Reasonableness and Rationality in Negligence Theory

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More than twenty years ago, George Fletcher showed that the competing ideals of fairness and utility battle over the interpretation and justification of tort doctrine. This article argues that the very concept of negligence (or reasonable care) is itself a front in that struggle. Law and economics scholars such as Robert Cooter, Thomas Ulen, and Richard Posner have extended the utilitarian tradition by developing an interpretation of tort reasonableness as individual economic rationality writ large. Drawing both on tort doctrine and on social contract theory, Professor Keating argues that tort doctrine seeks, quite rightly, to specify the terms of reasonable risk imposition; not the terms of rational risk imposition. Social contract theory takes reasonableness to differ from rationality in that the canons of reasonableness apply to a plurality of free and equal persons with diverse aims and aspirations who are concerned to advance those ends on fair terms, whereas the canons of rationality apply to single actors, or to associations whose members owe allegiance to a shared final end. Professor Keating develops a social contract conception of due care, and argues that this conception fits the doctrine and rhetoric of due care law better than those of Cooter, Ulen, and Posner.

**INTRODUCTION**

Latent in our ordinary moral consciousness, and manifest in philosophical reflection, is a distinction between reasonableness and rationality.1 When we act rationally, we pursue our self-interest in an instrumentally intelligent way.

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1. John Rawls, Political Liberalism 48 (1993) [hereinafter Rawls, Political Liberalism]. Rawls traces the philosophical recognition of the distinction to Kant. For slightly different views of the matter, see W.M. Sibley, The Rational and the Reasonable, 62 Phil. Rev. 554, 554 (1953) (discussing the distinction and the affinity between reasonableness and Kant’s categorical imperative) and George P. Fletcher, The Right and the Reasonable, 98 Harv. L. Rev. 949, 951, 964-68 (1985) (arguing that the common law concept of reasonableness parallels the German civil law concept of right, which descends from Kant).
When we act reasonably, we restrain our pursuit of self-interest by acting in accordance with principles that fix fair terms of cooperation. Reasonable principles reconcile the conflicting aims and interests of different people on terms that each could acknowledge as legitimate if they were to change places with those burdened by the pursuit of their ends. When someone acts rationally, but unreasonably, she pursues her self-interest effectively, but fails to exhibit sufficient respect for the equally legitimate interests of others. For example, if you are otherwise unable to catch the employee who has been stealing from your restaurant, you may line your waitresses up and fire them in alphabetical order. This action may be rational, because shame or peer pressure may bring the thief forward, or at least frighten her into stopping. But, it is nevertheless unreasonable, because firing someone in this manner shatters her life and holds her responsible solely to apprehend the guilty. No restaurateur would randomly shatter his own security and sacrifice his own welfare for this reason.

In light of this distinction between reasonableness and rationality, it is hardly surprising that, when the law of negligence specifies the duties that persons engaged in risky acts owe to those they put at risk, it speaks in terms of reasonable conduct and reasonable persons, not in terms of rational conduct and rational persons. What is surprising, however, is that when tort scholars articulate and systematize the concept of reasonable care, they typically recast it as a matter of rationality. Reasonableness, the academic literature insists, is rationality writ large: Due care is the care that a single rational actor would take if she were to bear both the costs and the benefits of a particular risk imposition.

My article aims to challenge this consensus by offering an account of due care doctrine that develops the difference between reasonableness and rationality. Drawing on Rawlsian social contract theory, I argue that tort doctrine

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2. My aim here is to explain the idea of reasonableness intuitively, not to define the concept with philosophical precision. The concept should be intuitive because there is an affinity between it and the Golden Rule. See T.M. Scanlon, Contractualism and Utilitarianism, in UTILITARIANISM AND BEYOND 103, 117 (Amartya Sen & Bernard Williams eds., 1982) (noting that the "connection between the idea of 'changing places' and the motivation which underlies morality explains the frequent occurrence of 'Golden Rule' arguments within different systems of morality"). My explanation of reasonableness is imprecise because the idea of changing places is a rough test of reasonableness, not reasonableness itself. Id. ("[T]he thought experiment of changing places is only a rough guide; the fundamental question is what would it be unreasonable to reject as a basis for informed, unforced, general agreement.").

3. These are the facts of Agis v. Howard Johnson, 355 N.E.2d 315, 318 (Mass. 1976) (holding that a plaintiff who suffers no physical injury may nonetheless state a claim for intentional or reckless infliction of severe emotional distress so long as the defendant knew or should have known the possibility of emotional distress, the defendant's conduct was extreme and outrageous, and the distress was severe).

4. It is, of course, possible to doubt the rationality of this action. By firing employees in alphabetical order, the employer would probably fire good as well as innocent employees and demoralize other innocent employees, perhaps causing them to leave. Furthermore, this strategy would not necessarily deter thieves because employees face the same chance of being fired regardless of whether or not they actually steal. The possible irrationality of the conduct is not, however, the principal source of its outrageousness. The instrumental infliction of grave injury on innocent persons—their use as means, not ends—is what makes the conduct outrageous. Morally speaking, the rationality or irrationality of that instrumental use is of secondary relevance to its outrageousness—it merely affects the gratuitousness of the conduct.

5. See notes 85-87 infra and accompanying text.
rightly seeks to specify the terms of reasonable, rather than rational, risk imposition. Social contract theory takes reasonableness to differ from rationality in that the canons of reasonableness are those that apply to a plurality of free and equal persons who seek to advance their diverse aims and aspirations on fair terms, whereas the canons of rationality are those that apply to single actors pursuing their own ends. This article develops a social contract conception of due care, arguing that this conception does justice to the moral importance of the distinction between imposing risks on oneself and imposing risks on others.

Part I begins this enterprise by discussing reciprocity theory in general, and the theory’s present limitations as a tool for determining the appropriate level of risk imposition in particular. Part II examines the economic conception of due care—due care as rationality—explaining the normative economic theory behind it and demonstrating the divergence between the theory’s ideal and the practical prescriptions that economists use to determine the level of care that would-be injurers owe would-be victims. Finally, Part III offers a social contract conception of due care as reasonableness, and argues that this conception coheres with tort doctrine and practice better than the economic conception of due care as rationality does.

I. Reciprocity and Reasonable Risk Imposition

In the early 1970s, George Fletcher and Charles Fried sketched a conception of tort law that centered on the idea of reciprocity. Their work added to a long and powerful tradition of tort theory, one which stretches back through the writings of Francis Bohlen, and at least as far back as Rylands v. Fletcher. Fletcher and Fried’s writings demonstrated both the normative and the explanatory power of reciprocity theory. By showing how the idea of reciprocity lay at the center of a Kantian (or Rawlsian) conception of accident law as a realm of equal freedom and mutual benefit, Fried’s work displayed its normative power. By arguing that the division between negligence and strict liability as a special case of the Kantian principle of right underwrites reciprocity theory because that principle permits each actor to impose risks upon others to pursue her individual ends, so long as other actors may impose equal risks upon her; George P. Fletcher, Fairness and Utility in Tort Theory, 85 Harv. L. Rev. 537, 539–40 (1972) (arguing, inter alia, that reciprocity of risk was the principal factor driving the division between strict liability and negligence until the mid-twentieth century).

6. See Charles Fried, An Anatomy of Values: Problems of Personal and Social Choice 183-206 (1970) (arguing that the Kantian principle of equal right underwrites reciprocity theory because that principle permits each actor to impose risks upon others to pursue her individual ends, so long as other actors may impose equal risks upon her); George P. Fletcher, Fairness and Utility in Tort Theory, 85 Harv. L. Rev. 537, 539–40 (1972) (arguing, inter alia, that reciprocity of risk was the principal factor driving the division between strict liability and negligence until the mid-twentieth century).


8. Several opinions in Rylands have entered the canon of great tort opinions. See Rylands v. Fletcher, 3 L.R.-E. & I. App. 330 (H.L. 1868) (opinions of The Lord Chancellor (Lord Cairns), and Lord Cranworth); Fletcher v. Rylands, 1 L.R.-Ex. 265 (Ex. Ch. 1866) (Blackburn, J.).


10. Fried, supra note 6, at 185 (arguing that an equal right to impose risks on others is “a special case of the Kantian principle of right, that a person is entitled to the fullest amount of freedom compatible with a like freedom for all other persons”).
tracked the reciprocity of risk imposition, Fletcher’s work showed that reciprocity packed explanatory power as well.\(^1\)

Fletcher’s work was also important because it showed that accident law was torn between the competing ideals of the social contract and utilitarian traditions. The social contract tradition holds that the terms of reasonable risk imposition should be terms of equal freedom and mutual benefit. The utilitarian tradition holds that the terms of risk imposition should be terms which maximize overall well-being. In the decades following Fried and Fletcher’s work, law and economics scholarship has developed the utilitarian paradigm with great power and subtlety.\(^2\) The paradigm of reciprocity,\(^3\) by contrast, has languished. Fletcher’s work has entered the select company of classic tort articles, but it has not spawned any intellectual offspring. Thus, reciprocity theory stands where Fletcher and Fried left it more than twenty years ago: incomplete.

## A. The Incompleteness of Reciprocity Theory

The incompleteness of reciprocity theory is, in part, a matter of scope. For example, neither Fletcher nor Fried extended the theory to product liability law.\(^4\) But, what is more troubling is that the incompleteness of reciprocity theory is also, in part, a matter of internal articulation. Thus far, reciprocity theory has failed to justify and explain the law of due care. This is a serious omission: The concept of due care is the central concept of negligence law, and a theory that does not explain this concept is not a very convincing one.

The failure of reciprocity theory to shed much light on the concept of due care results from two specific gaps in the theory. First, reciprocity theory does not prescribe a benchmark against which the benefits and burdens of accidental risk imposition ought to be measured. Second, reciprocity theory has so far failed to define the appropriate level of reciprocal risk imposition. These two

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\(^1\) Fletcher, supra note 6, at 541-51. For our purposes, Fletcher’s most important interpretive argument is that accident law only imposes liability when risks are nonreciprocal. See id. Fletcher contends that the law of abnormally dangerous activity liability, the law of liability for wild animals, and the law of liability for airplane crashes illustrate the principle of accident law that strict liability is imposed on risks that are nonreciprocal, even if the injurer exercises due care. Id. at 542. Further, Fletcher argues that negligence liability also illustrates the centrality of reciprocity because negligence liability applies to risks which are roughly reciprocal so long as due care is taken; negligent conduct disrupts reciprocity of risk and so triggers liability. Id. at 548-49. These claims are plausible enough to give reciprocity theory real interpretive power. Fletcher also relates reciprocity of risk to John Rawls’ theory of justice. See id. at 550 (arguing that a reciprocity centered conception of tort law expresses Rawls’ first principle of justice).

\(^2\) See notes 74-105 infra and accompanying text.

\(^3\) I follow Fletcher’s lead in calling the social contract conception the “paradigm of reciprocity,” but I depart from his label for the utilitarian tradition—the “paradigm of reasonableness.” See Fletcher, supra note 6, at 540-42. For reasons that will become clear, I believe that the concept of reasonableness should be associated with the paradigm of reciprocity and the concept of rationality with the paradigm of utilitarianism.

\(^4\) Fletcher distinguishes product liability claims from stranger accidents because standard product liability claims involve a market relationship between the victim and the product manufacturer. This changes the question of fairness posed by imposing liability because “loss-shifting in products-liability cases becomes a mechanism of insurance,” rather than a device for restoring reciprocity. Id. at 544 n.24. Fried never addresses product liability, and he provides only a general justification for negligence liability. See generally Fried, supra note 6.
issues are central to judgments of due care. The first is central because judgments of negligence turn on the balance of the benefits and burdens associated with particular risk impositions. Such judgments cannot be made without some benchmark of comparison. The second is central because judgments of negligence specify a particular level of risk imposition (and precaution) as appropriate. While reciprocity theory requires reciprocal risk imposition for fairness, it does not prescribe a permissible level of risk imposition.

The disagreement between Rylands v. Fletcher and a great nineteenth century American tort case—Losee v. Buchanan—forcefully brings home the significance of these two gaps in reciprocity theory. Both cases involved nonreciprocal risks in Fletcher's sense of the term because both defendants exposed both plaintiffs to risks "greater in degree and different in order from those created by the [plaintiffs] and imposed on the defendant[s]." In Rylands, the defendant had constructed a reservoir on his land in mining country, thereby exposing his neighbors to the nonreciprocal risk of severe flooding. The materialization of that nonreciprocal risk triggered the suit. While the Rylands court found that the defendants were not negligent, the plaintiffs nevertheless collected damages under a strict liability theory. According to Fletcher, the critical factor calling for strict liability was the abnormal, nonreciprocal nature of the risk.

In Losee, the defendant mill operator had introduced a steam boiler onto his property, a new technology which exposed his neighbors to the hazards of explosion; the materialization of that great and novel risk triggered the plaintiff's claim. As in Rylands, the Losee court found that the defendant had not been negligent, but unlike the Rylands court, it refused to hold the defendant strictly liable.

To focus our understanding on the problems at hand, let us take Rylands to stand for the proposition that nonreciprocal risk imposition calls for the application of strict liability, whereas reciprocal risk imposition calls for the application of negligence liability. Reciprocity theory, under Rylands, holds that a regime of equal freedom and mutual benefit exists when the risks that persons throw on each other are reciprocal—let us take that to mean equal in probability and magnitude, and imposed for equally good reason—and the governing standard for harm is negligence law. Reciprocity defines a regime of

16. 51 N.Y. 476 (1873).
17. Fletcher, supra note 6, at 542. This description of reciprocity is slightly different from, although consistent with, the description I will adopt in this paper: Risks are reciprocal when they are equal in probability and magnitude and when they are imposed for equally good reason. My description emphasizes the importance of the reasons for the risk imposition: See text accompanying note 51 infra.
19. See id.
20. See Fletcher, supra note 6, at 545 (arguing that the defendant was held strictly liable for "[c]reating a risk different from the prevailing risks in the community").
21. Losee, 51 N.Y. at 476. The steam boiler exploded and damaged the plaintiff's buildings and personal property. The Losee court implicitly concedes that a steam boiler is abnormally dangerous in the way that a reservoir is. See id. at 487 (noting that steam is like water because it is likely to produce mischief if it escapes and goes out of control).
22. Id. at 486-87.
equal freedom because, when risks are reciprocal, persons relinquish equal amounts of security and gain equal amounts of freedom of action. Reciprocity defines a regime of mutual benefit because, for each person, the loss of security occasioned by granting to others the right to expose her to risks is more than offset by the freedom of action that a regime of reciprocal risk imposition grants to her, namely, the right to impose similar risks on others. For without the right to impose some risks on others, the pursuit of the projects and aspirations that give shape and meaning to a human life is all but impossible.

Losee rejects both the rule and the reasoning of Rylands (as I have stipulatively specified it), arguing that:

By becoming a member of civilized society, I am compelled to give up many of my natural rights, but I receive more than a compensation from the surrender by every other man of the same rights, and the security, advantage and protection which the laws give me. So, too, the general rules that I may have the exclusive and undisturbed use and possession of my real estate, and that I must so use my real estate as not to injure my neighbor, are much modified by the exigencies of the social state. We must have factories, machinery, dams, canals and railroads. They are demanded by the manifold wants of mankind, and lay at the basis of all our civilization. If I have any of these upon my lands, and they are not a nuisance and are not so managed as to become such, I am not responsible for any damage they accidentally and unavoidably do my neighbor. He receives his compensation for such damage by the general good, in which he shares, and the right which he has to place the same things upon his lands. I may not place or keep a nuisance upon my land to the damage of my neighbor, and I have my compensation for the surrender of this right to use my own as I will by the similar restriction imposed upon my neighbor for my benefit.23

Losee’s rejoinder to Rylands poses two challenges for reciprocity theory as Fletcher and Fried have developed it. The first challenge concerns the benchmark against which mutual benefit is to be measured. To compare relative benefits and burdens—even mutual ones—we must measure them against some benchmark of comparison.24 Losee implicitly calls for a fixed historical baseline as the proper benchmark of comparison. As industry and technology advance over time, injurers and victims both benefit: Each person’s share in the increasing wealth of an industrializing society helps to compensate her for the increased risks of accidental injury and death incident to the introduction of industrial machinery.25 Because Rylands calls for no such fixed historical baseline, the question is: What takes its place? The works of Fletcher and Fried, fine and pathbreaking as they are, supply no answer.

The second, related challenge concerns the level of risk that may be imposed without compensating the victims of ensuing accidents (the level of non-negligent risk imposition). By itself, the concept of reciprocity offers no gui-

23. Id. at 484-85 (emphasis added).
24. See Rawls, Political Liberalism, supra note 1, at 300 (“Fair terms of cooperation articulate an idea of reciprocity and mutuality: all who cooperate must benefit, or share in common burdens, in some appropriate fashion judged by a suitable benchmark of comparison.”).
25. Losee, 51 N.Y. at 484-85.
dance for specifying the level of risk that injurers may legitimately impose on victims. When an injurer exposes a victim to a nonreciprocal risk—that is, a risk markedly greater in magnitude and probability than the risk to which the victim exposes the injurer—society can compensate the victim and restore reciprocity in one of two ways. First, society can restore reciprocity by entitling the victim to impose an equivalent risk on the injurer (e.g., Losee). Alternatively, society can restore reciprocity by holding the injurer liable for imposing the risk, thereby requiring the injurer to compensate the victim for any harms suffered at the hands of an accident issuing from that risk (e.g., Rylands). Either way of restoring reciprocity can be defended by invoking the language of fairness and mutual benefit, a language characteristic of reciprocity theory.

Rylands and Losee urge opposite ways of restoring reciprocity. By subjecting nonreciprocal risk impositions only to negligence liability, Losee restores reciprocity by increasing the level of non-negligent risk imposition. In other words, Losee allows the plaintiff to impose an equivalent risk on the defendant without incurring liability for non-negligent harms issuing from that imposition. Losee defends this position by arguing that the right to impose increased risks on the original risk imposer is fair compensation for the increased risk exposure created by the original risk imposer's activities. Rylands, by contrast, requires the party imposing nonreciprocal risks to compensate any victims injured by accidents materializing out of that risk imposition and invokes the language of fairness and mutual benefit in declining to increase the level of mutually permitted uncompensated risk imposition. It is simply unclear why the concept of reciprocity counsels one solution rather than another. For example, the non-negligent risks of the road are equally reciprocal no matter where we set the speed limit. What varies is the level of legitimate risk imposition and the compensation given for the bearing of increased risk. If we set the speed limit at fifty-five miles per hour, we declare the risks created by those who drive one hundred illegitimate and compensate with damages awards those who drive fifty-five yet suffer injury at the hands of those who drive one hundred. If we set the speed limit at one hundred miles per hour, we compensate those who might prefer to drive fifty-five for bearing the risks of one hundred mile-per-hour driving by entitling them to impose those risks. Since reciprocity theory offers no guidance in fashioning the tools that will enable us to fix appropriate levels of risk imposition, we need to delve deeper into the moral and political theory that justifies the focus on reciprocity of risk in the first place. I take that theory to be Kantian social contract theory.

26. Id. at 485.

27. Richard Epstein, for one, appears to think that this problem makes reciprocity theory useless as a tool for determining the appropriate standard of liability. See Richard A. Epstein, Cases and Materials on Torts 124 (5th ed. 1990) ("Arguments from reciprocity... work with equal force in both directions, making it difficult if not impossible to infer that the norm of equality should generate a decided preference for negligence or strict liability."); see also Gary T. Schwartz, The Vitality of Negligence and the Ethics of Strict Liability, 15 Ga. L. Rev. 963, 985 (1981) (arguing that reciprocity can just as easily call for negligence as for strict liability in a given situation).

28. In this article, I shall draw almost exclusively on the strand of Kantian social contract theory articulated by John Rawls, Thomas M. Scanlon, and Thomas Nagel. See, e.g., Thomas Nagel, Equal-
B. Identifying Benchmarks of Comparison

In the most abstract terms, our challenge is to connect reciprocity—the central concept of reciprocity theory—with reasonableness—the central concept of due care doctrine. Within Rawls’ theory, the concepts of reciprocity and reasonableness are closely linked, and are central to the notion of social cooperation. Reasonable principles of social cooperation are principles that are mutually beneficial for free and equal persons.

The “fundamental intuitive idea” at the heart of Rawls’ theory of justice is the idea of society as a system of fair cooperation among free and equal persons who are both rational and reasonable. They are rational insofar as they have “the capacity for a conception of the good”—that is, “the capacity to form, to revise, and rationally to pursue . . . a conception of . . . a worthwhile human life.” They are reasonable insofar as “they are ready to propose principles and standards as fair terms of cooperation and to abide by them willingly, given the assurance that others will likewise do so.” In other words, the terms that reasonable persons will propose and abide by are terms that everyone in a society of free and equal persons could reasonably accept. Their willingness to abide by these terms depends on the reciprocal willingness of other free and equal persons to do so as well.

Reasonableness thus relates to reciprocity in a fundamental, but abstract, way. Reasonable persons honor principles of justice that other reasonable persons, all of whom are free and equal, also honor. Among free, equal, and reasonable persons, the proper principles of justice are those that distribute the burdens and benefits of cooperation in a mutually beneficial way. Reasonable persons are neither altruists “moved by the general good [or the good of others] as such,” nor purely self-interested agents moved to cooperate with others by the prospect of mutual advantage. “Reasonable persons . . . desire for its own...
sake a social world in which they, as free and equal, can cooperate with others on terms all can accept."33 Thus, "[t]he reasonable leads to the idea of reciprocity [which] is a relation between equals who are acting on a fair principle of social cooperation that all of them would propose to the others as fair, and are willing to follow faithfully, provided the others did so as well."34 Reasonable people “insist that reciprocity should hold within [their] world so that each benefits along with others.”35

Under this account of reasonableness and reciprocity, the benchmark against which mutual benefit is measured should be social, not historical, and comparative, not fixed. Principles of justice distribute the burdens and benefits of social cooperation. The reasonableness of these principles depends on how they distribute the relevant burdens and benefits in *comparison with other possible principles for distributing those burdens and benefits*. Members of society may complain about the distribution of burdens and benefits prescribed by a particular arrangement only if an alternative arrangement would give those it disadvantages less reason to object.36

Due care doctrine fixes and distributes the burdens and benefits of accidental risk imposition among injurers and victims. The particular burdens and benefits involved reflect the conflict inherent in the structure of accidental risk imposition. Precautions (and prohibitions of particular risk impositions) benefit victims but burden injurers, whereas the right to impose particular risks (or to forego particular precautions) benefits injurers but burdens victims. The reasonableness of particular judgments of due care thus depends on how the balance that they strike between the conflicting claims of injurers and victims compares with the balance that alternative judgments would strike. Precautions are reasonable when taking them burdens injurers less than foregoing them burdens victims. Conversely, they are unreasonable when taking them burdens injurers more than foregoing them burdens victims. To compare relative burdens, however, we must understand the interests at stake. Just what do injurers and victims stand to lose and to gain when judgments of due care are made?

Within social contract theory, the pertinent interests are personal liberties—freedom of action and security. Precautions burden injurers by limiting their freedom of action and benefit victims by enhancing their security. The right to impose particular risks (or to forego particular precautions), by contrast, benefits injurers by expanding their freedom of action and burdens victims by compromising their security. In three important ways, these interests in freedom

33. Rawls, *Political Liberalism*, *supra* note 1, at 50. Persons moved by the general good are motivated by altruism, rather than by the sense of justice to which reciprocity appeals. Persons moved by a sense of justice concern themselves with the good of others who reciprocate that concern. *Id.* at 50-52.


35. Rawls, *Political Liberalism*, *supra* note 1, at 50.

36. Scanlon, *supra* note 2, at 113. While there are important differences between Scanlon’s contractualism and Rawls’ justice as fairness, both use this sort of comparative, social baseline.
resemble the equal basic liberties of Rawls' first principle of justice.\(^\text{37}\) First, they establish background conditions necessary for persons who affirm diverse and incommensurable conceptions of the good to pursue those conceptions over the course of their lives. Second, they conflict with one another and thus must be balanced to secure the most favorable conditions for persons to lead lives that answer to their aspirations. Third, they protect interests sufficiently central to persons' well-being to give them priority over considerations of efficiency or wealth-maximization.

Despite this resemblance, the liberties protected by accident law are not equal basic liberties in either a Rawlsian or constitutional sense. Rawls' first principle of justice concerns the constitutional rights of citizens against the state, not their common law or statutory rights against one another. Here, the structure of our legal system echoes the structure of Rawls' theory. The liberties protected by the common law of torts are not basic in the constitutional sense. The constitutional protection that they receive, as a component of the liberty protected by the Due Process Clause, is far weaker than the protection accorded First Amendment freedoms.\(^\text{38}\) Furthermore, the purpose of negligence law, like the purpose of criminal law, is to uphold basic natural duties—those duties which prevent us from injuring the life or limb of other persons.\(^\text{39}\) This roots the authority of tort law not in Rawls' first principle of justice, the

\(^{37}\) Specifically, these interests can be regarded as aspects of "the liberty and integrity of . . . the person." Rawls, Fairness, supra note 28, at 92. Rawls categorizes the liberty and integrity of the person as one of the "supporting basic liberties." Id. "Supporting basic liberties" play a subordinate role in persons' realization of their conceptions of the good. "Basic liberties," by contrast, guarantee the social conditions necessary for the development and exercise of persons' "moral powers" in the "two fundamental cases." Loosely defined, those basic liberties include: (1) political liberties and freedom of thought essential to ensuring an opportunity for the free and informed exercise of a citizen's sense of justice; and (2) those liberties such as freedom of conscience that are essential to the development of citizens' conceptions of the good and to their ability to pursue such conceptions over a lifetime. Id. In other words, the instrumental role played by "supporting basic liberties" contrasts with the constitutive role played by such "basic liberties" as freedom of conscience, speech, thought, and association. The exercise of the latter liberties contributes to the formation of persons' conceptions of the good, and to the exercise of their deliberative reason. For a constitutional analysis of the basic liberties associated with deliberative reason or deliberative autonomy, see generally James E. Fleming, Securing Deliberative Autonomy, 48 Stan. L. Rev. 1 (1995).

