**Irreparable Injury and the Limits of the Law of Torts**

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Theoretically inclined scholarship on the law of torts is divided between two camps. One camp assigns explanatory primacy to tort law’s secondary norms—to remedial obligations of corrective justice or to powers of civil recourse. For corrective justice and civil recourse theorists, tort law’s obligations of repair or powers of recourse are constitutive of a distinctive morality of responsibility. The other camp sees tort law as a site for the application of a comprehensive consequentialist analysis in economic form. Economic analysts deploy a framework in which the private law of torts and alternatives to it are treated simply as different means to the same end of cost-justified accident reduction. The thesis of this paper is that tort law is intrinsically incomplete, and that direct regulation of risk is required to repair its incompleteness. The law of torts is intrinsically incomplete because tort is a system of reparation. Wrongs that inflict irreparable injury are beyond its reach. Wrongly killing someone diminishes reparative responsibility because death is an injury beyond repair. From an economic perspective, the problem is that tort law does not even attempt to put a price on the value to the victim of the life that they have lost, thereby impairing tort law’s powers of deterrence. Direct regulation of risk remedies this imperfection of the private law of torts. Tort’s own incompleteness therefore directs our attention to prominent norms of federal risk regulation that address risks of irreparable injury by insisting on more than cost-justified precaution. Of course, by enjoining more than efficient precautions these norms flout the prescriptions of economic analysis. This paper will endeavor to explain tort law’s shortcomings when it comes to the imposition of risks of irreparable injury; to explain the safety and feasibility standards prominent in federal regimes for the regulation of environmental and occupational risks; and to suggest that these standards point to a morality of risk regulation quite different from the morality of efficient precaution embraced by law and economics.

Corrective justice theory sometimes goes astray by reversing the relation between tort law’s primary norms and its secondary ones. [[2]](#footnote-3) Tort law’s primary norms obligate us not to impair or interfere with diverse urgent interests that we share. These primary obligations of non-interference are logically and normatively antecedent to tort law’s secondary powers of recourse and obligations of repair. Secondary powers and obligations come into play only when primary obligations have not had their intended effect.[[3]](#footnote-4) Even so, corrective justice theorists have latched onto a fundamental feature of the law of torts. “Reparative damages” as John Gardner says, “have pride of place as a remedy for tortious wrongdoing.”[[4]](#footnote-5) Accidents cannot be enjoined, and tortious wrongs usually inflict impairment—disability, disfigurement, and physical injury. Most of the time, then, tort law finds itself faced with the task of picking up pieces and putting them back together again. This task is as difficult as it is inescapable. In tort, reparation’s standard form is compensation, and the “basic rule of tort compensation is that the plaintiff should be put in the position that he would have been in absent the defendant's [wrong].” [[5]](#footnote-6) By enabling victims to replace the diverse goods that wrongfully inflicted harm has taken from them—emotional tranquility, good health, and intact bodies, as well as wealth and income—compensatory damages attempt to restore to victims what it is that wrongful injury has taken from them. Yet “[m]oney,” as one leading remedies scholar explains, “is an adequate remedy if, and only if, it can be used to replace the specific thing that was lost.”[[6]](#footnote-7) By the lights of this traditional rule, in tort, money damages are often inadequate. Often, the effects of physical harm cannot be completely repaired, or wholly erased. All the money in the world will not enable us to run the movie reel of time backwards and “unbreak legs.”[[7]](#footnote-8) Sometimes, broken bodies, limbs, and psyches can be made “as good as new,” but often they cannot be.

Normally, in fact, tort reparation is not fully up to its assigned task. Physical impairment is one of the elements of a standard negligence claim, and serious physical harm is the normal injury inflicted by tortious negligence.[[8]](#footnote-9) If parts of both of your legs are severed by someone else’s negligence,[[9]](#footnote-10) money damages may enable you to purchase artificial replacements, but those artificial replacements do not put you in the same position that you would have been in had your natural limbs not been severed. Severed limbs are not snapped walking sticks. Money damages do not enable you to replace a lost leg with a new and even better one. To acquire a prosthetic limb is to alter one’s physical self and to undergo a rupture in the course of one’s life.[[10]](#footnote-11) Harm to real or tangible personal property is not always so very different. Some damaged property is fully replaceable. Walking sticks usually are. But other property is not so fungible. In part, we live our lives by and through the objects we acquire and use. Our ownership and use of things incorporate them into our personhood.[[11]](#footnote-12) If you lose your home and all your earthly possessions to a negligently started fire, money damages will enable you to purchase a new home and new possessions, but your purchases will go towards building a new, and probably different, life. An important piece of your old life has been destroyed, and money does not have the power to summon your previous existence back to life. Your old life is gone. Serious physical harm to either one’s person—or to property invested with personality—is not fully repairable. Bodies and family heirlooms are not fungible objects.

The fact that money damages cannot wholly erase the effects of disability, disfigurement, chronic pain, and other harms to persons and their property has not escaped the attention of either courts or commentators. The *Second Restatement*, for instance, acknowledges that when a “tort causes bodily harm or emotional distress, the law cannot restore the injured person to his previous position.”[[12]](#footnote-13) Recognizing the problem, however, is one thing; resolving it is another. Confronted with the pervasive inability of money damages to repair the most serious of tortiously inflicted harms, courts and commentators have reworked damage awards in torts so that they may also serve the expressive end of marking the significance of harms that money damages cannot erase.[[13]](#footnote-14)  So, too, courts have sometimes deployed punitive damages to discourage wrongful conduct that risks and inflicts injury beyond repair.[[14]](#footnote-15) These agile and inventive uses of damages are often justified and desirable, but their very existence underscores the fact that reparation in tort cannot undo the devastating effects of those tortiously inflicted harms that we have most reason to fear.

In principle, the inadequacy of the legal remedy of money damages invites the application of the equitable remedy of injunctive relief. Unlike intentional wrongs, however, accidental wrongs cannot be enjoined. Accidents arise out of the malfunction of agency, not out of its effective exercise. The only way to prevent accidents is by enjoining the activities within which they arise. Mining accidents cannot be enjoined, but mining can be. And the same is true of manufacturing, milling, driving, flying, building, blasting, and an indefinitely long list of other risky activities. Enjoining such activities, however, is a cure worse than the disease it treats. None of these activities are wrong in themselves. Their existence is normally to everyone’s advantage. Tort law must therefore make do with money damages as its default and normal remedy, notwithstanding the fact that money damages will often be unable to restore wrongly injured victims to the positions that they would otherwise have occupied.

The inability of tort damages to discharge fully the reparative role that the law assigns to them makes the law of torts an imperfect instrument of corrective justice, but it undercuts the economic conception of tort as a price system even more sharply. “For the [tort] system to bring about an efficient level of accidents and safety the damage awards must be equal to the costs of accidents resulting from negligent conduct.”[[15]](#footnote-16) Because money damages cannot erase serious harm—and do not price the value to the dead victim of the life that they have lost—“the secondary obligation to pay compensatory damages is not fully interchangeable with the primary obligation to exercise reasonable care.”[[16]](#footnote-17) A would-be tortfeasor “cannot unilaterally choose to pay compensatory damages in exchange for acting unreasonably.”[[17]](#footnote-18)  From an economic perspective, the fact that compliance with a secondary duty of harm repair is not a perfect substitute for compliance with a primary duty of harm avoidance shows that tort damages are not well-calibrated prices coughed up by an efficient market. Tort damages do not price serious physical harms properly for the simple reason that no amount of compensation can fully repair such harms. Tort law is therefore a flawed price system. Furthermore, tort’s failings as a price system increase in lockstep with the seriousness of the harms that it confronts. Tort law’s forward-looking powers of deterrence are most impaired when our interest in deterrence is most intense—when harms threaten death, or permanent, severe disability. When injuries cannot be repaired, we have all the more reason to avoid them.

The history of the law of damages for wrongful death teaches that these shortcomings are as acute in practice as they are in theory. That history shows that tort damages can be towed away from their reparative anchor only so far and that the damage awards are all but powerless when the harm at issue is premature death—the harm we most fear. The harm of death is total and beyond any repair. Yet for that very reason, the law of torts is simply at a loss when wrongful death is the harm inflicted. The common law of torts has been under no illusions on this score. “The effect to be given the death of a person connected with a tort rests almost entirely upon statutory foundations.”[[18]](#footnote-19) Even today, after close to two centuries of statutory and judicial expansion of liability for wrongful death, a defendant whose tortious conduct fatally injures someone else is not liable for damages compensating the victim for the value *to them* of the life that they have lost.[[19]](#footnote-20) The core harm done by death goes uncompensated because it is beyond compensation. Nothing will restore a dead victim to the position that they occupied prior to their death.

