety adequacy design defect claim requiring risk-utility proof, or whether the case fits an alternative proof category of design defect. This conclusion on the proof issue will guide investigation, discovery, proof submission, summary judgment, and directed verdict motion determinations. Thus, one of the most important considerations in design defect law is the determination of the dividing line or boundary between design defect cases requiring risk-utility proof and those allowing alternative proof. In effect, we need to differentiate between the safety adequacy design defect cases requiring risk-utility proof, and the other categories of design defects that allow alternative proof. Identifying the boundary between these two types of design defect cases permits us to differentiate on the basis of the type of proof required or allowed and is an important step in harmonizing design defect law.

### B. Analogy of Alternative Proof in Negligence Law

The notion of a dichotomy between risk-utility proof and alternative proof to make out a *prima facie* case is not unique to strict products liability. The dichotomy is mirrored in negligence law. It is common understanding that a general means of proving negligence involves proving 1) the foreseeable risks arising from the defendant’s conduct and 2) the gravity and probability of the harm that might occur, and then to contrast that evidence with 3) proof of a safer, feasible, cost effective, alternative course of conduct that the defendant could have undertaken that would not have unduly interfered with the utility of the activity. Generally, such
feasible, safer and cost effective conduct proof is always permitted to establish negligence. But even in negligence law, alternative proof is allowable in certain contexts to ease the plaintiff’s considerable burden of proof.

Res ipsa loquitur cases are perhaps the best example of alternative proof in negligence law. In some cases, proof of the specific negligent conduct and its unreasonableness is unnecessary. It may be sufficient to establish circumstantial evidence of the facts of the accident, the likelihood that such accidents do not ordinarily occur in the absence of someone’s negligence, and that if anyone was negligent, more likely than not it was the defendant. Thus, if ceiling plaster in a hotel falls on a guest asleep at night, it is sufficient for the guest to prove what happened and to show the hotel’s control over its facilities; the jury will then be allowed to infer negligence because of the general knowledge and common expectation that ceilings do not fall in the absence of negligence.

Moreover, proof of custom deviation by the defendant is also allowable alternative proof in negligence. While such custom deviation evidence is not necessarily conclusive of negligence, it may alone be deemed sufficient proof. Similarly, in most states an applicable safety statute or regulation violation is either conclusive or persuasive proof of negligence. In addition, many common accidents demonstrate manifest negligence where specific proof of alternative conduct is unnecessary. If a plaintiff proves that the defendant was text messaging at the time his car swerved into plaintiff’s traffic lane, such proof undoubtedly is sufficient to establish negligence without more. Thus, in negligence, the common use of risk-utility proof lives compatibly with alternative proof contexts. These alternative proof contexts are important because they often ease a plaintiff’s burden of proof in terms of investigation, the use of experts, and reduction of litigation costs.

C. The Strict Products Liability Context

It is widely recognized today, that risk-utility proof is the most common way of establishing a design defect in strict liability cases. Where such proof strongly favoring the plaintiff is available, plaintiffs readily use it because of its persuasive character. If plaintiffs can establish a safer, feasible, cost effective alternative design that doesn’t unduly interfere with the utility of the product, they typically will want to utilize such evidence because of its inherent persuasiveness, and not least because it often tends to show the culpability of the producer notwithstanding the strict liability label of the action.

While risk-utility proof is typically used, it is important to recognize that it is not required for all design defect cases. Courts have been implicitly differentiating between the safety adequacy design defect cases where risk-utility is required and other categories of design defects where alternative proof is allowed. The development of this proof dichotomy in design defect cases is best illustrated by the case law in the states using a two prong test for design defect. Courts using a two-prong approach typically have to develop a boundary between contexts allowing the application of the consumer expectations test and those contexts that require the risk-utility test. This boundary also identifies the proof required or allowable, as well as the applicable jury instructions. If the risk-utility test is applicable in safety adequacy design defect
cases, then risk-utility proof is required. If the consumer expectations test applies, then alternative proof can be used to establish the prima facie case.

Significantly, the boundary developed in the two prong states turns out to be equally important in all other states. Even those states using a single universal test for design defect also have to decide on the kinds of proof that are required to make out a prima facie case in different product accident contexts, and in doing so, they differentiate between cases requiring risk-utility proof and cases allowing alternative proof. Thus, a boundary determination related to the nature of the proof required, effectively applies in all states. To be more explicit, the boundary question – the dividing line between design defect cases requiring risk-utility proof and those allowing alternative proof -- is common to all states. In the two-prong states, the boundary operates both at the proof and jury instruction levels, whereas in states with a single universal test for design defect, the boundary question operates only at the proof level.

Two significant questions for courts and lawyers arise: when is risk-utility proof required and when is alternative proof an allowable substitute. In other words, what is the dividing line that determines which type of proof can or must be used and what is the nature of the alternative proof allowable? The California courts have developed a general standard or boundary to differentiate between risk-utility and alternative proof cases, and the heavy volume of product liability cases in California, has provided the grist for identifying the different categories of design defect cases allowing alternative types of proof. The alternative proof cases are comprised of at least eight different categories to date, and the nature of the alternative proof allowed varies with the category. These categories, as indicated above, are relevant and helpful to all states, not just the two prong states.

**D. Proof of Design Defect in the Two Prong Test States**

The California cases provide an excellent starting point for examination of the kinds of proof required or allowed to establish a prima facie case. In 1978, the California supreme court developed a two prong legal test for design defect in *Barker v. Lull Engineering Co*. *Barker* involved a piece of heavy construction equipment called a Lull High-Lift Loader which was used to lift loads of up to 5,000 pounds to a height of 32 feet. The loader was quite large in its length and breadth and sat on four tires that were about five feet in diameter. The loader was designed such that the load could be kept level even if the loader was on a slope. On the day of the accident, the plaintiff was operating the loader on sharply sloping ground and was trying to place a load some 10-18 foot high on the second story of a building under construction. As the load was being lifted it began to tip and co-workers shouted for the plaintiff to jump from the loader. Plaintiff jumped but was struck by a piece of falling lumber and seriously injured. Plaintiff contended that the accident was caused by one or more defects in the loader, whereas the defense argued that the accident was caused by plaintiff’s inexperience or misuse. The principal alleged defect was the failure of the manufacturer to include outriggers in the design of the loader -- mechanical arms with pads at the ends that could be extended outward from the machine and placed on the ground to provide stability. The jury returned a verdict in favor of the defendants. Plaintiff appealed on the ground that the trial court erred in instructing the jury.
Justice Tobriner, writing for the court, reversed and proceeded to provide some understanding of the concept of defectiveness in the design context. He first acknowledged that design defect is not self defining “nor susceptible to a single definition applicable in all contexts.” The court concluded that two tests were operative to establish design defect. First, a product could be found to be 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.” The court emphasized this basic concept by stating that the CET is “reserved for cases in which the everyday experience of the product’s users permits a conclusion that the product’s design violated minimum safety assumptions.”

Secondly, the court asserted that other California cases had indirectly recognized that a product could be found to have a defective design if in hindsight the jury determines that the “risk of danger inherent in the challenged design outweighs the benefits of such design.” In undertaking the balance of risk and benefit, the court said that the jury may consider among other relevant factors:

[T]he 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 the improved design, and the adverse consequences to the product and to the consumer that would result from an alternative design.

The court avoided the problem that this second design defect test was essentially a negligence test by creating two important distinctions. First, it ruled that unlike negligence law’s use of foresight, the strict liability risk benefit test would be applied with the hindsight of all risks that became known since the product was placed on the market. Second, the court stated that if the plaintiff establishes that a product’s design proximately caused his injury, the burden of production and persuasion shifts to the defendant to establish that on balance the benefits of the design outweigh the risk of danger.

The Barker court summed up its approach to design defects by stating its two pronged test as follows:

[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.

Justice Tobriner stated that under the CET standard. “an injured plaintiff will frequently be able to demonstrate the defectiveness of the product by resort to circumstantial evidence, even when the accident itself precludes identification of the specific defect.” He cited three cases where the CET would be the appropriate legal test. Each of the cases involved situations where vehicles were being operated in normal
use and malfunctions occurred causing accidents. The malfunction proof in each case was deemed sufficient to allow an inference of defect. Thus, under Barker, not only were there two different tests for defect but concomitantly two different means of proving a defect depending on the test. There was to be risk-utility evidence under the RUT, and alternative proof, as yet undefined, under the CET.

Barker brought clarity to the design defect world but there were still many questions to be ironed out. The risk-utility prong was easier to implement because it operates similarly to negligence principles except with adjustments for the hindsight and burden of proof shifting characteristics. The consumer expectations prong is more problematic. It remained to be determined what design defect contexts the CET applied to, and the proof required in such situations. One of the more difficult issues opened up by Barker was the geographic domain of each of the tests. Lower courts were called on to decide when one test applies and not the other, and whether both tests can be operative in a case. Some interpretive relief was provided by the 1982 California court’s decision in Campbell v. General Motors.

Plaintiff in Campbell was injured when the bus she was riding lurched and abruptly stopped causing her to be thrown to the ground. Plaintiff was sitting in the first forward facing single seat on the right. All such seats had a horizontal metal “grab bar” at shoulder level attached to their backs. There was no shoulder height grab bar in front of plaintiff because her seat faced the side of a lateral facing double side seat. There was a metal armrest on the side seat but at waist level. Every other seat had a vertical metal pole connecting the aisle end of the grab bar to the ceiling. The lateral facing double seats also had a floor to ceiling pole half-way in front of the seats. No vertical pole was near plaintiff’s seat. Plaintiff testified that as she felt the bus turning sharply, she reached out to hold onto something, but “[t]here was nothing to grab.” The defense motion to dismiss for insufficient evidence of a design defect and lack of causation was granted by the trial judge. The California supreme court first concluded that plaintiff had introduced enough evidence to invoke the risk-utility test shifting the burden of proof to the defendant. Plaintiff’s evidence demonstrated the lack of a stability assistance device near her seat and raised a jury question that the presence of one in her vicinity would have avoided the injuries. Expert testimony was held to be unnecessary for the plaintiff in these circumstances to establish a prima facie case under the risk-utility prong of Barker. The burden of proof then shifted to the defendant to prove that the benefits of the design outweighed the risks.

More significantly, Campbell also concluded that the plaintiff had presented sufficient evidence to make out a prima facie case under the consumer expectations prong of Barker. The court found that the use of public buses and the risks associated with sudden turns and stops were matters of common experience and that expert testimony is not required in such a circumstance. The court said that where a product is within the common experience of ordinary consumers, sufficient evidence is presented under the CET where a plaintiff shows:

1. his or her use of the product; 2. the circumstances surrounding the injury; and 3. the objective features of the product which are relevant to an evaluation of its safety.

Campbell, importantly, established guidelines on the requirements to prove a viable CET case based on a manifest defect in a commonly used product. There was an obvious failure to
provide a stability assistance device – a grab bar – for all vulnerable seating. The case left open whether the CET could be applied in contexts in which the use of a product was not within the common experience of ordinary consumers and, if so, the nature of the expert testimony required in such situations.