\(^{38}\) Compare New York Times Co. v. Sullivan, 376 U.S. 254 (1964) (subjecting the common law tort of defamation to constitutional scrutiny), and Shelley v. Kraemer, 334 U.S. 1 (1948) (subjecting a scheme of private restrictive covenants to constitutional scrutiny). If, through the adoption of some extreme measure, a state's tort system failed to respect an important liberty, that measure would be subject to scrutiny under the Due Process Clause. Cf. Pruneyard Shopping Ctr. v. Robbins, 447 U.S. 74 (1980) (upholding a state's restrictions on the right of property owners to exclude trespassers against a Due Process Clause challenge).

\(^{39}\) Rawls, Justice, supra note 28, at 114, 314. Within social contract theory, the view that tort law originates from a natural duty is at least as old as John Locke's Second Treatise of Government. See John Locke, Second Treatise of Government § 6 (C.B. Macpherson ed., Hackett Publishing Co. 1980) (1690) ("The state of nature has a law of nature to govern it, which obliges every one: and reason, which is that law, teaches all mankind [that] no one ought to harm another in his life, health, liberty, or possessions . . . .").
Constitution, or any other institutional arrangement, but in pre-existing natural
duties. 40

The relevance of Rawls’ account of the equal basic liberties is thus not
direct, but general and analogical: The concepts and categories of equal basic
liberties provide an incisive framework for analyzing the problems of acciden-
tal injury and death. Those problems pit two liberties—the freedom of injurers
and the security of victims—against one another. A fuller understanding of the
concepts of freedom of action and security will enable us to develop the
benchmarks of comparison necessary for determining which accidental risk im-
positions are reasonable and what behavior constitutes due care.

C. Judging Levels of Risk

For social contract theory, the problem of accidental harm is a problem of
mutual freedom. Social contract theory conceives of accidental harm as a prob-
lem of freedom because it views “the capacity for critically reflective, rational
self-governance” as the most important feature of human (moral) agency. 41 By
virtue of this capacity, we have both the power to shape our lives in accordance
with some conception of their point, and a fundamental interest in doing so. 42
The social contract tradition assigns lexical priority to those basic liberties that
are essential to the adequate development and full exercise43 of our power to

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40. Natural duties do not depend on the presence of institutions for their very existence, while
artificial duties do. For an explication of the distinction between artificial and natural duties in a related

41. T.M. Scanlon, Jr., The Significance of Choice, in 8 THE TANNER LECTURES ON HUMAN VAL-
UES 149, 174 (Sterling M. McMurrin ed., 1988). Scanlon observes that his contractualist conception of
moral personality, with its emphasis on our capacity to govern our preferences through higher order
powers of rational reflection, resembles the concept of personhood developed by Harry Frankfurt. Id. at
175; see HARRY G. FRANKFURT, Freedom of the Will and the Concept of a Person, in THE IMPORTANCE
OF WHAT WE CARE ABOUT: PHILOSOPHICAL ESSAYS 11, 11-12, 22-25 (1988) (arguing that the capacity for
“second-order” desires and judgments is central to human agency and freedom of the will). For a
discussion of the similarities and differences between these conceptions, see Scanlon, supra, at 175;
Samuel Freeman, Contractualism, Moral Motivation, and Practical Reason, 88 J. PHIL. 281, 299-302

42. Rawls describes this capacity to shape our lives as our capacity for a conception of the good,
which is “the capacity to form, to revise, and rationally to pursue . . . a conception of what we regard for
us as a worthwhile human life.” RAWLS, POLITICAL LIBERALISM, supra note 1, at 302.

Rawls also refers to the pursuit of a conception of the good as the “rational” in contradistinction to
the “reasonable.” See id. at 48-54. Rawls’ understanding of the capacity for a conception of the good,
however, is different from the economic concept of rationality, which boils down to the instrumentally
intelligent pursuit of preferences. Conceptions of the good are sovereign with respect to preferences.
Social contract theory supposes that we are rational when our preferences express the aims and aspira-
tions that we are prepared, on due reflection, to affirm. Id. at 212. It also accepts “the Kantian (not
Kant’s) view that what we affirm on the basis of free and informed reason and reflection is affirmed
freely; and that insofar as our conduct expresses what we affirm freely, our conduct is free to the extent
it can be.” Id. at 222 n.9. Thus, our preferences are free and rational when they express conceptions of
the good that we affirm freely.

43. Id. at 308, 310-14. This criterion is one of two governing the identification of the list of basic
liberties. Under the second criterion, social contract theory assigns lexical priority to those liberties
necessary for the development and exercise of a capacity for a sense of right and justice. Id. at 308,
315-24. Applying these criteria, Rawls identifies the equal basic liberties as “freedom of thought and
liberty of conscience; the political liberties and freedom of association, as well as the freedom specified
by the liberty and integrity of the person; and finally, the rights and liberties covered by the rule of law.”
Id. at 291. Recall that freedom of action and security are among the supporting basic liberties, which
ensure that our lives answer our aspirations. Because freedom is the social condition most critical to the realization of our fundamental interest in leading our lives in accordance with some conception of the good, it receives priority over other interests, such as wealth or income.

This priority status applies to the scheme of liberties as a whole, in their central range of application. It grants them "an absolute weight with respect to reasons of public good and of perfectionist values. For example, the equal political liberties cannot be denied to certain social groups on the grounds that their having these liberties may enable them to block policies needed for economic efficiency and growth."

In the case of accident law, this priority means that the liberty and integrity of some cannot be sacrificed simply to maximize the wealth or utility of society as a whole. Social contract theory forbids the tradeoffs that economics proposes. However, the priority of basic liberties does not mean that either security or freedom of action are absolute. To the contrary, "[n]o basic liberty is absolute, since these liberties may conflict in particular cases and their claims must be adjusted to fit into one coherent scheme of liberties." By extension, neither freedom of action nor security is absolute. Each can be restricted to serve the interest of the other and their competing claims must be balanced against each other in a way which secures, so far as possible, the most favorable conditions for persons to pursue their conceptions of the good. So too, that priority does not mean that efficiency considerations (such as optimal loss-spreading) must be wholly excluded from the law of accidents. What it means is that tort doctrine cannot pursue efficiency objectives until it reconciles the competing liberties of freedom of action and security in a way that secures fully adequate conditions for persons to pursue their conceptions of the good.

Conceived as a problem of freedom, then, accident law principally aims to reconcile two conflicting aspects of individual freedom: freedom of action—freedom to impose risks of accidental injury and death on others; and security—freedom from accidental injury and death. Because freedom of action and security are institutional conditions whose value is largely independent of particular conceptions of the good, criteria of due care that reconcile them in the most favorable way will be mutually beneficial for people who affirm diverse and incommensurable conceptions of the good. Because shaping our lives in accordance with our aspirations is our most important interest, both freedom of...
action and security are precious. Freedom of action is precious because living any worthwhile human life requires exposing both oneself and others to risks of injury and death. Without this freedom we could not, for example, drive to work, fly airplanes, or buy products that are not perfectly safe. The less free we are to impose risks on others, the more we are restricted in the pursuit of our own aims and aspirations. Yet without a reasonable amount of freedom from accidental injury and death, we lack favorable conditions for working our will upon the world. The first task of accident law is thus to reconcile freedom of action and security in a way that provides the space that we each need to lead our lives in accordance with our aims and aspirations.

The problem of accidental harm is a problem of mutual freedom because people affirm diverse and incommensurable aims and aspirations which are in natural, though not fatal, conflict. Principles of mutual freedom differ markedly from those of individual freedom. Individually, we are free to expose ourselves to risks that would be unreasonable to impose on others. In pursuit of our own aims and aspirations, we may rationally run some risks that would be unreasonable for us to impose on others who do not share our aims and aspirations. To put it programmatically: The risks that any given individual should subject herself to are properly determined by criteria of (individual) rationality; the risks that each of us should be entitled to impose on each other are properly determined by criteria of (interpersonal) reasonableness.

The rationality of exposing oneself to a risk depends on the values served by the exposure, the importance to oneself of furthering those values, and the efficacy with which the exposure will further those values. The canons of rationality thus give wide rein to individual subjectivity, and are naturally expressed in the language of cost-benefit efficiency. Individuals are free to value the burdens and benefits of risks by any metric they choose, and it is surely natural for them to value burdens and benefits by their own subjective criteria of well-being. It is also perfectly rational for individuals to run risks, measured by their own subjective criteria of well-being, whenever the expected benefits of so doing exceed the expected costs, and to decline risks whenever the reverse is true.

Social contract theory holds that one should not apply canons of rationality to problems of interpersonal risk imposition because it supposes that:

The diversity of reasonable comprehensive religious, philosophical, and moral doctrines found in modern democratic societies is... a permanent feature of the public culture of democracy. Under the political and social conditions secured by the basic rights and liberties of free institutions, a diversity of con-

48. Our sense of justice—our capacity to honor principles that reasonably reconcile the competing claims of freedom of action and security for a plurality of persons—makes a regime of mutual freedom possible. Law backs our sense of justice with force. By so doing, it helps to ensure that others will also honor fair principles of social cooperation, thereby supplying further reason for us to honor those principles.

49. This description of efficiency is merely an intuitive description, rather than a rigorous, microeconomic definition. The discussion of the Hand Formula, and its economic interpretation, shows how this intuitive notion of efficiency can be developed into a more precise economic conception. See text accompanying notes 59-84 infra.
flicting and irreconcilable—and what's more, reasonable—comprehensive doctrines will come about and persist . . . . 50

Given this diversity, there is no shared final end—such as the pursuit of maximal preference satisfaction, or the maximization of wealth—that can be used to commensurate costs and benefits to different people.

In the absence of a shared final end, voluntarily exposing ourselves to risks in the pursuit of our own ends differs fundamentally from exposing others to those risks. Given the diversity of our aims and aspirations, the general justification for bearing risks imposed by others lies in our reciprocal right to expose others to equal risks. The right to impose risks on others justifies bearing equal risk impositions by others, because the right to impose risks secures the freedom of action essential to the pursuit of a conception of the good over the course of a complete life. Thus, the general justification for interpersonal risk imposition is mutual benefit; whereas the general justification for subjecting oneself to a risk is allegiance to the end that imposition furthers.

We now can see more clearly both why Fletcher and Fried were right to emphasize reciprocity of risk, and how their variants of reciprocity theory are incomplete. They were profoundly right to emphasize reciprocity, because perfect reciprocity of risk defines a perfectly fair situation. When risks are perfectly reciprocal, each person's security is equally burdened and each person's freedom of action is equally benefitted. But Fletcher and Fried's variants of reciprocity theory are incomplete because they do not fully articulate canons of reasonableness that properly reconcile the competing claims of security and freedom of action. Perfect reciprocity of risk requires that risks of equal probability and magnitude be imposed for equally good reason.

When equal risks are imposed for unequal reasons—for example, one driver drives ninety miles per hour to get to the beach early and another does so to get a critically ill person to a hospital—true mutuality of benefit, and thus true reciprocity of risk, does not exist. 51 Someone exposed to a speeding beachgoer has two related grounds of complaint. The first is that the speeder compromises her security in pursuit of a trivial end. The second is that conferring on her the right to impose such a risk does not set matters straight. The freedom to drive ninety miles per hour on the way to the beach does not offset the loss of security caused by exposure to other speeding beachgoers; the increase in freedom of action is of little value, while the loss of security is substantial.

Put differently, a regime which permits beachgoers to drive ninety miles per hour fails the test of mutual benefit (or reciprocity) because it licenses a burden to security (exposure to the risk of drivers speeding in pursuit of trivial ends) that exceeds the benefit to freedom of action (the right to expose others to equally grave risks for equally trivial reasons). The reverse is true in the case of the driver who speeds on her way to the hospital with a critically ill person.


51. Compare the example and discussion in *Fried,* supra note 6, at 187-91 (showing that an unreasonable risk is one that imposes a greater risk than is justified by the end for which it is imposed).
Because saving life and limb is immensely important, the freedom to do so is commensurately valuable. The benefit conferred by the freedom to impose this risk more than offsets the loss of security occasioned by granting others the same freedom.

Generalizing from this example, we can say that risk impositions are unreasonable when they fail the test of mutual benefit. They fail that test when they burden freedom of action more than they benefit security, or vice-versa. Thus the reasonableness of imposing a risk on someone else turns on whether the increase in freedom conferred by the right to impose that risk more than offsets the decrease in security effected by permitting the imposition of that risk. In a world where persons affirm diverse and incommensurable conceptions of the good, applying this criterion depends on identifying yardsticks of well-being whose importance is independent of any particular conception of the good. Freedom of action and security are such yardsticks, albeit highly abstract ones. Rather than affirming any particular conception of the good, they allow us to form and revise a conception of the good and to live our lives in accordance with such a conception. Freedom of action and security are vital institutional conditions for the pursuit of most conceptions of the good, especially if we view this pursuit as a lifelong endeavor.

Thus, under social contract theory, evaluating the reasonableness of particular risk impositions (the task of due care doctrine) hinges on making the concepts of freedom of action and security more concrete. This evaluation requires the use of normalizing assumptions regarding the importance of various freedoms and risk impositions to the pursuit of a worthwhile life. Showing how the law of due care makes such normalizing judgments is one of the principal tasks of this article.

In light of the prominence and influence of the economic conception of due care, it may appear that the law of due care is a natural habitat for economic theory, and an alien one for social contract theory. In fact, the reverse is true. Economics conceptualizes due care as a matter of rationality, whereas social contract theory treats due care as a question of reasonableness. In the remainder of this article, I will argue that we have both normative and interpretive grounds for favoring due care as reasonableness (the social contract conception) over due care as rationality (the economic conception). Because both of these conceptions are complex, they merit brief summary at this point.

D. Rationality and Reasonableness in Negligence Theory

Due care as rationality—the economic conception—models social choice on individual choice. Just as an economically rational individual seeks to max-

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52. This generalization assumes that the negligence standard is proper when evaluated by social contract criteria. See text accompanying notes 216-242 infra (describing social contract theory's test of reasonable acceptability).

53. See T.M. Scanlon, Preference and Urgency, 72 J. Phil. 655, 668 (1975) (arguing that comparing the strength of competing claims of well-being on the basis of their "urgency" is superior to comparing the subjective intensity with which those claims are held because it represents "the best available standard of justification that is mutually acceptable to people whose preferences diverge").
imize the satisfaction of her preferences, an economically rational society seeks to maximize the satisfaction of its members' preferences. The economic conception of due care, therefore, combines the preferences of distinct persons into a single calculus of risk and then tallies them. Precautions should be taken, or risks imposed, when doing so will produce the greatest total satisfaction of preferences. Following the practice of actual markets, which measure the intensity of preferences through the medium of dollars, the economic conception urges that we cash out preferences into dollars: *Rational* precautions are ones whose benefits exceed their costs.

Embedded in this account of rationality is a subjectivist theory of value, and a conviction that persons' interests all stand on the same plane. In maximizing preference satisfaction, the economic conception of due care uses persons' subjective preferences for *their own* well-being: injurers' preferences for engaging in their activities without the burden of risk-reducing precautions, and victims' preferences for the enhanced security produced by risk-reducing precautions. Converting these preferences into dollars allows us to measure their relative intensities in the manner of markets. Markets gauge the relative intensity of persons' preferences by determining what they are "willing to pay" to have those preferences honored. This, in turn, permits us to compare not only preferences for having precautions taken with preferences for avoiding having to take them, but also to compare preferences of both of these types with all other kinds of preferences. In making this comparison, economics makes no normative judgments: The relative importance of persons' preferences is determined solely by persons' willingness to pay to have them honored.54

Not surprisingly, due care as rationality construes reasonableness as a special form of rationality, one tailored to the practical exigencies of tort law. The heart of this tailoring is the replacement of subjective, individuated costs of precaution and aversions to risk with objective, average preferences. Due care as rationality accepts this departure from ideal procedure for *administrative* reasons—individual, subjective preferences are either impossible, or too expensive, to determine—but it does so regretfully. For economics, the objective valuation of victim and injurer interests is merely a second-best solution to the problem of valuation. In theory, subjective valuation is preferable.

The wedding of tort law to objective valuation thus sits uneasily with orthodox economics, which takes subjective valuation to be ideal. In part for this reason, many law and economics scholars prefer contract over tort in those circumstances where contract is a practical alternative.55 In marked contrast to tort, contract enables persons to tailor their legal rights and obligations to their subjective preferences. Due care as rationality is therefore disturbed by the rigidity and inalienability of tort protections against physical injury. Far from providing equal and inalienable protections to fundamental interests, these aspects of tort law frustrate the satisfaction of individual preferences.

54. See Fletcher, *supra* note 6, at 537-38 (criticizing tort theorists' focus on "instrumentalist" questions, rather than "intrinsic" values such as fairness).

55. See, e.g., ROBERT COOTER & THOMAS ULEN, LAW AND ECONOMICS 341 (1988) (stating that the purpose of tort law is to intervene when it is not feasible for parties to allocate risks contractually).
By contrast, due care as reasonableness—the social contract conception—
inists that social choice cannot be modeled on individual choice, because per-
sons hold diverse and incommensurable aims and aspirations. Due care as rea-
sonableness therefore does not seek to maximize overall preference satis-
faction, but to articulate terms of mutually beneficial cooperation. Since conceptions of the good are diverse and incommensurable, objective valuation is the best solution to problems of interpersonal choice. Social contract theory holds that in modern pluralistic societies, there is no shared final end that can be used to evaluate costs and benefits to different persons, and the use of subjective criteria of valuation will merely expose some to the unpredictable and idiosyncratic tastes of others. In addition, due care as reasonableness orders persons' interests hierarchically, assigning priority to those basic liberties that are essential to the pursuit of the good over the course of a complete life: freedom of action and security. Due care as reasonableness insists that equal basic liberties protect important interests that can be restricted only for the sake of each other. Freedom of action can only be restricted for the sake of security, and vice-versa.

Due care as reasonableness contends that the most favorable reconciliation of security and freedom of action calls (in the manner, perhaps, of English doctrine and American jury practice) for placing great weight on the victim's interest in security. It sees in tort's singling out of physical integrity and personal property for heightened, equal, and inalienable protection a recognition of the hierarchical priority of liberties central to our capacity to pursue our conceptions of the good.

Because due care as reasonableness holds that the lives of persons are distinct and their aims and aspirations different, it insists that risks and precautions must be valued in terms of criteria that are mutually acceptable and independent of any particular conception of the good. For this reason, due care as reasonableness celebrates tort law's use of objective valuations as a bulwark of our mutual freedom. Rather than reducing the concept of reasonableness to the concept of rationality, it argues that the law of reasonable risk imposition is best understood as an attempt to identify those precautions that serve as natural focal points for reasonable persons seeking to sustain a mutually beneficial form of social cooperation on fair terms.

The next two Parts of this article develop these conceptions and build the case for due care as reasonableness.

56. See Stephen G. Gilles, The Hand Formula as an Underenforced Norm (July 26, 1993) (unpublished manuscript) (on file with the Stanford Law Review) (arguing that the English disproportion test can be seen as a means of restricting the use of cost-benefit analysis to situations where common sense intuitions justify it); notes 136-137 infra and accompanying text (describing the English requirement that the costs of a precaution must be disproportionately greater than the benefit for an actor to be excused from liability).

57. See notes 172-177 infra and accompanying text (arguing that, in practice, American juries assign disproportionate value to security).
II. DUE CARE AS RATIONAL PREFERENCE SATISFACTION: THE ECONOMIC CONCEPTION

The economic conception of due care that I shall reconstruct centers on the Hand Formula. Indeed, the economic conception has become so closely identified with the Hand Formula that the distinction between the Formula and its economic interpretation can no longer be taken for granted. Before we turn to the economic conception of due care, we need to set out the Hand Formula itself with some care, paving the way for a social contract interpretation of that doctrine.

A. The Hand Formula

The Hand Formula is the preeminent articulation of the concept of due care. Duty, the Hand Formula tells us, is "a function of three variables: (1) the probability [that the harm will materialize]; (2) the gravity of the resulting injury [if the harm does materialize]; [and] (3) the burden of adequate precautions." The Hand Formula itself (as distinguished from its economic interpretation) performs two vital tasks. First, it identifies the variables relevant to determinations of due care, and it specifies the basic tradeoffs that must be made among them. Precautions reduce the probability (and/or the magnitude) of accidents, and their (present) costs must be traded off against the (expected) costs of the accidents that they prevent. The Formula thus lends coherence and analytical precision to the concept of due care. Without its molding influence, the law of duty and breach threatens to dissolve into a formless laundry list of the factors that define due care and the qualities that describe the careful person.

Second, the Hand Formula directs our attention to the extra increment of precaution necessary to prevent the accident at issue (the marginal precaution)

58. Judge Learned Hand devised his famous "Formula" for measuring the appropriate level of due care in United States v. Carroll Towing Co., 159 F.2d 169 (2d Cir. 1947).
59. Id. at 173.
60. See JAMES A. HENDERSON, JR., RICHARD N. PEARSON, & JOHN A. SILICIANO, THE TORTS PROCESS 204-05 (4th ed. 1994) (calling the "balancing of costs and benefits suggested by" the Hand Formula "the core question in determining whether an action has been negligent"); W. PAGE KEETON, DAN B. DOBBS, ROBERT E. KEETON, & DAVID G. OVEN, PROSSER AND KEETON ON THE LAW OF TORTS 173 (5th ed. 1984) ("It thus is fundamental that the standard of conduct which is the basis of the law of negligence is usually determined upon a risk-benefit form of analysis . . . "); [hereinafter PROSSER & KEETON]; PAGE KEETON, ROBERT E. KEETON, LEWIS D. SARGENTICH, & HENRY J. STEINER, CASES AND MATERIALS ON TORT AND ACCIDENT LAW 9 (2d. ed. 1989) (introducing the Hand Formula as "[t]he best known formulation of the idea of reasonable care") [hereinafter KEETON & KEETON]; MARSHALL S. SHAPIO, TORT AND INJURY LAW 187 (1990) (describing the Formula as "[a] modern statement of the negligence formula that many courts cite and that forms a basis for much scholarly discussion"). But see EPSTEIN, supra note 27, at 150 ("Both [the common-sense and economic] approaches [to negligence] are part of the law today . . . ").
61. The multifactor tests of the Restatement (Second) of Torts, for example, often have a laundry list flavor. See RESTATEMENT (SECOND) OF TORTS §§ 292-93 (1964) (listing the factors to be considered in determining the utility of an actor's conduct and the magnitude of risk for purposes of determining whether an actor was negligent).
and asks us to compare its costs with the set of expected accident costs that precaution would have avoided. As Judge Posner has noted:

[[In determining the benefits of a precaution—and PL, the expected accident costs that the precaution would avert, is a measure of the benefits of the precaution—the trier of fact must consider not only the expected cost of this accident but also the expected cost of any other, similar accidents that the precaution would have prevented.]]

In this sense, the Hand Formula is marginalist through and through: It evaluates the marginal costs and benefits of marginal precautions, rather than the total costs and benefits of total precautions.

This kind of marginalism, however, is distinct from the claim that actors are negligent if they fail to take precautions whose costs are “less, even if just a hair’s breadth less, than the expected cost of the accident that would be averted,” and they are free from negligence if the expected cost of the accident that would be averted is more—even if just a hair’s breadth more—than the cost of the precaution that would prevent it. That claim is an aspect of

62. See Mark F. Grady, Untaken Precautions, 18 J. LEGAL Stud. 139, 146 (1989) (arguing that any foreseeable risk can be included in the calculations of due care as long as it would be reduced by the untaken precaution).

63. Davis v. Consolidated Rail Corp., 788 F.2d 1260, 1264 (7th Cir. 1986). By “PL” Judge Posner means the magnitude of the loss discounted by its probability.

64. Suppose a defendant took precautions of level X, and the plaintiff argues that the defendant should have taken precautions of level X + Y. Plaintiff might be able to show that the total precaution costs of level X + Y would still be lower than the total expected accident costs that those precautions would prevent. Nonetheless, under the Hand Formula, that evidence would be insufficient to prove that the defendant was negligent in failing to take the relevant precautions. The marginal cost of the next increment of precaution (Y) may exceed the expected accident costs that this next increment of precaution would have prevented. Because marginal costs exceed marginal benefits, the defendant was not negligent in failing to take the precaution at issue. Cooter & Ulen, supra note 55, at 347-50 (1988).