The original common law rule—dating to medieval England—was that tort actions were “personal” and therefore died “with the person of either the plaintiff or the defendant.”[[20]](#footnote-21) For the most part, that rule has been reversed by widespread enactment of two kinds of statutes: survival statutes and death statutes. If the defendant has injured another but has not caused death—and either the injured person or the defendant has died before trial—only the Survival Statute comes into play. If, however, the defendant's tortious conduct results in the death of the victim, two distinct statutory rights of action come into play. One of these rights is held by the estate of the deceased and includes elements of damage for which the deceased could have recovered had he not died; this is the cause of action under the Survival Statute. The other cause of action is created by the Death Statute. The first Death Statute, enacted in England in 1846, is commonly known as Lord Campbell's Act.[[21]](#footnote-22) It provided damages for near relatives who were dependents of the person killed, damages being given in accordance with pecuniary benefits they probably would have received but for the death.[[22]](#footnote-23) Lord Campbell’s Act has been widely copied in the United States, with variations as to the amount of recovery and the persons who may be beneficiaries.[[23]](#footnote-24)

For the most part, then, wrongful death damages are awarded for “relational harm.” Recovery is by various persons related to the victim, who have suffered losses as a result of the victim’s wrongful death.[[24]](#footnote-25) For our purposes, the lesson here lies in the kind of recovery that is *not* authorized by either statute. The victim does not recover for the value to them of the life that they have lost. “Loss of enjoyment of life,” one court explains, “must . . . be experienced in life before it can become the basis for an award of damages.”[[25]](#footnote-26) The dead do not experience the lost enjoyment of the lives that have wrongly been taken from them. When it is impossible for money damages to repair a loss, compensatory damages cannot deliver the compensation that they promise. In refusing to award damages for the value to the victim of the life they have lost, the law of wrongful death damages is thus faithful to tort law’s own internal logic. But this perfection of tort law’s own internal logic also clarifies the limits of the institution’s powers. Because the law of torts relies on reparation both to enforce its primary obligations and to erase the effects of tortious wrongs, its powers depend on the possibility of adequate reparation. On the one hand, the harm of death disables the doing of corrective justice. There is no repairing the most severe loss that tortious wrongs can inflict upon us. On the other hand, death strips tort law of its powers of deterrence. For good reason, courts and commentators alike grimly quote “the old adage that it is cheaper to kill your victim than to leave him maimed.”[[26]](#footnote-27) Empirical evidence bears them out. “For example, the average jury verdict in New York City between 1984 and 1993 in case of wrongful death was over $1 million, whereas verdicts in cases of damage averaged over $3 million.”[[27]](#footnote-28) Insofar as the right to repair is the mechanism through which our rights not to be wrongly harmed in the first instance are enforced, when the harm done is irreparable the protections conferred upon us by the law of torts are precarious at best.

The larger lesson of wrongful death damages, then, is that the law of torts is fundamentally incomplete; a law of reparation for harm done does not protect us against irreparable injury. Punitive damages and criminal sanctions can remedy this incompleteness only to a limited extent. Punitive damages and criminal sanctions are primarily targeted at conduct that is seriously wrongful.[[28]](#footnote-29) Some seriously harmful conduct is also seriously wrongful, but only some. Irreparable injury can be caused by a momentary lapse of the most ordinary and least blameworthy sort. Taking one’s eyes off the road for just a split second while driving can maim or kill another human being, but doing so is ordinary human carelessness, not appallingly callous disregard for the safety of others. Injunctive relief, too, is a blunt instrument and one targeted at the different problem of activities that do so much harm that they should not be allowed to continue. Direct regulation of risk is the response that cures the problem most precisely. Legislatures and administrative agencies are in a position to articulate, ex ante, standards of precaution whose stringency responds appropriately to severe and irreparable injury.

Stringent standards of precaution against irreparable injury are, in fact, prominent features of federal statutes addressing environmental and workplace harms. They are overlooked by philosophically inclined theorists of torts, however, and derided as irrational by law and economics scholars. These stringent standards of precaution deserve both more attention and more respect. Economic analysis condemns them as irrational exercises in preferring states of the world with less wealth—and therefore less in the way of possible welfare—to states of the world with more wealth and more possible welfare. Deontology sees matters differently. When we take the distinctions among persons seriously—and put the relations among persons at the center of our view—we see that harm has a special, negative moral significance and that harm’s avoidance has special priority. Security (or safety) is a kind of Rawlsian primary good; it is an essential condition of effective agency. Unlike financial “losses” and ordinary “costs,” physical harms impair our basic powers of agency. Physical harm diminishes our power to work our wills on the world. Devastating, irreparable injury permanently and profoundly diminishes that power and may even extinguish it entirely. Legal standards that require more than cost-justified precaution respond appropriately—not irrationally—to significant risks of severe and irreversible injury.

**I. The Priority of Avoiding Harm**

In one of his New York Times columns, the economist Paul Krugman remarks that “liberals don’t need to claim that their policies will produce spectacular growth. All they need to claim is feasibility: that we can do things like, say, guaranteeing health insurance to everyone without killing the economy.”[[29]](#footnote-30) Krugman’s belief that providing everyone with health insurance is desirable unless doing so would “kill the economy” expresses a common belief. Some goods should be provided to everyone, even if their provision comes at a cost in economic efficiency. The goods in question are essential to leading decent, independent lives, and their provision therefore has a special priority. Physical safety is, like health, a strong candidate for inclusion on a list of the essential conditions of a decent and independent life. Accidental injury can impair basic powers of agency as much as poor health can. Unsurprisingly, assertions that safety has priority over ordinary “needs and interests” are commonplace in popular discourse. In commenting on self-driving cars, for instance, the editors of *Consumer Reports* remark that they “support any new technology that advances the needs and interests of consumers, but at CR, we’re always going to make safety our priority.” [[30]](#footnote-31)

Because safety has a claim to be an essential condition of effective agency, one might expect to find a vigorous debate in the legal literature on risk and precaution over whether or not safety should be prioritized over efficiency. Prominent federal statutes take this very position, enjoining either that activities be made “safe” or requiring that the risks of certain activities be reduced as far as it is “feasible” to do so. By “feasible” they mean exactly what Krugman means. The risks in question should be reduced as far as possible without “killing the activity” in question.[[31]](#footnote-32) A chorus of contemporary commentators insists, however, that there is no debate to be had. Safety- and feasibility-based risk regulation are simply irrational. Jonathan Masur and Eric Posner, for example, write that feasibility analysis “does not reflect deontological thinking . . . [does not] reflect welfarism in any straightforward sense,” and “no attempt to reverse engineer a theory of well-being that justifies feasibility analysis has been successful.”[[32]](#footnote-33) This criticism of feasibility analysis is a particular manifestation of the general thesis that efficiency is the only plausible standard of precaution, and its handmaiden cost-benefit analysis is “the only game in town for determining appropriate standards of conduct for socially useful but risky acts.”[[33]](#footnote-34)

Professors Masur and Posner’s skepticism that feasibility analysis is a serious alternative to cost-benefit analysis, and Professor Fried’s assertion that cost-benefit analysis is the only game in town when it comes to legal standards governing the appropriate level of precaution, are hardly outlier opinions. Cass Sunstein, easily the most influential American legal academic now writing on risk and precaution, asserts that “[u]ncontroversial” considerations “suggest” that “[i]t is not possible to do evidence-based, data-driven regulation without assessing both costs and benefits, and without being as quantitative as possible.”[[34]](#footnote-35) Cost-benefit analysis is indispensable to thinking rationally about risk and regulation.[[35]](#footnote-36) Unless and until we embrace cost-benefit analysis, our thinking about risk and precaution will be ruled by rank sentimentality and cognitive error. The most recent Supreme Court decision on point asserts that—absent specific statutory instruction to the contrary—regulatory agencies must engage in cost-benefit analysis the moment they contemplate regulating a harmful substance. It is irrational even to *contemplate* reducing harm without considering costs.[[36]](#footnote-37)