Thus, in the evolving California law on design defect under the two prong test, not only are there two different tests for establishing a defect, but also, each test allows for a different means of proving the defect. Under the RUT, the plaintiff need only prove that his or her injuries were proximately caused by the product’s design. The burden of proof then shifts to the defendant to introduce risk-utility evidence. The plaintiff might then rebut with his or her own evidence on risks and benefits. The defense carries the burden of persuasion on the balance of risks and benefits. The defense must establish by a preponderance that the design did not contain “excessive preventable danger.” In practice, of course, a plaintiff who wants to rely exclusively or primarily on the RUT prong of Barker will not likely wait to introduce risk-utility evidence on rebuttal, but will affirmatively set forth its view of how and why the accident happened and how it could have been prevented by a safer, feasible, cost effective alternative design that does not interfere with the underlying utility of the product.

Understanding the nature of the potential alternative proof allowable under the CET is important to practitioners in developing trial strategy and particularly on directed verdict motions. Campbell described alternative proof requirements in the manifest design defect context under the CET, and also alluded to the product malfunction category of cases relying on circumstantial evidence. In 1994, the California Supreme Court in Soule v. General Motors Corp. returned to the question of the boundary line between the CET and the RUT, confirming the general principle differentiating the dichotomy.

Soule involved a collision between two vehicles in which the force of the accident caused the left front wheel of plaintiff’s vehicle to break free in a rearward direction, smashing the floorboard or “toe pan” into her feet causing severe injuries. The parties introduced substantial technical expert testimony on defect and causation. Plaintiff contended that the weld on a critical failed bracket was excessively porous and therefore defective, and that there were alternative designs used by other car manufacturers that would have prevented the injuries. The trial court instructed the jury on each of the two prong tests under Barker, and the jury returned a verdict for the plaintiff. The defendant appealed contending that it was improper to instruct on the CET in a complex design defect case.

The California court framed the critical issue in the case as whether “a product’s design [may] be found defective on grounds that the product’s performance fell below the safety expectations of the ordinary consumer if the question of how safely the product should have performed cannot be answered by the common experience of its users.” The court concluded that performance of the wheel assembly and toe pan in accidents was outside ordinary consumer expectations and, thus, the jury should have only considered the evidence under the RUT.

The court stated that the CET, as Barker indicated, reflects “the relationship between strict tort liability … and the common law of warranty, which holds that a product’s presence on the market includes an implied representation ‘that it [will] safely do the jobs for which it is
Justice Baxter concluded that when a design defect claim calls for “a careful assessment of feasibility, practicality, risk, and benefit,” it needs to be resolved under the RUT. He relied on Barker’s citation of the Self v. General Motors Corp. case as an example of such a situation. Self involved a crashworthiness case regarding the location of an auto gas tank in which changing the location to avoid fires and explosions arguably might create even greater risks of injury in other situations that commonly occur. Barker had said of the safety adequacy design defect cases such as Self that “as a practical matter, in many instances, it is simply impossible to eliminate the balancing or weighing of competing considerations in determining whether a product is defectively designed or not.”

For the safety adequacy design defect cases the California supreme court has developed a jury instruction more reflective of the risk-utility proof required. The court stated that in evaluating the adequacy of a product’s design pursuant to the risk-utility test,

a jury may consider, among other relevant factors, 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.

Justice Baxter then turned his attention to the scope of application of the CET. Significantly, his opinion reaffirmed Barker’s broad general principle for the proper application of the CET. In Soule, he said that the CET “is reserved for cases in which the everyday experience of the product’s users permits a conclusion that the product’s design violated minimum safety assumptions ….” The Soule court stated that the use of the CET is appropriate where the circumstances of the product’s failure allow for a reasonable inference that “the product’s design performed below the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers.”

Justice Baxter rejected the defense’s contention that the CET was incapable of precise definition, focused on the subjective opinions of consumers, and eliminates the careful balancing of risks and benefits relevant to the design process. He said in reply:

We fully understand the dangers of improper use of the consumer expectations test. However, we cannot accept GM’s insinuation that ordinary consumers lack any legitimate expectations about the minimum safety of the products they use. In particular circumstances, a product's design may perform so unsafely that the defect is apparent to the common reason, experience, and understanding of its ordinary consumers. In such cases, a lay jury is competent to make that determination.

Thus, the CET is the minimum standard for design defects. A product’s presence on the market carries an implied representation for tort law purposes that it will safely perform the tasks it was designed for. A product is defective in design, at a minimum, if it fails to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner. The malfunction and manifest defect design cases are two contexts where alternative proof is allowed, and the California courts use the CET jury instruction. Importantly, it is also
clearly established that if a product’s design passes the minimum test of the CET, it nonetheless may still be found defective under a risk-utility analysis.

The California supreme court’s decisions and the succeeding intermediate appellate cases have begun to flesh out the contexts in which the CET is properly operative. The erstwhile distinction between complex and simple products discussed in some cases and the legal literature is unworkable. Soule’s analysis showed that malfunction cases involving complex products such as cars and a mechanical dockboard used on truck loading docks, are properly governable by the CET. While there is an element of truth in the difference between complex and simple products in many cases, such phraseology is more misleading than helpful, and should be avoided. In reality, there is no single dividing line between the CET and the RUT. Consumer product accidents are more likely to governed by the CET, but there have been a number of CET cases outside the consumer product arena as well, and significantly, consumer product cases requiring risk-utility proof.

E. Relevance of the Two Prong Proof Boundary to All States

The alternative proof categories developed by California and other two prong states should prove to be relevant in all other states. Courts using only the CET as a universal legal test of design defect, of necessity have allowed alternative methods of proof as well as accepting risk-utility evidence. They have allowed proof of defect by circumstantial evidence in the malfunction cases from the early days of strict products liability. Similarly, alternative proof is also allowed in manifest defect cases, and in contaminated and unwholesome food contexts, as well to establish design defects where safety statutes are violated. Moreover, those states which use the RUT or the PMT implicating risk-utility evidence as a matter of course also recognize the alternative proof cases. Thus, even though all states, regardless of the nature of the legal test used for design defect, recognize the need for risk-utility proof in the safety adequacy design cases, they also recognize that alternative proof categories can be applicable as well.

Recognition of the boundary issue between those cases requiring risk-utility proof and those allowing alternative proof was recognized in Oregon which uses the CET exclusively in jury instructions as required by legislation. In McCather v. Toyota Motor Corp., a design defect case based on the rollover of an SUV, the court recognized that despite the legal test and jury instruction based on the CET, the proof that may be required in a safety adequacy design defect claim is likely to be risk-utility proof. The court said

[I]n some cases, consumer expectations about how a product should perform under specific conditions will be within the realm of jurors' common experience. However, some design-defect cases involve products or circumstances that are “not so common * * * that the average person would know from personal experience what to expect.” When a jury is “unequipped, either by general background or by facts supplied in the record, to decide whether [a product] failed to perform as safely as an ordinary consumer would have expected,” this court has recognized that additional evidence may consist of evidence that the magnitude of the product's risk outweighs its utility, which often is demonstrated by proving that a safer design alternative was both practicable and feasible.
Similarly in Connecticut, the court modified its CET in order to accommodate the safety adequacy design defect cases which require risk-utility proof. The court in *Potter v. Chicago Pneumatic Tool Co.* framed it this way:

> Although today we continue to adhere to our long-standing rule that a product’s defectiveness is to be determined by the expectations of an ordinary consumer, we nevertheless recognize that there may be instances involving complex product designs in which an ordinary consumer may not be able to form expectations of safety. In such cases, a consumer’s expectations may be viewed in light of various factors that balance the utility of the product's design with the magnitude of its risks. We find persuasive the reasoning of those jurisdictions that have modified their formulation of the consumer expectation test by incorporating risk-utility factors into the ordinary consumer expectation analysis. Thus, the modified consumer expectation test provides the jury with the product's risks and utility and then inquires whether a reasonable consumer would consider the product unreasonably dangerous.\(^{118}\)

These cases illustrate that courts, regardless of the legal test they use, are recognizing a two path proof approach in the design defect area resulting in the requirement of risk-utility evidence in the safety adequacy design defect cases and allowing alternative proof in others.

V. Design Defect Contexts Appropriate for Alternative Proof

A. Background

One of the primary reasons for the adoption of strict products liability was to relieve the difficult burden on the plaintiff of proving negligence by showing that the dangers of the design outweighed the burden of a safer design.\(^{119}\) The California courts in developing their two prong legal test approach have developed categories of product accident cases in which risk-utility proof is not essential.\(^{120}\) These alternative proof categories turn out to be important for all states regardless of the test or jury instruction used for design defect cases. The alternative proof categories blaze a path for all states in identifying design defect contexts in which risk-utility evidence is not required.

The cases discussed so far illustrate two categories of design defect cases that allow for alternative proof to make out a prima facie case of defectiveness. The multipurpose lathe product malfunction case of *Greenman v. Yuba Power Products*, illustrates one category. In such cases, the proof is based on circumstantial evidence by analogy to *res ipsa loquitur* in negligence law. The manifest defect bus stability bar case of *Campbell v. General Motors* illustrates the second category. *Campbell* is a case of manifest design defect because ordinary consumers have common experience with buses, the nature of the risk, and the availability and need for safety grab bars.

The Products Liability Restatement 3d recognizes two major exceptions to the risk-utility proof requirement for design defects, the circumstantial evidence cases and safety regulation violations, but otherwise freezes all design defect cases into the risk-utility proof format.\(^{121}\)
There are, however, a number of categories of cases for which alternative proof is properly applicable. At least four different categories can be deducible from the decisions. Beyond that, logic and analogies indicate that there are at least four other alternative proof categories which should be recognized. Isolating the characteristics of these categories will clarify the area and assist in the litigating of claims. Most importantly, these alternative proof cases demonstrate the continuing value of the common law process in the modern context. The common law of products liability allows for a way forward -- continual adaptation and development consistent with today’s circumstances. The next section develops in more detail the eight existing or evolving categories of design defect cases in which alternative proof is or should be allowable.

## Alternative Proof Contexts

| 1. Malfunction Cases -- Circumstantial Evidence of Product Design Defect |
| 2. Manifest Design Defects |
| 3. Deviation from Statutory or Regulatory Safety Standards |
| 4. Deviation from Safety Performance Standards |
| 5. Product Safety Representations and Promotions |
| 6. Food Products |
| 7. Intimate Bodily Use Products |
| 8. Deviation from Industry Wide Safety Codes and Standards |

### B. Types of Alternative Proof Cases

#### 1. Malfunction Cases -- Circumstantial Evidence of Product Design Defect

It has been well accepted since *Byrne v. Boadle*\(^{122}\) that descriptions of the circumstances of accidents at times inferentially demonstrate the negligence of the defendant without proof of specific wrongful conduct. Similarly, it became quickly accepted that circumstantial evidence could be used to establish an inference of product defect\(^{123}\) under strict products liability.\(^{124}\) In actuality, the circumstantial proof approach in strict liability is simpler than in negligence because it requires only establishing a reasonable inference of a product defect that existed at the
time of sale whereas in negligence cases, the plaintiff must establish, not only the defect, but also that the defendant’s negligent conduct caused the defect.