Technically, the precautions will not always be marginal in the strict mathematical sense. Indeed, they may generally not be marginal in the mathematical sense. To understand why, consider Ronald Coase’s famous spark-spitting railroad. See R.H. Coase, The Problem of Social Cost, 3 J. L. & Econ. 1, 30-34 (1960) (using the example of crop fires caused by sparks from passing trains to illustrate the principle that, in a world without transaction costs, the same amount of societal resources will be spent on preventing crop fires whether the railroad is held liable for the crop damage or the farmer pays the railroad to prevent the crop damage). As long as a dollar spent on precautions results in a dollar’s worth of spark reduction (say, by continual refinement of the engine or its spark arrester), the precautions at issue will be marginal in the strict sense. If, however, the next available increment of precaution reduces spark emissions by more than a dollar (say, by replacing a coal engine with an electric one), and costs more than a dollar, (though less than its expected benefit) the increment of precaution will not be marginal in the strict mathematical sense. Instead of rising smoothly, the precaution curve will be discontinuous. In that case, the Hand Formula calls for us to evaluate the incremental costs and benefits (not the marginal costs and benefits), of the incremental precaution (not the marginal precaution) necessary to avoid the accident. In this loose sense of marginal as incremental, the Hand Formula is always marginalist.


Stephen Gilles treats this “razor’s edge” aspect of Judge Posner’s thought as an aspect of marginalism. Gilles, Underenforced Norm, supra note 56, at 34-36. The published version of Gilles’ paper does not contain this argument. Stephen G. Gilles, The Invisible Hand Formula, 80 Va. L. Rev. 1015 (1994) [hereinafter Gilles, Invisible Hand]. For the reasons explained in the text, I believe that Judge Posner’s commitment to making tradeoffs along a “razor’s edge” is not an aspect of marginalism, but a consequence of the way that he interprets the requirements of wealth-maximization.
Judge Posner's own wealth-maximizing interpretation of the Hand Formula.66 Under this interpretation, we must trade precaution and accident costs off along a "razor's edge," allowing a penny's difference either way to tip the balance for or against a finding of negligence, to maximize wealth.

Although this "razor's edge" approach to trading off the costs and benefits of accidents and precautions is central to Judge Posner's interpretation of the Hand Formula, it should not be identified with the Formula itself. The Formula is silent on the matter, telling us only that we must trade marginal costs against marginal benefits when we evaluate the incremental precautions necessary to prevent an accident, not that we should equate negligence with the point at which a dollar (or even a penny) more spent on accident prevention will yield less than a dollar's (or a penny's) decrease in accident costs. Nor should the "razor's edge" approach be identified with the economic conception of due care in general, because that conception is not inflexibly wedded to the proposition that costs and benefits should be traded off along a "razor's edge" so as to minimize the total dollar costs. Under certain conditions—perhaps when the optimal level of precaution is uncertain, or perhaps when the costs of obtaining information about risks and precautions are prohibitively high—it may be economically rational to reject a "razor's edge" approach to balancing costs and benefits.67

If it is important to understand what the Hand Formula proper (as distinguished from its economic interpretation) does, then it is equally important to understand what it does not do. Two misunderstandings of the Formula are especially salient. The first misunderstanding is that the Hand Formula offers a precise technique for the determination of duties, rather than a conceptual framework for articulating the elements of due care. The second misunderstanding is that the Hand Formula not only identifies the variables critical to a judgment of due care, but also specifies the relative weights of those variables in accordance with economic criteria of valuation.

The first misunderstanding arises from the rhetoric of the Hand Formula itself. The Formula's rhetoric is precise and algebraic, conjuring up visions of "scientific policymaking."68 Much of the rhetoric behind the economic analy-

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66. Duckworth, 780 F.2d at 652.
67. For a discussion of the effect of uncertainty, see John E. Calfee & Richard Craswell, Some Effects of Uncertainty on Compliance with Legal Standards, 70 Va. L. Rev. 965, 997-99 (1984). For a discussion of the effects of information costs, see Gilles, Invisible Hand, supra note 65, at 1035-37 (noting that because willingness to pay cannot be directly observed, and because juries are not well suited to making accurate cost-benefit determinations, the economic model may settle in practice for a "reasonable man" standard rather than a strict cost-benefit approach). Yet it remains true that the economic interpretation of due care generally calls for trading costs off against benefits in the wealth-maximizing, "razor's edge" manner that Posner proposes.
68. Bruce Ackerman coined the term "scientific policymaking." See Bruce A. Ackerman, Private Property and the Constitution 10-20 (1977) (constructing two ideal types that embody basic tendencies in modern legal analysis—the "ordinary observer," whose legal discourse is rooted in the common practices and language of laymen, and the "Scientific Policymaker," whose legal thought is directed at achieving certain policy goals through the creation of rules that will help realize those goals). Through the work of Michael Wells, the term has entered the negligence literature to describe the economic interpretation of the Hand Formula. See Michael Wells, Scientific Policymaking and the Torts Revolution: The Revenge of the Ordinary Observer, 26 Ga. L. Rev. 725, 727-28 (1992) (arguing that
sis of tort law reinforces this impression; the Hand Formula is taken to express a commitment to "rigorous cost-benefit judgments," and juries are chastised for their inability to weigh the relevant criteria as a regulatory agency might. Natural as this impression is, it should be resisted. In practice, the Hand Formula falls far short of technical precision, for reasons succinctly summarized by Judge Hand himself:

[O]f [the factors in the Hand Formula,] care is the only one ever susceptible of quantitative estimate, and often that is not. The injuries are always a variable within limits, which do not admit of even approximate ascertainment; and, although probability might theoretically be estimated, if any statistics were available, they never are; and, besides, probability varies with the severity of the injuries. It follows that all such attempts are illusory, and, if serviceable at all, are so only to center attention upon which one of the factors may be determinative in any given situation.

The real significance of the Hand Formula, then, is not technical, but conceptual: It isolates the elements of due care and the relations among them.

The second misunderstanding—that the Formula measures the relative weights of the variables it defines according to economic criteria of valuation—arises from an overly close identification of the Hand Formula with its economic interpretation. This interpretation, which supposes that the Hand Formula commits us to economic valuation of the costs of precautions and accidents, has become so influential that it is often identified with the Formula.

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69. George L. Priest, Products Liability Law and the Accident Rate, in LIABILITY: PERSPECTIVES AND POLICY 184, 198 (Robert E. Litan & Clifford Winston eds., 1988). The quoted passage actually describes the test for strict products liability. Priest later notes, however, that the economic approaches to products liability and negligence use the same risk-benefit calculus. Id. at 201.

70. THE AMERICAN LAW INSTITUTE, 1 REPORTERS' STUDY: ENTERPRISE RESPONSIBILITY FOR PERSONAL INJURY 46-47 (1991) (stating that the use of juries to evaluate the safety of complex products and processes is less probable than establishing regulatory standards); Alan Schwartz, The Case Against Strict Liability, 60 FORDHAM L. REV. 819, 824 (1991) [hereinafter Schwartz, Against Strict Liability] (noting that much of the criticism of products liability law centers on the belief that juries do a poorer job of reviewing products than administrative agencies do); Alan Schwartz, Proposals for Product Liability Reform: A Theoretical Synthesis, 97 YALE L.J. 353, 388-91 (1988) [hereinafter Schwartz, Product Liability Reform] (arguing that administrative agencies devise better rules for product safety than courts or juries); see also Cotton v. Buekeeye Gas Prod. Co., 840 F.2d 935, 937-39 (D.C. Cir. 1988) (criticizing juries for their inability to weigh the costs of information overload in failure-to-warn cases); Peter Huber, Safety and the Second Best: The Hazards of Public Risk Management in the Courts, 85 COLUM. L. REV. 277, 289 (1985) (arguing that the vagaries of the tort system have stifled the marketing and development of vaccines).

71. Moisan v. Loftus, 178 F.2d 148, 149 (2d Cir. 1949) (emphasis added); see also Gilles, Invisible Hand, supra note 65, at 1028 (explaining that the Hand Formula is, in practice, an "intuitive" version of cost-benefit analysis which cannot support a "rigorous quantitative inquiry"). Judge Posner's opinions also express— with great clarity—the recognition that the Hand Formula is not a precise technique of analysis but a conceptual tool. See Villanova v. Abrams, 972 F.2d 792, 796 (7th Cir. 1992) ("In practice, the application of standards that can be expressed in algebraic terms still requires the exercise of judgment, implying elements of inescapable subjectivity and intuition in the decisional calculus."); United States Fid. & Guar. Co. v. Jadranska Slobodna Plovidba, 683 F.2d 1022, 1026 (7th Cir. 1982) ("[T]he Hand Formula is a valuable aid to clear thinking about the factors that are relevant to a judgment of negligence and about the relationship among those factors.").
itself. But this economic interpretation was not part of Judge Hand’s own understanding of his Formula. As we shall see, one of the cardinal principles of economics (expressed in the economic interpretation of the Hand Formula) is that all interests are commensurable—that is, fungible at some ratio of exchange. Alternatively, one of Judge Hand’s cardinal principles is that values are incommensurable and that questions framed by his Formula must be resolved by a choice between incommensurables. Thus, Judge Hand’s own understanding of the valuation required to apply his Formula conflicts with the conventional economic understanding.

In sum, the Hand Formula only identifies the basic variables of negligence and their relation to one another. The Formula permits, but does not require, economic valuation of the variables that it identifies. It also (and equally) permits noneconomic valuation of those variables. Thus, one of the tasks of tort theory is to resolve the openness of the Hand Formula, specifying the values that should be assigned to the variables that it identifies.

The rest of this section will consider the economic interpretation of the Hand Formula in detail, as well as the related concept of the average reasonable person, or “ARP.” Part II.B sets out the economic interpretation of the Hand Formula; Part II.C sets out the economic interpretation of ARP doctrine; and Part II.D explains the adjustments necessary to put the economic conception of due care into practice.

B. An Economic Interpretation of the Hand Formula: Potential Pareto Superiority and Subjective Preference Satisfaction

The particular economic interpretation of the Hand Formula that I shall consider takes “[Judge] Hand [to have been] adumbrating, perhaps unwittingly, an economic meaning of negligence.” It therefore views the Hand Formula

72. For Judge Hand’s general assertion of this view, see Learned Hand, Address at the National Conference on the Continuing Education of the Bar (Dec. 16, 1958), in Continuing Legal Education for Professional Competence and Responsibility: The Report on the Arden House Conference, 1959 Joint Committee on Continuing Legal Education of the A.L.I. and the A.B.A. 116, 119, reprinted in The Spirit of Liberty: Papers and Addresses of Learned Hand 302, 307 (3d ed. 1960). Hand expressly stated the relevance of this belief to the calculus of risk in accident cases. Conway v. O’Brien, 111 F.2d 611, 612 (2d Cir. 1940) (“[A] solution always involves some preference, or choice between incommensurables, and it is consigned to a jury because their decision is thought most likely to accord with commonly accepted standards, real or fancied”), rev’d, 312 U.S. 492 (1941). Stephen Gilles identifies this opinion as Judge Hand’s first intimation of the Formula. Gilles, Invisible Hand, supra note 65, at 1029 n.36.

73. Although I shall sometimes speak of this as “the economic interpretation of the Hand Formula,” it is by no means the only possible economic interpretation. I simply label this interpretation as “the economic interpretation” to contrast it with the social contract interpretation. While economics permits a variety of interpretations, the interpretation I consider here is a standard view, maybe even the standard view.

74. Richard A. Posner, A Theory of Negligence, 1 J. Legal Stud. 29, 32 (1972) (footnote omitted); see Cooter & Ulen, supra note 55, at 360 (“[Judge Learned Hand] set the legal standard of care by explicitly balancing the benefits and costs of precaution, just as an economist would have done . . . .”). The conviction that the Hand Formula is frankly economic is hardly confined to economists. See, e.g., Jules L. Coleman, Markets, Morals and the Law 131 (1988) (“Following Learned Hand [a judge] might . . . provide an economic analysis of fault or negligence.”); Ronald Dworkin, Hard Cases, in Taking Rights Seriously 98 (1977) (“Learned Hand’s theory of negligence is the most
as an invitation to perform an economic cost-benefit analysis. For our purposes, three features of the economic interpretation are distinctive. First, the economic interpretation of the Hand Formula brings the criterion of "Kaldor-Hicks efficiency"—or "potential Pareto superiority"—to bear on the choice between taking a precaution and allowing preventable accidents from occurring. Second, the economic interpretation (like efficiency analysis generally) employs subjective criteria to evaluate persons' welfare with respect to risks and precautions. Third, that interpretation (like cost-benefit analysis, generally) compares preferences by asking what the relevant persons are "willing to pay" to have their preferences honored. Taken together, these three elements comprise a distinctively economic interpretation of the Hand Formula.

Economics distinguishes between three conceptions of efficiency: "Pareto optimality"; "Pareto superiority"; and "potential Pareto superiority"—or "Kaldor-Hicks efficiency." A state of affairs (or an allocation of resources) is Pareto optimal if, and only if, it is impossible to improve the welfare of at least one person without simultaneously making at least one other person worse off. A state of affairs (or an allocation of resources) is Pareto superior to another state of affairs (or allocation of resources) if, and only if, it makes at least one person better off without making anyone worse off. A state of affairs (or an allocation of resources) is potentially Pareto superior (or Kaldor-Hicks efficient) to another state of affairs (or allocation of resources) if, and only if, those whose welfare increases from the move to the potentially Pareto superior state of affairs could fully compensate those whose welfare diminishes from that move, and still be better off than they would be without the change. Put differently, moves that produce higher marginal benefits than marginal costs are potentially Pareto superior. The criteria of potential Pareto superiority are thus familiar example of [an explicit reference to economics.]."

75. The economic interpretation of the Hand Formula is identified with the academic writings and judicial opinions of Judge Richard Posner. In developing the three aspects of the interpretation that I have highlighted, however, I shall, for the most part, draw on Robert Cooter and Thomas Ulen's presentation of the position. See Cooter & Ulen, supra note 55, at 343-62. While I initially hesitated to equate Posner's concept of wealth-maximization with Cooter and Ulen's, Judge Posner has since informed me, in a written commentary on a draft of this paper, that he "greatly doubt[s] that there is any difference between [him] (and Kaldor-Hicks) and Cooter-Ulen on this score." Letter from Judge Richard A. Posner, United States Court of Appeals for the Seventh Circuit, to Professor Gregory C. Keating, University of Southern California Law Center 1 (Jan. 3, 1995) (copy on file with the Stanford Law Review) (citing JUDGE RICHARD A. POSNER, THE PROBLEMS OF JURISPRUDENCE Ch. 12, esp. at 356-58 (1990)).

76. For a clear explanation of the conceptions, see Coleman, supra note 74, at 97-105; see also E.J. Mishan, INTRODUCTION TO NORMATIVE ECONOMICS 301-14 (1981) (discussing the development of Kaldor-Hicks efficiency and its implications for allocation theory); A. Mitchell Polinsky, AN INTRODUCTION TO LAW AND ECONOMICS 7 & n.4 (2d. ed. 1989) (relating Pareto criteria to the basic intuitive idea behind the concept of efficiency—the idea of maximizing "the size of the pie"); Robert D. Cooter, THE BEST RIGHT LAWS: VALUE FOUNDATIONS OF THE ECONOMIC ANALYSIS OF LAW, 64 NOTRE DAME L. REV. 817, 827-29 (1989) (identifying cost-benefit analysis as a technique for applying Pareto efficiency criteria).
States of affairs (or allocations of resources) are potentially Pareto superior relative to other states of affairs (or allocations of resources).

Because efficiency criteria evaluate the effects of proposed changes on persons' welfare, the use of such criteria requires some means of measuring and quantifying welfare. Cost-benefit analysis is a creature of modern welfare economics, which embraces a subjectivist conception of personal welfare. It evaluates "the level of well-being enjoyed by a person in given material circumstances or the importance for that person of a given benefit or sacrifice...solely from the point of view that person's tastes and interests." The law and economics discipline (and neoclassical microeconomics generally) agrees with welfare economics in this respect. Persons' subjective preferences with respect to their own welfare are the touchstone from which the economic evaluation of policies (or states of affairs, or allocations of resources) proceeds. More precisely, economics takes individual persons' ordinal preferences rankings as its starting point.

Consumers are assumed to know the things that they like and dislike and to be able to rank the available alternative combinations of goods and services according to their ability to satisfy the consumer's preferences. This involves no more than ranking the alternatives as being better than, worse than, or equally as good as one another.

Economists distinguish ordinal utility from cardinal utility. Cardinal utility, the absolute pleasure that a person derives from the consumption of a particular...
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When they are used to represent the phenomenon of consumer choice, ordinal preference rankings do not involve any explicit interpersonal comparisons of welfare. They simply represent individual consumers' preferences among various goods and services. The application of the potential Pareto efficiency criterion to the problem of due care, however, requires interpersonal comparisons of welfare, because precaution costs borne by injurers must be compared with expected accident costs borne by victims. To compare these interpersonal costs, the concept of full compensation must be specified. The potential Pareto superiority of a particular risk imposition depends on the possibility of those who will benefit from the imposition (injurers) fully compensating those who will lose some measure of security (prospective victims). The relevant ordinal preferences—the order in which injurers and victims each rank the state of the world in which the risk is imposed and the state in which it is not imposed—do not permit us to compare the relative intensity of the victim's and injurer's preferences. We need, in other words, to measure something suspiciously like cardinal utility so that we can compare the intensity of injurer and victim preferences.

The economic interpretation of the Hand Formula (like cost-benefit analysis generally) makes interpersonal comparisons of welfare by introducing the "willingness to pay" criterion.81 "Willingness to pay" measures the intensity of  

80. Steven T. Call & William L. Holahan, Microeconomics 29-30 (2d ed. 1983); see also Jack Hirshleifer, Price Theory and Applications 61-69 (3d ed. 1984) (defining the properties of cardinal utility); Cooter, supra note 76, at 818-20 (distinguishing between cardinal utility, with its roots in Bentham's theory of utility, and ordinal utility, which can be observed and quantified).  

81. The use of willingness to pay as a criterion for measuring welfare gains and losses is characteristic of cost-benefit analysis in general, and of law and economics in particular. For representative statements advocating the use of willingness to pay criteria in cost-benefit analysis, see W. Kip Viscusi, Risk by Choice: Regulating Health and Safety in the Workplace 94-96 (1983) (conceptualizing a willingness to pay standard for use in evaluating risk-reduction policies); Cooter, supra note 76, at 828 ("cost benefit analysis equates the value of things with the amount that people are willing to pay for them."); E.J. Mishan, Evaluation of Life and Limb: A Theoretical Approach, 79 J. Pol. Econ. 687, 693 (1971) ("[C]onsistency with the principle of evaluation in cost-benefit analyses would require that the loss of a person's life be valued by reference . . . to the minimum sum he is prepared to accept in exchange for its surrender."); Craswell, supra note 78, at 369 ("I . . . assume that [consumer] tastes and preferences can be meaningfully translated into a dollar amount and that the appropriate amount is whatever each consumer is willing to pay to satisfy those preferences."); Gary T. Schwartz, The Myth of the Ford Pinto Case, 43 Rutgers L. Rev. 1013, 1025 (1991) (suggesting willingness-to-pay approach for life valuation); Steven Shavell, An Analysis of Causation and the Scope of Liability in the Law of Torts, 9 J. Legal Stud. 463, 471 (1980) (assuming that "the utility or disutility of any action or loss has a well-defined monetary equivalent.") According to Schwartz, supra, at 1025 n.43, the idea of using willingness to pay to measure the value of life and limb apparently originated in T.C. Schelling, The Life You Save May Be Your Own, in Problems in Public Expenditure 127 (Samuel B. Chase, Jr. ed., 1968).  

While most of the relevant literature speaks of willingness to pay, it is not clear that this measure should be preferred to willingness to accept. Willingness to pay measures what one would be willing to spend to acquire an entitlement that one does not possess; willingness to accept measures what one would accept to relinquish an entitlement that one does possess. The two measures often diverge be-
different persons’ preferences in the common coin of money. The Hand Formula compares risks (expected accident costs) and precautions, and so frames the relevant preferences as the injurer’s preference for foregoing the precaution in question and the victim’s preference for obtaining the reduction in risk effected by that precaution. To measure the intensity of these preferences, the economic interpretation of the Hand Formula asks how much injurers would pay to be relieved of the obligation to take a particular precaution, and how much victims would pay to have that precaution taken. By translating preferences into dollars, “willingness to pay” establishes money as the metric of interpersonal comparison. By virtue of this translation, the economic interpretation of the Hand Formula (again, like cost-benefit analysis generally) becomes wealth-maximizing, and not (except coincidentally) utility maximizing.

cause people usually demand more compensation to part with something they already possess. Although the distinction has obvious relevance to risk-benefit calculations, to my knowledge, the economic interpretation of the Hand Formula has not settled on either of the measures. For a discussion of the divergence and its significance, see generally Elizabeth Hoffman & Matthew L. Spitzer, Willingness to Pay vs. Willingness to Accept: Legal and Economic Implications, 71 Wash. U. L.Q. 59 (1993) (noting that “willingness to accept” measures often exceed “willingness to pay” measures and evaluating possible explanations).

Cooter and Ulen’s explication of the Hand Formula may appear to be inconsistent with my identification of the relevant preferences. Cooter and Ulen write about compensating the victim for the harm (not the risk) that she suffers. Cooter & Ulen, supra note 55, at 345-46. I attribute the difference to the fact that Cooter and Ulen are discussing damages, not liability. If Cooter and Ulen had discussed full compensation of the sort required by the potential Pareto efficiency norm in the context of the Hand Formula, I believe that they would have described full victim compensation in the way that I do in the text.

Cost, in 3 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 404, 405 (David L. Sills ed., 1968). The application of the potential Pareto superiority criterion requires some metric of comparison to make sense of the requirement of full compensation, but neither that criterion nor the commitment to subjective criteria for the evaluation of personal welfare entail selecting money (or wealth) as the metric. Money is an appealing metric (or unit of account) for economists because it is the medium of exchange and therefore is the convenient denominator for comparing interpersonal exchange values of events or options. Nevertheless, other metrics are, in principle, equally satisfactory. We might, for example, measure preferences in number of Kiwi fruit that persons would pay to see them honored. Id.

The economic interpretation of the Hand Formula would only be invariably utility maximizing (invoking the slippery concept of utility here in a quasi-cardinal sense) “if a dollar were equally valuable to everyone,” and in all circumstances. Cooter & Rapoport, supra note 78, at 526. This is an implausible assumption. It is more plausible to assume that additional dollars have diminishing marginal utility. For a more extended discussion of wealth and utility, see Edward J. McCaffery, Slouching Towards Equality: Gender Discrimination, Market Efficiency, and Social Change, 103 Yale L.J. 595, 636-37 (1993).

Paradoxically, that the tort system does not maximize utility by maximizing wealth does not mean that wealth maximization should not be the goal of the tort system if our ultimate aim is to maximize utility. Legal economists argue that it is cheaper (either generally or invariably) to redistribute wealth through the tax system than through the legal system. Maximizing wealth in the tort system is therefore one element of the most promising strategy for maximizing utility, because increases in wealth can be redistributed through the tax system in a manner that maximizes utility. See, e.g., Polinsky, supra note 76, at 9-10, 113 (stating that it is generally cheaper to redistribute wealth through the tax system); Louis Kaplow & Steven Shavell, Why the Legal System Is Less Efficient than the Income Tax System in Redistributing Income, 23 J. Legal Stud. 667, 669 (1994) ("[G]iven any regime with an inefficient legal rule (notably, one intended to help achieve a redistributive goal), there exists an alternative regime with an efficient legal rule and a modified income tax system in which all individuals are better off."); Steven Shavell, A Note on Efficiency vs. Distributional Equity in Legal Rulemaking: Should Distribu-
C. An Economic Conception of ARP (Average Reasonable Person) Doctrine

The general concept of due care is articulated by ARP doctrine, as well as by the Hand Formula. Although this doctrine seems vague in comparison with the Hand Formula, it nonetheless plays an equally prominent, if not greater, role in case law.\textsuperscript{85} Within the economic interpretation of due care, however, the doctrine occupies a distinctly subordinate place. The economic interpretation of the Hand Formula drives the economic interpretation of ARP doctrine. Cooter and Ulen, for example, propose that the concept of reasonableness embodied by the doctrine should be understood as one of economic rationality. The average reasonable person thinks and acts as a single, economically rational actor would if she bore both the costs and the benefits of precaution. An unreasonable person, by contrast, gives more weight to his or her benefits than to the costs imposed on others.\textsuperscript{86} "This interpretation of reasonableness in effect requires the decisionmaker to act as if all costs and benefits were internalized, as required for efficiency."\textsuperscript{87} Thus, reasonableness, in economic terms, is acting as you would if you internalized all the costs of your activity: Unreasonableness is acting as you would if you were entitled to externalize those costs.