Over time, American legal scholars have become ever more strident in their assertions that the only way to think about risk and precaution is through the lenses of cost-benefit analysis. Early in the history of law and economics, Guido Calabresi argued for a capacious approach that sought to incorporate a whole range of values. We should, he wrote, assign special weight to “justice constraints.”[[37]](#footnote-38) For all of Calabresi’s influence and importance, however, in this respect law and economics has not followed in his lead. By the time Louis Kaplow and Steven Shavell published their influential *Fairness versus Welfare*,[[38]](#footnote-39) the law and economics community had largely coalesced around the idea that welfare is the master value and efficiency is its legal expression. Within economics, this consensus is understandable. But there is no reason to think that either economics or some variant of utilitarian consequentialism—the parent philosophy of economic analysis—has a monopoly when it comes to understanding the morality of risk imposition. Non-consequentialist approaches to risk both provide the best framework for making sense of the legal standards that we shall soon examine and are alive and well in philosophical discourse.[[39]](#footnote-40) For example, there are robust philosophical debates over whether contractualism—the most prominent philosophical alternative to consequentialism—can “make the numbers count” in the right way or deal adequately with cases where only future lives are put at risk.[[40]](#footnote-41)

Cost-benefit analysis, conventionally conceived, is not rationality incarnate; it is efficiency embodied. Cost-justified precaution is efficient precaution. It prescribes that risks to health and safety should be managed by minimizing the combined costs of avoiding and suffering the illnesses and injuries in question, thereby maximizing the net benefit that we extract from the activities responsible for the illnesses and injuries at issue. Acting efficiently is, to be sure, presumptively desirable. Efficiency is a value—something whose realization is presumptively good—but acting efficiently is not rationality incarnate. Efficiency is one value among many. Other values also bear on the desirability of various risk-reducing measures. Precautions may be fair or unfair as well as efficient or inefficient; they may respect or disrespect people’s rights; they may enable or disable desirable forms of choice; they may be sensitive or insensitive to the distinctive values realized by some activity (some sport or line of work for instance); and so on.

Efficiency’s relative importance as a value is, moreover, eminently debatable. In lay language, inefficiency is wastefulness. Wasting scarce resources is a bad thing, but it is not the worst thing in the world, and putting resources to their highest uses is not the best thing in the world. The more precise articulation of waste avoidance as wealth-maximization is no doubt useful to the economic analysis of legal regimes, but it does not transform the avoidance of waste into a more important value. As Ronald Dworkin forcefully demonstrated decades ago, wealth itself is not a value.[[41]](#footnote-42) Recognizing this, academic champions of efficiency have come to defend wealth-maximization as a kind of false target for welfare. Within contemporary law and economics, wealth-maximization is the proper end for most legal institutions to pursue, but the value which justifies making efficiency the master criterion for evaluating most legal regimes is welfare.[[42]](#footnote-43) The best division of institutional labor prescribes that legal institutions other than tax ought to maximize wealth, and the tax system ought to (re)distribute wealth in the way prescribed by some preferred social welfare function.[[43]](#footnote-44) Welfare, for its part, is taken to be not only *a* value, but *the* value. Other things are good only insofar as they promote welfare.

The claim that welfare is the master value by which all laws and institutions are to be measured is plausible, but it is hardly uncontroversial. Philosophical and political liberalism have long denied that welfare is a master value and have long asserted that values are irreducibly plural.[[44]](#footnote-45) Liberalism supposes that people have their own diverse conceptions of happiness and that the pursuit of those conceptions is best left to persons themselves. People, not the state, are primarily responsible for their own welfare. The basic role of the state, on a liberal view, is to establish the institutional and material conditions of effective agency so that people may pursue happiness as they conceive it. Securing the conditions of effective agency is a matter of justice, and the claims of justice have priority over the claims of efficiency. This is hardly a novel thought. Indeed, this claim is asserted by the most prominent liberal theory of justice of the past century.

Safety is a natural candidate for special priority. We don’t need to invoke efficiency to explain why we want our cars, our schools, our air, and our drinking water to be safe. Safety secures the physical and psychological integrity of our persons and that integrity is a precondition of effective agency. Safety thus has a claim to being especially important, and its special importance presumably means that it is worth securing at some cost in economic efficiency. Because our legal and political discourse is divided between competing moral conceptions—so that efficiency is not universally regarded as the master value for all law and public policy—it is surprising to be told that cost-benefit analysis is the only game in town. Cost-benefit analysis expresses one point of view, not the only possible point of view. Philosophical and political liberalism expresses another point of view, one that gives us presumptive reason to suppose that standards of precaution should prioritize safety. Moreover, standards of precaution other than cost-benefit analysis are common in our law.Federal statutory standards governing health, environmental, and safety regulation often insist that some activity be made “safe” or that some risks be reduced to the point where further reduction would be “infeasible.” The only question is whether theory and practice are in harmony.

Champions of cost-benefit analysis are correct on their own terms. Within the framework of cost-benefit analysis, taking more than cost-justified precaution is flatly irrational. However high a price we set on avoiding serious physical injury, illness, and premature death, we should still trade the benefits of averting those harms off against the costs of obtaining them in a way that maximizes benefit and minimizes costs. When we press beyond the point of cost-justified precaution, the cost of avoiding harm is greater than the benefit of doing so. Taking more than efficient precaution makes us less wealthy. That squandering of wealth diminishes the pool of resources available to us to pursue social welfare. However, the terms according to which inefficient precaution is irrational precaution are themselves suspect. Cost-benefit analysis insists that all good and bad things are fungible at some ratio of exchange. This assertion depends on the deeper claim that welfare is the only value, and that welfare can and should be measured in the metric of money. Our law and our morality contradict these claims. The asymmetry of harm and benefit is a firmly entrenched feature of both law and morality, and common sense moral conviction holds that the avoidance of harm does and should have special priority.[[45]](#footnote-46) Liberal deontology explains why this entrenchment is not irrational but justifiable.

The supposition “at the heart of deontological (or non-consequentialist)” moral theory is that the “‘subject matter of morality is not what we should bring about, but how we should relate to one another.’”[[46]](#footnote-47) On a deontological view, both the distinction between persons and the relations among persons are central. The fundamental moral questions posed by issues of risk and precaution are questions about what people owe to each other. This question is a coin with two sides. One side of the coin is what people owe to one another in the way of freedom to impose risks of harm on each other so that we may each have the freedom we need to pursue the ends we regard as worth pursuing. The flip side of the coin is what people owe to one another in the way of precaution to reduce risks of harm at each other’s hands. To lead valuable lives, we need both the freedom to impose risks of harm on others and security from harm at each other’s hands. Questions about risk and precaution are questions about the terms of just interaction among equal and independent persons. Cost-benefit analysis places end-states of the world in which costs are minimized, wealth is maximized, and the good of welfare is most effectively pursued, at the center of its consciousness. Deontology puts the claims of persons—abstractly conceived as representative members of classes of potential injurers and victims—at the center of its thinking.

Putting persons and their essential interests as agents in the moral foreground casts the harm-benefit asymmetry in a favorable light. When we focus on the essential conditions of effective agency, harms and benefits are not symmetrically important. Physical harms—death, disability, disease, and the like—rob us of normal and foundational powers of action. They are bad for us no matter what our ends. Few benefits, by contrast, comparably augment our basic powers of agency. The value of a benefit turns on whether it does or does not further the ends of the person in question. Whereas physical harm is usually bad for people because it impairs basic powers of agency that enable us to pursue a wide variety of ends, the value of any given benefit is usually contingent on the aims and aspirations of the person on whom the benefit is conferred. Extraordinary hand-eye coordination is indispensable for an elite tennis player but largely wasted on a law professor. A talent for abstract mathematical thinking is immensely valuable to a physicist but of little value to a woodworker. Unsought benefits, moreover, usually diminish our autonomy by imposing upon us. Benefits thrust upon us in the name of our own welfare can be positively disempowering.

Because serious physical harm severely impairs basic powers of human agency—whereas most benefits do not comparably enhance our powers of agency—we have reason to assign special priority to the avoidance of harm. Because deontology takes persons and their claims against one another to be the fundamental concern of morality—and because liberal deontology makes the conditions of effective agency a concern of the state—the framework brings the special badness of harm into focus. Physical harm is something that happens *to people*. Because we are physically embodied agents, bodily harm is presumptively—and especially—bad for us. It cripples capacities and powers on which the pursuit of all our ends depend. The welfarist underpinnings of cost-benefit analysis, by contrast, obscure harm’s special significance because they treat harm as just another cost in an overall calculus of social goods and bads. Our law is torn between standards of cost-justified precaution and norms of safe and feasible precaution because our law is torn between two moral outlooks. So, too, is our moral consciousness. That deep division cannot be made to go away by asserting falsely that a broadly utilitarian outlook is the only one available.