The circumstantial alternative proof approach is explicitly recognized in the Products Liability Restatement 3d in § 3 which provides:

It may be inferred that the harm sustained by the plaintiff was caused by a product defect existing at the time of sale or distribution, without proof of a specific defect, when the incident that harmed the plaintiff:

(a) was of a kind that ordinarily occurs as a result of product defect; and
(b) was not, in the particular case, solely the result of causes other than product defect existing at the time of sale or distribution.\(^{125}\)

The Barker court in establishing the CET component of its two prong test recognized that circumstantial proof of defect was an appropriate way of satisfying the test in some cases:

When a product fails to satisfy … ordinary consumer expectations as to safety in its intended or reasonably foreseeable operation, a manufacturer is strictly liable for resulting injuries. Under this standard, an injured plaintiff will frequently be able to demonstrate the defectiveness of a product by resort to circumstantial evidence, even when the accident itself precludes identification of the specific defect at fault.\(^{126}\)

Akers v. Kelley Co.,\(^{127}\) decided after Barker and cited favorably in Soule, described circumstantial proof of defect as a proper category of alternative proof under the CET. In Akers, a mechanical “dockboard” flew apart severely injuring the loading dock supervisor. A dockboard is a device that connects the loading dock and the floor of a truck trailer, and adjusts the height between the two so that a forklift truck carrying goods can be driven back and forth between the dock and trailer. The court of appeals ruled that based on the plaintiff’s proof of the occurrence of the accident, the jury did not have to be instructed on the risk-utility test:

There are certain kinds of accidents--even where fairly complex machinery is involved--which are so bizarre that the average juror, upon hearing the particulars, might reasonably think: ‘Whatever the user may have expected from that contraption, it certainly wasn't that.’ Here, a dockboard flew apart and injured Akers. A reasonable juror with no previous experience of dockboards could conclude that the dockboard in question failed to meet "consumer expectations" as to its safety.\(^{128}\)

In Soule, the California Supreme Court reiterated the circumstantial evidence rule under the CET:

The crucial question in each individual case is whether the circumstances of the product's failure permit an inference that the product's design performed below the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers. *** In particular circumstances, a product's design may perform so unsafely that the defect is
apparent to the common reason, experience, and understanding of its ordinary consumers. In such cases, a lay jury is competent to make that determination.\textsuperscript{129}

Similarly in \textit{Deleague v. SAAB Automobile, A.B.}\textsuperscript{130} the court expressly relied on the circumstantial evidence rule in deciding that the CET was the appropriate instruction. In \textit{Deleague}, the plaintiff’s car caught fire while parked in his garage causing damage to the house and personal property. The facts showed that the plaintiff had trouble with his four year old, employer-owned SAAB, requiring two separate jump starts. That evening he parked it in his garage and upon returning from an evening out, he and his wife found the house burned. Possession of the burned 1988 SAAB was taken by the homeowner’s insurance company, sold for salvage and destroyed before it could be examined. Neither side had evidence of an inspection of the burned vehicle. The plaintiff introduced evidence of reports of wiring defects and dashboard fires in pre-1990 SAABs. Plaintiff’s expert concluded that the fire in question was caused by the same defective wire connection alluded to in the reports. The defense claimed the fire resulted from improper jumpstarting or the improper installation of a cellular phone. The court summed up the evidence in the case as follows:

Evidence showed that Deleague's fire started in his car's dashboard, that Deleague was experiencing electrical problems with the car on the day of the fire, and that Deleage and/or his wife detected the smell of burning electrical wiring coming from the car before leaving for the opera. Numerous reports concerning pre-1990 Saab 9000s revealed dashboard fires caused by a loose Plus-30 wire or wire chafing. Of course, this evidence was circumstantial, as was the evidence relied on by Saab's expert, who reached a conclusion different from Pello's. Evidence supporting Pello's opinion, however, was sufficient to support the jury's conclusion that Deleague's injuries were caused by a design defect.\textsuperscript{131}

The court went on to conclude that the CET is the appropriate instruction in such circumstances. “No special expertise in car design or electrical circuitry was needed for a lay person to conclude that a car prone to spontaneous combustion falls below commonly accepted expectations of minimal safety. The court properly instructed on the consumer expectation test.”\textsuperscript{132}

If a product malfunctions shortly after purchase, a plaintiff may be able to raise an inference of design or manufacturing defect by the description of the accident itself and by removing third party potential causes. In other cases, expert testimony of a potential defect may be critical in enabling plaintiff to sustain the inference. In \textit{Deleague} the car was four years old at the time of the accident and the passage of so much time raised issues regarding maintenance and maltreatment by third parties. Plaintiff in \textit{Deleague} overcame these problems by relying on one expert to demonstrate that pre-1990 SAAB’s had dashboard electrical problems and that such problems were the likely cause of the fire. Similarly in \textit{Akers}, the plaintiff used experts to suggest that the broken welds and deformations in the thirteen year old dockboard were the result of inadequate design in the foreseeable circumstances of use.

In strict liability design defect litigation, the plaintiff in relying on the circumstantial evidence inference rule must establish that the product malfunctioned in normal use and that
neither he or she, nor a third party, negligently contributed to the accident.\textsuperscript{133} The age and maintenance of the product and a comparison with similar products are often relevant considerations in such cases.\textsuperscript{134}

In \textit{Glanzman v. Uniroyal, Inc.}, the federal Court of Appeals in applying Idaho law said:

\[\text{A plaintiff who brings a products liability action may rely upon circumstantial evidence and the inferences arising therefrom based on expert opinion testimony on the condition of the product after the accident. A plaintiff need not prove a specific defect to carry his burden of proof. He may prove a prima facie case by direct or circumstantial evidence of a malfunction of the product and the absence of evidence of abnormal use and the absence of evidence of reasonable secondary causes which would eliminate liability of the defendant.}\textsuperscript{135}

\textit{Glanzman} involved a tire blowout that resulted in serious injuries. Plaintiff’s proof was deemed sufficient to allow an inference of product defect where he and others established that the plaintiff properly maintained and serviced the tires, did not contribute to the accident, did not run over any large object, and experts who inspected the tires after the accident testified that they showed signs of tread separation that resulted from the time of manufacture.

Thus, product malfunction or the unexpected occurrence of an accident is widely accepted as sufficient evidence of a product manufacturing or design defect coupled with other circumstantial evidence establishing the normal use of the product and the absence of another cause not related to defectiveness.\textsuperscript{136} Risk-utility proof is not required in such cases.

\textbf{2. Manifest Design Defects}

The manifest design defect cases are another example of the use of alternative proof to establish defectiveness in strict liability. Where the risk is obviously unreasonable because of common knowledge of effective ways to reduce the risk, expert testimony on risk-utility is not necessary. This common knowledge approach of ways to reduce risks without proof by experts occurs frequently in negligence law. For example, cases involving inattentiveness to the road while operating a vehicle or allegations of text messaging while driving, do not require proof of safer alternatives; juries are allowed to infer them based on common knowledge and understanding.

The manifest design defect category is based on a commonsense understanding of accident circumstances where it is reasonable to draw an inference of a design defect in the product. In \textit{Soule}, the court described the manifest defect category in these words:

\[\text{In particular circumstances, a product’s design may perform so unsafely that the defect is apparent to the common reason, experience, and understanding of its ordinary consumers. In such cases, a lay jury is competent to make that determination.}\textsuperscript{137}

The manifest design defect category is best illustrated by \textit{Campbell v. General Motors Corp.}, the case discussed earlier involving the failure to provide a stability grab bar for a bus.
passenger seat.\textsuperscript{138} Where the particular product or nature of the accident falls within the common experience of ordinary consumers, proof of the accident facts, the relevant features of the product, and the plaintiff’s use of the product may be enough to demonstrate a manifest defect without the invocation of risk-utility proof. Thus in \textit{Campbell}, plaintiff made out a prima facie case by relying on the general public experience with bus transportation, the need for stability grab bars, the defendant’s provision of stability assistance devices for all the other seats, and the absence of any negligence on the part of the patron. Proof of the provision of grab bars for other seats demonstrated the critical need, feasibility and practicality for a safety grab bar for the seat in question. Where the risk that injured the plaintiff is obviously unreasonable, proof related to the balancing of the danger against the burden of redesigning the product is unnecessary.\textsuperscript{139} \textit{Campbell v General Motors Corp.} instructs us that the alternative proof along the following lines is sufficient in such manifest defect contexts to establish defectiveness:

1) the objective features of the product relevant to an evaluation of its safety,
2) the plaintiff’s use of the product, and
3) the circumstances surrounding the accident and injury.\textsuperscript{140}

A classic early example of a manifest defect in a negligence action is presented by the facts of a Florida case. In \textit{Matthews v. Lawnlite Co}.\textsuperscript{141} a customer at a tropical furniture shop sat in an aluminum rocking lawn. As the customer sat in the chair he laid his right hand on the arm rest and one of his fingers extended over the front of the arm rest and under the front end. Immediately, his “third finger of his right hand was completely severed by the moving parts of said chair and the finger fell upon the floor.” The court described the chair as

a rocking chair with moving parts; it rocks back and forth. It was constructed of aluminum and was used for rest and recreation; it looks harmless, every aspect of it suggested ease and comfort. There was no notice of any kind that beneath its restful armrest there were moving metal parts so constructed that they would amputate the occupant's fingers with the ease that one clips a choice flower with pruning shears. It was designed, constructed and delivered to the public with these moving parts that were essential to its use. They were completely concealed from the user and as essential parts of the chair were inherently dangerous. No one would suspect that such a dangerous device would be concealed in such an innocent looking instrumentality.\textsuperscript{142}

The appellate court found that the plaintiff was entitled to proceed with his negligent design claim.

Another example of a manifest design defect case is \textit{Miller v. Mazda Motor}, a case involving the design of a rounded “rear step bumper” of a pickup truck used for access to the truck bed. The bumper surface had a downward curvature and was partially rubber and part chrome instead of being all rubber. The manufacturer promoted the bumper as being for “step up loading.” Plaintiff was injured trying to exit the bed of the truck when her foot slipped on the rounded chrome portion of the bumper. Proof of the \textit{Campbell} requirements was enough evidence to demonstrate a defective design without introducing risk-utility evidence.\textsuperscript{143}

In a similar Oregon case, the plaintiff was injured when he fell from a cylindrical fuel tank on the left side of his truck tractor. After hooking up the tractor to the trailer of the truck,
plaintiff climbed up to and stood on the fuel tank to gain access to air and electric hoses which were to be attached to the trailer. Plaintiff and other drivers using the same kind of truck customarily approached the hoses by stepping onto the fuel tank and then the deck plate, an elevated area located in the center of the tractor behind the cab. There was no level step on top of the fuel tank, and there was no material on the fuel tank to retard slipping. This evidence was held sufficient to raise a jury question of defectiveness. The product was manifestly defective because of the failure to include skid proof material as a part of the design of the fuel tank.