Like economics generally, the economic interpretation of ARP doctrine collapses reasonableness into rationality, departing from the dominant doctrinal (and from the social contract\textsuperscript{88}) formulations of reasonableness. Legal doctrine holds that the conduct of the reasonable person is impartial (or objective) in two senses. First, the reasonable person gives "an impartial consideration to the harm likely to be done the interests of the other as compared with the advantages likely to accrue to his own interests, free from the natural tendency of the actor, as a party concerned, to prefer his own interests to those of others.\textsuperscript{89} Let us call this "the impartiality of equal consideration."\textsuperscript{90} Second, the reason-

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\textsuperscript{85} See Epstein, supra note 27, at 150 (noting that both ARP and Hand Formula are important parts of negligence law).
\textsuperscript{86} Cooter & Ulen, supra note 55, at 360.
\textsuperscript{87} Id. Other scholars have also used the single person metaphor to explain the economic conception of due care. See, e.g., Jules Coleman, Risks and Wrongs 238 (1992); Epstein, supra note 27 ("It is useful to regard the optimal level of care as the same amount of care that he would have taken if he himself were the only person at risk for property damage or bodily injury."); Gilles, Invisible Hand, supra note 65, at 1032-35. The single person metaphor has moral content as well: It expresses the equal moral value of each person's interests. See note 90 infra.
\textsuperscript{88} See notes 106-250 infra and accompanying text.
\textsuperscript{89} Restatement (Second) of Torts § 283 cmt. c (1964).
\textsuperscript{90} Corrective justice theorists have sought to show that the Hand Formula expresses a moral ideal of equality—the equal valuation of persons and their interests—and that the economic procedure for balancing competing interests realizes this ideal quite well. See, e.g., Coleman, supra note 74, at 131 (accepting the economic interpretation of the Hand Formula as the test of, though not the basis for, negligence liability); Dworkin, supra note 74, at 98-100 (arguing that the economic interpretation of the Hand Formula balances the liberty of injurers against the security of victims in a way which reflects the principle that "each member of a community has a right that each other member treat him with the minimal respect due a fellow human being"); Schwartz, supra note 74, at 701-02 (noting that the Hand Formula possesses "a recognizable moral content," because it requires the defendant to place his own welfare and the welfare of others on an equal footing); Ernest J. Weinrib, Toward a Moral Theory of
able person also "give[s] to the respective interests concerned the value which the law attaches to them."\(^9\) Let us call this "the impartiality of objective valuation."

By requiring an actor to proceed as an (economically) rational individual would if she were the potential victim, as well as the beneficiary of her own risk-taking, Cooter and Ulen's interpretation of reasonableness expresses "the impartiality of equal consideration." But their interpretation of reasonableness stands "the impartiality of objective valuation"—the injunction to assign to the interests at stake the value that the law attaches to them—on its head. Cooter and Ulen (like many law and economics proponents) claim that the law should use the subjective preferences of injurers and victims to fix the weight of the interests at stake: The valuations of the law should follow the valuations of the parties, not vice-versa.

The point is not that law and economics cannot explain and justify the objective character of the ARP standard. The writings of other law and economics scholars make it plain that economics can do so. Shavell, for example, observes that attaining the socially optimal level of care requires the determination of each individual's actual costs of care, but that it may in practice be hard (or impossible) for courts to obtain individualized cost information.\(^9\) For this reason, courts may have no choice but to use average costs of care.\(^9\) Landes and Posner make essentially the same argument,\(^9\) and there is no reason to think that Cooter and Ulen would disagree.

Nevertheless, it is clear that these economists view the objectivity of ARP doctrine as a second-best solution to the problem of interpersonal comparison. Economics is committed to the theoretical desirability of using subjective criteria of interpersonal comparison, and the attainment of full allocative efficiency requires their use. The economic interpretation of ARP doctrine is a relatively poor one because it criticizes the objective standard used by that doctrine as much as it justifies that standard, and because, although it can be made to fit the contours of the black-letter rules, it does not fit the accepted rationales for those

Negligence Law, 2 Law & Phil. 37, 44-45, 52-54 (1983) (interpreting the Hand Formula to embody the Kantian injunction to value the interests of others as if they were one's own). As the writings of Dworkin and Schwartz show, the appeal of this interpretation of the Hand Formula extends beyond those who identify themselves as corrective justice theorists. This moral ideal of equal treatment can also be seen as an aspect of the economic interpretation of the Hand Formula itself. See note 87 supra and accompanying text.

These ethical interpretations of the Hand Formula find support in the metaphor of the single actor: Due care is the care a single actor would take if she were both injurer and victim. The single actor metaphor appears as early as nineteenth century judicial rhetoric regarding the standard of negligence. The Nitro-glycerine Case (Parrott v. Wells, Fargo, & Co.), 82 U.S. (15 Wall.) 524, 538 (1872) ("[T]he measure of care against accident, which one must take to avoid responsibility, is that which a person of ordinary prudence and caution would use if his own interests were to be affected, and the whole risk were his own.").

91. RESTATEMENT (SECOND) OF Torts § 283 cmt. e (1964) (emphasis added).
93. Id.
94. WILLIAM M. LANDES & RICHARD A. POSNER, THE ECONOMIC STRUCTURE OF TORT LAW 125-31 (1987); see also RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 167 (4th ed. 1992) (noting that the court's failure to measure the actual costs of accidents to the parties can only be justified by the high cost of individuated measurement).
Independent of economic conceptions, however, there is no reason to suppose that we should view the objectivity of ARP doctrine so critically. Objective standards are endemic in tort law, and the cases generally insist on their superiority to subjective standards. The economic interpretation thus fits and justifies ARP doctrine quite poorly.

The economic interpretation of the ARP doctrine fits and justifies the case law quite poorly in a second respect as well. That interpretation takes the "average" in average reasonable person doctrine to be an empirical one, fashioned by compiling the characteristics of actual individuals. The natural reading of the pertinent law, however, suggests that the average at issue is a normative one, established by an objective community standard that may or may not be representative of actual human actors. As Holmes once dryly observed: "[The awkward person's] slips are no less troublesome to his neighbors than if they sprang from guilty neglect." Because they are, the law demands compliance with an objective standard of competence that defines due care. By confusing a normative notion with an empirical one, economics reveals another weakness in its fit with and grasp of ARP doctrine.

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95. The depth of the economic disquiet with tort law's use of objective criteria is evidenced by a frequently expressed economic preference for contract over tort. Whereas tort relies (and must rely) on second-best objective standards, contract can and does permit individuals to express their subjective individual preferences. See, e.g., Arlen, supra note 78, at 52 ("Because individual preferences are subjective and are truly known only by an individual himself, economics generally encourages reliance on voluntary transactions to reallocate resources in a way that promotes individual (and thus social) welfare . . ."); see also notes 123-124 infra and accompanying text.

96. Some examples of courts applying objective standards in intentional torts include: the manifestation of consent, O'Brien v. Cunard Steamship Co., 28 N.E. 266 (Mass. 1891); intending the natural consequences of one's actions, Garratt v. Dailey, 279 P.2d 1091 (Wash. 1955); the mens rea of trespass, Cleveland Park Club v. Perry, 165 A.2d 485 (D.C. 1960); the apprehension element of assault, State v. Ingram, 74 S.E.2d 332 (N.C. 1953) (a criminal case—criminal and civil tort doctrines for assault and battery and the defenses to them are parallel); and the objective component of self-defense, Nelson v. State, 181 N.E. 448 (Ohio Ct. App. 1932). In negligence law, examples besides ARP doctrine include nuisance law, Rogers v. Elliot, 15 N.E. 768 (Mass. 1888), and assumption of risk, Knight v. Jewett, 834 P.2d 696 (Cal. 1992). There are, of course, counter-examples in which courts use subjective standards, such as: the abused spouse defense, State v. Leidholm, 334 N.W.2d 811 (N.D. 1983); the "actual malice" subjective recklessness standard for defamation, New York Times Co. v. Sullivan, 376 U.S. 254 (1964); and intentional infliction of emotional distress, Hustler Magazine v. Falwell, 485 U.S. 46 (1988).

97. In evaluating the adequacy of the economic interpretation of average reasonable person doctrine according to its ability to fit and justify the pertinent law, I follow Ronald Dworkin. For a discussion of Dworkin's criteria of fit and justification, and their possible justification by the principle of fidelity to preexisting law, see Gregory C. Keating, Fidelity to Preexisting Law and the Legitimacy of Legal Decision, 69 Notre Dame L. Rev. 1, 21-55 (1993). For an elaboration on the distinction between fitting black-letter law and the fitting reasons typically taken to justify that law, see id. at 21-23. Cooter and Ulen, as well as Landes and Posner, indicate that their economic interpretations of the Hand Formula satisfy a test of fit and justification. See note 100 infra and accompanying text. Shavell does not make this claim. See id.

98. See PROSSER & KEETON, supra note 60, at 175 (observing that the reasonable person is "a personification of a community ideal of reasonable behavior, determined by the jury's social judgment"); cf. COLEMAN, supra note 87, at 280, 470 n.11 (distinguishing between "normative" and "epistemic" expectations, and arguing that tort duties to repair are grounded in normative expectations).

D. Putting the Economic Interpretation into Practice

As the preceding discussion implies, implementing the economic interpretation of due care is difficult. The economic conception is, above all, a normative prescription—advice to triers of fact about how to decide whether the defendant was negligent in failing to take the precaution that would have prevented the accident. But as an interpretation of case law (and perhaps jury practice), the economic conception falls short. As the discussion of ARP doctrine implied, the procedure that the economic interpretation prescribes cannot be put into effect without substantial and troubling modifications. No market exists to measure what injurers are prepared to pay to forego taking certain precautions, and what victims are prepared to pay to have injurers take those precautions. To apply the economic interpretation, juries would have to guess at these matters, and appellate courts supervising their verdicts would, at best, seem to have two courses available to them. Following the approach intimated by Landes and Posner, appellate courts could rely on average estimates (or guesses) of what injurers and victims are prepared to pay. Or, following the approach intimated by Schelling, Viscusi, and Schwartz, they could extrapolate such estimates from data indicating the market value that persons place on their lives.

Both of these approaches leave considerable leeway for judges to exercise their own normative judgment in the guise of finding facts. These weaknesses, no doubt, afflict other theories as well. Economics, however, is subject to a further, special and severe limitation. In practice economic deference to

100. Cooter and Ulen, of course, would dispute my assertion. They conjecture (as do Posner and Landes) that their economic account of the Hand Formula provides an accurate interpretation of what appellate judges mean when they define negligence in terms of the Hand Formula. Cooter and Ulen conclude, however, that it is hard to know if this conjecture is correct. COOTER & ULEN, supra note 55, at 360 ("Whether [the economic interpretation of the Hand Formula] is an accurate interpretation of the actual reasoning employed in the courts is a difficult empirical question."). Landes and Posner are much less cautious. They believe that the Hand Formula encapsulates the established legal understanding of negligence and that the economic interpretation of the Hand Formula accurately makes explicit the implicit reasoning of courts and juries. See, e.g., LANDES & POSNER, supra note 94, at 85-86 ("[Judge] Hand was purporting only to make explicit what had long been the implicit meaning of negligence; . . . something like the Hand Formula has long been used to decide negligence cases."); see also McCarty v. Pheasant Run, Inc., 826 F.2d 1554, 1557 (7th Cir. 1987) (Posner, J.) ("[The Hand] Formula translates into economic terms the conventional legal test for negligence."); Posner, supra note 74, at 32 ("The formulation . . . never purported to be original but was an attempt to make explicit the standard that the courts had long applied.").

Professor Shavell does not make such a claim explicitly. He accepts efficiency as a normative ideal, but, although he often seeks to show that the law of accidents comports with what efficiency requires, he does not claim that the economic interpretation of due care fits and justifies the extant law in the way that Cooter and Ulen, as well as Landes and Posner, do. See generally SHAVELL, supra note 92.

101. See LANDES & POSNER, supra note 94, at 34-38.

102. Viscusi, supra note 81, at 98-102 (discussing empirical studies of the values people place on life); Schelling, supra note 81, at 134-35, 144 (discussing methods and problems in valuing a person's life); Schwartz, supra note 81, at 1025 (citing studies claiming that, as of 1980, people valued their lives at between $400,000 and $3 million); id. at 1026 n.46 (citing work by Viscusi and Moore dating from 1990 which placed a value of $6.2 million on a life).

103. See Duncan Kennedy, Freedom and Constraint in Adjudication: A Critical Phenomenology, 36 J. LEGAL EDUC. 518, 519 (1986) (demonstrating how judges’ personal beliefs and objections influence their application of “the law.”).
subjective preferences begs a vital question: Which preferences count—those that persons actually have, or those that they would have if they were perfectly informed? As a matter of economic theory, it is plain that perfectly informed preferences are superior to imperfectly informed ones. Perfectly informed preferences should express our best true judgments about our own welfare; imperfectly informed preferences should fail to do so. This means that the ostensibly empirical inquiry required by the economic conception of due care actually asks us to answer a counterfactual question, and an unanswerable one at that. The question is counterfactual because it directs our attention not to actual preferences, but to perfectly informed ones. It is unanswerable because, if we suppose, as economics does, that preferences are subjective, it is simply impossible to know what preferences perfectly informed persons would have. The requirement that we defer to them is, in practice, empty.

In sum, the application of the economic interpretation of the Hand Formula must make less use of individual preferences with respect to particular precautions and accidents than it does in theory; must draw on guesswork and incomplete, imperfect empirical data; and must answer a question that is essentially unanswerable. Combined, these shortcomings leave the economic interpretation ripe for challenge and replacement.

III. A SOCIAL CONTRACT CONCEPTION: DUE CARE AS THE REASONABLE RECONCILIATION OF FREEDOM AND SECURITY

The economic interpretation of the Hand Formula denies the importance of the distinction between social and individual choice. By balancing the preferences of distinct persons against one another in pursuit of maximum utility or preference satisfaction, the economic interpretation supposes that there is some shared final end—the functional equivalent of cardinal utility—whose maximization is the ultimate objective of all persons, and whose distribution matters only insofar as it affects its maximization.

104. Economic analyses usually take informed preferences as their touchstone. See, e.g., Craswell, supra note 78, at 369 (“[E]... assume consumers have perfect information about the presence or absence of the warranty and about its value to them.”); Schwartz, Product Liability Reform, supra note 70, at 355 (“[T]he consumer sovereignty... norm holds that the law should reflect the preferences of competent, informed consumers regarding risk allocation.”). For a philosophical discussion of the justifications for, and problems with, this move, see John C. Harsanyi, Morality and the Theory of Rational Behavior, in UTILITARIANISM AND BEYOND, supra note 2, at 39, 55 (formulating the principle of Preference Autonomy, which holds that a person’s informed preferences for her own welfare are the only legitimate criteria for deciding what is best for that individual), and Thomas M. Scanlon, The Moral Basis of Interpersonal Comparisons, in INTERPERSONAL COMPARISONS OF WELL-BEING 17 (Jon Elster & John E. Roemer eds., 1991).

105. See Duncan Kennedy, Distributive and Paternalist Motives in Contract and Tort Law, with Special Reference to Compulsory Terms and Unequal Bargaining Power, 41 Md. L. Rev. 565, 597–604 (1982) (arguing that economic analysis disguises normative judgments as questions of fact); Scanlon, supra note 104, at 42 (discussing problems with estimating “fully informed and ideally rational” preferences). It is important to distinguish asking an unanswerable question from simply leaving plenty of room for empirical and normative disagreement. All credible approaches to the problems of due care, including the approach advocated in this article, pose difficult questions for juries and leave plenty of room for disagreement. Not all approaches ask unanswerable questions, however.
Put intuitively, the central problem with this conception is that most of us regard the circumstance where we voluntarily expose ourselves to risks in the pursuit of our own ends as very different from the circumstance where others involuntarily expose us to risks in the pursuit of their ends. In a world where persons affirm diverse and incommensurable conceptions of the good, those who are put at risk generally do not value the ends pursued through the relevant risk impositions in the way that those imposing the risks do. Given this reasonable diversity of final aims and aspirations, the justification for accepting risk impositions by others is not common acknowledgement of some shared final end, but *reciprocity*—the reciprocal right to expose others to equal risks. The ideas (and the institutional realization) of equal freedom and mutual benefit provide the grounds on which we have the right to expose others to risks and the reason to bear risks imposed by them. The fair reconciliation of freedom of action and security helps to secure the “liberty and integrity of the person”—one of the liberties essential to the pursuit of one’s own conception of the good over the course of a complete life—for each and every member of society.

The central conviction of the social contract conception is thus that accident law must be a realm of equal freedom and mutual benefit. Our present challenge is to bring these ideals to bear on articulating the terms of reasonable risk imposition, as those terms are framed by the doctrines of duty and breach. I shall try to meet this challenge by proposing a social contract conception of due care that has three essential elements. First, it takes the interests at stake in accidental risk imposition to be aspects of the “liberty and integrity of the person.” These are central human interests and they take priority over the satisfaction of preferences or the maximization of wealth. Second, it holds that the security of the victim should generally be assigned high relative value in comparison with the freedom of action of the injurer, thereby underwriting something akin to the English version of the Hand Formula (and perhaps much of American practice). Third, it calls for the use of “objective” (not “subjective”) criteria as the best solution to problems of interpersonal comparison, and so vindicates the use of such criteria by ARP doctrine. In developing these positions, I shall try to show how they fit and justify the pertinent legal doctrines.

A. The Domain of Accident Law

As explained in Part II.B, there are two reasons why social contract theory takes the interests at stake in accidental risk impositions to be the injurer’s freedom of action and the victim’s security. First, the theory recognizes that persons have a deep and powerful interest in leading their lives in ways that

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106. In addressing that challenge, however, we must also remember that justification for the problem of duty and breach is subordinate to the problem of choosing the correct liability norm. Unless the division of labor between negligence and strict liability satisfies social contract criteria of reasonable acceptability—answers to terms of reciprocity of the sort that Fletcher and Fried describe—the terms of mutual risk imposition will fail to define a regime of equal freedom and mutual benefit. (Fletcher and Fried’s reciprocity of risk criterion is one account of the proper criterion for dividing the labor of accident law between negligence and strict liability. I do not mean to endorse (or reject) it here.) Failure at this level is beyond the correction of even the best articulation of the doctrines of duty and breach.
accord with their aims and aspirations. Freedom, in the form of institutionally specified basic liberties such as freedom of action and security, is the "social condition" most essential to the pursuit of a conception of the good over a complete life. For this reason, social contract theory assigns lexical priority to freedom over other interests such as wealth, income, powers and prerogatives of office and position, and the social bases of self-respect. Second, the theory supposes that the citizens of advanced industrial democracies hold diverse and incommensurable conceptions of the good. Consequently, interpersonal comparisons of welfare must utilize criteria that are mutually acceptable to persons with diverse and incommensurable aims, aspirations, and ideals. Basic liberties such as security and freedom of action meet this test because they are necessary "background conditions" for the pursuit of a variety of conceptions of the good.

Thus, under social contract theory, the purpose of due care doctrine is to reconcile the freedom of action of injurers with the security of victims on terms that construct the most favorable conditions for pursuing a conception of the good over the course of a complete life. To determine which principles construct these conditions, we must bring to bear the canons of reasonable acceptability. Whether a given principle meets the test of reasonable acceptability depends on directly comparing its allocation of burdens and benefits to different classes of persons with the allocation effected by competing principles. Those with reason to complain about the distribution of burdens and benefits prescribed by a particular arrangement may reasonably reject it only if an alternative arrangement would result in a distribution that gives those it disadvantages less reason to object. Combining this account of the interests at stake with this criterion of reasonable acceptability, we can say that, from a social contract perspective, the permissibility of a particular risk imposition depends on directly comparing the burdens that the untaken precaution imposes on the injurer's freedom of action, with the burden that foregoing that precaution places on the security of prospective victims.

Although we tend to think of the problem of due care as one of accident and precaution costs, at a higher level of abstraction, conceptualizing the problem of accidental harm in terms of freedom resonates with quite natural moral intuitions, and "fits" with much of tort law. The torts of assault, battery, invasion of privacy, and intentional infliction of emotional distress, for example, all protect the liberty and integrity (physical and psychological) of persons. "Tort

107. Rawls himself suggests that we "take up the point of view of the representative equal citizen and...adjust the scheme of liberties in the light of this citizen's rational interests as seen from the point of view of the appropriate later stage [in the sequence of stages used to define the principles of justice]." RAWLS, POLITICAL LIBERALISM, supra note 1, at 289, 331, 334-40 (analyzing how the liberties fit into "one coherent scheme"). I believe that the approach adopted in the text is consistent with Rawls' approach, but simpler to apply.

108. See Scanlon, supra note 2, at 113. Scanlon distinguishes between reasonable acceptability and reasonable rejectability. This distinction is not necessary for our purposes.

109. JUDITH JARVIS THOMSON, Remarks on Causation and Liability, in RIGHTS, RESTITUTION, & RISK 192, 199 (William Parent ed., 1986) (arguing that tort compensation for accidental injury protects our "moral space, in which to assess possible ends, make choices, and then work for the means to reach those ends"). While Thomson uses "freedom of action" where I use security, the underlying point is the same.

Conversely, when risk impositions do not implicate the liberty and integrity of the person, tort protections are restricted. For the most part, accident law extends its protections only to physical injuries to natural persons and their property, with the concomitant exclusion of purely emotional harm and purely economic loss.\footnote{111}{The majority rule denies recovery for economic losses caused by negligence unless the victim's property or physical security also suffers harm. \textit{See}, e.g., Robins Dry Dock & Repair Co. v. Flint, 275 U.S. 303, 309 (1927) (holding that a tortfeasor is not liable for economic damages to a party who is under a contract to use the property damaged by the tortfeasor); Stevenson v. East Ohio Gas Co., 73 N.E.2d 200, 203, 204 (Ohio Ct. App. 1946) (holding that an individual whose negligence results in an explosion is liable "only to those who have sustained personal injuries or physical property damage," and not to those who merely suffered "economic loss based on contract"). A similar rule applies to the accidental inflation of purely emotional harm. \textit{See} PROSSER & KEETON, supra note 60, at 85-94. Similarly, one cannot recover in a products liability action for damage to the defective product itself. \textit{See}, e.g., East River S.S. Corp. v. Transamerica Delaval, Inc., 476 U.S. 858, 871 (1986) ("The tort concern with safety is reduced when an injury is only to the product itself."); Moorman Mfg. Co. v. Nat'l Tank Co., 435 N.E.2d 443, 450 (Ill. 1982) (holding that plaintiff could not recover under tort law for purely economic losses resulting from a crack in a tank manufactured by the defendant). Singling out physical integrity for special protection expresses the idea that bodily security is a matter of fundamental importance and equal right. This is especially true in the product liability context where, unlike the context of accidents among strangers, the adoption of a flexible contract regime that tailors protections to individual risk preferences is a viable alternative.}

Physical injury, which threatens death and irreversible harm to the capacities necessary to the pursuit of a human life, is plainly the most grievous general form of accidental interference with personal freedom. Personal property, although not as central as bodily integrity to persons' capacity to shape their own lives, is nonetheless an essential social condition for the efficacious pursuit of a conception of the good. Rawls' first principle of justice, for example, includes "among the basic liberties of the person ... the right to hold and to have the exclusive use of personal property."\footnote{112}{RAWLS, POLITICAL LIBERALISM, supra note 1, at 298.} It does so because this liberty is necessary to "allow a sufficient material basis for a sense of personal independence and self-respect, both of which are essential for the development and exercise of the moral powers."\footnote{113}{\textit{Id.} Rawls objects, however, to including property "rights of acquisition and bequest," and the "right to own means of production and natural resources" within the equal basic liberties, as libertarians might. Rawls also objects to including the right to equal ownership of natural resources and means of production within those liberties, as a socialist might, on the ground that these "wider conceptions are not ... necessary for the development and exercise of the moral powers." \textit{Id.} On the connections between property and personhood, see generally Margaret Jane Radin, \textit{Property and Personhood}, 34 STAN. L. REV. 957 (1982).}

Personal property is thus bound up with the social realization of personhood, and so is entitled to the same protection afforded persons themselves.\footnote{114}{Although purely emotional harm is central to the core of human personality, its exclusion from protection is justified on other grounds. \textit{See} note 122 \textit{infra} and accompanying text. The extent to which tort law protects property interests probably exceeds the protection called for by Rawls. Whether this is a relatively harmless overgeneralization of protections centered on personhood, or the hijacking of those protections to protect private property instead of moral personality, is a matter that I do not consider here.} The purely economic interests...
of persons, by contrast, are not so intimately tied to the development and exercise of the distinctive capacities of human agency.

This delineation of the domain of accident law shapes the way that courts make judgments of due care. Because courts generally restrict the protection of negligence law to physical injury and property damage, determinations of due care (of the sort called for by the Hand Formula, for example) compare the magnitude of threats to the physical integrity and personal property of victims with the cost to injurers of reducing those threats. The very procedure of negligence adjudication thus singles out the liberty and integrity of natural persons for special protection, and so reflects the priority of our interest in shaping our lives in accordance with our aims.

Thus, social contract theory rejects James Henderson's important criticism that the application of negligence criteria to product design is fatally flawed by negligence law's narrow focus on safety concerns, because proper product design must "consider[ ] such factors as market price, functional utility, and aesthetics, as well as safety, and achieve[ ] the proper balance among them." Social contract theory endorses negligence law's assignment of relative priority to considerations of safety. For free and equal persons seeking to advance their conceptions of the good over complete lives, considerations of safety are more urgent than considerations of price, utility, and aesthetics.

If the doctrinal delineation of the domain of accident law captures the priority of basic liberties, the formal equality of tort law captures their equality. Social contract theory holds that "[e]ach person has an equal claim to a fully adequate scheme of equal basic rights and liberties." That equality expresses the equal value of all citizens. By extension, tort law must protect freedom of action and security in a "fully adequate" and formally equal way.