The next section of this paper summarizes the “safety,” “feasibility,” and cost-justification standards of precaution and shows that they are all extant in our law. A very brief concluding section explains why direct risk regulation prescribing safe or feasible precaution shoulders a responsibility that tort law assumes but cannot discharge.

**II. Three Standards of Precaution**

In legal discourse, the claim that cost-benefit analysis is the only plausible way to think about risk and precaution is articulated as a criticism of two other standards of precaution—namely, the “safe-level” and “feasibility” standards.[[47]](#footnote-48) Federal statutory standards governing health, environmental, and safety regulation often insist that some activity be made “safe,” or that some risk be reduced to the point where further reduction would be “infeasible.” The regulation of air, food, and water quality is the principal habitat of the “safe-level” standard, and the regulation of occupational health and safety is the principal habitat of the feasibility standard. The three standards identify distinct levels of permissible risk imposition. Normally, they stand in linear, vertical relation to one another, with the safety standard tolerating the least risk and the cost-justification standard tolerating the most.[[48]](#footnote-49)

1. *Safe, Feasible and Cost-Justified Precaution*

The two standards of most interest to us—the safety and feasibility standards—deploy a relatively well-integrated set of concepts. The concepts of “safe level,” “feasible risk reduction” and “significant” risk that form the core of both statutory standards are terms of art. The feasibility standard, for its part, is further broken down into technological and economic prongs. The legal regimes that the standards establish need to be understood in terms of these concepts; in relation to one another; in relation to the idea of cost-justified risk reduction; and in light of their usual domains of application.

1. The Safe-Level Standard

The Food Quality Protection Act of 1996 embodies the safe-level standard.[[49]](#footnote-50) It requires that pesticide residue on fresh and processed foods be reduced to a “safe” level.[[50]](#footnote-51) “Safe,” in turn, means “there is reasonable certainty that no harm will result from aggregate exposure to the pesticide chemical residue, including all dietary exposures and all other exposures.”[[51]](#footnote-52) This standard is made even more stringent by instructions to regulators to set limits that provide for an additional margin of safety in light of the special susceptibility of infants and children to harm from toxic substances.[[52]](#footnote-53) Pesticide residue on food is thus acceptable only to the extent that it is reasonably certain to harm no one—not even those unusually vulnerable to harm. Applying the safe-level standard therefore does not require any inquiry into the costs of risk reduction. All that it requires is a determination of the level at which the risk created by exposure to the regulated substance ceases to be significant.

Among the three standards, the safe-level standard tolerates the least risk. Safety-based regulations require risk to be reduced to a point where no “significant risk” of devastating injury remains. This may well require moving *beyond* the point of cost-justified precaution (and beyond the point of feasible precaution, too). If efficient precaution is taken and significant risk still remains, the safe-level standard requires further reduction.[[53]](#footnote-54) The standard may therefore require precaution that presses beyond the point of maximum net benefit, as cost-benefit analysis conceives that point.

1. The Feasibility Standard

The feasibility standard is at least as salient in federal risk regulation as the “safe-level” standard. The Clean Air Act, for example, provides that standards for hazardous air pollutants “shall require the maximum degree of reduction in emissions” that the EPA, “taking into consideration the cost of achieving such emission reduction” determines to be “achievable.”[[54]](#footnote-55) Feasible risk reduction does not require the elimination of all significant risk. It is less stringent than the safety standard, but generally more stringent than cost-justified precaution. Feasible precaution calls for reducing an activity’s risks as far as possible consistent with the long-term flourishing of the activity. Because it requires that significant risks be reduced until either (1) they are insignificant, or (2) further reduction would jeopardize the long-run health of the activity whose risks they are, feasible risk reduction may require pressing precaution beyond the point where a dollar more spent on the prevention of harm yields more than a dollar’s worth of harm prevented, and to the point where further risk reduction would endanger the activity.

1. The Cost-Benefit Standard and Its Claims

The basic idea of cost-justified risk imposition is easy to state, perhaps deceptively so. Cost-justified precaution requires risks to be reduced to the point where the costs of further precautions exceed their benefits. Cost and benefit, for their part, are all-encompassing concepts. In a well-known defense of cost-benefit analysis, the economist Robert Solow explained that “the cost of the good thing to be obtained is precisely the good thing that must or will be given up to obtain it.”[[55]](#footnote-56) “Cost,” then, is anything given up to obtain something else. “Benefit” is the flip side of the coin—anything worth attaining whose attainment requires giving something up. An ideal cost-benefit analysis takes all costs and all benefits into account and identifies the point at which costs and benefits are balanced so that net benefit is maximized. In practice, almost all cost-benefit analyses take more restricted sets of costs and benefits into account. In the context of accidental injury, for example, the criterion of cost-justification is usually said to require minimizing the “sum of precaution, accidental harm, and administration costs.”[[56]](#footnote-57) For present purposes it will do to say that cost-justified precaution holds that risk should be reduced to the point of maximum net benefit, economically conceived. That point is the point at which a dollar more spent avoiding harm yields less than a dollar’s worth of harm avoided. In general, cost-justified precaution is the least stringent of the three standards of precaution.

1. *Do the Standards Really Identify Different Levels of Precaution?*

The safety and feasibility standards were born in the 1960s and 70s, in the last great flowering of liberal legal reform. They were and are championed by political liberals. They have their roots in the founding of the Environmental Protection Agency in 1970 and the Occupational Health and Safety Administration in 1971. They dominated the regulatory landscape into the 1980s, and they received important legislative reaffirmation during the 1990s—as the Food Quality Protection Act of 1996 itself shows.[[57]](#footnote-58) Early in the 1980s, however, the political right began championing cost-benefit analysis and cost-justified precaution as its preferred alternative to safe and feasible risk-reduction. In 1982, the Reagan Administration put into place an executive order requiring cost-benefit analysis for all “significant” federal regulations unless conducting such analysis was prohibited by law—if, for example, the authorizing statute itself forbade consideration of cost.[[58]](#footnote-59) Since the early 1980s, the two approaches have been engaged in a prolonged tussle.

This tussle is worth continuing only if the standards really do identify different levels of required precaution. It is plain from what has been said so far that the standards express different normative judgments. The following examples show, I hope, that these three standards identify different levels of precaution in important cases. The circumstances to which the safety, feasibility and cost-justification standards apply in the examples that I have chosen differ from the circumstances contemplated by federal health and safety statutes in some ways. The differences in circumstances of application, however, no doubt has its disadvantages, but it also has an advantage. The three standards of precaution are discernible across domains, notwithstanding the ways in which they are reshaped by the demands of different institutional domains. Their persistence across diverse contexts suggests that the normative convictions they express are robust.

1. The Safety Standard: Consumer Expectations

In the United States, the two most common tests of product design defectiveness are the risk-utility test and the consumer-expectation test. Law and economics scholars usually take the risk-utility test to be an application of cost-benefit analysis to product design.[[59]](#footnote-60) By contrast, in some applications, the consumer-expectation test works as a “safe-level” standard. Whereas the risk-utility test focuses on product design from the perspective of a product engineer, the consumer-expectation test focuses on product performance from the perspective of the user. Sometimes people expect products to be safe—not perfect, but safe. And sometimes a product which passes muster under the risk-utility test is not safe. *Green v. Smith & Nephew AHP, Inc.,*illustrates this kind of circumstance nicely.[[60]](#footnote-61) Plaintiff Green worked as a medical technologist in a hospital.