In a New Jersey case, the plaintiff, a delicatessen worker, while walking to empty a trash can, slipped and lost his balance. He reached out to steady himself and his right hand contacted the unattended and unguarded rotating blade of a slicing machine. The safety guard had been removed from the slicer either for cleaning or to sharpen the blade. Plaintiff’s expert testified that there were safety devices readily available (interlock devices) that would prevent such a machine from operating when the guard was removed. The court concluded that the use of the CET in instructing the jury was appropriate:

The design of a product is “self-evidently” defective when there are no relevant considerations which make the hazard inherent in the product or reasonably necessary to its functioning. With respect to such a product, the risk-utility balancing test is unnecessary. The only material question is whether the product has been designed so as to pose a hazard that is contrary to the user's reasonable expectations. In the present case, the evidence did not suggest any consideration of feasibility, cost or functionality which might tend to justify the omission of a blade guard interlock. The only relevant question left for the jury was whether the Globe Model 500 slicing machine was so hazardous that it was contrary to a user's reasonable expectations.

The Products Liability Restatement 3d obliquely recognizes that there are situations of manifest defect where risk-utility evidence and proof of an alternate safer design are not required, but it does so in a fashion that disparages and discourages the use of the category. The Restatement 3d comments restrict a manifestly defective design to those products which should be completely removed from the market. The only example given in the Restatement comments is of a toy hard pellet gun. The comments imply that if a safer, alternative design is available, it must be proven. These are not “manifest design defect examples,” they are arguably products that after a thorough risk-utility analysis should be banned as a matter of law because of their high danger and the inability to eliminate the risks. The category as described by the Restatement 3d is effectively meaningless because courts are naturally very reluctant to find that products are so dangerous and have so little utility that they should not be marketed at all. Only in the case of toys might courts conceivably do so.

The Restatement 3d fails to acknowledge that, as in the manifest cases described above that the absence of a commonly available safety device known to the general public or a totally unexpected danger in a common consumer item can make an otherwise useful product manifestly defective without the need of experts. Such a conclusion does not necessarily require a banning of the product, but rather an easy redesign eliminating the risk.
It can be argued, of course, that the three proof elements established by the *Campbell*
case essentially constitute inferential risk-utility proof, but no examples of such cases are
provided in the comments or Reporters’ notes to guide the courts in understanding the breadth of
the manifest design defect alternative proof category as developed in this article. The
Restatement effectively overlooks the alternative proof category of manifest defects.

There can be some overlap between the malfunction and the manifest defect categories,
but they are more commonly independent of each other. The manifest defect category clearly
implies a design defect while the malfunction category often can be either a design or a
manufacturing defect. Moreover, in the manifest design defect cases, the plaintiff can usually
identify the defect, and common experience and common sense are invoked to demonstrate that
there are feasible and practicable cost effective ways to design the product to avoid the risk
without the need for expert testimony. In addition, it is often very awkward, to say the least, to
categorize and understand the manifest defect cases as product malfunction cases.

3. Deviation from Statutory or Regulatory Safety Standards

Proof of a statutory or regulatory product design safety requirement constitutes a third
category of a product design defect case that does not require the use of risk-utility proof. This is
familiar doctrine from negligence law. Proof of a violation of a relevant safety statute and a
causal relation between the violation and the injury, is usually sufficient to establish a prima
facie case of negligence in all jurisdictions.\(^\text{148}\) The procedural effect of such violations -- per se
negligence, presumption of negligence or evidence of negligence -- may vary from state to state,
but proof of the violation is enough to show a breach of duty.\(^\text{149}\) This is also true for establishing
defectiveness in product accident cases under strict liability.\(^\text{150}\)

Proof of a relevant safety regulation violation in strict products liability and the causal
linkage to the injury is enough to establish the product’s deficiency.\(^\text{151}\) The Products Liability
Restatement 3d adopted an express rule to this effect that states as follows:

In connection with liability for defective design or inadequate instructions or warnings:
(a) a product's noncompliance with an applicable product safety statute or administrative
regulation renders the product defective with respect to the risks sought to be reduced by
the statute or regulation; and
(b) a product's compliance with an applicable product safety statute or administrative
regulation is properly considered in determining whether the product is defective with
respect to the risks sought to be reduced by the statute or regulation, but such compliance
does not preclude as a matter of law a finding of product defect.\(^\text{152}\)

A “relevant” product safety regulation is one which seeks to eliminate or reduce the type of risks
that caused the plaintiff’s injuries, to protect the class of persons that includes the plaintiff, to
protect against the types of harm suffered by the plaintiff, and was in effect prior to the
marketing of the product in question.\(^\text{153}\)

Although undoubtedly all states will allow relevant design safety regulation violations as
proof of design defects under strict liability, there have been very few such appellate cases. The
few product design regulation violation cases that have reached the appellate courts have typically been based on negligence claims."\textsuperscript{154} Recognizing "regulatory design defectiveness" is eminently consistent with the reform objectives of strict products liability. The law and consumers expect manufacturers to design products in accordance with safety regulations. The absence of case law is likely attributable to the high level of compliance with design safety regulations, and most importantly, the strong likelihood that regulatory violation cases are settled without trial.

While states allow some excuses for regulatory violations in negligence cases such as emergencies, impossibility of compliance, and situations where it is more dangerous to comply,\textsuperscript{155} there are no readily apparent occasions for invoking excuses regarding violations of design regulations. Since manufacturers are charged with knowledge of design regulation requirements,\textsuperscript{156} the occasions for justifiable excuses are narrowed, if not eliminated.

Thus, violations of design safety statutes and regulations are an additional category of alternative proof in design defect litigation. Proof of the regulation violation is sufficient to establish a \textit{prima facie} case of design defect without introducing any risk-utility evidence.

\section*{4. Deviation from Safety Performance Standards}

Safety components designed into products to reduce risks should be expected to operate within their design specifications. Where a product in normal use fails to operate within the manufacturer’s own established safety performance specifications and causes harm, proof of such failure alone should be sufficient under an alternative proof standard to establish the defectiveness of the product. This safety performance category is closely analogous to manufacturing defects. The legal test for manufacturing defects is whether the product failed to meet the manufacturer’s own design specifications. There is no reason to distinguish between product physical design specifications and product safety performance specifications; they are both design specifications.

The California decision in \textit{McCabe v. American Honda Motor Co}.\textsuperscript{157} illustrates this category in a setting where a car’s safety device failed to operate. In \textit{McCabe}, the plaintiff was injured when the driver’s side air bag in her Honda Civic did not deploy in a frontal collision with another car. The plaintiff filed a strict liability design defect claim against the manufacturer and relied on proof that the air bag did not deploy within the manufacturer’s own performance specifications. The plaintiff proved that the side air bag was designed to deploy when one or more vehicles in a collision are traveling at or above 12 miles per hour and the frontal collision range is within 30 degrees of the centerline of the vehicle. Her witnesses testified that the oncoming car that collided with her stopped vehicle was traveling at “high speed” in excess of 35 mph and the collision was “head on.” Plaintiff had photographs showing extensive front end damage.

The reconstruction expert for the defense testified that the speed of the oncoming car was about 4 mph and the point of impact was at 35 degrees of the centerline. The defense also asserted that designing the air bag deployment parameters is a very technical process requiring the balancing of competing safety considerations and relied on an earlier California case
requiring risk-utility proof in an air bag case.\textsuperscript{158} The defense pointed out that airbags themselves can cause injuries and that such injuries must be balanced against the potential injuries from low speed collisions in deciding the point at which the airbags should deploy.

The court concluded that the evidence introduced by the plaintiff was sufficient to raise a jury question of defectiveness because it was for the jury to determine whether the collision occurred within the design parameters for deployment or not. If the collision was within the design parameters, the airbag should have deployed and plaintiff’s collision injuries would have been avoided. It was held that it was up to the jury to determine which version of the accident facts was more probable. Thus, proof of the safety performance specification parameters, coupled with evidence of the accident occurrence within those parameters was enough to raise a jury question of design defect without the introduction of risk-utility proof. The safety performance standard category of design defect cases is related to the next category involving manufacturer safety representations.

\textbf{5. Product Safety Representations and Promotions}

Product advertising and all other forms of promotion, of course, create impressions about products, their uses and safety. They are a dominant feature of the marketplace. Where product promotion constitutes representations of safety that are relevant to an accident in question, proof of the promotional representations is generally admissible in establishing defectiveness in strict liability.\textsuperscript{159} Just as manufacturers are expected to meet their own design specifications in product production, similarly they should be held to their own representations of safety. While it may be difficult in some cases to determine whether the advertising amounts to a safety representation, the principle of representation liability is nonetheless an important one to uphold in appropriate cases. Courts can and should exercise considerable control over what constitutes actionable safety representations, but, in clear cases, proof of the failure of the product to perform safely in accordance with the producer’s own safety promotions should alone be sufficient to establish defectiveness of the product.\textsuperscript{160}

The early case of \textit{Greenman v. Yuba Power Products, Inc.}, in which strict products liability was born, was a case of a product failing to measure up to the manufacturers promotional safety statements about the product. The manufacturer’s product brochure in \textit{Greenman} said:

1. When SHOPSMITH is in horizontal position-Rugged construction of frame provides rigid support from end to end. Heavy centerless-ground steel tubing insurers perfect alignment of components.” 2. SHOPSMITH maintains its accuracy because every component has positive locks that hold adjustments through rough or precision work.\textsuperscript{161}

These statements could have been found to constitute express warranties and they also were introduced as proof in strict tort liability that the Shopsmith was unsafe for its intended use.

In virtually all of the cases to date, safety advertising proof has been supplemental to risk-utility proof in establishing a design defect. This may be the result of attorney hesitance to rely solely on advertising proof when risk-utility proof is also available. \textit{Leichtamer v. American}
Motors Corp.,\textsuperscript{162} involved an end to end “pitchover” of a Jeep all terrain vehicle as it came over the brow of a steep hill at an off-road recreational facility resulting in paralyzing injuries to the plaintiff. The case was premised on the design inadequacy of the provided roll bar. The plaintiff was allowed to introduce proof of an advertising campaign, TV commercials, and the vehicle owner’s manual, all of which stressed the ability of the Jeep to safely drive up and down steep hills.