The Takings and Due Process Clauses of the Constitution, and the law interpreting them, also treat property more favorably than mere economic interests. Under the Takings Clause, for example, it is much easier to win a claim when the government physically appropriates one's property than when the government diminishes its value through regulation.

115. James A. Henderson Jr., Judicial Review of Manufacturers' Conscious Design Choices: The Limits of Adjudication, 73 Colum. L. Rev. 1531, 1540 (1973). Henderson directs his critique against judicial review of conscious design choices, but it seems equally applicable to all complex questions of negligence. As Henderson implicitly acknowledges, the problems of complexity, and coordination of safety with other concerns, are a natural consequence of modern accidents in general (The acknowledgement is implicit in Henderson's argument that the establishment of safety standards by negligence adjudication was easier in the 19th century because the world of the "early nineteenth century" was "essentially unicentric," and 19th century accident cases "relatively non-technical." Id. at 1541.).

116. Negligence law does not exclude these factors from consideration, but it assigns priority to safety in its calculations. As Henderson's frequent coauthor, Aaron Twerski, put it, "[t]o the extent that factors such as cost, aesthetics and functional utility are examined, they are examined not in isolation but in relation to safety." A.D. Twerski, A.S. Weinstein, W.A. Donaher & H.R. Piehler, The Use and Abuse of Warnings in Product Liability—Design Defect Litigation Comes of Age, 61 Cornell L. Rev. 495, 526 (1976).

117. Rawls, Political Liberalism, supra note 1, at 5.

118. Formally speaking, tort law extends its protections equally to all citizens. This formal equality is not substantive equality; the protections of tort law are worth more to some citizens than to others. In Rawlsian terms this is a matter of the worth (or value) of liberty. For Rawls, the worth of liberty is a matter governed by the difference principle, which states that social and economic inequalities should be adjusted so that "they are to . . . the greatest benefit of the least advantaged members of society." Id. at 1. Insofar as our society does not satisfy the requirements of the difference principle, the equal freedom
Finally, the inalienability of tort protections against accidental injury reflects the pricelessness of the interests incorporated in the liberty and integrity of the person. Basic liberties are inalienable because their alienation threatens the very foundation of our public, moral being.

These aspects of accident law demonstrate that it is neither natural nor necessary to conceptualize accident and precaution costs in economic terms. Not only do the restrictions on the domain of accident law and the inalienability of tort protections fit well with social contract theory, they are essentially at odds with an economic understanding of negligence. Insofar as legal economists take wealth as a surrogate for utility, the exclusion of purely economic damages is difficult to explain. Losses of wealth or income clearly affect people’s utility as economists understand it. Economic theory, therefore, can only be reconciled with the restricted domain of accident law by ignoring the victim’s utility and showing why the overall effect of the victim’s economic losses on social utility may be too small and too uncertain to justify awarding damages for purely economic losses. The exclusion of purely emotional harm is even

secured by accident law is imperfect (from a Rawlsian perspective). I doubt that any formal redefinition of tort rights and duties can repair this failing, but I shall not pursue the matter here. For a discussion of the difference principle, see generally Rawls, Political Liberalism, supra note 1, at 282-85. For a discussion of the basic liberties and their worth, see generally id. at 324-31.

119. Consistent with the conviction that the liberty and integrity of the person is a matter of equal—and inalienable—right, accident law generally makes its protections inalienable. The non-disclaimability of tort duties is not particularly telling in the context of accidents among strangers because it is impossible for strangers to bargain over liability terms. Product liability law, however, is again instructive because product accidents arise in settings where disclaimer is practicable. As product liability law has evolved from MacPherson, through Henningssen, and onto the adoption of § 402A of the Restatement (Second) of Torts, courts have imposed nondisclaimable duties of care with respect to product accidents that result in physical injury and property damage. See MacPherson v. Buick Motor Co., 111 N.E. 1050 (N.Y. 1916) (extending the duty owed by defendant manufacturers to foreseeable users other than the immediate purchasers); Henningssen v. Bloomingdale Motors, Inc., 161 A.2d 69 (N.J. 1960) (recognizing a nondisclaimable warranty of merchantability); Restatement (Second) of Torts § 402A (1964) (making the seller of a product strictly liable to either the consumer or the user of a defective product).

120. See Rawls, Political Liberalism, supra note 1, at 365-66; see also Jean-Jacques Rousseau, the Social Contract 12-13 (Lester G. Crocker trans., 1967) (1761) (“To renounce one's liberty is to renounce one's quality as a man, the rights and also the duties of humanity. For him who renounces everything there is no possible compensation. Such a renunciation is incompatible with man's nature, for to take away all freedom from his will is to take away all morality from his actions.”).

121. For example, economists can argue that victims suffering only economic loss are not entitled to recovery in part because their economic loss will likely be recuperated by other parties so that there will be no social loss, and in part because any resulting social loss cannot be reasonably calculated. Professor Shavell, for one, argues that the “no recovery for purely economic loss rule” is appropriate where other actors in the same market experience corresponding economic gains. Shavell, supra note 92, at 137-39. For example, a bridge collapse caused by a negligent automobile accident may harm one set of actors (those who operate gas stops and restaurants on that highway) but at the same time may help another set of actors (those who offer the same services on the detour). See W. Bishop, Economic Loss in Tort, 2 Oxford J. Legal Stud. 1, 4-7 (1982) (illustrating the proposition that where “private economic loss caused by a tortious act is not a cost to society... [T]he exclusion of economic loss from liability... tortfeasors bear will be efficient”); cf. Kenneth Reich, 184-Mile Stretch of I-5 Sh Down, L.A. Times, Mar. 13, 1995, at A1 (discussing how a recent, major freeway closure will harm the businesses that service the route). An economist could also reasonably justify the no liability rule cases involving pure economic loss on the ground that litigation costs are not worth incurring in a case of cases many of which produce no social loss. See Shavell, supra note 92, at 138 (“[T]he routi award of economic losses... raise[s] administrative costs by adding to the volume of litigation, shr
more awkward to justify: Emotional distress represents the very essence of subjective harm, yet the very subjectivity of pure emotional harm requires nuisance and accident law to deny liability for inflicting such harms (when unaccompanied by the threat of physical injury or property damage). Permitting recovery for pure emotional harm would put us at the mercy of the emotionally hypersensitive. And, using the sensibilities of the hypersensitive as the benchmark for the imposition of liability would create a standard so uncertain and fluctuating as to paralyze industrial enterprises. . . . The character of [a use] might change from legal to illegal, or illegal to legal, with every change of tenants of an adjacent estate, or with an arrival or departure of a guest or boarder at a house near by; or even with the wakefulness or the tranquil repose of an invalid neighbor on a particular night.122

The number of parties who could claim such loss is presumably large."). Concern that an individual actor might be subject to unlimited liability may also justify the rule.

Both Landes and Posner, and Bishop, go further—they claim that courts only deny recovery for pure economic losses in those cases where the victims' losses are captured as corresponding gains by other actors. Landes & Posner, supra note 94, at 251-52; Bishop, supra, at 29. I find this claim unpersuasive. For one thing, this claim is not supported by the rhetoric of the cases. Courts always speak of the economic loss rule as a generally applicable proscription, without mentioning the limitation that Bishop and Landes and Posner place on it. Furthermore, courts have rejected claims for pure economic loss, even in cases where the loss was not captured as a gain by someone else. In one of the first American economic loss cases, an employer bound by contract to pay medical costs incurred by its employees, sued to recover expenses paid to rehabilitate an employee negligently injured by the defendant. The Second Circuit denied recovery. The Federal No. 2, 21 F.2d 313, 314 (2d Cir. 1927), overruled by Black v. Red Star Towing & Transp. Co., 860 F.2d 30 (2d Cir. 1988). The money lost was not recuperated by another firm in the same line of work as the plaintiff. In order to believe that there was an offsetting social benefit in the form of ex ante decreased employee compensation, we would have to assume an extraordinarily efficient market. Although The Federal No. 2 has since been overruled, its language nevertheless planted the seed that became the economic loss rule. Justice Holmes cited The Federal No. 2 in Robins Dry Dock & Repair Co. v. Flint, a classic opinion that helped to establish the rule. 275 U.S. 303, 309 (1927) ("[A]s a general rule . . . a tort to the person or property of one man does not make the tortfeasor liable to another merely because the injured person was under contract with that other, unknown to the door of the wrong.").

A more modern case along the same lines is Amoco Transport Co. v. S/S Mason Lykes, 768 F.2d 659, 661-62 (5th Cir. 1985). In Amoco Transport, a shipper was forced to pay twice to ship his goods after the initial cargo ship crashed into another boat. No offsetting or net social gain resulted from the accident because the shipper just paid the same shipping company to re-ship the cargo on a different boat. For a summary of doctrine and policy relating to the rule, see then-Judge Breyer's opinion in Barber Lines A/S v. M/V Donau Maru, 764 F.2d 50 (1st Cir. 1985).


122. Rogers v. Elliott, 15 N.E. 768, 772 (Mass. 1888) (holding that ringing a church bell every day was not a nuisance even though it caused convulsions in the plaintiff, who was recovering from sunstroke, and stating the rule that what constitutes a nuisance must be determined by the standard "of ordinary people, as it is in determining [questions of] negligence"). The very same problems would arise if actors were exposed to negligence liability whenever someone experienced emotional distress because of their activity. See note 210 infra and accompanying text. The rule that victims may recover damages for tortious emotional injury only when accompanied by physical injury is subject to various subtleties and some recent erosion. See Guido Calabresi, Ideals, Beliefs, Attitudes, and the Law 69-71 (1985) ("There are exceptions . . . and they have been growing. . . . The exceptions, however, remain just that, and emotional damages . . . are treated with great suspicion in torts."); Prosser & Keeton, supra note 60, at 359-66 (discussing tort protections for "mental disturbances").
Finally, inalienability is likewise problematic for economic theorists. In the absence of information problems (or other market imperfections), and as long as consumer tastes for risks are heterogeneous, economics should favor the disclaimability of tort protections. Inalienability prevents buyers and sellers from tailoring the terms of their transactions to their (subjective) tastes for levels of product risk. Thus, from an economic perspective, inalienability raises the specter of unjustified paternalism. For this reason, other things being equal, legal economists typically prefer freedom of contract over immutable liability standards. In short, economics cannot explain the restricted domain of accident law and the inalienability of tort protections as anything but second-best solutions to market imperfections.

Social contract theory, by contrast, praises the inalienability of tort protections and the restricted domain of accident law. These doctrines are not second-best solutions to market imperfections, but appropriate expressions of the premium that tort law should place on the liberty and integrity of the person. Inalienability expresses the pricelessness of freedom; the restricted domain of accident law expresses the priority of certain liberties over other human interests.

Put differently, the contrast between economics and social contract theory centers on their different understandings of autonomy. Economics equates autonomy with consumer sovereignty, holding that we respect people’s freedom when we respect their preferences. Because individual preferences for risk

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123. Cf. W. Kip Viscusi, Reforming Products Liability 75 (1991) ("Risk awareness is crucial for efficient product choice and for precautionary behavior ... "); Ian Ayres & Robert Gertner, Filling Gaps in Incomplete Contracts: An Economic Theory of Default Rules, 99 YALE L.J. 87, 88 (1989) ("Immutability is justified only if unregulated contracting would be socially deleterious because parties internal or external to the contract cannot adequately protect themselves."); Schwartz, Product Liability Reform, supra note 70, at 367-68 (advocating "consumer sovereignty" and a contract regime in the realm of product related rules). Schwartz stresses an additional, related advantage of contract from an economic perspective—it permits product purchasers to tailor the level of recovery for product related accidents to their own tastes for insurance. Id. at 362-67. The assumption that consumer tastes for both product safety and insurance coverage are heterogeneous is attractive to economists because consumers differ greatly in their wealth. Economists tend to suppose that even if, in the abstract, poorer consumers value safety as much as richer ones, poorer consumers are not likely to pay as much for product safety and insurance against product accidents because they have less to spend and more urgent things to spend it on (such as food). See, e.g., James M. Buchanan, In Defense of Caveat Emptor, 38 U. Cin. L. Rev. 64, 66 (1970) ("For the most part, but not exclusively, demanders of ... low quality product[s] will be poor people who can ill afford to purchase a high degree of risk avoidance."); Craswell, supra note 78, at 379 ("[T]he correlation between a low willingness to pay for [a] product and a low willingness to pay for the warranty [may be] due to a lack of resources . . . ").

124. Steven P. Croley & Jon D. Hanson, Rescuing the Revolution: The Revived Case for Enterprise Liability, 91 MIC. L. REV. 683, 688 (1993); see also LANDES & POSNER, supra note 94, at 31 ("[T]he market is a more reliable register of values than the legal system."); Anthony T. Kronman, Specific Performance, 45 U. CHI. L. REV. 351, 370 (1978) ("[A] legal system that denies private parties the right to [contract around its rules] will tend to be less efficient than a system that adopts the same rules but permits contractual variation."). This point is essential to Alan Schwartz’s and James Buchanan’s cases against strict liability and for contract in product liability law. See Alan Schwartz, Against Strict Liability, supra note 70, at 836-40 (equating consumer sovereignty with free markets and freedom of contract, and criticizing strict liability for its rejection of the market); Schwartz, Product Liability Reform, supra note 70 (arguing for contract regime and against strict liability); Buchanan, supra note 123, at 72-73 (lamenting the shift toward strict liability on grounds of economic efficiency, and preferring instead to let the buyer beware).
vary widely, in the absence of serious market imperfections economics favors
the flexible and individuated protections of contract over the uniform and inalienable safeguards of tort. Social contract theory, by contrast, interprets autonomy as the freedom to pursue one's conception of the good. We respect people's freedom when we respect their equal right to a scheme of basic liberties which secures for them the opportunity to lead their lives in accordance with their deepest values. All persons share the same fundamental interest in liberty and personal integrity. This interest takes precedence over a variety of less significant interests, and must be equally and inalienably protected. For this reason, social contract theory favors the uniform and inalienable protections of tort over the flexible and individuated protections of contract. In sum, the delineation of the domain of tort, and the inalienability of its protections, mesh with the demands of social contract theory better than with those of economics.125 The next question is whether the same can be said of due care doctrine itself.

B. Precaution and Proportionality

Social contract theory rejects the economic conception of reasonable care as the level of precaution that maximizes wealth. Instead, social contract theory views reasonable care as the level of care that fairly reconciles the conflicting liberties of injurers and victims. The "fair" level of care is determined by the principle of proportionality. In other words, social contract theory requires actors to take precautions commensurate with the gravity and probability of the risks they create. The enhanced freedom of action injurers gain from imposing risks must be balanced against the loss of security those risks impose on victims. Conversely, the lost freedom of action that injurers suffer when they are forced to take precautions must be balanced against the benefits those precautions afford the property and physical integrity of victims.126

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125. These differences lead to different views of damages. Economics understands damages as prices and holds that they should be set at a level which encourages only efficient "takings" of the property and integrity of others. So conceived, compensation is not "redress for wrong done" but a way of ensuring that the "resources" of persons and their property are put to their highest uses. Coleman, supra note 74, at 49. Social contract theory, by contrast, views negligently inflicted injuries as wrongful and thus views damages as redress for wrongful done. Id. Because of their view of damages, economists may not regard the protections of tort as inalienable in the way that they are described in the text, though I believe that description coheres not only with social contract theory but with the intuitive view of the matter. Social contract theory's view of negligence as "wrongdoing" (to use Jules Coleman's apt term) has implications for the measure of damages as well. Once money damages are understood as redress for wrongful violations of persons' freedom, physical integrity, and property, it becomes clear that they should not be pitched at the level appropriate for insurance against misfortune. See Coleman, supra note 87, at 330-32 (on "wrongdoing"), 427-28, 37-39 (on damages). Finally, the social contract view implies that, under some circumstances, it may be appropriate to impose on an injurer "some penalty . . . for doing the act, in addition to exacting compensation from him for the act's victims." Robert Nozick, Anarchy, State and Utopia 57 (1974). These, however, are matters for another paper.

126. The identification of due care with proportionality finds expression in commentary, case law, and standard (or pattern) jury instructions. See, e.g., Prosser & Keeton, supra note 60, at 208 ("The amount of care demanded by the standard of reasonable conduct must be in proportion to the apparent risk. As the danger becomes greater, the actor is required to exercise caution commensurate with it."); Gilles, Invisible Hand, supra note 65, at 1018 n.6 (quoting Galligan v. Blais, 364 A.2d 164, 166 (Conn. 1976) ("Reasonable care is care proportionate to the dangers existing in light of the surrounding circum-
If the idea of proportionality is straightforward, its application to the problems of accidental risk imposition is not. In theory, the proportional relationship between risks and precautions should be smooth and continuous: Very small risks should require very small precautions, modest risks should require modest precautions, great risks should require great precautions, and so on. However, close consideration of the cases suggests that the law of due care actually embraces two distinct discontinuities. First, when the risk of significant injury is exceedingly low, accident law does not demand that the actor take commensurate precautions. Second, when the magnitude of harm is substantial, and the probability of that harm is low, but not exceedingly so, accident law may require the actor to take apparently "disproportionate" precautions.

The first discontinuity involves cases where the magnitude of the accidental harm threatened by an act is nontrivial, but the probability of that harm materializing is very, very low. Modern English law may hold explicitly that actors have no duty to take precautions against the materialization of such risks.\(^1\) As discussed below, modern American law may reach the same result implicitly.

The holding of the court in *Van Skike v. Zussman*\(^2\) exemplifies the legal treatment of the first discontinuity. In *Van Skike*, a child set himself on fire after he won a toy lighter as a prize in a gumball machine, and tried to fill it with lighter fluid that he purchased from the store on whose premises the machine was located. He and his mother brought suit against Zussman, the operator of the gumball machine, and against the store that sold the child the lighter fluid. The claim against Zussman was predicated on the argument that "[Zussman] knew of or should have known that he had placed his cigarette lighter dispensing machines in a store that sold flammable fluids"\(^3\) and, by implication, that placing the machines in the store created a risk of harm against which precautions should be taken. The court concluded that these allegations failed to state a claim against Zussman on the ground that the "creation of a legal duty requires more than a mere possibility of occurrence."\(^4\) The court's holding admits of two, closely related, interpretations. The first is that the defendant's action did not increase the chance of the plaintiff's accident at all. In other words, the connection between the two was mere coincidence. The second is that placing the gumball machine in such a store did increase the chance of the accident happening, but so slightly that no duty of care was triggered.\(^5\)

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3. Id. at 246.
4. Id. at 247.
5. *Van Skike* followed *Cunis v. Brennan*, 308 N.E.2d 617 (Ill. 1974). In *Cunis*, the plaintiff was thrown from a car and impaled his leg upon a protruding drain pipe located on the defendant's parkway. The court held that the defendant did not owe a legal duty towards the victim (who eventually had to have the leg amputated) because the harm was not *reasonably* foreseeable, and was so "unlikely to occur that the risk, although recognizable, would commonly be disregarded." *Id.* at 619 (quoting William L.
However one interprets the court’s language, the social contract justification for imposing no duty in extremely low-probability situations is the same: Every activity creates some risk of accidental injury, however small in probability, and trying to reduce that risk below the rough level characteristic of ordinary activities is likely to be a game not worth the candle. Human beings are notoriously poor at the kind of probabilistic reasoning that is necessary for rationally evaluating the low probability, high magnitude harms that are the daily bread of negligence law.132 A fortiori, we are even worse at evaluating the very, very low probability harms typified by Van Skike’s claim against Zussman. The costs of precaution in these cases are thus high for an unusual reason: The process of evaluating the risks and discerning the need for precautions is psychologically taxing. More important, it seems likely that risks of this kind can only be eliminated by ceasing the activity altogether. The only effective precaution against the possibility that toy lighters will inspire children old enough to purchase lighter fluid to start fires is to withdraw them from sale. This is hardly the end of the world, but if generalized to all activities that create similar risks, it would be burdensome indeed.

Generalizing these arguments, social contract theory justifies a regime of no duty for very, very low probability risks on the ground that some level of risk is simply the price of freedom to act. With certain variations, ordinary activities, ordinarily conducted, produce a mutually imposed and mutually beneficial level of background risk.133 Insisting that precautions be proportional to the risks involved in very, very low probability cases would be a waste of energy.
Abandoning strict adherence to the principle of proportionality, and accepting
discontinuity in the law of duty, is therefore the proper way to handle the risks
attendant on the ordinary conduct of ordinary activities.

The second discontinuity involves ordinary negligence cases where the
probability of the relevant risks is low, but not very, very low, and where the
magnitude of those risks is significant. The risks created by having inspectors
crawl underneath temporarily parked trains to inspect their undercarriages for
Cracks\textsuperscript{134} are typical of the risks involved in such cases, as are the costs (slower
operation of the trains, more disruptive inspections, reduced income) of the
precautions that would reduce or eliminate those risks (blowing a whistle or
visually inspecting trains before moving them, discontinuing the practice of
crawling beneath temporarily parked trains). In cases like these, Judge Posner
would argue that tradeoffs between precaution and accident costs should be
made along a “razor’s edge”—with a penny’s saving in precaution costs being
equivalent to a penny’s saving in losses of life and limb.\textsuperscript{135} This cold balanc-
ing makes many people uneasy. Surely, they insist, the value of life is not
commensurate with the essentially monetary costs of increased precaution.

Something like this intuition may be behind the “disproportion test” of En-
glish negligence law. Modern English negligence law generally identifies the
considerations relevant to determinations of due care in the same terms as the
Hand Formula. For instance, one English judge identifies the elements of due
care the following way:

\begin{quote}
In considering whether some precaution should be taken against a foreseeable
risk, [it is the duty of the injurer] to weigh, on the one hand, the magnitude of
the risk, the likelihood of an accident happening and the possible seriousness of
the consequences if an accident does happen, and, on the other hand, the diffi-
culty and expense and any other disadvantage of taking the precaution.\textsuperscript{136}
\end{quote}

English law goes further than the Hand Formula, however, because it specifies
the relative weights that must be given to precaution and accident costs. The
“disproportion test” holds that “in order for the cost of precautions to excuse an
actor who has caused foreseeable harm to others, the cost must be ‘dispropor-
tionately’ greater . . . than the benefit.”\textsuperscript{137} Put algebraically, the “disproportion
equally severe heart attack while skateboarding, if only because cars are larger and faster than people on
skateboards.

\textsuperscript{134} These are the facts of Davis v. Consolidated Rail Corp., 788 F.2d 1260, 1262 (7th Cir. 1986)
(Posner, J.). The plaintiff lost one leg below the knee and most of the foot on his other leg when the
train he was inspecting started without warning. \textit{Id.}

\textsuperscript{135} See notes 65-67 \textit{supra} and accompanying text.

\textsuperscript{136} Morris v. West Hartlepool Steam Navigation Co., 1956 App. Cas. 552, 574 (appeal taken
from C.A.) (Reid, L.). As in American law, the explicit invocation of the Hand Formula framework in
English jurisprudence was prefigured by more intuitive formulations. \textit{See, e.g.,} Northwestern Utils.,
Alberta) (“The degree of care which that duty involves must be proportioned to the degree of risk
involved if the duty should not be fulfilled”); Latimer v. A.E.C. Ltd., [1952] 2 Q.B. 701, 711 (Denning,
L.) (“In every case of foreseeable risk, it is a matter of balancing the risk against the measures necessary
to eliminate it.”).

\textsuperscript{137} Gilles, \textit{supra} note 56, at 34-35. Gilles argues that the “disproportion test” has a second
element in that it implicitly employs a “sliding scale” “in which the ‘disproportion’ necessary to escape
liability increases as the risk increases in seriousness.” \textit{Id.} I am less certain than he that it includes this
test" calls for finding that due care was exercised *only when* \( CP > PM \), (that is, that \( CP \) is substantially more than \( PM \)) whereas the economic interpretation calls for such a finding whenever \( CP > PM \)—*no matter how slightly*.

To economic ears, the disproportion test sounds like a confused expression of the idea that people place a high relative value on life. Economics can, and perhaps generally does, accept this idea: Empirical studies suggest that people place a high relative value on life and limb.\(^{138} \) Assigning a high relative value to life is perfectly consistent with allowing a penny's difference between precaution and expected accident costs to decide the choice between preventing an accident and letting it happen. For economics, money is the unit of measurement and so the metric of comparison. However high a value we place on life, once we have expressed that value in dollars we should, absent special reasons relating to uncertainty or information costs,\(^{139} \) trade dollars against dollars in a way that makes any difference in the sums on either side of the equation count. To do otherwise is either to reason badly or, worse, to reject the canons of rationality outright.

To respond to this charge of irrationality we need to examine the moral perception underlying the discomfort that "ordinary observers" feel with trading life against precaution costs along a "razor's edge." This unease rests first on the empirical assumption that the value of life itself *usually* stands on the victim's side of the calculus of risk, whereas money *usually* stands on the injurer's side.\(^{140} \) Second, this unease springs from the normative conviction that life and precaution costs are not fully commensurable goods. No damage award can bring the dead back to life. Even when the financial harms occasioned by an injury can be redressed fully, and even when the physical injury involved can be healed completely (and often it cannot), the time lost is irreplaceable, and the pain and suffering experienced can not be erased by money damages. For these reasons, commensurating physical injury with the expense of increased precaution by converting it into dollars distorts, rather than clarifies, the issues at stake.