Her job required her to wear protective gloves while attending patients, up to 40 pairs of gloves per shift. She wore powdered latex gloves manufactured by [the defendant. After a period of prolonged use] Green experienced increasingly severe health problems – cold-like symptoms, wide-spread rash, acute shortness of breath. She was hospitalized four times. In 1991 Green was diagnosed with latex allergy. Given her allergy, Green must avoid contact with latex. So she had to change jobs and must limit the items she buys, things she eats, and activities she pursues. On account of the allergy, Green developed asthma.[[61]](#footnote-62)

Exposure to latex proteins “sensitizes” some people to latex. Subsequent exposure of a sensitized person to latex may produce progressively worse allergic reactions including irreversible asthma and life-threatening anaphylactic shock (which Green suffered). Since latex allergy is caused mainly by use of latex gloves, it disproportionately afflicts health care workers. According to the evidence that Green put on at trial, the frequency of latex allergy among health care workers in the United States is 5 to 17 percent. At the time that Green became sensitized to latex the medical community was unaware of the possibility of latex allergy. Because latex allergy was unknown until the use of latex gloves became widespread, if Green’s claim were judged by the risk-utility test it would most likely have failed.[[62]](#footnote-63) The cost of discovering the defectiveness of latex gloves years before that defect manifested itself in health injuries to regular users was surely high. Indeed, it might have been impossible to discover the hazardous effects of long-term use of latex gloves in any way other than through widespread use of such gloves over a prolonged period of time.

When Wisconsin evaluated the gloves under the consumer expectation test, however, the plaintiff’s claim prevailed. The consumer-expectation test measures product defectiveness by asking if a product is “dangerous to an extent beyond that which would be contemplated by the ordinary consumer.”[[63]](#footnote-64) That defendant’s latex gloves were defective under the expectation test seemed self-evident to the court. The users of defendant’s gloves reasonably expected that they would not suffer injury from normal use of the product. Consequently, the court did not bother to state the relevant expectation precisely.[[64]](#footnote-65) It does not seem difficult, however, to do so. All of us reasonably expect that wearing ordinary clothing will not put us at significant risk of serious physical harm. Analogously, health care workers in Green’s position reasonably expect that wearing protective gear would not put them at *significant* risk of disabling physical harm.

Generalizing, we may say that clothing is a simple and familiar example of a product that we normally expect to be safe. In saying that, we mean that we believe that the clothes we ordinarily wear do not put us at significant risk of physical harm. The question of whether this expectation is cost-justified never arises.

1. The Feasibility Standard: Rescues

The literature on “statistical lives” is haunted by the apparent irrationality of many rescues.[[65]](#footnote-66) Money seems no object when miners are trapped in a mine, or when children are trapped in a burning building. From an economic perspective this seems foolish and extravagant. The rational way to budget our “rescue money” is to spend it in the way which maximizes the number of lives saved with the least sacrifice of other objectives. Lives are lives and the extra money spent rescuing identified persons might be better spent on safety measures that would save more lives. This, of course, is simply an application of the standard argument for cost-justified precaution to the special case of rescues.[[66]](#footnote-67) When actual lives are endangered, however, we think it would be unseemly, and probably morally wrong, to undertake a cost-benefit analysis of the value of the lives at stake and the cost of saving them. We rescue the victims if we can, and rescuers often take great risks upon themselves in the course of rescues and attempted rescues.[[67]](#footnote-68) Generally speaking, our rescue practices appear to be governed by a norm of feasibility not by a norm of efficiency. A particularly striking case in point is the military tradition of undertaking rescues to recover the *corpses* of slain soldiers. In the introduction to his book on the American war in Vietnam, Philip Caputo observed:

Two friends of mine died trying to save the corpses of their men from the battlefield. Such devotion, simple and selfless, the sentiment of belonging to each other, was the one decent thing in a conflict noted for its monstrosities.[[68]](#footnote-69)

It is hard to believe that the actions Caputo so admires were cost-justified. Losing a life to save a corpse seems like a bad trade. But it also seems correct to say that the economic mind set of cost-benefit analysis is out of place here. There is something morally grotesque about trying to figure out if losing one’s life trying to rescue a corpse is a potential Pareto-improvement or not. Rescuing the bodies of one’s fallen comrades is about solidarity and sacrifice, not about improving one’s own welfare. It is about the realization of values taken to be of paramount importance. Therein lies its rationality.

The rescue of corpses on the battlefield is, of course, an extreme example, but it teaches important lessons about less extreme cases. For one thing, all rescues involve the affirmation of a common value. Solidarity is the word—and the value—that comes to mind. The plight of trapped miners differs from the plight of fallen comrades, but it too implicates solidarity. We are all vulnerable to accidents and premature death. Honoring the value of solidarity does not deny the value of efficiency; it merely asserts that solidarity matters more in the general context of rescues. In the very special context of the military, solidarity is even more important. The goods intrinsic to military excellence can only be realized if solidarity is valued very highly. There is nothing irrational about this. It is eminently rational to believe that some very valuable human goods cannot be realized unless we recognize that “no man is an island,” and when the bell tolls for one of us, it tolls for all of us.

It is, no doubt, romantic to extend the ideal of solidarity from the battlefield to the ordinary workplace, but it is also a mistake not to recognize that even military rescues are governed by a standard of feasibility. It is heroic to attempt to recover the bodies of your fallen comrades only if there is some chance of succeeding. Without that possibility, an attempted rescue may be foolish or tragic (or both), but it is not noble or heroic. Rescue is governed by a norm of possibility.

1. Cost-Justification and Commensurability: Private Necessity

The flip side of the coin that cost-justified precaution is *not* the proper principle for regulating serious harms to persons is that the criterion of cost-justification *is* a proper criterion for regulating harm to goods which are fungible and replaceable. The doctrine of private necessity, articulated in the famous case of *Vincent v. Lake Erie*, illustrates this point nicely.[[69]](#footnote-70) There are two issues in *Vincent*. The first is whether the ship owner should be given a privilege to tie up at the plaintiff’s dock in order to avoid near certain destruction at the hands of a sudden and fierce winter storm. The second is whether such a privilege should be conditional. If the privilege is conditional, the defendant must make good any harm that it does to plaintiff’s dock in the course of saving its ship. The court answers both questions affirmatively.

*Vincent* is a case where efficient precaution is the proper standard of precaution. The dock and the ship are fungible pieces of property. Their value is their use or consumption value. Moreover, the metric of money is well-suited to measuring both the damage done by bashing the dock and the damage avoided by keeping the ship out of the storm. The rational course of action in *Vincent* is to minimize combined harm and maximize combined benefit. Additionally, the question of who should bear the cost of the ship’s salvation—the ship owner or the dock owner—can be addressed after the harm has been done. The court concluded (rightly, I think) that fairness required the ship owner to bear the costs of its ship’s salvation. That fair distribution could be effected after the dock was damaged simply by requiring the defendant to pay appropriate money damages to the plaintiff. Matters are different when serious harm to persons is involved because such harm is not fully repairable. Fairness must be done *ex ante*.

The standards applied in these examples value the avoidance of harm differently. The application of the consumer-expectation test to latex gloves in *Green* is the most stringent. *Significant* risk of harm to normal users is unacceptable. Latex gloves are defective because they precipitate severe allergic reactions in a significant number of users. By contrast, the basic commitment of the feasibility standard in rescue cases is “save life if it is possible to do so.” The norm of cost-justification, implicit in *Vincent*, assigns no priority to avoiding harm. It trades harm off against other goods in a way which maximizes net benefit. In short, the safety standard insists on the lowest level of risk; the cost-justification standard accepts the highest level; and the feasibility standard falls in the middle. None of the standards insists on absolute safety. All three standards specify permissible tradeoffs. They vary significantly, however, in the tradeoffs that they license.

**IV. Repairing the Law of Torts**

Taking the distinction between persons and the priority of avoiding harm seriously—and situating them within the larger philosophical framework where they are at home—puts us in a position to understand the logic at work in the safety and feasibility norms. Health and physical integrity are kinds of primary goods. Safety secures the physical integrity of the person against harm. Values, for their part, are plural and incommensurable. The point of protecting the essential conditions of agency for each person is to enable people to shape their own lives in accordance with their aspirations. Within a framework that prioritizes the protection of each person’s essential interests, the attraction of the “safety” norm is evident enough. Just as efficient precaution is the first-best standard of precaution from the point of view of economic theory, “safety” is the first-best standard of precaution from the point of view of a deontological political morality that seeks to establish the terms of fair interaction for equal, independent persons with separate lives to lead and diverse ends to pursue. Safety, like health, is a precondition of effective agency, and the best social world is a social world that is safe for everyone. The “safety” and “feasibility” standards are thus justified alternatives to efficient precaution. Cost-justified precaution goes awry both in treating harms and benefits as symmetrically important, and in modeling social choice on individual choice. When physical harm is at issue, treating costs and benefits as symmetrically important fails to register the fact that physical harm impairs basic powers of agency. Most benefits, by contrast, do not comparably enhance those powers. And, when some people have their lives devastated by harms issuing out of risk impositions—while others profit from the imposition of those very same risks—it is a mistake to model social choice on individual choice. We must take the distinction between persons seriously and adopt principles which are justifiable from the standpoints of both the potential victims and the potential beneficiaries of the risk impositions in question.