Similarly, in \textit{McCathern v. Toyota Motor Corp.},\textsuperscript{163} in a sports utility vehicle rollover case relying on risk-utility proof, supplemental evidence of TV and brochure advertising was admissible to show the vehicle engaging in evasive maneuvers on the highway that might cause rollovers. In \textit{Conde v. Velsicol Chemical Corp.}, the plaintiff-homeowners were able to proceed under the CET where the manufacturer’s labels, manuals and advertisements contained misstatements that its insecticide Chlordane was lethal to termites but harmless to humans.\textsuperscript{164} The manufacturer in \textit{Miller v. Mazda Motor}, discussed earlier, advertised the part chrome bumper, on which plaintiff slipped, as being for “step loading.”\textsuperscript{165} Also, where a relatively new tire driven less than 2,000 miles suddenly deflated and caught fire, the court applying Pennsylvania law said that “prospective purchasers are the objects of sustained and vigorous advertising campaigns extolling the toughness of automobile tires, their reliability and dependability” and that “common experience indicates that no owner of a tire expects it to fail with less than 2,000 miles on its treads.”\textsuperscript{166}

In design defect cases with incapacitating injuries, the plaintiffs’ lawyers certainly will want to go beyond advertising proof and rely on risk-utility evidence if they can. Using advertising and promotional materials related to safety as supplemental evidence is a common practice. There are cases, however, where the potential recoverable damages are insufficient to justify the expense of investigation and the use of experts to show a safer, feasible, alternative design. In such cases, if there is clear proof that the product did not perform safely in accordance with the promotional representations, the plaintiffs should be able to proceed on the basis of proof of the representations alone. Relieving the victims of burdensome proof requirements was a primary purpose of strict products liability, and it is appropriate to use proof of clear advertising safety representations where the manufacturer sets a safety expectation and then fails to meet it.\textsuperscript{167}

6. Food Products

Unwholesome food has always received special consideration in the law. Warranty law provides considerable protection to consumers from the sale and serving of contaminated and unwholesome food. There is an implied warranty of wholesomeness and fitness for human consumption in the sale of food products. Persons who are injured by eating unwholesome food or food containing deleterious substances can sue for the breach of an implied warranty.\textsuperscript{168} Sellers and servers of unwholesome food are liable despite the exercise of all possible care in the handling and preparation of the food. The plaintiff need only prove the defective condition of the food and the causal relationship to his or her illness. This is strict liability.\textsuperscript{169} There also are many state and federal statutes, regulations and municipal ordinances regulating the wholesomeness of food and violation of these provisions is generally considered negligence per se.\textsuperscript{170} This can be a form of strict liability operating within negligence law. Products in violation
of such safety statutes should also be recognized as “defective per se” under strict products liability.\textsuperscript{171}

The strict liability implications of the unwholesome food cases were an important part of Dean Prosser’s scholarship and Justice Traynor’s opinions in \textit{Escola} and \textit{Greenman}.\textsuperscript{172} As Dean Prosser said in the comments to § 402A:

Since the early days of the common law those engaged in the business of selling food intended for human consumption have been held to a high degree of responsibility for their products. As long ago as 1266 there were enacted special criminal statutes imposing penalties upon victualers, vintners, brewers, butchers, cooks, and other persons who supplied "corrupt" food and drink. In the earlier part of this century this ancient attitude was reflected in a series of decisions in which the courts of a number of states sought to find some method of holding the seller of food liable to the ultimate consumer even though there was no showing of negligence on the part of the seller.\textsuperscript{173}

Where a party injured by unwholesome food asserts a tort claim based on strict products liability law, the proof necessary to establish such a claim is the same as in the implied warranty context. The party need merely prove the sale of the food, its unwholesome or contaminated character, and its relationship to the plaintiff’s illness.\textsuperscript{174} Many of the unwholesome food cases of necessity rely on circumstantial evidence. A plaintiff generally needs to exclude all other reasonable causes of the illness and introduce sufficient facts to make the conclusions reasonably probable that the food in question was unwholesome and that it caused the plaintiff’s illness.\textsuperscript{175} Since a safer, feasible alternative in the form of wholesome food is legally presumed, the plaintiff need not introduce risk-utility proof. The Products Liability Restatement 3d expressly adopts this approach in § 7 as follows:

One engaged in the business of selling or otherwise distributing food products who sells or distributes a food product that is defective under § 2 [manufacturing, design & warning defects], § 3 [circumstantial evidence of defect], or § 4 [violation of statute establishing defect] is subject to liability for harm to persons or property caused by the defect. Under § 2(a) [manufacturing defect], a harm-causing ingredient of the food product constitutes a defect if a reasonable consumer would not expect the food product to contain that ingredient.\textsuperscript{176}

The Products Liability Restatement 3d in Section 7 recognizes that proving a defective food product claim can be based on alternative proof without the necessity of risk-utility evidence. It is also significant to note that in the context of “contaminated” food the Restatement 3d chose to utilize the consumer expectations test.\textsuperscript{177} A number of states distinguish between substances naturally found in food (bones in fresh chicken soup) and foreign substances (stones in chicken soup).\textsuperscript{178} This has proven to be troublesome in prepared food contexts, such as chicken salad, and processed foods, such as canned chicken soup. The trend in the courts is to use a reasonable expectation test which focuses on whether consumers ought to anticipate the presence of the troublesome substance in the food.\textsuperscript{179} The food cases demonstrate another alternative proof category in strict products liability.
7. Intimate Bodily Use Products

Intimate bodily use products include those personal care products we apply or take into our body for health or cosmetic reasons such as skin creams, lotions, salves, deodorants, perfumes, shampoos, hair preparations, and including tampons and sanitary pads. These types of products also demand the highest standards of design and preparation as do food products because of the potential for harm. Here too, warranty law gradually became quite protective of consumers by imposing strict liability if, in the absence of warnings, such products foreseeably could cause harm. Dean Prosser as the Reporter for the Restatement 2d, § 402A cited the warranty law treatment of intimate bodily use products as supportive of the strict liability in tort principle. He noted that the strict liability food cases were first extended “into the closely analogous cases of other products intended for intimate bodily use, where, for example, as in the case of cosmetics, the application to the body of the consumer is external rather than internal.”

Dean Prosser spoke to the situation of allergic reactions as follows:

In order to prevent the product from being unreasonably dangerous, the seller may be required to give directions or warning, on the container, as to its use. The seller may reasonably assume that those with common allergies, as for example to eggs or strawberries, will be aware of them, and he is not required to warn against them. Where, however, the product contains an ingredient to which a substantial number of the population are allergic, and the ingredient is one whose danger is not generally known, or if known is one which the consumer would reasonably not expect to find in the product, the seller is required to give warning against it, if he has knowledge, or by the application of reasonable, developed human skill and foresight should have knowledge, of the presence of the ingredient and the danger.

Advertising asserting that a personal care product is safe, mild, gentle, or harmless can also lead to warranty liability if the product causes injury in normal use. In warranty and negligence law, the courts developed a rule that for such products to be actionable, the risks of harm must be foreseeable to an appreciable or a substantial number of persons or class of persons using the products. This limitation was created so that highly useful products would not bear liability if only a few persons with idiosyncratic allergic reactions were affected. When serious allergic reactions from personal care products have affected only a tiny number of the user community, for example in three different cases, 3 in 225 million, or 4 in 7 million, or 2 in 1 million, the courts in those cases did not impose liability. On the other hand, 373 complaints out of 82 million users, and, in another case, 5-17% of users were held sufficient to create a jury question on the substantiality issue. Most of the appellate cases in this area involve claims of failure to warn rather than design defect even though the products also may have been unsafely designed.

The courts in California have a mixed record in applying strict liability to the intimate bodily use product design defect cases. The California supreme court in Soule cited favorably a lower court’s application of the CET to a vaginal tampon design defect case. In West v. Johnson & Johnson Products, Inc., the plaintiff contracted toxic shock syndrome while using the defendant’s tampon. At the time of West, the “exact molecular mechanism” as to how the
tampons contributed to toxic shock syndrome had not been established by any scientific study, but the plaintiff’s experts pointed to alleged design defects in the tampon and gave opinions that there was a causal connection. The court of appeals concluded that where the product had been distributed nationally for three years and the plaintiff had been using the tampons for close to 5 years, a jury could reasonably infer that ordinary users of the tampon “had every reason to expect that use of the product would not lead to a serious (or perhaps fatal) illness.” The court ruled that the plaintiff’s satisfaction of the proof requirements established by the Campbell case and expert proof on causation raised a jury question of whether the product was more dangerous than the ordinary consumer would expect.  

However, in Morson v. The Superior Court, the court of appeals concluded that the CET did not apply to plaintiffs’ allergic reactions to the use of latex gloves in their work as health care professionals. Apparently, upwards of ten percent of frequent users of low protein latex gloves suffered allergic reactions. The court believed, however, that the proof that plaintiffs proposed to submit at trial was not “relatively straightforward.” The court said, that “the subject of allergic reactions is a complex biological and medical phenomenon” and that “the alleged circumstances of the product’s failure involved technical and mechanical details about the manufacturing process and then the effect of the product upon an individual plaintiff’s health.” The court apparently confused the defectiveness issue with the causation issue. The need for expert causation testimony does not preclude the application of the CET on the defectiveness issue.  

Unde v. L’Oreal USA, Inc., was a case involving the application of a facial cream that allegedly made preexisting spots grow darker instead of lighter. The plaintiff represented himself in the trial court and on appeal. The court granted summary judgment for the defendant on the design defect strict liability claim. On the negligence claim, the plaintiff relied on his own testimony and that of two witnesses that the spots on his face got darker after using the product. The trial court, at the close of the plaintiff’s evidence, dismissed the negligence claim for lack of proof on the standard of care and causation. The court of appeals, in considering the strict liability theory, concluded that the CET did not apply and cited Morson for the following overstated proposition: “courts have found the alleged creation or exacerbation of allergies by a product beyond the purview of the consumer expectations test.” The court also found that there was insufficient evidence to raise a jury question on causation on the ground that “the mere possibility that a defendant’s conduct might have caused a plaintiff’s injury is not sufficient to establish causation.” Unde is essentially a causation case, and the court never properly analyzed the design defect issue under the CET.  

In asbestos exposure cases, on the other hand, the California courts have uniformly applied the CET in design defect cases. While asbestos obviously is not an intimate bodily use product, the asbestos cases pose a problem for the Morson reasoning. In Sparks, the first asbestos design defect case, the court affirmed the jury’s determination that the defendant was liable based on the CET. Sparks involved the claim of a former U.S. Navy metal smith who was exposed repeatedly to asbestos dust while inspecting pipes and pipelines aboard his ship. In order to inspect the pipes, he had to remove the insulation containing some asbestos from the valves by sawing or cutting it away. This process, as well as the cleanup procedures which involved compressed air and brooms, generated a large amount of dust which the plaintiff would inhale.
The product involved in *Sparks* was a thermal insulation called Kaylo, containing 13 to 20 percent asbestos, which was available in pipe-covering and block forms. It was intended for high temperature thermal insulation, and it was commonly used on ships. The court held that the product failure was the emission of highly toxic, respirable fibers in the normal course of the product’s intended use and maintenance. It reasoned that “there were neither ‘complicated design considerations,’ nor ‘obscure components,’ nor ‘esoteric circumstances’ surrounding the ‘accident’ in the instant case.” The product was a “simple, stationary product in its ordinary uses” that was made of friable material that generated large amounts of dust when cut to shape objects during installation, removal, inspection and replacement processes. There was a reasonable inference from the evidence that the emission of fibers that cause a fatal lung disease after a long latency period was a product failure “beyond the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers.” The court further analogized the case to *West v. Johnson & Johnson, Inc.*, the tampon toxic shock syndrome case. The court stated that like *West*, the plaintiff had every right to expect that the use of such a seemingly innocuous product would not lead to a serious (or perhaps fatal) illness.