Negligence law generally *is* sensitive to the fact that life itself is at stake in its calculations. The circumscribed domain and inalienable character of accident law reflect in part the value of life itself.\(^{141} \) So, too, the law distinguishes gross negligence, recklessness, and conduct egregious enough to justify the award of punitive damages, both from ordinary negligence and from each other at least partly by the degree of indifference to the value of human life that they...
The calculus of risk ought to be similarly sensitive. Social contract theory explains why the weighting of injurer and victim interests effected by the "disproportion test" (or something like it) makes that calculus appropriately sensitive to the value of life.143

For social contract theory, the interests at stake in accidental risk impositions are not mere preferences properly measured in dollars, but interests in liberty. These interests represent the background conditions necessary for the pursuit of conceptions of the good over the course of complete lives. Accordingly, proper evaluation of risks and precautions requires the qualitative assessment of the way particular risks and precautions burden the liberties necessary for persons to pursue the aims and aspirations that give meaning to their lives.144 Social contract theory thus invites us to acknowledge that the losses resulting from risk impositions are different in kind from the losses caused by requiring precautions. They are different because of their relative importance to the pursuit of a conception of the good over the course of a complete life. Seen in this light, the "disproportion test" is a sensible response to the fact that the differences in kind between the goods obviously burdened by precaution (income and wealth) and those ordinarily burdened by risk impositions (physical integrity and property) reflect differences in impact on the liberties at stake in accident law. The magnitude of the harm that death, serious physical injury, and property damage threaten to persons' capacity to pursue their conceptions of the good is usually much greater than the magnitude of the harm threatened by increased precaution costs. And the harms inflicted by physical injury and death are generally not perfectly redressable by money damages.

Because conceptions of the good are developed and pursued over the course of complete lives, persons have compelling reasons to regard accidental injury and death as grievous harms. Accidental injury threatens grave disruption to the pursuit of a conception of the good, and accidental death prematurely ends the pursuit of such a conception. Indeed, the mere threat of accidental injury or death can itself be debilitating.145 If that threat is great enough, it will discourage persons from participating in legitimate activities that have important roles to play in their conceptions of the good. Or, by producing so much anxiety and fear, the threat may drain those activities of all their enjoyment value.146

142. E.g., H.L.A. Hart & Tony Honoré, Causation in the Law 214 & n.46 (2d ed. 1985) (describing recklessness as "flying in the face of an apparent and apprehended risk" and gross negligence as merely failing to adhere to a low standard of care); Prosser & Keeton, supra note 60, at 9-10, 211-214 (describing the conduct required to justify punitive damages and explicating the distinctions among the different degrees of negligence).

143. I do not claim that my interpretation of the "disproportion test" represents a sound reconstruction of that test as it is understood in English law.

144. See notes 191-242 infra and accompanying text.

145. We recognize the tort of assault precisely because the threat of intentional physical violation of our person can be as detrimental to our security and integrity as such violation itself. See, e.g., Beach v. Hancock, 27 N.H. 223, 229 (1853) ("We have a right to live in society without being put in fear of personal harm."); cf. Nozick, supra note 125, at 66 ("Some things we would fear, even knowing we shall be compensated fully for their happening or being done to us. To avoid such general apprehension and fear, these acts [should be] prohibited and made punishable.").

146. Thus, the magnitude of the threat that accidental injury and death pose to persons' capacity to realize their conceptions of the good over the course of complete lives leads social contract theory to
creased monetary expenditures on precaution, by contrast, burden persons’ ca-
pacity to realize their conceptions of the good in more modest and incremental
ways. For this reason, the harm threatened by accidental injury and death is
generally disproportionate to the harm threatened by increased precaution costs.

This interpretation of the calculus of care suggests a tempting, but incorrect,
position: Threats to life stand on a plane so much higher than increased mone-
tary costs that no amount of monetary expense can ever justify not taking a
precaution which promises to reduce a risk to life. This interpretation of rea-
sonable care appears to be a natural reading of social contract theory’s assign-
ment of lexical priority to the basic liberty of personal integrity over income
and wealth. Tempting as this reading may be, I think that it should be rejected.
The problem of accidental harm is better understood as one which pits conflict-
ing liberties against each other—security against freedom of action—not a lex-
ically superior liberty against a lexically inferior primary good.

The social contract justification for the “disproportion test,” therefore, is
not the absolute priority of a higher good over a lower one, but the fact that
increased monetary expenditures, aggravation, or inconvenience—the typical
costs of most precautions—impair the freedom of action necessary to pursue a
conception of the good far less than risks of accidental injury and death do. In
general, the magnitude of physical harm is disproportionately greater than the
magnitude of the costs of precaution. And the social contract interpretation of
that test reads it to establish only a general presumption that the costs of acci-
dents are usually disproportionate to the costs of preventing them, and so
should not be traded off as if they were perfectly commensurable. Seen this
way, the “disproportion test” is the natural extension of the heightened protec-
tion that accident law generally assigns security.

In applying this presumption, the first point to bear in mind is that the social
contract conception directs our attention to two different measures of burden
and benefits. Initially social contract theory asks us to consider the incremental
costs and benefits necessary to prevent the accident at issue. But social con-
tract theory also directs us to consider the “absolute” level of security, and the
“absolute” level of burden to freedom of action, instituted by the existing level
of precaution. For it is the absolute seriousness of the threat to the victim’s
well-being that leads social contract theory to embrace the disproportion test in
the first place. And the absolute magnitude of a burden affects the reasona-
ble-ness of requiring that it be borne. Although “[c]ontractualist morality relies on
notions of what it would be reasonable to accept, or reasonable to reject, which
are essentially comparative,” the reasonableness of accepting or rejecting a par-
ticular burden depends in part on how much it “hurt[s] me in absolute

assign to security from accidental injury and death the kind of importance that John Stuart Mill assigned
to security generally. See John Stuart Mill, Utilitarianism 67 (Oskar Piest ed., 1957) (“[S]ecurity
no human being can possibly do without; on it we depend for all our immunity from evil and for the
whole value of all and every good . . . since nothing but the gratification of the instant could be of any
worth to us if we could be deprived of everything the next instant.”).
We should therefore consider both marginal and "absolute" benefits and burdens in deciding whether the burdens of a precaution are disproportionate to its benefits.

The second point to bear in mind when applying the disproportion presumption is that the presumption holds only when the costs of precaution take the form of increased monetary costs, inconvenience, or aggravation. The presumption does not hold in cases where the risk at issue is imposed to save life and limb itself. In other words, in determining the cost of a precaution, it is necessary to consider the value of the "collateral object"—the object that the injurer seeks to attain by imposing the risk in question. The costs of precaution will usually include the reduced probability that the "collateral object" will be attained, and the magnitude of that cost depends on the value of the "collateral object." When the cost of the precaution is a reduction in the probability that life or limb will be saved, the security of the victim is being traded off against the security of the person for whose benefit the risk is being imposed. The interests at stake are generally identical, and social contract theory therefore calls for abandoning the presumption of disproportion. Consistent with

147. Scanlon, supra note 2, at 113. Economic analysis reaches a parallel conclusion because the "law" of diminishing marginal utility implies that additional precautions will yield lower marginal benefits than earlier ones. The valuation of the benefits of additional precaution thus implicitly takes the existing level of safety into account.

148. The concept and term, "collateral object," was first introduced by Henry Terry, in an important article on the "five factors" that determine the "reasonableness of a given risk." Henry T. Terry, Negligence, 29 Harv. L. Rev. 40, 43 (1915). Although Judge Hand did not explicitly include "the value of the collateral object" in his Formula, it can be folded in quite readily. Algebraically, one simply writes the burden (B) (or cost of precaution (CP)) side of the equation as the probability that the collateral object will be achieved: CP = PcoMco, with Pco standing for the probability that the collateral object will be achieved and Mco standing for the magnitude (or value) of the collateral object. When the cost of the precaution is a decreased probability of realizing the collateral object, the left hand side of the equation will strongly resemble the right hand side—both will be expressed in probability and magnitude terms. To monetize the cost of the precaution, assign a dollar value to the collateral object and discount that dollar value by the probability of the collateral object's attainment through the risk imposition.

Although monetizing the value of the collateral object is simple enough, fitting the value of the collateral object into the economic interpretation of the Hand Formula is more complex. The complexity stems partly from the fact that, in economic terms, some of what is at stake here is a value subsumed by Steven Shavell's concept of "level of activity" (as opposed to "level of care"). See Shavell, supra note 92, at 21-32 (arguing that courts should consider the effect of liability rules on both the injurer's exercise of due care and on the injurer's level of activity—the intensity or frequency with which the injurer participates in the risky activity); see also Stephen G. Gilles, Rule Based Negligence and the Regulation of Activity Levels, 21 J. Legal Stud. 319, 327-37 (1992) (arguing that courts ordinarily consider activity level effects as part of the reasonable care determination). A deeper difficulty is that it seems intuitively right to say that the value of the risk imposition should be measured not by its cost to the injurer but by its value to the "collateral object"—to the person who stands to have her life or limbs saved by the injurer's imposition of the risk. I shall not pursue these matters here, except to add that because social contract theory offers a qualitative interpretation of the Hand Formula, it does not generally favor monetizing the formula's variables.

149. The value of the collateral object need not always be identical to the value of the principal object, and may sometimes be greater. Vincent v. Lake Erie Transportation Co. would fit this description had it been a negligence case. 124 N.W. 221 (Minn. 1910) (holding that ship owner was justified in damaging dock to protect his ship by mooring it to the dock in a storm). This is especially true where the defendant risks injury to property to save life and limb. Ploof v. Putnam, 71 A. 188, 189 (Vt. 1908) ("One may sacrifice the personal property of another to save his life or the lives of his fellows.").
this prescription, case law in both England and America permits the imposition of extraordinary risks in these circumstances.¹⁵⁰

In those cases where the presumption does hold, however, precautions must be taken unless the marginal and absolute costs of taking them are great enough to offset the marginal and absolute benefits of the increased safety that they provide, even though safety is substantially more important than money, inconvenience, or aggravation. Thus, social contract theory rejects the idea that total costs, monetized and added up, are what count. For just as total utility is experienced by no one, so, too, total wealth is enjoyed by no one.¹⁵¹ To test the bite of this vague guideline, we must consider several cases.

The clearest cases where the presumption of disproportionality is rebutted are those where the costs of precaution are crushing. Marshall v. Gotham Co.,¹⁵² a leading English disproportion case concerning accidental injuries to gypsum miners, illustrates the category. In Marshall, the miners were injured when the mine collapsed from “slickenside,” a rare geological condition leading to sudden collapses of large slabs of rock from the roofs of mines. Because “slickenside” is (or was) undetectable, the only precaution capable of preventing it is timbering the entire ceiling of the mine (this in a mine where the ceiling is mined). The cost of timbering the ceiling was disproportionate to its benefits because it “would have been so great as to make the carrying on of the mine impossible.”¹⁵³

¹⁵⁰. American cases include: Baltimore Transit Co. v. Young, 56 A.2d 140, 142 (Md. 1947) (holding that an emergency vehicle responding to an emergency call is not held to the same standard of care as an ordinary driver); Magee v. West-End St. Ry., 23 N.E. 1102, 1102 (Mass. 1890) (holding that a fireman responding to a call cannot be held to an ordinary standard of care); Warren v. Mendenhall, 79 N.W. 661, 663 (Minn. 1899) (holding that a city fire truck driver may take risks that would be negligent if taken in the pursuit of ordinary business); Eckert v. Long Island R.R., 43 N.Y. 502, 506 (1871) (“The law has so high a regard for human life that it will not impute negligence to an effort to preserve it, unless made under such circumstances as to constitute rashness in the judgment of prudent persons”); Mansfield v. City of Philadelphia, 42 A.2d 549, 549 (Pa. 1945) (holding that a municipality is only liable for the actions of a firetruck driver responding to an alarm if the actions were reckless); La Marra v. Adam, 63 A.2d 497, 500 (Pa. 1949) (holding that a municipality is liable for injury caused by a police officer or ambulance only if the injury was caused by recklessness). English cases include: Watt v. Hertfordshire County Council, [1954] 1 W.L.R. 835, 835 (appeal taken from C.A.) (holding that a fire service responding to an emergency was not liable for injuries to a fireman because the risk taken was in proportion to the end sought); Dabom v. Bath Tramways Motor Co. & Trevor Smithey, [1946] 2 All E.R. 333, 336 (appeal taken from C.A.) (holding emergency vehicles to a lower standard of care in light of the end to be served by their behavior).

¹⁵¹. Total utility is widely rejected as a measure of human welfare for just this reason. See, e.g., Rawls, Justice, supra note 28, at 161-66 (arguing that the best interpretation of utilitarianism calls for seeking to maximize average utility per capita rather than total utility).


¹⁵³. Id. at 362. Cases where victims participate in the enterprises that injure them present a number of special problems. One is that, under some circumstances, the relevant risk impositions are actually voluntary and self-imposed. A second problem is that it is very difficult to know who actually bears the costs of precaution in such circumstances. See Craswell, supra note 78, at 366-72 (developing a complicated model for determining when sellers can pass increased costs on to consumers). Still a third problem is that the risk imposition may further the freedom of action of the victim in some way. Without addressing these complications in depth, we can see why Marshall is nonetheless a clear case. The risks of mining further the interests of miners in an important way—they go hand in hand with the work of mining. If the cost of a precaution is the closure of a mine, and the loss of a job, the burden of that precaution to the miner’s freedom of action is disproportionate to its benefit to the miner’s security.
In cases where the cost of precaution is crushing, judgments of negligence will not be affected by the difference between the "disproportion test" of English law and the "razor's edge test" embraced by Judge Posner. In cases where the costs are not crushing, however, the implications of the two tests do appear divergent: The monetary burdens of a precaution may exceed its monetary benefits by a "hair's breadth" (or more) without thereby being disproportionate. Considering *Helling v. Carey*\(^{154}\) will illustrate this point and will enable us to revisit and illustrate the relative attractions of contract and tort for social contract theory and economics, respectively.

The plaintiff in *Helling* brought a malpractice suit against her ophthalmologists, alleging that her permanent visual damage resulted from their failure to diagnose and treat her glaucoma.\(^{155}\) Consistent with the custom of the profession, the defendants had not routinely tested the plaintiff for glaucoma because she was under forty, and the incidence of glaucoma for persons under forty was believed to be 1 in 25,000.\(^{156}\) Setting aside the normal rule that, in medicine, customary care is due care,\(^{157}\) the court ruled "as a matter of law, that the reasonable standard that should have been followed under the undisputed facts of this case was the timely giving of this simple, harmless pressure test to this plaintiff and that, in failing to do so, the defendants were negligent. . . ."\(^{158}\)

In support of its ruling the court stated:

> The incidence of glaucoma . . . may appear quite minimal. However, that one person, the plaintiff in this instance, is entitled to the same protection, as afforded persons over 40, essential for timely detection of the evidence of glaucoma where it can be arrested to avoid the grave and devastating result of this disease. The test is a simple pressure test, relatively inexpensive. There is no judgment factor involved, and there is no doubt that by giving the test the evidence of glaucoma can be detected. The giving of the test is harmless if the physical condition of the eye permits.\(^{159}\)

> Put in Hand Formula terms, the high magnitude of the harm, the low cost of the precaution, and the high efficacy of the precaution offset the low probability of the harm, and require the precaution to be taken.\(^{160}\)

> In finding ophthalmological custom wanting as a matter of law, the *Helling* court stressed two features of the case. First, the issue did not involve special

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\(^{154}\) Helling, 519 P.2d at 981 (Wash. 1974).

\(^{155}\) Id. at 982.

\(^{156}\) Id. at 982-83.

\(^{157}\) Id. at 983. The rule that, with respect to medicine and other true professions, the care that is customary in the profession is due care is an exception to the general rule that custom is normally merely evidence of the level of care due. *See Keeton & Keeton, supra* note 60, at 189.

\(^{158}\) *Helling*, 519 P.2d at 983 (emphasis added).

\(^{159}\) Id.

\(^{160}\) There may be reasons other than those offered in the text of the opinion that support the outcome in *Helling*. Landes and Posner note that medical texts had recommended for years that the test be given to anyone old enough to cooperate. *Landes & Posner, supra* note 94, at 138; *see also* Jerry Wiley, *The Impact of Judicial Decisions on Professional Conduct: An Empirical Study*, 55 S. Cal. L. Rev. 345, 383 (1981) (stating that even before the *Helling* decision over half of opticians quite often or always tested for glaucoma).
medical expertise.\textsuperscript{161} The question, rather, was what due care required, given the probability and magnitude of the harm, and the costs of the precaution necessary to avert that harm. This, the opinion insists, is a matter for the court.\textsuperscript{162} Second, the cost of the precaution was simply not commensurate with the magnitude of the harm it would prevent. The cost of the precaution is the increased time and expense borne by the 24,999 patients who do not have glaucoma but who must nonetheless submit to a harmless test for it, and the harm that precaution prevents is “the grave and devastating result of this disease.”\textsuperscript{163}

The first argument is sound from a social contract perspective because questions of reasonable risk imposition are questions about the reconciliation of competing equal liberties of different persons. They are thus public in both their subject matter—the rights of persons against one another—and in their institutional form—as aspects of public, legal institutions.\textsuperscript{164} The court’s second justification is likewise sound, but the reasons why are more complex. \textit{Helling}, like \textit{Marshall v. Gotham}, is not an accident among strangers—that is, an accident arising out of the involuntary exposure of victims to risks by injurers. It is an accident among participants in a joint enterprise. Indeed, in a deep sense, the victims and injurers are the same people. Patients expose themselves—not others—to burdens and risks by taking and foregoing precautions. They suffer the permanent blindness of glaucoma when it occurs, and they bear the financial costs and the inconvenience of the pressure test.\textsuperscript{165} These circumstances make contract a live alternative to tort: Instead of deciding what is best for patients, we might educate them about glaucoma and its prevention and let them decide whether to have the test administered.

Nevertheless, for social contract theory, these facts do not call for supplanting tort with contract. Unlike \textit{Marshall v. Gotham}, where the precaution of timbering the entire mine enhanced security for but burdened a central inter-

\begin{itemize}
  \item \textsuperscript{161} \textit{Helling}, 519 P.2d at 982. Questions of special medical expertise dropped out because the court supposed (rightly or not) that the choice of the pertinent precaution and its efficacy were beyond dispute. \textit{Id.}
  \item \textsuperscript{162} \textit{Id.} at 983. As the court noted:
    \begin{quote}
    Under the facts of this case reasonable prudence required the timely giving of the pressure test to this plaintiff. The precaution of giving this test to detect the incidence of glaucoma to patients under 40 years of age is so imperative that irrespective of its disregard by the standards of the ophthalmology profession, it is the duty of the courts to say what is required to protect patients under 40 from the damaging results of glaucoma.
    \end{quote}
  \item \textsuperscript{163} \textit{Id.}
  \item \textsuperscript{164} See text accompanying notes 190-214 infra. Economics, of course, makes public rights parasitic on private preferences. See text accompanying notes 78-79 supra.
  \item \textsuperscript{165} Or so I shall assume. The question of whether the victim ultimately bears the cost of the precaution in \textit{Helling} is more difficult than the same question in \textit{Marshall}. In \textit{Marshall}, the crushing cost of the precaution would have forced the mine to close, depriving the victim of his employment. In \textit{Helling}, the cost of the precaution is much smaller, and it is difficult to say where it ultimately falls. If the patients did not ordinarily have insurance for routine ophthaimological exams, then they would have borne the costs of those exams themselves. It is, however, virtually impossible to know whether all of the \textit{financial} costs of the pressure test were passed through to the patients, though the patients necessarily suffered the \textit{time and inconvenience} of those tests. See generally Craswell, supra note 78 (discussing the circumstances that enable producers to pass on their costs to the consumers). Because the tests benefitted the patients, it would be normatively appropriate to make them bear their costs, and I shall therefore analyze the case on that assumption.
\end{itemize}
est of the miners who bore the risk of "slickenside," the precaution at stake in *Helling* burdens freedom of action little, while enhancing security considerably. Persons concerned with advancing conceptions of the good over complete lives would have strong reason to insist that the precaution be taken. Permanent blindness at an early age has a devastating impact on a person’s life, and on a person’s pursuit of her aims and aspirations. Because exposure to the risk of glaucoma does not further a plausible conception of the good, the fact that injurers expose themselves, not others, to injury by foregoing the pressure test does not distinguish *Helling* from cases where injurers expose others to risks. The test should be administered because the cost of foregoing it is exposure to a devastating and wholly preventable disease, whereas the cost of administering it is minor inconvenience and modest expense. Given the strength of the case for taking the precaution, a contract regime should be rejected. The burden of education and decision that such a regime imposes is substantial, and that burden yields little, if any, benefit.

Put in the language of the disproportion test, and in the context of accidents among strangers, the point is this: The costs of the precaution in *Helling*—the minor inconvenience and modest expense of a simple pressure test for 24,999 people—are not disproportionate to their benefits. This is so both because the magnitude of the harm that the precaution averts is great, and because the precaution costs are modest. Whatever the total dollar cost of the pressure test, the costs borne by each patient were quite modest. The disproportion test (as social contract theory understands it) thus supports the court’s ruling that failure to administer the test constitutes negligence as a matter of law.

*Helling* and *Marshall* suggest that the disproportion test (as social contract theory construes it) has definite and distinctive implications in certain cases. That test is, however, indeterminate in many other cases. Thus, to settle on an appropriate level of precaution, we often must consider other negligence doctrines and institutions, such as custom, statutes, and jury adjudication. Before we consider these other doctrines in detail, however, we first need to consider whether American law actually assigns high relative value to life and limb, and to flesh out the concept of reasonable care more fully.

### C. Cost-Benefit Analysis in American Law

At first glance, the preceding interpretation of the calculus of risk might seem to match American law less well than the economic interpretation. To be sure, Judge Posner and other legal economists have convinced many academics and at least some appellate judges of the truth of their arguments. But the notion that the economic interpretation of the Hand Formula fits American law better than the social contract conception is seriously overstated, at best. In part this thought is overstated because the Hand Formula itself does not seem to

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166. When exposure to a risk does further a plausible conception of the good, accidents involving participants in a shared enterprise differ greatly from accidents among strangers. Social contract theory supposes that persons are generally free to impose upon themselves any risks that they think appropriate when such imposition is integral to the pursuit of a permissible conception of the good.
dominate American negligence practice, as a growing chorus of critics have pointed out. And in part it is overstated because the competing general standard of due care—ARP doctrine—strongly supports the idea that due care is reasonable care, not rational care. Despite these pieces of counterevidence, the economic interpretation of the Hand Formula may still appear to "fit" American law better than the social contract interpretation in two respects. First, the economic interpretation calls for quantitative valuation of the Formula's variables, and the Formula appears to aspire to numerical valuation. The social contract interpretation, by contrast, calls for qualitative judgments that resist reduction to numerical values. Second, the economic interpretation excuses an actor from liability whenever the costs of the forgone precautions exceed the benefits of those precautions, even by a "hair's breadth," whereas the social contract interpretation would only excuse the actor if the costs were disproportionately large: American law may seem to fit better with the economic interpretation, because unlike English law, American law does not officially incorporate a requirement of disproportion. Each of these criticisms is less telling than it first appears. As we have already seen, Judge Hand himself took the algebra of the Hand Formula to be essentially illustrative. Furthermore, there are good reasons to think that American practice—especially American jury practice—both assigns a high relative value to security and rejects cost-benefit analysis.

To rebut the first argument, we need to recall Judge Hand's observations about the conceptual (or theoretical) impossibility of applying the Hand Formula in a precise quantitative fashion. For whatever reason, these observations are less well known than his observations about the practical impossibility of quantitative application, and those conceptual observations therefore bear repeating. In Conway v. O'Brien, Judge Hand wrote that the determination of due care always "involves some preference, or choice between incommensurables, and it is consigned to a jury because their decision is thought most likely to accord with commonly accepted standards, real or fancied." Thus, if it is practically impossible to apply the Hand Formula with algebraic precision because we can, at best, only estimate the cost of care and the magnitude and probability of the harm risked, it is also conceptually impossible to do so because the Formula requires the exercise of moral judgment with respect to the relative importance of the interests at stake.

The views expressed in Conway therefore make Judge Hand's own understanding of his Formula seem more congruent with the social contract conception of due care than with the economic conception. By emphasizing the need for evaluative judgment with respect to the importance of the interests at stake,
Judge Hand offers a qualitative interpretation of the Formula, not a quantitative one. Because the economic interpretation substitutes "willingness to pay" for intensity of preference and seeks to maximize wealth, it is implicitly quantitative.

Judge Hand's emphasis on the "incommensurability" of the interests at stake also seems closer to the social contract interpretation of his Formula than to the economic interpretation. Now, "incommensurability" is a tricky term, and if we take Judge Hand's claim to mean that the interests involved simply cannot be compared, both the social contract and the economic interpretation reject it. Social contract theory holds that the interests at stake can be compared in the coin of liberty; economics holds that they can be commensurated in the metric of wealth. Alternatively, if Judge Hand's claim means two things that people sometimes seem to mean when they speak about incommensurability—(1) that the interests at stake can be compared but not commensurated; and (2) that one of the interests involved is more important than another, then social contract theory wholeheartedly supports it. Social contract theory focuses on security and freedom of action as the pertinent categories of comparison, because it holds that no shared final end exists that can be used to commensurate the interests of different people. Moreover, in the typical instance of accidental risk imposition, social contract theory assigns great weight to the security of the victim in comparison with the freedom of the injurer. In these respects, the social contract conception of the Hand Formula seems more faithful to Judge Hand's observations in Conway than the economic conception does.