Direct regulation of risk, for its part, repairs a defect in the law of torts. Tort is a reparation system, but few serious harms can be fully repaired. Even when shattered limbs or lives heal as fully as possible “there is almost always pain and inconvenience involved,” and we cannot either erase that pain and inconvenience or return them to the person responsible for their infliction.[[70]](#footnote-71) The more serious the harm, the less that tort can do to undo its effects. No amount of money can restore a parent—shattered by witnessing the negligent killing of their child—to the life that they once had. Creative as the common law of torts is, it reaches the limits of its powers of repair when wrongful conduct results in death. Tort does not even attempt to compensate the victims of wrongful death for the value to them of the lives that they have lost. Compensation is simply impossible. And because tort does not propose to compensate, it can neither effect the deterrence that economics expects from it nor accomplish the repair that corrective justice theorists think is its *raison d’etre*.

The law of torts thus fails in the face of the harm that we have most reason to avoid. The law of torts is incomplete, and seriously so. Direct regulation of risk discharges a responsibility that tort law shoulders but cannot wholly fulfill. To respond properly to the fact that safety is a kind of primary good whose provision takes priority over ordinary goods, direct regulation of risks of severe and irreparable injury must require more than cost-justified precaution. Consequently, standards of safe and feasible precaution are not sentimental exercises in economic irrationality, but important and credible attempts to establish one of the conditions necessary for equal and independent persons to exercise their agency effectively, and to pursue the ends, aspirations, and values that give meaning to their lives.