Despite the decision in the *Morson* latex glove case, the California courts have continued to apply the CET to asbestos cases. The court in *Cadlo v. Superior Court*, followed *Sparks* and held that the design failure was in the emission of highly toxic, respirable fibers in the normal course of the product’s intended use which raised the reasonable inference that the product’s defect exceeded the legitimate commonly accepted minimum safety assumptions of its ordinary users. The court distinguished *Morson* on the grounds that the defect in *Cadlo* was seen as the straightforward release of respirable toxic fibers that could cause a fatal illness “during the routine and relatively straightforward use and maintenance of defendants’ products,” whereas the court in *Morson* described the defect as “not straightforward.” In *Jones v. John Crane, Inc.*, another asbestos insulation case, the court noted that even though expert testimony was needed to establish legal causation of the injuries, it did not mean that the ordinary user of the product would be unable to form assumptions about the safety of the product. The *Jones* court rejected the application of *Morson*. Following *Sparks*, the courts have continued to approve the application of the CET in asbestos design defect cases. All of the cases apply essentially the same reasoning as *Sparks*, and in most cases directly cite the *Sparks* analysis.

In contrast to *Morson*, the Wisconsin Supreme Court in *Green v. Smith & Nephew AHP, Inc.*, a design defect case, applied the CET to latex gloves. Ms. Green, in her strict liability action, alleged that the defective and unreasonably dangerous high level of latex proteins in the cornstarch-coated gloves caused her to have allergic reactions to the proteins in the gloves and suffer serious injuries. Her job as a hospital nurse required her to use up to forty pairs of gloves per work shift. Researchers found that 75 percent of people reacted adversely to the high protein gloves, while only seven percent reacted to the low protein gloves. Moreover, the use of cornstarch to more easily don and remove the gloves increased the risk that users would inhale the latex proteins when they combine with the cornstarch dust. This evidence was held sufficient to raise a jury question under the CET.

*Morson* and other intimate bodily use product cases do present a difficult substantive issue, namely that the design defect approach under the CET and the warning defect approach...
blend into one another. Warning defect cases at their core, after all, are actually only a subspecies of design defects. On the one hand, it makes sense to conclude that latex gloves, as supremely useful products, should not be deemed defective if an adequate warning can be provided to alert the minority of users subject to allergic reactions to cease use before the continuing exposures develop into serious medical disorders. In a warning defect case, the plaintiff is required to show, as indicated earlier, that a substantial number of persons are adversely affected by the use of the product, and also the defendant could defeat causation if it can show that the plaintiff knew of the responsible agent for his or her medical difficulties and yet continued with the exposure. If the plaintiff cannot prove the former, or the defendant can prove the latter, there is no liability. On the other hand, in a design defect case under the CET, the plaintiff would not have to introduce proof regarding the numbers of people likely to have serious allergic reactions, and furthermore, plaintiff’s knowledge of the cause of his/her medical ills would only be a comparative fault defense. The dilemma of which paradigm to select is essentially a choice between imposing strict liability or fault as the culpability standard for the manufacturer.

The California asbestos cases apply the common sense approach that a user’s daily work with a product without apparent risks or warnings creates an expectation that it is reasonably safe. In the case of asbestos, the courts have concluded that a reasonable inference can be drawn that the substance is defective, at least without warnings, and the danger exceeded the legitimate commonly accepted safety assumptions of its ordinary users. The theory of the asbestos cases should be applicable to intimate bodily use products. It is equally appropriate for intimate bodily use products that, at least without warnings, an inference of design defect be permitted from normal use which leads to injury. This will encourage producers of such products to thoroughly test their products before mass production and to monitor closely reports of adverse reactions once marketing has begun.  

8. Deviation from Industry Wide Safety Codes and Standards

It is common understanding in negligence that custom evidence is relevant, but that it is not conclusive. It is for the trier of fact to determine what weight to give such evidence. A few courts have held that custom compliance and deviation evidence is irrelevant in a design defect strict liability action because the issue is the defective character of the product not the conduct of the defendant. This distinction is without merit as shown earlier. But, in any event, this approach ignores the widespread acceptance of risk-utility evidence to prove design defect in the safety adequacy cases. Once the door is open in safety adequacy design defect cases to proof of feasible, safer, cost effective alternative designs, custom deviation and compliance evidence is very relevant.

There are numerous decisions that allow evidence of custom deviation of industry and trade standards as relevant and persuasive proof of design defect. The court in Frazier v. Continental Oil Co. reasoned that these industry standards “generally represent not merely the opinion of one expert in a particular field but ‘a consensus of opinion carrying the approval of a significant segment of an industry.’"
The courts should give consideration to an additional category of alternative proof in design defect cases where the manufacturer has deviated from industry wide safety codes such as those of the American National Standards Institute (ANSI), the National Electric Safety Code, Underwriters Laboratories, and the recommendations of the Consumer Product Safety Commission. Such safety standards are so widely recognized and respected as at least minimum standards of safety, the courts should give some presumptive weight to deviations in determining whether product designs are defective. This would be consistent with the reform objective of reducing the burden of proof on claimants in products liability cases. By overtly recognizing this category, the courts will assist lawyers in recognizing that proof of such deviations is sufficient to establish defectiveness and present the issue of safety expectations to the jury.

Additionally, if such safety code deviation proof is relevant to the design and injury in question and was in effect at the time of manufacture, the burden of proof, as in negligence per se, should then shift to the defendant to establish a justification for the deviation. Justification proof should not be allowed simply to debate the merits of the industry standard, but should be limited to those instances where the defense asserts that the product design in question was an advance over the standard and is actually safer as a result. Manufacturer compliance with industry standards, on the other hand, as in negligence law, should be relevant to the reasonableness of the design, but should not give rise to any presumptive effect as the industry standard may not reflect optimum safety.

VI. The Products liability Common Law Process

The products liability cases serve as a significant paradigm of the modern era operation of the common law process. A major attribute of the common law system is that judges do not have to know the exact geography of a boundary when they first create a distinction in the law. Thus, in placing the safety adequacy balancing cases on one side of the line, and the malfunction and manifest defect alternative proof cases on the other side, the courts did not have to understand the exact metes and bounds of the distinction. It was left to lawyer advocacy and judicial insight in later cases to determine if other categories of alternative proof should be developed. The process is open-ended and as reason and equity dictate, more categories can be added.

The Products Liability Restatement 3d in § 2(b) provides that all design defect cases require risk-utility proof with exceptions noted only for the malfunction and safety regulation contexts. This approach locks all products liability cases into a risk-utility evidence mode even if circumstances equitably call for an alternative proof approach. If § 2(b) were codified as legislation, it would be classified as a closed-end system, and future elaboration by the courts would be considerably restrained. Of course, legislation can be open-ended as well, allowing the courts to reason out future categories, but this is becoming increasingly rare as a legislative and interpretational phenomenon in the United States.

California in Soule took the common law open-ended approach and for the last fifteen years has allowed the lower courts to work out the geography of the boundary between the design defect cases requiring risk-utility proof and those allowing alternative proof. The open-ended approach expresses a continuing faith in the common law system, relies on experience and
reason to elaborate the future rules, and utilizes private law making through lawyer advocacy to work out the further rules of law. Where there is long experience with a legal problem, the close-ended approach is most appropriate in setting the boundaries in order to settle matters fairly and to avoid litigation. But where there is insufficient experience with the types of cases that may subsequently present themselves, an open-ended solution works best.

The experience in the California courts with its two prong approach demonstrates the wisdom of using an open-ended system for situations where product users have developed minimum safety expectations that should be governed by alternative proof requirements. This article has also suggested several other categories for consideration. One clear lesson of the strict products liability experience is that we were not able to foresee at the time of the adoption of § 402A all of the many ramifications and complications that subsequently unfolded. We may not be there yet.

VII. Conclusion

We have examined the proof required and allowable in various types of design defect categories. Risk-utility evidence is generally required in the safety adequacy design defect cases, and alternative proof is allowable in a range of other design defect categories. Understanding this duality provides order and clarity in design defect law. It also allows the common law process to continue to work in refining and identifying the alternative proof categories. An understanding of the alternative proof categories in design defect law is helpful for at least four important reasons: 1) It provides guidance to courts in understanding the applicable legal test and the appropriate instructions to give juries; 2) It enables attorneys to plan and develop more easily the requisite legal and evidentiary strategy for their cases; 3) It allows products liability law to develop in a more sensible and coherent fashion; and 4) Additionally, and most fundamentally, the identification of the alternative proof categories allows us to understand that the original objectives of Justices Francis and Traynor, and Dean Prosser in developing strict products liability reform do have application to some design defect cases. Isolating this boundary line allows strict liability to remain an important standard in the alternative proof cases while essentially negligence principles apply in substance in those other design defect cases requiring risk-utility proof.

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1 Restatement of Torts (Second), § 402A (1964) (hereafter Restatement 2d, § 402A).
2 Article 6 of the European Directive provides:
   1. A product is defective when it does not provide the safety which a person is entitled to expect, taking all circumstances into account, including:
      (a) the presentation of the product;
      (b) the use to which it could reasonably be expected that the product would be put; [and]
2. A product shall not be considered defective for the sole reason that a better product is subsequently put into circulation.


"The article sold must be dangerous to an extent beyond that which would be contemplated by the ordinary consumer who purchases it with the ordinary knowledge common to the community as to its characteristics." Restatement 2d, § 402A(1) (1964) at comments. c & d.


The objectives have been achieved in the manufacturing or production defect cases.

Mark A. Geistfeld, Principles Of Product Liability 85 (2006). Geistfeld relies on an insurance report studying 1985 data that found that for claims over $100,000, strict liability was the primary liability theory and seventy five percent of the claims were based on a design defect theory. Alliance of American Insurers and the American Insurance Association, A Study of Large Product Liability Claims Closed in 1985 (1986).

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a critical component of change. Even today, many years after the adoption of § 402A, many attorneys typically plead negligence and strict liability claims in their complaints.


19 Restatement 2d, Torts § 402A (2)(a) & cmt. a. It might be questioned whether 402A really creates strict liability. True strict liability requires only a causal connection with conduct without any showing of culpability. If the products liability cases subject to § 402A were limited to manufacturing defect cases and design malfunction cases, strict liability would be an accurate characterization. Of course, there is strict liability under § 402A on all sellers in the marketing chain besides the manufacturer.

20 Id. at § 402A (1).

21 Id. at § 402A (2)(b) & cmt. m.

22 There were several areas where there was a distinct difference, and two which are of considerable importance: 1) Under § 402A the courts did apply strict liability to defects that arose in the manufacturing process as opposed to defects in product design; and 2) All intermediate sellers in the marketing chain such as retailers, wholesalers and importers are strictly liable for product defects, not just manufacturers.