The second piece of evidence that the economic interpretation coheres better with American negligence law is the absence of an official disproportion requirement in American law. Upon examination, however, the absence of an official disproportion requirement seems relatively unimportant, both when it comes to distinguishing between the social contract and economic conceptions of due care, and when it comes to determining which conception "fits" our law more readily. For one thing, both social contract theory and economics agree that security should be assigned high relative value. For another, both American legal doctrine and jury practice appear to place great weight on security. The specific duties defined by ARP doctrine place great weight on security and, in all but a few of the states that have published jury instructions, juries are instructed to measure the injurer's conduct by the ARP standard, not the Hand Formula. Moreover, juries are widely believed to apply the ARP

171. Elsewhere, social contract theory uses a stronger notion of incommensurability. It asserts that the interests protected by the first principle of justice are not commensurable with those protected by the second, and expresses this in the lexical priority of the first principle of justice over the second. Rawls, Justice, supra note 28, at 61; see also notes 257-259 infra and accompanying text. That kind of incommensurability is not at issue here because accidental harm is a matter of balancing liberty against liberty.

172. See note 138 supra and accompanying text (citing empirical evidence that suggests that rational people place a high relative value on life and limb).

standard in ways which reflect hostility to cost-benefit analysis and which value life and limb greatly.

In a perceptive study of modern product liability law, Gary Schwartz summarizes the folklore on the depth of jury hostility to cost-benefit analysis.\(^1\) Schwartz explains that defense lawyers should never argue that a firm “deliberately included a dangerous feature in the product’s design because of the high monetary cost that the manufacturer would have incurred in choosing another design,” because this argument leads to almost certain defeat on liability and exposes the defendant to the risk of “punitive damages as well.”\(^2\) Schwartz’s observations are paralleled by the belief, shared by many torts professors (including myself), that when first introduced to the cost-benefit conception of the Hand Formula, most torts students find it morally objectionable.\(^3\)

“Evidence” of jury behavior is beset with both empirical and interpretive difficulties, and we must therefore be careful about claims made on that basis. Empirically, the difficulty is that the evidence is impressionistic and anecdotal. We simply do not have the kind of large-scale systematic studies of jury behavior that can confirm Schwartz’s observations. Interpretively, the difficulty is that we do not know why juries are so averse to cost-benefit analysis. Here, we lack small, qualitative studies that would elicit the reasons for jury behavior. Perhaps jurors implicitly believe in social contract theory and reject orthodox cost-benefit analysis because it does not recognize the disproportionate value of security. Or perhaps they are fuzzy-minded, rankly sentimental, and expect all feasible precautions to be taken, regardless of cost or benefit. Or perhaps they reject cost-benefit analysis because they believe in the intrinsic value—the sanctity—of human life and think that cost-benefit analysis fails to represent that sanctity properly.\(^4\) We simply do not know.

In light of these uncertainties, the most that we can safely say is that the evidence we have suggests that juries trade safety against dollars in a manner that is consistent with the assignment of great value to security, and that they exhibit marked hostility to the rhetoric of cost-benefit analysis. Taken along

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\(^2\) Schwartz, supra note 81, at 1038. Schwartz’s remarks are a “composite of the[ ] observations” of “several lawyers who defend manufacturers at trial in design defect cases.” Id. Most of the evidence in this area is anecdotal, and the aversion to cost-benefit reasoning is most pronounced in product liability cases, the one area in which Hand Formula instructions are routinely given. See Gilles, Invisible Hand, supra note 65, at 1022-23.

\(^3\) Revulsion against explicit cost-benefit analysis of risk impositions is hardly confined to juries; law students and the public at large seem to share it. Schwartz, supra note 81, at 1035-37 & nn.94-95; see note 176 infra.

with Hand’s own understanding of his Formula, jury practice cautions us against drawing the inference that the economic interpretation of due care “fits” the Hand Formula better than the social contract interpretation does.

D. Reasonable Persons and the Value of Security

In contrast to the uncertainties of the Hand Formula, ARP doctrine quite decisively favors the social contract conception of due care. ARP doctrine performs at least three distinct tasks: (1) It holds that some precautions are required as a matter of law;\(^\text{178}\) (2) It articulates substantive duties of care for certain classes of persons (the awkward, the insane, experts, children) and the activities that parallel them; and (3) It specifies the qualities of the reasonable person. The first reason why the doctrine supports the social contract conception of due care is because its articulation of duties places great relative weight on victim security. Where injurers claim that they should owe a reduced standard of care because of their diminished capacities, the victim’s security starkly conflicts with the injurer’s freedom of action. In these cases, affording adequate protection to the security of prospective victims conflicts with the precept that it is unfair to hold actors liable for conduct they could not have helped. ARP doctrine comes down overwhelmingly on the side of security at the expense of freedom of action (and “fairness” to the diminished capacities of injurers),\(^\text{179}\) and so assigns high relative value to security.

Persons with poor judgment are held to the same standard of care as those with good judgment, regardless of their ability to conform to that standard.\(^\text{180}\) Children engaged in adult activities, and those with permanent mental disabilities, are held to the same standard as adults with normal capacities.\(^\text{181}\) Finally, those who are inexperienced with a dangerous activity are held to the same

\(^{178}\) One instructive case rules that automobile drivers must know the condition of their tires and must be held accountable for the hazards posed by worn tires. Delair v. McAdoo, 188 A. 181, 184 (Pa. 1936) (holding defendant negligent as a matter of law for driving a car whose tires were worn through to the fabric); see also Theisen v. Milwaukee Auto. Mut. Ins. Co., 118 N.W.2d 140, 144 (Wis. 1962) (holding that falling asleep while driving is negligent as a matter of law).

\(^{179}\) As the Florida Court of Appeals has observed:

So liability without subjective fault, under some circumstances, is one price men pay for membership in society. The sane and the insane, the awkward and the coordinated are equally liable for their acts or omissions. In such cases we do not decide fault, rather we determine upon whom our society imposes the burden of redress for a given injury. As Holmes implied in his “awkward man” parable, a principle at least co-equal with that of the fault principle in the law of torts is that the innocent victim should have redress.


\(^{180}\) PROSSER & KEETON, supra note 60, at 176-77 (“The fact that the individual is a congenital fool, cursed with in-built bad judgment . . . obviously cannot be allowed to protect him from liability.”).

\(^{181}\) Jolley, 299 So.2d at 649 (holding insane defendant to the same standard of care as an ordinary adult); Miller v. State, 306 N.W.2d 554 (Minn. 1981) (holding minors to the adult standard of care when they are driving an automobile); Dellwo v. Pearson, 107 N.W.2d 859, 863 (Minn. 1961) (“[I]n the operation of an automobile, airplane, or powerboat, a minor is to be held to the same standard of care as an adult.”); PROSSER & KEETON, supra note 60, at 177 (“[A mentally] deranged or insane defendant [is] accountable for his negligence as if the person were a normal, prudent person.”).
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standard as persons of normal competence.\textsuperscript{182} These rules place a tremendous burden on the pertinent classes of injurers: They must measure up to a standard of care that exceeds their abilities or forego the relevant activities.

Justifying these rules is a difficult matter. The assumption that most actors, with sufficient effort, are capable of exercising the same level of care as the average reasonable person may justify the general rule. But that assumption seems unrealistic in the case of children and the permanently disabled. Another explanation could be that society is lodging its judgments of negligence deeper than it usually does, by finding children and disabled persons who engage in activities beyond their competence negligent in their choice of activity, rather than in their method of carrying out the activity. This seems partly correct. The cases seem to be pinning implicit responsibility on parents for the conduct of their children and implicit responsibility on guardians for the conduct of insane persons.\textsuperscript{183}

The question remains, however, why responsibility should be driven so deep. Here the answer seems to lie in the great relative value of security and the threat to security posed by making duty commensurate with capacity. Precisely because of their diminished capacities, children and the disabled impose great and nonreciprocal risks: Children driving cars and powerboats are far more dangerous than adults engaging in the same activities. Moreover, the shortage of effective victim precautions compounds the threat to security created by diminished capacity. Our ability to identify those cars on the road that are driven by children (or uncontrolled epileptics), and to steer clear of them, is poor. Relaxing the standard of care for such persons would debilitate security even further by undermining our capacity to estimate the risks of undertaking various activities, and by preventing us from regulating our exposure to risk on the basis of such estimates.

Exceptions to the general rule that all actors will be held to the standard of the average reasonable person further illustrate the priority that American accident law assigns to security. For example, children engaged in childlike activities are held to a lower standard of care—a standard appropriate to their age and maturity.\textsuperscript{184} As a class, childlike activities, such as riding bicycles and peddling paddleboats, are inherently less risky than adult activities, such as driving cars and operating powerboats.\textsuperscript{185} Moreover, because children engaged in childlike activities are often readily identifiable or exposed to view (in fact,
the activities themselves often identify their participants as children), prospective victims can often take additional precautions to guard against any increased risks associated with the children’s diminished capacities.\textsuperscript{186} Lowering the standard of care for children engaged in childlike activities is thus compatible with the assignment of a high priority to security: Responsibility is lowered as risk is lowered.

Conversely, ARP doctrine holds experts to a higher standard of care.\textsuperscript{187} Experts tend to impose greater risk because they tend to engage in more dangerous activities. Moreover, by virtue of their greater knowledge and skill, experts are able to exercise greater care for the protection of prospective victims.\textsuperscript{188} Responsibility is increased as risk and capacity for care are increased. Beginners, by contrast, do not impose less risk by virtue of their lower skill; if anything, they impose more. Thus, by holding experts to a higher standard of care, and beginners to the same standard of care as persons of normal competence, tort law favors security over freedom of action.

In setting the standards of care for experts, children, and beginners, ARP doctrine treats the level of risk created by an activity as a “two-way ratchet,” and the capacity for care as a “one-way ratchet.” When both the level of risk and the capacity for care increases, duty increases; when both the level of risk and the capacity for care diminish, duty decreases. But when capacity diminishes without a corresponding decrease in risk creation, duty remains constant. This pattern is even more telling evidence of the great value that ARP doctrine assigns to security. Because experts have the ability to take greater care, our demand that they do so is less onerous, and thus more reasonable. Yet, although those with lesser capacities may be unable to meet a standard of ordinary competence, we are justified in demanding more of them because those lesser capacities put others at greater, not lesser, risk.

Finally, the exculpation of actors in “those exceptional cases of loss of consciousness resulting from injury inflicted by an outside force, or fainting, or heart attack, or epileptic seizure, or other illness which suddenly incapacitates the driver of an automobile when the occurrence of such disability is not attended with sufficient warning or should not have been reasonably foreseen”\textsuperscript{189} is also consistent with the substantial value of security. No effective precautions can be taken against sudden, unforeseeable disabilities. Holding actors

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\textsuperscript{186} As the court in \textit{Dellwo} remarked: “A person observing children at play . . . may anticipate conduct that does not reach an adult standard of care or prudence. However, one cannot know whether the operator of an approaching automobile . . . is a minor or an adult, and usually cannot protect himself against youthful imprudence even if warned.” \textit{Dellwo}, 107 N.W.2d at 853 (citations omitted).

\textsuperscript{187} Brillhart v. Edison Light & Power Co., 82 A.2d 44, 47 (Pa. 1951) (holding supplier of electric current to the “very highest duty of care practicable”). The public at large is under no such duty. “[T]he general public is not bound to the high degree of foresight in respect of danger from electric wires as is the company maintaining them.” \textit{Id.} at 48. \textit{See} Public Serv. Co v. Elliot, 123 F.2d 2, 6 (1st Cir. 1941) (holding that expert’s conduct must be judged in light of his superior knowledge).

\textsuperscript{188} See \textit{Prosser & Keeton, supra} note 60, at 185 & nn.14-20.

\textsuperscript{189} Breunig v. American Family Ins. Co., 173 N.W.2d 619, 623 (Wis. 1970) (excusing driver from liability for accident when it was caused by unforeseeable mental delusions).
liable for them would debilitate freedom of action without securing any corresponding gain to security.

In sum, even though American doctrine does not officially incorporate the "disproportion test" of English law, the interpretive case for something akin to that test is stronger than it seems. The Hand Formula is open to placing great value on human life; jury practice appears to reflect such valuation; and ARP doctrine is consistent with such valuation.

E. The Irrelevance of Subjective Valuation

So far I have stressed the substantive consequences of applying a social contract interpretation of the Hand Formula—namely, the presumptive assignment of greater relative weight to security than to freedom of action. But the significance of the social contract interpretation is methodological as well: It shows how the concept of reasonableness might be used as a template (different from the template of rationality specified by the economic interpretation of the Hand Formula) for determining permissible risk impositions and proper precautions.

We can begin to develop this template by showing that the admissibility problems and information costs that would result from calculating individualized, subjective costs and benefits do not adequately explain ARP doctrine’s complete repudiation of subjective valuation. The scope of that repudiation makes sense only in light of the ways that subjective valuation undermines—and objective valuation underwrites—a regime of equal freedom and mutual benefit.

"Subjective" criteria of interpersonal comparison evaluate “the level of well-being enjoyed by a person in given material circumstances or the importance for that person of a given benefit or sacrifice . . . solely from the point of view of that person’s tastes and interests.” "Objective" criteria appraise burdens and benefits in terms that are “the best available standard of justification that is mutually acceptable to people whose [aims, aspirations, and] preferences diverge.” Objective criteria identify goods whose importance can be acknowledged by persons who hold diverse and incommensurable conceptions of the good. Because persons who affirm diverse conceptions of the good can agree upon the importance of being able to lead one’s life in accordance with

190. See notes 92-94 supra and accompanying text.
191. Scanlon, supra note 53, at 656.
192. Id. at 668; see also Scanlon, supra note 104, at 39 (describing the aim of the “objective” approach as being to “construct a more concrete conception of welfare in terms of particular goods and conditions that are recognized as important to a good life even by people with divergent values”). Scanlon expresses some misgivings about using the label “objective” on the ground that “its name may seem to imply a controversial claim to objectivity” that is not essential to such theories. He suggests “that we call [objective theories] ‘substantive good theories’ since . . . they are based on substantive claims about what goods, conditions, and opportunities make life better.” Thomas Scanlon, Value, Desire, and Quality of Life, in The Quality of Life 185, 188-89 (Martha Nussbaum & Amartya Sen eds., 1993). Scanlon’s reservations about the term “objective” may well be sound. I shall nonetheless stick with the term “objective” to describe such theories, because that is the term used in ARP doctrine—with the caveat that the term should not be read to imply “a controversial claim to objectivity” (of the sort made by some natural law theories, for instance).
one's aspirations, and because basic liberties are the necessary "background conditions" for this enterprise, basic liberties are objective criteria of interpersonal comparison.\(^{193}\)

ARP doctrine, like social contract theory, is firmly committed to objective valuation: It makes its calculations of reasonableness not by investigating the values that the persons involved in risk impositions place on the interests at stake, but by insisting that injurers assign those interests "the value which the law attaches to them."\(^{194}\) ARP doctrine rejects the use of individualized costs of care, even when individualized information seems readily available. For example, it would be relatively easy to tailor costs of care figures to children and the disabled as classes. Claims of childhood status and physical disability, unlike claims of subpar judgment, are reliably verifiable, and thus are not open to self-serving manipulation.\(^{195}\) Moreover, the economic case for tailoring is strong: Children and the disabled surely find it far more difficult to exercise the care expected of normal adults. Nevertheless, ARP doctrine rejects the use of individualized information even for those groups.

Furthermore, ARP doctrine not only rejects subjective valuation of individual welfare even in cases where such information seems easy to come by, but it also appears to reject subjective valuations as irrelevant in principle. For example, teenagers who linger on railroad bridges in the path of onrushing trains, and then leap into the water below at the last possible moment, almost certainly place enormous value on the thrill of "cheating death."\(^{196}\) Taking subjective valuation seriously requires taking the satisfaction of these tastes seriously. Here, economics is both counterintuitive and unconvincing. It implies that the operation of trains (the speed at which they run, the risks to which they expose their passengers) should be affected by the tastes of such teenagers for cheating death. Train engineers might be required to speed in order to put the teenagers in peril, and then slam on their brakes at the last minute to avert that peril, thereby exposing both their passengers and themselves to substantial risks of physical injury and death.

It seems plain that the law of negligence rejects outright the idea that train engineers should behave recklessly to satisfy the preferences exhibited by these teenagers. It seems just as plain that negligence law would condemn as grossly negligent anyone who dawdled on a railroad bridge to experience the thrill of

\(^{193}\) See Rawls, Political Liberalism, supra note 1, at 178-90 (discussing "primary goods" as "basic rights, liberties, and opportunities . . . [that] citizens need as free and equal persons").

\(^{194}\) Restatement (Second) of Torts § 283 cmt. e (1964).

\(^{195}\) A case involving a claim of subpar judgment was the original setting for the decision to refuse to consider diminished capacities in setting the standard of care. See Vaughan v. Menlove, 132 Eng. Rep. 490, 492-94 (C.P. 1837) (holding that the conduct of the prudent man is the basis for measuring negligence in all cases, rather than allowing each individual's judgment to determine liability).


In explicating the flaws in subjective valuation, I shall focus on the problems presented by injurers who have unusually intense preferences of a sort that lead them to want to impose great risks on others or themselves. But, with appropriate modifications, these difficulties might also be illustrated by focusing on victims who have unusually intense preferences for avoiding risk impositions by others.
being nearly killed by onrushing trains. That sort of conduct evidences a deep disregard for the value of one's own life. Any duty that train engineers might have to take precautions for the benefit of such teenagers would not flow from the subjectively high value that they place on putting their lives at risk. That duty would flow from the objectively high value of human life, and would exist despite the failure of those whose lives were in danger to respect that value.

Settled negligence doctrine holds that extraordinary risks can be imposed only in the name of objectively important ends. For example, leaping in front of an onrushing train to rescue children in imminent danger of death is not negligent, despite the high magnitude and probability of the risk involved.\footnote{197. This hypothetical is an example of the rule that "danger invites rescue." See Prosser & Keeton, supra note 60, at 288 & n.61. In an early case recognizing the principle, the New York Court of Appeals explained that: The law has so high a regard for human life that it will not impute negligence to an effort to preserve it, unless made under such circumstances as to constitute rashness in the judgment of prudent persons. For a person engaged in his ordinary affairs, or in the mere protection of property, knowingly and voluntarily to place himself in a position where he is liable to receive a serious injury, is negligence, . . . but when the exposure is for the purpose of saving life, it is not wrongful, and therefore not negligent unless such as to be regarded either rash or reckless. Eckert v. Long Island R.R., 43 N.Y. 502, 506 (1871) (emphasis added).}

So, too, it is not negligent for policemen and firemen to speed when they are saving life and limb from grave and imminent danger,\footnote{198. See note 150 supra and accompanying text.} but it surely would be negligent for me to speed simply to get a good spot at the beach on a hot summer's day.\footnote{199. A person who knowingly and willingly puts others in danger when "engaged in his ordinary affairs, or in the mere protection of property" is negligent. Eckert, 43 N.Y. at 506.}

Speeding wildly in pursuit of a good place at the beach is a canonical instance of unreasonableness, because the end being pursued is trivial and the risk being imposed is great—no matter how intensely I might care about it and no matter how indifferent my prospective victims might be about the risk I imposed. The intensity of my preference for getting to the beach early has no weight at all within the framework of negligence analysis.\footnote{200. See text accompanying note 194 supra.}

What counts is the objective importance of my end. Life and limb are fundamental interests—they are central to the security and integrity of persons. Getting to the beach early is an ordinary interest, akin to countless other interests that have relatively little effect on a person's ability to pursue her conception of the good.

Taking lingering on railroad bridges as our concrete example, the critical objection to subjective valuation is \textit{not that it is irrational to risk one's neck for the thrill of "cheating death," but that it is unreasonable to ask others to bear substantial risks so that you may do so}. These are markedly different objections. The rationality of playing "chicken" with trains is essentially irrelevant to tort law, whereas the reasonableness of playing such games is the very essence of that law: Tort law is only tangentially about the risks that we \textit{should impose on ourselves}, but centrally about the risks that we \textit{should be permitted to impose on others}.\footnote{HeinOnline -- 48 Stan. L. Rev. 369 1995-1996}
Put concretely and contextually, the unreasonableness of exposing others to substantial risks for the thrill of "cheating death" turns on two factors. First, as we have often emphasized, security is essential to the capacity to pursue a conception of the good over the course of a complete life. Thus, activities that substantially jeopardize the security of others place a tremendous burden on a basic liberty. Second, the burden of forgoing activities that expose others to significant risks in order to "cheat death" is not great. However important the thrill of "cheating death" may be to one's conception of the good, there are ways of experiencing it (mountain climbing without ropes, opening one's parachute at the last possible moment during a skydive, deep sea diving into the wreck of the Andrea Doria201) that do not require exposing others to substantial risk.

A defender of subjective valuation might respond by challenging the empirical assumption of this argument: Perhaps there are people for whom there are no equivalent thrills. By refusing to extend the protections of the negligence system to such people, we profoundly disadvantage them in their pursuit of their deepest values. Even though this objection must hold true with respect to some unreasonable activity, society must nevertheless disfavor the pursuit of some conceptions of the good, because the demands made in the name of these conceptions cannot be met within the constraints of mutually acceptable principles of justice.202 Social contract theory holds that persons must be held "responsible for their ends." They must, that is, moderate the demands that they make on social institutions so that those demands fit within the constraints of mutually acceptable principles.203 This is simply an extension of our ordinary idea of reasonableness. Reasonable people do not have an extravagant sense of the importance of their own preferences and aspirations in comparison with the aspirations of others. Moreover, reasonable people do not believe that their projects warrant the commitment of a disproportionate share of social wealth, and they do not make demands on others that they would be unwilling to honor themselves.204

Turning away from moral argument and back toward legal authority, it is hard not to be struck by the extent to which the contours of ARP doctrine track

201. Jeff McLaughlin, Diver’s Body Found at Andrea Doria Wreck, BOSTON GLOBE, July 14, 1993, at 21, 24 (noting that more than a dozen adventurers have perished while diving in the Andrea Doria wreckage).

202. See John Rawls, Fairness to Goodness, 84 PHILO. REV. 536, 549 (1975) [hereinafter Rawls, Goodness] (noting that a well-ordered society will exclude certain conceptions that conflict with principles of justice, such as those requiring certain groups to be repressed); John Rawls, Social Unity and Primary Goods, in UTILITARIANISM AND BEYOND, supra note 2, at 159, 167 [hereinafter Rawls, Social Unity] (arguing that it is neither possible, nor desirable, to allow everyone to pursue their conceptions of the good since some conceptions conflict with principles of justice).

203. Rawls, Goodness, supra note 202, at 553 (noting the understanding in well-ordered societies that citizens "will press claims only for certain kinds of things and in ways allowed for by the principles of justice"); Rawls, Social Unity, supra note 202, at 167-68 (arguing that, in a well-ordered society, citizens must modify their ends and the claims that they make on social institutions in accordance with the use of primary goods to secure their claims to liberties and opportunities from the unreasonable demands of others).

204. See Rawls, Fairness, supra note 202, at 536-54; Rawls, Social Unity, supra note 202, at 169; Scanlon, supra note 53, at 658-60; Scanlon, supra note 41, § 6, at 197-201.
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the nuances of reasonableness in their treatment of individual idiosyncrasy. Whatever our capacities, we are expected to exercise reasonable care when we impose risks on others, but we are allowed our weaknesses and idiosyncracies when we are protecting ourselves from the carelessness of others. For example, children below a certain age are often held to be incapable of contributory negligence, whereas children engaged in adult activities are held to an adult standard of care; those with subpar mental capacities are held to the standards of those with normal capacities when primary negligence is at issue, but their limitations are generally considered when secondary (contributory or comparative) negligence is at stake. Finally, we excuse victims from the duty to mitigate damages when mitigation would require them to act inconsistently with their moral or religious convictions, even if most of us would regard the convictions as odd at best, and evidently wrong at worst. What counts is neither the objective validity nor the commonality of the beliefs involved, but the central role of conscience in the lives of free people, and the circumstances under which we ask others to bear the costs of our convictions. We may not ask innocent strangers to bear the costs of our idiosyncratic convictions; nor may those who have wronged us ask us to ease their burden by acting against our beliefs.