1. William T. Dalessi Professor of Law and Philosophy, USC Gould School of Law, Los Angeles, CA 90089. [↑](#footnote-ref-2)
2. See Gregory C. Keating, The Priority of Respect Over Repair, 18 Legal Theory 293 (2012). [↑](#footnote-ref-3)
3. See *e.g*., H.LA. Hart, Commands and Authoritative Reasons in Essays on Bentham, 243, 254 (1982) (explaining that the law’s coercive mechanisms and their incentivizing effects “are secondary provisions for a breakdown in case the primary intended peremptory reasons are not accepted [or treated] as such”). [↑](#footnote-ref-4)
4. John Gardner, Torts and Other Wrongs, in Torts and Other Wrongs 1, 10 (2019).Pride of place is not sole and despotic dominion; other remedies are sometimes available. Importantly, injunctive relief is exceptional. Injunctions are sometimes available in exceptional cases involving property torts, dignitary torts, and constitutional torts. See Dan B. Dobbs, Paul T. Hayden, & Ellen M. Bublick, Hornbook on Torts 851 (West, 2nd ed. 2016).  [↑](#footnote-ref-5)
5. See *e.g.*, Keel v. Banach, 624 So.2d 1022, 1029 (Ala. 1993). Compare Porter v. City of Manchester, 849 A.2d 103, 118-19 (N.H. 2004) (“The usual rule of compensatory damages in tort cases requires that the person wronged receive a sum of money that will restore the person as nearly as possible to the position he or she would have been in if the wrong had not been committed.”). [↑](#footnote-ref-6)
6. Douglas Laycock, The Death of the Irreparable Injury Rule, 103 Harv. L. Rev. 687, 703 (1990). [↑](#footnote-ref-7)
7. Scott Hershovitz, Corrective Justice for Civil Recourse Theorists, 39 Fla. St. U. L. Rev. 107, 110 (2011). [↑](#footnote-ref-8)
8. See *e.g.*, Restatement (Third) of Torts: Liability for Physical and Emotional Harm §§ 4 & 6 (defining physical harm as impairment of one’s body or property and explaining that, in general, physical harm is a predicate for a negligence claim). For exceptions see Dobbs 2016, at 667-750. [↑](#footnote-ref-9)
9. As in Davis v. Consolidated Rail Corp., 788 F.2d 1260 (7th Cir. 1986). [↑](#footnote-ref-10)
10. See generally, Sean Williams, Self-Altering Injury: The Hidden Harms of Hedonic Adaption, 96 Cornell L. Rev. 535 (2011). [↑](#footnote-ref-11)
11. See generally, Margaret Jane Radin, Property and Personhood, 34 Stan L. Rev. 934 (1982). [↑](#footnote-ref-12)
12. Restatement (Second) of Torts § 903 cmt. a, (1979). See also, Zibell v. S. Pac. Co, 116 P. 513, 50 (Cal. 1911) (quoting Heddles v. Chi & Nw. Ry., 42 N.W. 237 (Wis. 1889)) (“No rational being would change places with the injured man for an amount of gold that will fill the room of the court . . .”) The incommensurability of money damages and harm is most vivid when death is the harm. “The death of a family member, particularly a child, involves inconsolable grief for which no amount of money damages can compensate. Counsel’s suggestion that the Roberts [family] would not have traded Michael’s life for $10,000,000 is entirely accurate—but they would also not have traded Michael’s life for $100,000,00 or even a 1,000,000,000.” Roberts v. Stevens Clinic Hosp., Inc. 176 W.Va. 492, 499 (1986). For perceptive discussion see Mark Geistfeld, The Principle of Misalignment: Duty, Damages, and the Nature of Tort Liability, 121 Yale L.J. 142, 161-64 (2011). Geistfeld draws heavily on Laycock 1990. [↑](#footnote-ref-13)
13. See Margaret Jane Radin, Compensation and Commensurability, 45 Duke L.J. 36 (1993); Hershovitz 2011. See also Restatement (Second) of Torts § 903 cmt. a (1979) (damages for pain, humiliation, harm, “give to the injured person some pecuniary return for what he has suffered or is likely to suffer.”) [↑](#footnote-ref-14)
14. See Grimshaw v. Ford Motor Co., 174 Cal. Rptr. 348, 388-89 (Cal. App. 1981) (concluding that punitive award of $3.5 million was not excessive in light of Ford’s “conscious and callous disregard of public safety” and “tortious conduct endanger[ing] the lives of thousands of Pinto purchasers”). See also Geistfeld 2011, at 165-69 (discussing how punitive damages can provide potential tortfeasors with incentives to discharge their duties of care with great diligence). [↑](#footnote-ref-15)
15. Richard A. Posner, A Theory of Negligence, 1 Journal of Legal Studies 29, 92 (1972). [↑](#footnote-ref-16)
16. Geistfeld 2011, at 145. [↑](#footnote-ref-17)
17. Id. [↑](#footnote-ref-18)
18. Wex Malone, The Genesis of Wrongful Death, 17 Stan. L. Rev. 1043, 1044 (1965). [↑](#footnote-ref-19)
19. See *e.g.*, Andrew J. McClurg, Dead Sorrow: A Story About Loss and a New Theory of Wrongful Death Damages, 85 B.U. L. Rev. 1, 6-7, 20-22 (2005) (the decedent’s loss of enjoyment of life is not compensable in the vast majority of jurisdictions). Courts are well aware of this fact and its significance. See *e.g.*, Acosta v. Honda Motor Co., Ltd, 717 F.2d 828, 837 (1983) **(**“[C]ompensatory damages may prove an inadequate deterrent even when victims do bring suit. Current doctrine does not for example, allow the estate of a decedent killed by a defective product to recover the value of the life to the decedent himself, recovery is instead limited to the pecuniary loss to those immediately surrounding the decedent.”) Quiroz v. Seventh Ave Center, 140 Cal.App.4th 1256, 1264 (2006) (citations omitted) observed “At common law, personal tort claims expired when either the victim or the tortfeasor died. Today, a cause of action for wrongful death exists only by virtue of legislative grace. The statutorily created ‘wrongful death’ cause of action does not effect a survival of the decedent’s cause of action. [Instead,] it gives to the representative a totally new right of action, on different principles.” [↑](#footnote-ref-20)
20. Malone 1965, at 1044. [↑](#footnote-ref-21)
21. The history of wrongful death is recounted in Malone 1965 and John F. Witt, From Loss of Service to Loss of Support: The Wrongful Death Statutes, the Origins of Modern Tort Law, and the Making of the Nineteenth Century Family, 25 Law and Soc. Inquiry 717, 733-37 (2000). [↑](#footnote-ref-22)
22. Dobbs 2016, at 686. “Survival statutes provide for the survival of whatever tort cause of action the deceased herself would have had if she had been able to sue at the moment of her death.” (Defining survival statutes). “Wrongful death statutes, by contrast, create a new action in favor of certain beneficiaries who suffer from another’s death.” (Defining wrongful death statutes and contrasting them with survival statutes). [↑](#footnote-ref-23)
23. Dobbs 2016, at 686. “In the latter half of the 19th century, following the lead of . . . Lord Campbell’s Act, the American states addressed the problem by legislation which remains the source of almost all rights arising out of a person’s death.” [↑](#footnote-ref-24)
24. Dobbs 2000, at 686. [↑](#footnote-ref-25)
25. Otani v. Broudy, 59 P.3d 126, 129 (Wash Ct. App. 2002). See also Keene v. Brigham & Women’s Hosp., Inc., 775 N.E.2d 725, 739 (Mass. App. Ct. 2002) (concluding that there should be no award of damages for loss of enjoyment of life when the “plaintiff lacks the cognitive awareness of his loss”), modified on other grounds, 786 N.E.2d 824 (Mass. 2003);Dan B. Dobbs, Law of Remedies: Damages, Equity, Restitution 678 (3d ed. 2018) (noting that “[c]ourts have rejected a pain and suffering claim when the plaintiff is not aware of pain, as where he is comatose” (citing Leiker v. Gafford, 778 P.2d 823 (Kan. 1989)). [↑](#footnote-ref-26)
26. Mattyasovszky v. West Towns Bus Co., 61 Ill.2d, 31, 38 (1975). The remark is made in a dissenting opinion which would have upheld the award of punitive damages that he majority overturned. [↑](#footnote-ref-27)
27. See Geistfeld 2011, at 159-60. Richard Pierce, Jr. Encouraging Safety: The Limits of Tort Law and Government Regulation 33 Vand. L. Rev. 1281, 1290-95 (1980) perceptively discusses how the tort law of wrongful death is constructed in such a way that it grievously undercompensates in cases of child victims. [↑](#footnote-ref-28)
28. Geistfeld 2011, at 165-69. Erik Encarnacion, Resilience, Retribution, and Punitive Damages, 100 Tex. L. Rev. (forthcoming 2021) (SSRN manuscript at 5-6), https://ssrn.com/abstract=3859554. [↑](#footnote-ref-29)
29. Paul Krugman, Mornings in Blue America, New York Times (Mar. 27, 2015). [↑](#footnote-ref-30)
30. How Safe is Safe Enough? (discussing autonomous vehicles), Consumer Reports p. 15 (Apr. 2017). [↑](#footnote-ref-31)
31. See, infra Section II.B. [↑](#footnote-ref-32)
32. Jonathan S. Masur & Eric A. Posner, Against Feasibility Analysis, 77 U. Chi. L. Rev. 657, 707, 709 (2010). [↑](#footnote-ref-33)
33. Barbara Fried, The Limits of a Nonconsequentialist Approach to Torts, 18 Legal Theory 231, 231 (2012). [↑](#footnote-ref-34)
34. Cass R. Sunstein, Humanizing Cost-Benefit Analysis, Remarks Prepared for American University’s Washington College of Law Administrative Law Review Conference, 13, 20 (Feb. 17, 2010) (“it would be premature to say that CBA has received the kind of social consensus now commanded by economic incentives and deregulation of airlines, trucking and railroads. I believe that CBA should command such a consensus, at least as a presumption, and that the presumption in favor of CBA should operate regardless of political commitments.”). See also, Cass R. Sunstein, The Cost-Benefit State ix, 19 (ABA, 2003); Cass R. Sunstein, The Real World of Cost-Benefit Analysis: Thirty-Six Questions (And Almost as Many Answers), 114 Colum. L. Rev. 167 (2014); Cass R. Sunstein, Thanks, Justice Scalia, for the Cost-Benefit State, Bloomberg Opinion, 19 (Jul. 7, 2015) (praising the Supreme Court’s decision in *Michigan v. EPA* “as a ringing endorsement of cost-benefit analysis by government agencies”). [↑](#footnote-ref-35)
35. See Cass R. Sunstein, Risk and Reason: Safety, Law, and the Environment 7 (Cambridge, 2002). [↑](#footnote-ref-36)
36. See Michigan v. EPA, 135 S.Ct. 2699, 2707-08 (2015). [↑](#footnote-ref-37)
37. Guido Calabresi, The Costs of Accidents, esp. at 24-26 (Yale, 1970). See also Guido Calabresi, An Exchange: About Law and Economics: A Letter to Ronald Dworkin, 8 Hofstra L. Rev. 553 (1980) and Ronald Dworkin, Why Efficiency? – A Response to Professors Calabresi and Posner, 8 Hofstra L. Rev. 563 (1980). [↑](#footnote-ref-38)
38. Louis Kaplow & Steven Shavell, Fairness Versus Welfare (Harvard, 2002). [↑](#footnote-ref-39)
39. See especially, John Oberdiek, Imposing Risk: A Normative Framework (Oxford, 2017). [↑](#footnote-ref-40)
40. The contemporary debate arises out of Scanlon’s discussion of aggregation in T.M. Scanlon, What We Owe to Each Other 229-41 (Harvard, 1998). For an instructive recent discussion see Johann Frick, Contractualism and Social Risk, 43 Philosophy and Public Affairs 175 (2015). Professor Fried is an important contributor to this debate. See Barbara Fried, Can Contractualism Save Us From Aggregation?, 16 Journal of Ethics 39 (2011). [↑](#footnote-ref-41)
41. Ronald Dworkin, Is Wealth a Value?, 9 J. Leg. Stud. 191 (1980). [↑](#footnote-ref-42)