23 Escola, supra note 4.

24 Henningsen, supra note 14.

25 Greenman, supra note 15.

26 See Geistfeld, supra note 6.


28 American Law of Products Liability 3d, §§ 17:32-17:34.


31 Id.; Soule v. General Motors Corp., supra note 27 at 309.


34 Soule, supra note 27 at 305 & 308.

35 American Law of Products Liability 3d, § 17:27 at nn. 34 & 36.

36 Id.


38 American Law of Products Liability 3d, § 17:25.


41 Patterson supra note 37; Products Liability: Consumer Expectations Test, 73 A.L.R.5th 75.

42 See note 35, supra. Most courts when confronted with this issue have found ways to avoid the implications of the open and obvious danger rule under the CET.

43 Patterson, supra note 37.


45 See George W. Conk, Punctuated Equilibrium: Why Section 402A Flourished and the Third Restatement Languished, 26 Rev. of Litig. 799, 819 (2007). An additional problem of the CET is that the safety expectations of consumers at times will actually lag behind improved safety in newer products in the marketplace.


47 See Section IV(D), infra.
While risk-utility proof is the common framework for evidence presentation, a jury’s evaluation is not and should not be restricted to strict economic efficiency. Risk-utility proof can only be a guide to the social judgment that must be made whether a product is defective or not. The variables in the risk-utility balance are not all capable of being converted to a common denominator necessary to use a formulaic approach. It is not possible for courts, for example, to instruct on the potential severity of harm or death in terms of dollars and cents or for the probability of the harm to be framed in terms of anything approaching a scientifically accurate figure. See Richard W. Wright, Hand, Posner & the Myth of the “Hand Formula,” 4 Theoretical Inquiries in Law 145, 146 (2003).


See text at notes 79-81, infra.


See Wright, supra note 49. The Barker court’s suggestion that juries be instructed in terms of the risk-utility terms is unfortunate. While the instruction is generally consonant with the proof in a safety adequacy design defect case, it may appear to inform juries that their decisions are to be governed primarily by economic or efficiency considerations. The risk-utility language is substantially mitigated by the California supreme court’s requirement that the defense must establish by a preponderance of the evidence that the design did not contain “excessive preventable danger.” The risk-utility formula is an important guide for trial lawyers in preparing cases and determining discovery and evidentiary objectives, and it is also helpful to judges in deciding sufficiency of the evidence motions. But it is not and should not be the only gauge for jury deliberations on design defectiveness issues. In the final analysis, a jury determination of design defectiveness, like a finding of negligence is made on the basis of justice standards that are broader than efficiency alone. An express risk-utility instruction is never used in negligence cases despite wide acceptance of the Hand formula in theory. Juries in negligence cases are invariably instructed in terms of reasonable care under the circumstances. Such broader terminology allows for justice and moral concerns to operate along with efficiency considerations. Section 402A used the language that the product must be found to have been in a “defective condition unreasonably dangerous to the user or consumer.” The Restatement 3d also used a broader standard by its phrase that the product must be found to be “not reasonably safe.” See generally, Wright, id. at 146-153.

Restatement 2d § 402A (1); Products Liability Restatement 3d § 2(b).

Barker, supra note 27 at 454; Soule, supra note 27 at 305 & 308. The burden of proof is on the defendant to show more likely than not that the product does not embody “excessive preventable danger.” Barker, supra note 27 at 455. Unfortunately, this phraseology was not included in the pattern jury instruction developed for California courts. See Judicial Council of Calif. Advisory Committee on Civil Jury Instructions, CACI § 1204 (2007). Trial judges should incorporate the “excessive preventable danger” test into their design defect jury instructions as a matter of course.

Note, Products Liability: Prudent Manufacturer Test, 86 A.L.R. 5th 215 at § 4[b].

Id. at § 2[a].

Ray by Holman v. BIC Corp., 925 S.W.2d 527, 532 (Tenn. 1996).


See Potter v. Chicago Pneumatic Tool, supra note 47; Ortho Pharmaceuticals v. Heath, 722 P.2d 410 (Colo. 1986); modified in Armentrout v. FMC Corp., 842 P.2d 175 (Colo. 1992) (rejected shifting of burden of proof to the defendant on the risk-utility evaluation); Knitz v. Minster Mach. Co., 432 N.E.2d 814 (Ohio 1982); Nichols v. Union Underwear Co., 602 S.W.2d 429 (Ky. 1980). In Potter v. Chicago Pneumatic Tool, the court did not adopt the RUT or the PMT, but did something similar by developing a CET using risk-utility analysis in certain design defect cases. Phillips v. Kimwood Machine Co., 525 P.2d 1033, 1036-37 (1974) led the way in establishing that the CET could have two different perspectives – the reasonable consumer and the prudent manufacturer perspective.

See section III (B)(3)(b) infra.


Id.

A. Twerski, supra note 8 at 12.

Hindsight is sufficient for the risk, but foresight is required for the availability of a safer design at the time of production. This is truly an odd construct. Knowledge of scientifically unknowable risks are imputed to the
manufacturer at the time of production, but a later developed safety device to avoid the risks is not imputable if the state of the art precluded its availability at the time of production.

68 See, e.g., Feldman v. Lederle Labs, 479 A.2d 374 (N.J. 1984) (drug side effect allegedly unknown) and Green v. Smith & Nephew, 629 N.W.2d 727 (W1 2000) (latex glove allergy allegedly unknown). Such cases typically arise with pharmaceutical drug products but have been experienced also in the asbestos and silicone breast implant cases. It is questionable whether the hindsight approach made a difference in Green v. Smith & Nephew. There, the plaintiff used two sets of latex gloves per work shift starting in 1978, and this increased to about 40 sets per shift beginning in 1987. It wasn’t until 1989 that she began having health related problems culminating in very serious problems in 1991. Id. at 732. Reports of latex allergy first appeared in the late 1970’s, and the first deaths were reported in 1989. David S. Shragr & Wayne R. Spivey, Latex Allergy, 2 Ann. 2000 ATLA-CLE 2319 (2000).

69 See, e.g., L. K. Breggin & L. Carothers, Governing Uncertainty: The Nanotechnology Environmental, Health, And Safety Challenge, 31 Colum. J. Envtl. L. 285 (2006). Nanotechnology deals with incredibly small particles on the order of 100 nanometers or less (a nanometer comprises one-billionth of a meter). Nanoscale particles are already included in products such as sunscreens, stain-resistant clothing, textiles and microchips. Critics contend that too little research has been undertaken to assure the safety of such particles which may lodge in human organs. Recently, the Du Pont Company and the environmental group, Environmental Defense, have issued a report providing jointly developed guidelines for evaluating the safety of nanotechnology in products. Barnaby J. Feder, New Rules Expected on Safety of Nanotechnology Products, N. Y. Times, June 21, 2007 at C 10.

70 E. Wertheimer, The Biter Bit Unknowable Dangers, The Third Restatement, and the Reinstatement of Liability Without Fault, 70 Brook. L. Rev. 889 (2005). One area of exception has been in the asbestos cases where the developmental risk issue was argued forcefully. But even with asbestos, a strong case can be made that the risks associated with the material were reasonably foreseeable to manufacturers employing the substance. See Feldman v. Lederle Labs, 479 A.2d 374, 388 (N.J. 1984).


73 See Feldman v. Lederle Laboratories supra note 68.

74 See Barker v. Lull Engineering Co., Inc., supra note 27; Caterpillar Tractor Co. v Beck, 593 P2d 871 (Ak 1979).

75 Barker, supra note 27 at 455.


“Primacy and recency are theories suggesting when to present evidence in trial to gain the greatest possible effect from that evidence. Although experts disagree on which is most effective, all agree that an argument or piece of evidence has more of an impact if presented at the beginning or end of a witnesses' examination. The law of primacy in persuasion, formulated by F.H. Lund, holds that people are influenced most by the information received first. Lund found that in a debate the first argument presented had the greatest impact on the audience. Similarly, a jury uses the first arguments and pieces of evidence to form preliminary opinions about the case. These initial opinions have been found to bias the interpretation of subsequent evidence. Inconsistent evidence, received later, “tends to be disregarded or misinterpreted” by the jury. Several articles suggest that the most favorable evidence will have its greatest impact if presented first. Experts have found that “jurors tend to sustain belief in the validity of their initial theories long after logic suggests those theories have been discredited.” The principle of recency asserts that people are more likely to remember what they have been exposed to most recently.”


78 Id. at § 2.

79 Id. at comment g.

80 Id. at comment f (emphasis added).
utility standard. See generally, Wright, notions. Indeed courts, instruct on the justice oriented reasonable person standard rather than the economic risk-
evidence in design defect cases. A Reporters’ note says:

The Reporters for the Restatement 3d analyzed all of the existing design defect cases at the time and divided them into four categories and showed that the predominate approach was to allow or require risk-utility evidence in design defect cases. A Reporters’ note says:

Before turning to the reported decisions themselves, it will be useful to describe the four general categories into which the cases are grouped. FIRST are the jurisdictions that explicitly require a plaintiff to whom the important alternative bases of liability described above are not available to prove that a reasonable alternative design would have reduced or avoided the plaintiff’s harm. SECOND are the jurisdictions that apply a general risk-utility test for defective design without explicitly requiring proof of a reasonable alternative design. Recognition of a risk-utility standard for judging the defectiveness of product designs implicitly commits the court to the requirement of a reasonable alternative design. THIRD are the jurisdictions that purport to rely on a consumer expectations test but in fact engage in a risk-utility analysis that, as with the SECOND approach, implicitly commits the court to a reasonable alternative design requirement. And FOURTH are the jurisdictions, relatively few in number, that apply a true consumer expectations test, independent of risk-utility, without requiring proof of a reasonable alternative design. Taken together, the FIRST, SECOND, and THIRD of these approaches require, either explicitly or implicitly, the plaintiff to establish the availability of a reasonable alternative design in cases not involving product malfunction, safety standard violation, or egregiously dangerous design. Taken together, they represent the overwhelming majority of American jurisdictions. Admittedly the FOURTH category of decisions in which consumer expectations, standing alone, determine defective design does not support the position reflected in 2(b). But the FOURTH approach—reliance on consumer expectations standing apart from risk-utility—is recognized in only a small minority of jurisdictions. Restatement 3d, Products Liability, § 2, Reporters’ Notes, Comment d(I) & (II)(A-D).

The most common situation in which alternative proof is allowed is in product malfunction cases based on circumstantial evidence. Malfunction design defect cases, typically, are those in which a description of the nature of the accident, the age and condition of the product, and the operator’s non-culpable conduct makes it reasonable for juries to infer that the accident would not have happened unless the product was defective. There are several other categories of alternative proof cases including situations where a product design deviated from applicable safety regulations, or manifest defects.

Of course, justice factors play an equal if not greater role in determining reasonable conduct beyond efficiency notions. Indeed courts, instruct on the justice oriented reasonable person standard rather than the economic risk-utility standard. See generally, Wright, supra note 29.

Generally, plaintiffs are not required to prove an actual alternate design that works but can present proof of a theoretical model through expert testimony. In some cases if the danger is great, and the risk presented by the product is not integral to the purpose of the product, juries may be allowed to infer that an alternate, safer design could have been developed. The Products Liability Restatement 3d in § 2(b), on the other hand, explicitly requires proof of a “reasonable alternative design.” It is not clear how demanding the standard is because it is seriously
qualified in the comments. Many states that have considered the issue have rejected the explicit requirement of an alternate design; a few have endorsed it. See Note, Burden Of Proving Feasibility Of Alternative Safe Design In Products Liability Action Based On Defective Design, 78 A.L.R. 4th 154, §§ 3 & 4.


94 See Section V (B), infra.

95 Soule, supra note 27.

96 Id. at 453.
97 Id. at 454.
98 Id. at 455.
99 Id. at 457.
100 Id. at 455.
101 Id. at 455-56.
102 Id. at 454.
103 649 P.2d 224 (Cal. 1982).
104 Id. at 233.
105 Soule, supra note 27.
106 Id. at 301.
107 Id. at 310. The court concluded, however, that the error in the instructions was not a prejudicial error warranting a retrial.
108 Id. at 304.
109 116 Cal Rptr 575 (Cal. Ct App 1974)
110 Soule, supra note 27 at 305.
111 Id. at 305.
112 Id. at 308.
113 Id. at 309.
114 Id. at 310.
116 23 P.3d 320 (Or. 2001).
117 Id. at 331.
118 694 A.2d 1319, 1333 (Conn. 1997).
119 See Soule, supra note 27 at 304; Campbell, supra note 103 at 228; Barker, supra note 27 at 455.
120 Of course, the California Supreme Court went further and shifted the burden of production and persuasion on the risk-utility proof. See Barker, supra note 27 at 455. I have included discussion of a number of unreported California cases in my study, not primarily for their legal analysis, but for the fact patterns they represent in categorizing the types of design defect cases that allow for alternative proof.
121 The Products Liability Restatement 3d provides exceptions to risk-utility proof for circumstantial evidence cases in § 3, and for regulatory violations in § 4, and very indirectly for manifest defect cases in § 2, comment e. Food products that are unwholesome or contaminated can utilize alternative proof based on circumstantial evidence or regulatory violations. See § 7. See Section V (b)(6), infra.
122 2 H&C 722, 159 Eng Rep 299 (Ct of Exchequer 1863). The translation is “the thing speaks for itself.” One wit has said, “if it speaks for itself, why doesn’t it speak English?”
125 Products Liability Restatement 3d, § 3.
126 Barker supra note 27 at 429. The court cited the following cases on the circumstantial evidence point:
127 219 Cal Rptr 513 (Cal. App. 6 Dist 1985).
Id. at 524
129 Soule, supra note 27 at 309 & 310.
130 2002 WL 475268 (Cal App 1st Dist 2002)(not published)
131 Id. at 3.
132 Id at 6.
133 American Law of Products Liability 3d, § 17:68.
134 Id. at §§ 17:61-17:65.
135 892 F.2d 58 (9th Cir. 1989)
137 Soule, supra note 27 at 310.
138 Supra at Section IV(D).
139 American Law of Products Liability 3d, § 17:35.
140 Supra note 101.
141 88 So.2d 299 (Fla. 1956).
142 Id. at 301.
143 Miller v. Mazda Motor of America, Inc., 2002 WL 819856 (Cal. App. 2 Dist. 2002) (not officially reported). I have used unreported California court of appeals decisions along with the reported cases. The facts of the unreported cases are important in trying to categorize the kinds of design defect cases that have arisen since Barker was decided, and to isolate in which types of cases the CET was considered appropriate, and those which required the RUT.
146 See Products Liability Restatement 3d, § 2, comment e.
147 See generally, Michael J. Tdoke, Categorical Liability for Manifestly Unreasonable Designs: Why the Comment D Caveat Should Be Removed from the Restatement (Third), 81 Corn. L. Rev. 1181 (1996).
149 Id.
150 Products Liability Restatement 3d, § 4.
151 American Law of Products Liability 3d, § 17:84.
152 Products Liability Restatement 3d, § 4
153 Id. at comments b & c.
155 Restatement (Second) of Torts § 288A.
156 See Bachner v. Rich, 554 P.2d 430 (Alaska 1976); Products Liability Restatement 3d § 4, Reporters’ Note, comment d.
157 123 Cal. Rptr. 2d 303 (Cal. App. 2d Dist. 2002).
158 There was a division of authority over whether ordinary consumers could have minimum safety expectations regarding air bags. Compare Pruitt v. General Motors Corp., 86 Cal. Rptr. 2d 4 (Cal. App. 2d Dist. 1999), modified (June 23, 1999) (deployment in a low speed collision) and Bresnahan v. Chrysler Corp., 76 Cal. Rptr. 2d 804 (Cal. App. 2d Dist. 1998) (minor rear end collision).
159 See Note, Products Liability: Statements in Advertisements as Affecting Liability of Manufacturers or Sellers for Injury Caused by Product Other than Tobacco, 93 A.L.R. 5th 103, § 23(a).
163 23 P.2d 320 (Or. 2001).
The injured person should not have to prove specific reliance on the advertising in order to recover. See King v. Kayak MFG. Corp., 387 S.E.2d 511 (W. Va. 1989). Where sellers have created the impression of safety through promotional efforts, it is inconsistent with the consumer protection goals of strict products liability for courts to impose an actual reliance requirement.


Id.

Id. at § 81:7.

See § V (C), supra.

See W. L. Prosser, _The Assault Upon the Citadel (Strict Liability to the Consumer)_ , 69 Yale L. J. 1099, 1103-1110 (1960); _Greenman, supra_ note 13 at 900.

Restatement of Torts, 2d, § 402A, comment b.

American Law of Products Liability 3d, § 81:3.

Id. at § 81:4.

Products Liability Restatement 3d, § 7.

Id. at § 7, second sentence.

American Law of Products Liability 3d, § 80:5.

Id.

Id. at § 86:1.

Restatement 2d, § 402A, comment b. See also, W. L. Prosser, _The Assault Upon the Citadel: Strict Liability to the Consumer_ , 69 Yale L. J. 1099, 1111-12 (1960).

Restatement 2d, § 402A, comment j.


Id. at § 86:5.

Id.; _Green v. Smith & Nephew AHP, Inc._ , _supra_ note 68. One commentator has described the allergy analysis as follows:

The conclusion that a manufacturer “should have known” of the allergenic nature of its product is based on the plaintiff’s showing that at the time of injury the plaintiff was a member of a substantial, significant, or appreciable class of individuals who were or could have been harmed by the allergenic nature of the product. There is no set number of people that the plaintiff must show to have suffered a reaction. Most courts play what is described as a numbers game in determining whether a plaintiff was a member of an appreciable class. The greater the likelihood of an allergic reaction following the use of the manufacturer’s product, the more likely a duty to warn will be imposed on the manufacturer. However, as ambiguous as the requisite number appears to be, it is clear that it must be more than merely a few.

For example, in _Wright v. Carter Products_ , the lower court held that, because only a minuscule percentage of the potential customers would be in danger using the product, it did not warrant finding that the manufacturer had no duty to warn of the harmful effects of which the manufacturer had knowledge. On appeal, the United States Court of Appeals for the Second Circuit held to the contrary. The court remanded the case to determine (1) whether, in the exercise of reasonable precaution, the defendant could have foreseen that at least some of the potential users of their deodorant would suffer serious injury from the use of that product and (2) whether the defendant had a duty to warn. Michael K. Barrett, Latex Gloves, 22 J. Legal Med. 263, 270-71 (2001).

A plaintiff should only have to prove the normal use of the product in accordance with instructions and warnings and the resulting harm caused by the product. Because of the virtual impossibility and expense in requiring the consumer to introduce survey data showing a substantial number of people are adversely affected by a personal care product, the burden of proof (production and persuasion) should be placed on the defendant-manufacturer as an expert in the business to show that the product does not cause harm to a substantial number of users. The ubiquitousness of the patch tests accompanying personal care products today demonstrates the effectiveness of imposing such liability on manufacturers in providing cautionary practices to consumers.

Soule, _supra_ note 27.


Id. at 456-58. Similarly, in _Unde v. L’Oreal USA, Inc._ , 2004 WL 740034 (Cal. App. 3 Dist. 2004) (not officially reported), involving an alleged adverse reaction from a facial cream, the court confused the defectiveness issue with the causation issue.


191 Supra note 189 at 356.
193 Id.
194 Id. In Rosburg v. Minnesota Mining & Manufacturing Co., 226 Cal. Rptr. 299 (Cal. App. 1 Dist 1986), the plaintiff asserted that she did not know at the time of surgery that saline implants have a tendency to deflate over time. The court concluded that breast implants were not within the common experience of ordinary consumers, and thus expert testimony that surgeons knew that saline implants were deflatable was admissible and could be relied on to support the trial court’s conclusion that the product was not more dangerous than the ordinary user or consumer could expect.
197 Id. at 747-48.
198 Id. at 747.
199 Id.
200 Id.
202 Sparks supra note 196 at 747.
204 Id.
205 Id.
207 Id.
209 Green, supra note 66. At the time that Ms. Green began experiencing medical problems, however, “the health care community generally was unaware that persons could develop latex allergy.” The court concluded that “regardless of whether a manufacturer could foresee potential risks of harm inherent in its ... product, strict products liability holds that manufacturer responsible for injuries caused by that product.” “Although products liability law is intended in part to make products safer for consumers, the primary ‘rationale underlying the imposition of strict liability on manufacturers and sellers is that the risk of the loss associated with the use of defective products should be borne by those who have created the risk and who have reaped the profit by placing a defective product in the stream of commerce.’”
210 George W. Conk, supra note 46 at 372.
211 American Law of Products Liability 3d, § 17:80
212 See § III (B)(3)(a), supra.
214 Frazier v. Continental Oil Co., supra n. 192 at 382.
216 See generally, American Law of Products Liability 3d, §§ 17:80-17:84. In one case, the federal Court of Appeals said: “In holding admissible advisory materials promulgated by a governmental agency, this Court’s decision is in accord with the modern trend of cases finding national safety codes representative of ‘a consensus of opinion carrying the approval of a significant segment of an industry’ and offerable as exemplifying safety practices prevailing in the industry. Courts have become increasingly appreciative of the value of national safety codes and other guidelines issued by governmental and voluntary associations to assist the trier of fact in applying the standard of due care in negligence cases. Though the law is by no means settled, this Court finds that the inherent trustworthiness of such codes and recommendations, coupled with the need for their introduction in order to impart relevant information not contained elsewhere, is sufficient to justify their admission, notwithstanding the traditional dangers of hearsay evidence.” Frazier v. Continental Oil Co., 568 F.2d 378, 382 (5th Cir. 1978).
217 See Products Liability Restatement 3d, §§ 2, comment e, 3 & 4.