42. Kaplow and Shavell 2002 assumes both that welfare is the touchstone of economic analysis and that welfare is the only ultimate value. Most proponents of cost-benefit analysis identify it as welfarist. See *e.g.*,Michael A. Livermore & Richard L. Revesz, Rethinking Health-Based Environmental Standards and Cost-Benefit Analysis, 46 Environmental Law Reporter 10674, 10675 (2016). (“Cost-benefit analysis . . . places both costs and benefits along a common metric and supports the standard that maximizes net benefits (the difference between benefits and cost). As practiced in the United States . . . cost-benefit analysis is grounded on a welfare economic conception of social good . . . .” ); Peter Schuck, Why Government Fails So Often: And How it Can Do Better 45 (Princeton, 2014) (“CBA is a welfarist decision-making tool, focusing on the actual consequences of policies for human well-being.”). [↑](#footnote-ref-43)
43. Louis Kaplow & Steven Shavell, Why the Legal System is Less Efficient than the Income Tax in Redistributing Income, 23 J. Legal Stud. 667 (1994);Should Legal Rules Favor the Poor?, 29 J. Legal Stud.821 (2000). [↑](#footnote-ref-44)
44. For discussion of the diversity of valuable things and criticism of the idea that welfare is a master value, see Scanlon 1998, at 79-143. [↑](#footnote-ref-45)
45. Seana Shiffrin, Harm and its Moral Significance, 18 Legal Theory 357 (2012). [↑](#footnote-ref-46)
46. Rahul Kumar, Contractualism on the Shoal of Aggregation, in Reasons and Recognition: Essays on the Philosophy of T.M. Scanlon 129, 150 (R. Jay Wallace, Rahul Kumar, and Samuel Freemaneds., Oxford, 2011) (quoting Christine Korsgaard, The Reasons We Can Share: An Attack on the Distinction Between Agent-Relative and Agent-Neutral Values, 10 Social Philosophy and Policy 24 (1993)). [↑](#footnote-ref-47)
47. Michael A Livermore & Richard L. Revesz, *Rethinking Health-Based Environmental Standards and Cost-Benefit Analysis*, 89 N.Y.U. L. Rev. 1184 (2014) refers to what I call “safe level” analysis as “health-based analysis.” I shall sometimes refer to the “safe-level” standard as the “safety” standard. [↑](#footnote-ref-48)
48. It is debatable whether this relation is necessary. Arguably, there are circumstances where it is not cost-justified to engage in an activity in the first place and where the activity is also governed by feasibility analysis. In this circumstance, feasible precaution will be less protective of safety than cost-justified precaution. None of the circumstances discussed in this paper fit this template. Examples that might fit the template involve freely chosen, but very risky activities. Some people might argue that it is foolish to engage in some such activity (e.g., in “free solo” rock climbing). At the same time, it will be true that the risks of such activities cannot be reduced to insignificance because that would destroy the value of the activity. [↑](#footnote-ref-49)
49. The Food Quality Protection Act of 1996, Pub. L. No. 104–170, 110 Stat. 1489 (codified as amended at 7 U.S.C. § 136, and in scattered sections of 21 U.S.C. (2000)). Clean air statutes also incorporate safety-based regulation. The Clean Air Act, Pub. L. No. 101-549, 104 Stat. 2399 (codified as amended at 42 U.SC. §§ 7401–7671 (2000)). [↑](#footnote-ref-50)
50. 21 U.S.C. § 346a(b)(2)(A)(ii). [↑](#footnote-ref-51)
51. *Id*. [↑](#footnote-ref-52)
52. § 346a(b)(2)(C)(ii)(II). [↑](#footnote-ref-53)
53. Efficient precaution is taken when the marginal cost of the next increment of precaution would exceed its marginal benefit (i.e., when a dollar more in precaution would yield less than a dollar’s worth of harm avoided). [↑](#footnote-ref-54)
54. 42 U.S.C. § 7412(d)(2). This requirement is part of the 1990 Amendments to the Clean Air Act. Feasible risk reduction is a statutory standard in the Occupational Health and Safety Act of 1970, and it is in this context that it has received its most extensive application and articulation*.* [↑](#footnote-ref-55)
55. Robert Solow, *Defending Cost-Benefit Analysis*, 5 Regulation 40, 40 (1981). This is basic idea of cost is often called “opportunity cost.” [↑](#footnote-ref-56)
56. Robert Cooter & Thomas Ulen, Law and Economics, 237 (6th ed. 2016). [↑](#footnote-ref-57)
57. Only two of “ten major regulatory statutes enacted in the 1960’s, 1970’s and 1980’s . . . expressly authorize the balancing of benefits and costs for core agency actions.” Jonathan Cannon, *The Sounds of Silence: Cost-Benefit Canons in Entergy Corp. v. Riverkeeper, Inc*., 34 Harv. Envtl. L. Rev. 425, 426 (2010). [↑](#footnote-ref-58)
58. Exec. Order No. 12,291, 3 C.F.R. 127 (1982) (repealed 1993). The courts have long held that the major environmental and occupational safety statutes forbid consideration of cost. In 2001, a unanimous Supreme Court held that the EPA “may not consider implementation costs” in setting ambient air quality standards under the Clean Air Act. *Whitman v. American Trucking Associations*, 531 U.S. 457 (2001). Writing for the court, Justice Scalia observed: “Were it not for the hundreds of pages of briefing respondents have submitted on the issue, one would have thought it fairly clear that this text does not permit EPA to consider costs in setting standards. . . . The EPA . . . is to identify the maximum airborne concentration of a pollutant that the public health can tolerate, decrease the concentration to provide an ‘adequate’ margin of safety, and set the standard at that level.” *Id.* at 465. *Entergy Corp v. Riverkeeper, Inc.*, 556 U.S. 208 (2009) may represent a slight retreat from this position. *See* Cannon, *Sounds of Silence*, *supra* note 29. [↑](#footnote-ref-59)
59. See *e.g.,* Alan Schwartz, *Products Liability Reform: A Theoretical Synthesis*, 97 Yale L.J. 353 (1988); see also, Alan Schwartz, *The Case Against Strict Liability*, 55 Fordham L. Rev. 819 (1992). [↑](#footnote-ref-60)
60. *Green v. Smith & Nephew AHP, Inc.*, 629 N.W.2d 727 (Wis. 2001). [↑](#footnote-ref-61)
61. Keeton, Sargentich & Keating, Tort and Accident Law 975–76 (4th ed. 2004). See also, *Green*, 629 N.W.2d at 732 (summarizing the facts of Ms. Green’s case). [↑](#footnote-ref-62)
62. The outcome under the risk-utility test depends greatly on whether that test is applied with foresight or hindsight. The trend is to apply the test with foresight. For an example of a case with virtually identical facts where the court refused to apply the expectation case and refused to impose liability under the risk-utility test see *Morson v. Superior Court*, 90 Cal. App. 4th 775 (2001). [↑](#footnote-ref-63)
63. *Green*, 629 N.W.2d at 735. [↑](#footnote-ref-64)
64. The *Green* opinion would have been better if the court had discussed just what kind of expectation was disappointed by the product failure. Not every consumer expectation is reasonable. On the one hand, some expectations are mere wishful thinking. It would, for example, be wishful thinking to expect that no user would ever have an allergic reaction to a product. Idiosyncratic reactions exist. A one-in-a-billion susceptibility to illness does not impugn a product’s safety under the expectation test. We take the one-in-a-billion reaction to reflect a rare sensitivity on the part of the victim. What’s surprising and disappointing about latex gloves is that *so many* users (5 to 17 percent) suffer severe harm. On, the other hand, it asks too much to expect consumers to form expectations about underlying mechanisms of possible product malfunction. The *Green* court agreed with the defendant that “most consumers . . . generally do not have expectations about . . . technical or mechanical design aspects of the product.” It disagreed over whether such expectations are necessary. What it found necessary was a secure and reasonable expectation about product performance. [↑](#footnote-ref-65)
65. The term “statistical lives” was coined by Schelling, *The Life You Save May Be Your Own*, *supra* note 46. Schelling distinguished statistical lives from “identified” ones. Identified lives are actual persons who will live if certain steps are taken and die if they are not. Statistical lives are abstract lives; they are the lives that will be saved down the road if some precaution is taken, or some safety program is implemented. Statistical lives are not identifiable at the time a precaution is taken, and may remain unidentifiable even after a precaution has been implemented and has saved lives. The term was coined by Schelling, but the phenomenon had been recognized before it was named. *See* Guido Calabresi, *The Decision for Accidents: An Approach to Nonfault Allocation of Costs*, 78 Harv L. Rev. 713 (1965). [↑](#footnote-ref-66)
66. The questions raised by the distinction between “statistical” and “identified” lives in the rescue context are multiple and difficult. For one thing, if we suppose that even the best of precautions will not prevent all accidents, it may be eminently rational in even a cost-benefit sense to commit ourselves in advance to rescue practices which look extravagant at the time we undertake them. For another, *contra* Schelling, the distinction between identified and statistical lives may make a major moral difference. Obligations may be owed to actual persons, but not to theoretical constructs. *See* Johann Frick, *Contractualism and Social Risk*, 43 Philosophy and Public Affairs, 175 (2015). These complexities are beyond the scope of this paper. [↑](#footnote-ref-67)
67. Rescues give the question of appropriate precaution a particular posture. The question is not what risk some people may impose on others, but what costs—including risks of death—rescuers may reasonably take upon themselves to save the lives or others. The important common law case *Eckert v. Long Island RR* has this posture. Here, too, the court’s analysis of whether the rescue was prudent appears to be governed by a norm of possibility or feasibility. *Eckert v. Long Island RR*, 57 Barb. 555 (N.Y. 1870). [↑](#footnote-ref-68)
68. Philip Caputo, A Rumor of War, vii (1977). I owe the Caputo example to Douglas MacLean*, Cost-Benefit Analysis and Procedural Values*, 16 Analyse & Kritik 166, 172 (1994). A more recent example can be found in *Black Hawk Down* (book written by Mark Bowden in 1999, film released in 2001). During the Battle of Mogadishu in 1993 the United States sent soldiers to rescue the crews of downed Black Hawk helicopters, notwithstanding the enormous risk involved. A number of soldiers have been posthumously awarded the Medal of Honor—the highest military honor in the United States—for sacrificing their own lives in such rescue attempts. [↑](#footnote-ref-69)
69. *Vincent v. Lake Erie Transp. Co.*, 124 N.W. 221 (Minn. 1910). In *Vincent*, a ship was lashed to a dock to avoid being cast out to sea in a storm. The ship’s otherwise trespassory entry onto the plaintiff’s property was held to be privileged under the doctrine of necessity, but the privilege was held to be conditional. Defendant was allowed to dock without permission but had to repair the damage it did to the dock. [↑](#footnote-ref-70)
70. Hershovitz 2011, at 110. [↑](#footnote-ref-71)