To summarize and generalize, ARP doctrine and social contract theory utilize objective valuation because of three serious problems with subjective valuation. The first problem with subjective valuation is that it licenses *deeply nonreciprocal risk impositions and puts the reasonable at the mercy of the unreasonable*. The reasonable—those who have less intense preferences for getting to beaches or soccer games, or who cultivate a modest sense of the importance of their own ends—will be denied by their modesty the right to inflict great risks on others. By contrast, the unreasonable—persons with intense preferences, or an immodest sense of the importance of their own ends—


206. See note 181 supra and accompanying text.

207. See note 181 supra and accompanying text.


209. Three much noted cases make this point. Lange v. Hoyt, 159 A. 575, 577-78 (Conn. 1932) (refusing to hold as a matter of law that mother's refusal to seek medical treatment on religious grounds unreasonably aggravated the plaintiff daughter's fractured arm and pelvis); Troppi v. Scarf, 187 N.W.2d 511, 520 (Mich. Ct. App. 1971) (holding that the jury could not consider plaintiff's refusal to have an abortion as an unreasonable failure to mitigate damages from her accidental pregnancy after defendant pharmacist negligently sold plaintiff tranquilizers, rather than oral contraceptives); Friedman v. State, 282 N.Y.S.2d 858, 865-66 (N.Y. Ct. Cl. 1967) (holding that it was reasonable for the plaintiff, a Jewish woman, to leap from the chair lift on which she was stranded with a male friend, because she had been taught that it was a violation of Jewish law for an unmarried woman to be in the company of a man after dark in a place not easily accessible by a third party). For social contract theory, it is, of course, critical that in all three of these cases the person made to bear the cost of idiosyncracy is the person who wronged the victim in the first place. Guido Calabresi, argues, I think convincingly, that the cases would come out differently if the injurers had held the idiosyncratic beliefs. CA.ABRast, supra note 122, at 64-65, 116.
will thereby create the right to impose great risks on others. This asymmetry is troubling because of the inequality that it licenses. It permits those engaged in identical activities (driving, for example) for identical reasons (to get to the beach) to impose very different risks on each other. This problem is exacerbated by the fact that those with more moderate tastes confer the benefits of their restraint on others, and in return for their restraint, are made to bear the extravagant demands of others. The reasonable will throw lesser risks and bear greater ones, while the unreasonable will throw greater risks and bear lesser ones. Subjective valuation upsets reciprocity of risk and undermines a regime of mutual benefit and equal freedom.

The second problem with subjective valuation is that it debilitates security by legitimating haphazard and unpredictable risk impositions. If actors were permitted to impose risks that were justified solely by their own subjective valuations of the ends that the risk impositions serve, we could not reliably predict the risks to which we might legitimately be exposed in pursuing any particular course of action. Drivers, for example, could no longer estimate the legitimate risks of freeway driving by assuming reasonable compliance with the rules of the road. The risks of freeway driving would turn on the subjective valuations that different drivers attached to their activities. Thus, because the subjective benefits that persons derive from driving probably vary greatly, the legitimate risks of highway driving would also vary enormously and unpredictably.  

Third, the uncertainty created by subjective valuation tends to erode the bases of fair social cooperation. Willing adherence to a scheme of social cooperation depends heavily (or so social contract theory supposes) on the scheme's being both fair and perceived to be fair. Subjective valuation tends to frustrate social cooperation by making the legitimacy of particular risk impositions turn on information which is rarely, if ever, publicly accessible—namely, the subjective valuations that actors actually do place on the ends that they are pursuing. Under a regime of subjective valuation, those who are prepared to honor the terms of social cooperation so long as others do so as well will have difficulty telling if their good faith is being reciprocated. For this reason, their confidence in the fairness of the scheme will diminish, as will their willingness to do their part.

Worse still, the principle of subjectively rational risk imposition creates powerful incentives to misrepresent, \textit{ex post}, one's subjective valuation of the ends that justify risk impositions. In the absence of some credible way of distinguishing the sincere from the insincere, this is no small defect.  

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210. The flip side of this coin is the problem of the emotionally hypersensitive plaintiff. If prospective victims could set up a duty of care whenever injurers disturbed their emotional tranquility, uncertainty would debilitate freedom of action. Social contract theory therefore supports tort law's exclusion of purely emotional harm from its purview. \textit{See} note 122 \textit{supra} and accompanying text.

211. One of the first cases to establish the ARP standard illustrates this problem of potential misrepresentation. In Vaughan v. Menlove, 132 Eng. Rep. 490 (C.P. 1837), the defendant exposed a victim to a risk of fire by making a haystack with a chimney through it and placing it next to the victim's property line. The defendant argued that he should be entitled to rely on his own judgment of the risk, "that the question \textit{to the jury} ought to have been whether \textit{he} had acted honestly and bona fide to the
cheating is easy, profitable, and difficult to detect, both the incentives to cheat and to defect are great. Those who abide by the terms of social cooperation only so long as others do so will have reason to suspect that their good faith is not being reciprocated. They will thus have reason to defect.

Of course, some may argue that the economic conception of due care is much less vulnerable to these criticisms in practice than it is in theory. In practice, economists tend to make use of objective assumptions (say, of uniform risk neutrality), and they do so in part because they perceive substantial information and administration problems with subjective valuation. In my view, this response has the facts of economic practice right, but the implications of those facts wrong. "Objective" valuation is a second-best solution for economics, and something is clearly wrong with a theory whose second-best solution to a problem is superior to its first-best solution. To put it differently, insofar as economics adopts objective criteria of valuation, and does so to address information and administration problems, its practice confirms the force of those criticisms instead of providing counterevidence to them.

The failings of subjective valuation set the stage for the counterthesis that objective valuation is superior because it facilitates social cooperation on terms of equal freedom and mutual benefit. ARP doctrine supplies us with the template to develop this argument.

F. The Template of Reasonableness

The challenge facing social contract theory is to provide a constructive account of ARP doctrine that shows how "reasonableness" functions as a template for the identification of precautions that enable social cooperation. I shall argue that, by giving a sufficiently definite and rich account of the particular aims and dispositions that characterize "reasonableness," by taking advantage of the fact that questions of permissible risk imposition and appropriate precaution are embedded in ongoing mutually beneficial practices, and by making use of "normalizing assumptions," the concept of reasonableness can serve as such a template. My account will attempt to unpack the underpinnings of objective valuation and show its affirmative virtues.

Reasonable persons approach the question of appropriate precautions with certain dispositions and convictions. They assign substantial weight to secur-

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211. "Of course, some may argue that the economic conception of due care is much less vulnerable to these criticisms in practice than it is in theory." In practice, economists tend to make use of objective assumptions (say, of uniform risk neutrality), and they do so in part because they perceive substantial information and administration problems with subjective valuation. In my view, this response has the facts of economic practice right, but the implications of those facts wrong. "Objective" valuation is a second-best solution for economics, and something is clearly wrong with a theory whose second-best solution to a problem is superior to its first-best solution. To put it differently, insofar as economics adopts objective criteria of valuation, and does so to address information and administration problems, its practice confirms the force of those criticisms instead of providing counterevidence to them.

212. See notes 91-97 supra and accompanying text.
213. See notes 91-97 supra and accompanying text.
214. See notes 95-97 supra and accompanying text.
215. See notes 95-97 supra and accompanying text.

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ity; they cooperate on fair terms with others who are prepared to reciprocate their cooperation; they do not prefer their interests to those of others;\textsuperscript{216} and they restrain the intensity of their preferences so that they do not make demands upon others that they would not be prepared to honor themselves. When reasonable people are engaged in an ongoing course of cooperation with each other—the circumstance in which most accidents arise, even among strangers\textsuperscript{217}—they may be able to single out certain precautions as “natural focal points”\textsuperscript{218} for their mutually beneficial cooperation. Given the background facts of the risky situation, the disposition to reasonableness, and the fundamental interests of reasonable persons, certain precautions will prove salient. As Thomas Schelling points out, “[m]ost situations . . . provide some clue for coordinating behavior, some focal point for each person’s expectation of what the other expects him to expect to be expected to do.”\textsuperscript{219}

Take the situation presented by \textit{Delair v. McAdoo}\.\textsuperscript{220} \textit{Delair} holds that all drivers must be held—as a matter of law—to be aware of the hazards of tires which are “worn through to the fabric” (and so must be found negligent for accidents caused by using tires in such condition)\.\textsuperscript{221} Now, even though automobile accidents are a paradigmatic instance of accidents among strangers, persons engaged in driving are nonetheless participants in a complex and mutually

\begin{center}
\textsuperscript{216} Under the Restatement (Second) of Torts, the reasonable person gives “an impartial consideration to the harm likely to be done the interests of the other as compared with the advantages likely to accrue to his own interests, free from the natural tendency of the actor, as a party concerned, to prefer his own interests to those of others.” \textit{Restatement (Second) of Torts} § 283 cmt. e (1964).
\end{center}

\begin{center}
\textsuperscript{217} Consider driving as an instance of the sort of complex practice that generates accidents. Of course, social contract theory conceives of society itself as a form of mutually beneficial social cooperation, and so is disposed to find social cooperation taking place in a wide variety of settings.
\end{center}

\begin{center}
\textsuperscript{218} The phrase is Rawls’, but the concept Thomas Schelling’s. Rawls adapts Schelling’s idea of “natural focal points” in explaining the difference principle. See Rawls, Fairness, \textit{supra} note 28, at 101-02 (describing the difference principle as “a natural focal point between the claims of efficiency and equality”); \textit{see also} Thomas C. Schelling, \textit{The Strategy of Conflict} 57 (1980); Conrad D. Johnson, \textit{On Deciding and Setting Precedent for the Reasonable Man}, 62 ARCHIV RECHTS & SOZIALPHIL. 161 (1976) (bringing Schelling’s work, and David Lewis’ work on convention, to bear on the phenomenon of judicial precedent, and developing his theses in the context of tort). My discussion of the relation of reasonableness and social cooperation is deeply indebted to Johnson’s article. The emphasis that I shall place on the importance of coordination, and on the role of the juries, customs, and statutes in specifying concrete duties of care so that injurers and victims may coordinate their actions, give my view affinities with Jules Coleman’s conception of tort law. See \textit{Coleman, supra} note 87, at 360, 436-37.
\end{center}

One might think that Schelling’s and Lewis’ work is incompatible with social contract theory because it has its roots in utilitarianism and economics. This inference is unwarranted. The two bodies of thought share a deep interest in social cooperation and it is therefore natural for contractualism to draw upon the insights of work on coordination and convention. Nevertheless, contractualism does (and must) modify the principles of utilitarianism and economics in certain ways (by altering the conception of the person on which the theory draws, for example).

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\textsuperscript{219} \textit{Schelling, supra} note 218, at 57. The salience of certain solutions is a highly contextual matter. “A prime characteristic of most of these ‘solutions’ to the problems, that is, of the clues or coordinators or focal points, is some kind of prominence or conspicuousness. But it is a prominence that depends on time and place and who the people are.” \textit{id.} at 57-58. This is why judgments of reasonable precaution are deeply affected by the circumstances in which they arise. Because salience is contextual in this way, it “lends itself poorly to fruitful idealization” and so escapes formal modelling. Allan Gibbard, \textit{Constructing Justice}, 20 PHIL. & PUB. AFF. 264, 273 (1991) (reviewing \textit{BRIAN BARRY, THEORIES OF JUSTICE} (1989)).
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\textsuperscript{220} 188 A. 181 (Pa. 1936).
\end{center}

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\textsuperscript{221} \textit{id.} at 184.
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beneficial form of social cooperation. The activity enables each of its participants to pursue their own ends and requires each of them to take precautions for each other's benefit (observing the rules of the road, maintaining the brakes on their vehicles, moderating their intake of alcohol, and so on). The choice confronting the court is a restricted one—a choice between an objective rule requiring persons to know the dangers of worn-out tires, and a subjective rule exculpating people who make sincere but unsuccessful efforts to acquire the relevant knowledge.

Once the choice is framed by the context of driving and by the alternative rulings available to the court, it is an easy choice for reasonable persons concerned to sustain a mutually beneficial form of social cooperation on fair terms to make. The subjective rule suffers from all of the vices that we have reviewed: It puts the security of other drivers at considerable risk; it increases the uncertainty surrounding the risks of the road; and it undermines the bases of social cooperation on fair terms. The objective rule offers all of the converse virtues: It protects the security of other drivers; it makes the risks of the road more predictable; and it underwrites social cooperation on fair terms. Moreover, it makes comparatively modest demands—the burden of examining one's own tires to determine if they are "worn through to the fabric," and of recognizing the hazards posed by such tires—on prospective injurers. Holding drivers responsible for accidents caused by tires which are "worn through to the fabric" is therefore the salient solution to the problem presented by Delair. Similar justifications can be given for most of the rules of ARP doctrine, and the correct rule is, for the most part, similarly clear.

Exceptions to the general rule that all actors are held to the standard of the average reasonable person lend themselves to interpretation and defense as salient agreement points among reasonable persons engaged in mutually beneficial cooperation. It is reasonable, for example, to permit police and fire personnel to impose greater than average risks when responding to emergencies.\textsuperscript{222} Even persons who disagree about conceptions of the good can agree upon the urgency of preserving life and limb from grave and imminent harm. Moreover, police and fire personnel can alert potential victims of the added danger from their hazardous activities (by driving specially marked vehicles, by using flashing lights, and by sounding sirens), thereby permitting potential victims to take additional precautions for their own safety. Finally, because police and fire departments closely supervise and train their members, and because the conditions that permit greater risk imposition are objectively defined and publicly known,\textsuperscript{223} courts can easily determine whether the power to impose increased risk is being properly exercised.

The relaxation of the duty of care for police and fire personnel also clearly demonstrates how appropriate solutions "depend[ ] on time and place and who the people are."\textsuperscript{224} The last three reasons that I have given for relaxing the

\begin{footnotesize}
\begin{enumerate}
\item \textsuperscript{222} See note 150 supra and accompanying text.
\item \textsuperscript{223} There are usually statutory or administrative specifications of the circumstances under which police and fire personnel are permitted to impose greater risks.
\item \textsuperscript{224} \textsc{Schelling}, supra note 218, at 58; see also note 219 supra.
\end{enumerate}
\end{footnotesize}
duty of care exploit facts peculiar to police and fire personnel and so illustrate how ARP rules can incorporate the distinctive attributes of particular injurers, institutions, and victims.\textsuperscript{225}

In establishing norms of reasonableness, ARP doctrine can be either legislative or adjudicative: The doctrine is legislative if it prescribes canonical norms of reasonableness and requires persons to honor those norms; it is adjudicative if it acknowledges and honors preexisting norms recognized by reasonable persons. Thus, in applying ARP doctrine, courts may either formulate new norms, and so prescribe the terms of reasonable behavior, or they may acknowledge existing norms, and so describe the norms that reasonable persons engaged in the practices should arrive at by themselves.\textsuperscript{226}

This is a distinction that matters. If ARP doctrine merely articulates the judgments that reasonable persons would reach when confronted with the matter at hand, the doctrine respects preexisting rights instead of creating rights retroactively. It therefore realizes the rule of law and secures freedom from retroactive penalties.\textsuperscript{227} When reasonable precautions are salient\textsuperscript{228} and courts competent, persons who act reasonably will find that the reach of their responsibilities is clear even in the absence of judicial precedent, customary practice, or statutory prescription. Reasonable people will never have their freedom violated by the judicial creation of retroactive duties and liabilities.

Two statutory negligence cases—\textit{Martin v. Herzog}\textsuperscript{229} and \textit{Tedla v. Ellman}\textsuperscript{230}—illustrate the difference between the legislative and adjudicative roles of reasonableness, and establish the priority of the adjudicative role. \textit{Martin} lays down the rule that the unexcused violation of a statutory prohibition is negligence \textit{per se}.\textsuperscript{231} \textit{Tedla} carves out an exception to that rule. The plaintiffs in \textit{Tedla} were wheeling a baby carriage full of junk along the right side of the road one Sunday evening after dark. "[V]ery heavy Sunday night traffic" was headed in the opposite direction, so the plaintiffs chose to walk with the lighter traffic on the other side of the road.\textsuperscript{232} Plaintiff's conduct appeared to be contributory negligence \textit{per se} because, although it was consistent with customary practice, it was contrary to a recently enacted statute.\textsuperscript{233} Yet the court came

\textsuperscript{225} It will, I hope, be plain that similar interpretations and justifications can be offered for other rules of ARP doctrine, including the doctrines (duties of care owed by children) and cases (\textit{Martin v. Herzog} and \textit{Tedla v. Ellman}) that I discuss for other purposes later in this section.

\textsuperscript{226} See Johnson, supra note 218, at 172-177.

\textsuperscript{227} This involves two aspects of the rule of law—prospectivity and publicity. See Keating, supra note 97, at 16-21, 27-29; 35-36; see also Dworkin, supra note 9, at 162, 165-66.

\textsuperscript{228} Of course, when reasonable precautions are not salient, matters are different. Those precautions that are salient figure prominently in ARP doctrine because that doctrine identifies those precautions that are reasonable as a matter of law. When precautions are not salient in this way—when the appropriate precaution is a matter of fact about which reasonable persons might disagree—other justifications for the norms imposed must be brought into play. I take this up in the discussion of the roles of jury adjudication, custom, and statutes in specifying the norms of reasonable conduct. See notes 244-247 infra and accompanying text.

\textsuperscript{229} 126 N.E. 814 (N.Y. 1920).

\textsuperscript{230} 19 N.E.2d 987 (N.Y. 1939).

\textsuperscript{231} \textit{Martin}, 126 N.E. at 815.

\textsuperscript{232} \textit{Tedla}, 19 N.E.2d at 989.

\textsuperscript{233} \textit{Id}. The statute required pedestrians to walk against the traffic. \textit{Id}. 
down on the side of customary practice, creating an exception to the statute for the circumstances of this case. The driving force behind the court’s opinion was not some conclusion about the intention of the legislature, but the evidently greater reasonableness of the customary practice in comparison with the legislative prohibition. Under the circumstances, walking with the traffic was clearly safer than walking against it.

Tedla thus supports the argument that judicial determinations of reasonableness under ARP doctrine are meant to announce the norms of reasonable behavior, not to legislate them. When actors hit upon reasonable precautions and legislatures do not, both legislation and judicial precedent enshrining statutes as authoritative specifications of reasonable behavior must yield. This is as it should be. While the determination of duties of care is a matter of and for public moral reasoning, it is a matter of reasoning about the natural duties that persons owe to one another. Legislation ratifies and specifies those duties, it does not create them. To be sure, ARP doctrine is not purely adjudicative; at the very least it requires people to behave reasonably. This requirement may seem legislative even if the norm of reasonableness itself derives from beliefs to which our practices and moral judgments, properly reconstructed, commit us. This fact, however, does not undermine the adjudicative character of judgments of reasonableness: Such judgments follow the template of reasonable behavior, they do not form that template. Insofar as they do, the canons of reasonableness ensure that liability is not imposed retroactively, thereby realizing one of the liberties associated with the rule of law.

There is one more piece to the puzzle: ARP doctrine draws tacitly, and social contract draws expressly, on “normalizing assumptions.” Such assumptions abound in our ordinary moral discourse.

Thus, for example, we take it as given for purposes of moral argument that it is very important that what one wears and whom one lives with be dependent on one’s choices and much less important that one be able to choose what other people wear, what they eat, and how they live. And we do this despite the fact that there may be some who would not agree with this assignment of values. Normalizing assumptions are necessary if we are to carve out sufficient space for persons to pursue their diverse conceptions of the good on fair terms.

234. Id. at 991.
235. Id. ("We cannot assume reasonably that the Legislature intended that a statute enacted for the preservation of life and limb of pedestrians must be observed when observance would subject them to more imminent danger.").
236. See notes 39-40 supra and accompanying text.
237. Scanlon, supra note 41, at 183. As the examples in the text show, normalizing assumptions are thoroughly evaluative, but they are not exclusively evaluative. They are also partly a matter of descriptive generalization. Their thoroughly evaluative character should not trouble us. Interpersonal comparisons must be evaluative all the way down, so to speak. We should be troubled only if the evaluations strike us as wrong or objectionable in some way. See generally Scanlon, supra note 104; cf. Nozick, supra note 125, at 78-87 (advocating use of a baseline of normal risk imposition to determine when persons must be compensated if they are forbidden to impose particular risks); Arthur Ripstein & Jules Coleman, Mischief and Misfortune, 31-37 (Feb. 17, 1995) (unpublished paper presented to a USC Faculty Workshop) (on file with the Stanford Law Review) (describing and embracing use of normalizing conceptions, rather than subjective assessments to make judgments of reasonable care).
Delair,238 for example, relies implicitly on such assumptions. Like ARP doctrine generally, Delair rejects outright the economic argument that we should, if possible, examine the costs of care that individuals face in taking a particular precaution. Implicitly, the court draws on the normalizing assumption that the injurer’s benefits from continuing to use worn tires are not important to the pursuit of a plausible conception of the good. They are, on the contrary, the benefits of laziness, inexcusable ignorance, or insufficient regard for the well-being of others. Because these are character flaws, not elements of a conception of the good, they are entitled to no weight at all in the calculus of risk.

The doctrines delineating the duties of children demonstrate the role of normalizing assumptions even more clearly. From a subjective viewpoint, the cost of holding children engaged in adult activities to an adult standard of care seems very high. If, however, we subscribe to the normalizing assumption that engaging in adult activities has no place in the normal development and maturation of children, the objective cost of care is very low. By contrast, the normalized benefits of holding children to an age-appropriate standard when they participate in age-appropriate activities is very high, because, unlike participation in adult activities, participation in age-appropriate acts is an important part of healthy development.239 In short, the doctrines delineating the duties of children are anomalous if conceived in terms of individualized (and subjective) cost, but sound if conceived in terms of normalized (and objective) cost.

These examples are anything but anomalous. ARP doctrine is normalizing through and through. In order to fix the boundaries of our freedoms and responsibilities, the doctrine rejects the use of individualized values for the simple but powerful reason given in Vaughan: A rule measuring the adequacy of care by individual capacities to take care “would leave so vague a line as to afford no rule at all . . . .”240 The doctrine, therefore, requires “in all cases a regard to caution such as a man of ordinary prudence would observe.”241 In


239. As the Supreme Court of New Hampshire stated in Charbonneau v. MacRury:

Unless [children] are to be denied the environment and association of their elders until they have acquired maturity, there must be a living relationship between them on terms which permit the child to act as a child in his stage of development. . . . For the law to hold children to the exercise of the care of adults “would be to shut its eyes, ostrich-like, to the facts of life and to burden unduly the child’s growth to majority.”


The relaxation of duty for children engaged in age-appropriate activities relies on normalizing assumptions in another, more descriptive, way. The doctrine supposes that age-appropriate activities impose less risk than adult ones and enable more victim precautions. See notes 184–186 supra and accompanying text. Precisely because the rules governing the duties of children respect the disproportionate value of security, and provide children with ample room to pursue their conceptions of the good, these rules represent salient solutions to the problems that they address, and natural focal points for reasonable cooperation.


241. Id.
this way, the terms of reasonable cooperation and the grounds of normalization are intimately related.

These two ideas—normalizing assumptions and reasonable precautions as those that form “natural focal points” for fair cooperation between free and equal persons—complete the social contract interpretation of due care. The development of these two concepts closes an important gap in the social contract understanding of accident law and completes social contract’s vision of tort law as a domain of equal freedom and mutual benefit. With these concepts, the social contract interpretation achieves its vision of equal freedom in three ways. First, by assigning high relative value to security, the interpretation provides the most favorable conditions for the pursuit of conceptions of the good over the course of complete lives. Second, the interpretation brings comparative clarity to the practice of determining duties of care by its insistence on, and conception of, objective valuation. This comparative clarity itself strengthens our freedom. Finally, by adjudicating—instead of legislating—the preexisting norms of reasonable social cooperation, the interpretation prevents the violations of liberty that retroactive legislation effects.

The social contract articulation of due care doctrine likewise achieves its conception of accident law as a realm of mutual benefit in three ways. First, it provides public criteria for assessing the importance of the ends served by particular risk impositions, thereby closing a gap in reciprocity of risk theory: Reciprocal risks are risks that are equal in magnitude, equal in probability, and imposed for equally good reason. Second, this interpretation underwrites mutually beneficial social cooperation by seeking out precautions that are “natural focal points” for such cooperation. Third, it places social cooperation on a firm footing by making the terms of cooperation comparatively clear, and by making compliance with them publicly verifiable.

G. Subordinate Doctrines of Due Care

For all its importance, the template of reasonableness fashioned by ARP doctrine will not prescribe a specific level of precaution in a wide range of cases, even when we join that template to the substantive requirements of disproportionate burden articulated by the social contract conception of the Hand Formula. The Hand Formula and ARP doctrine provide general substantive and methodological criteria of reasonableness, but, in a wide range of cases, these criteria do not select uniquely reasonable precautions. This is not so surprising: Social contract theory insists that the canons of reasonableness often leave substantial room for “reasonable” disagreement. Negligence law responds to the indeterminacy of the general canons of reasonableness through subordinate doctrines that specify the concrete duties of care. To determine concrete standards of reasonableness, we must look to custom, jury adjudication, and statutes.
Consider, for example, a victim who, hurrying to get out of the rain, injures herself by running into a plate glass door, which shatters when she collides with it. If the door is one-half inch thick and could be made thicker in one-twentieth of an inch increments, we have a case where modest and incremental safety improvements can be made almost indefinitely and could be expected to yield modest and incremental reductions in accident costs. Under these circumstances, the "disproportion test" (as I have interpreted it) mandates no particular increment of precaution, and nothing in ARP doctrine enables us to identify any single increment of precaution as salient.

In the case from which this example was drawn, the court permitted industry custom with respect to thickness to fix the appropriate standard of care. ARP doctrine's concern with salience surely helps to explain why negligence law shows the regard for custom that it does. Precisely because they are customary, customary precautions are salient, and this makes them "natural focal points" of precaution. So, too, ARP doctrine's concern with normalization—with setting normal levels of risk and precaution—supports assigning some weight to custom. Customary conduct is normal conduct and what is normal is plainly relevant to, though not dispositive of, the question of what should be normal.

To appreciate the importance of custom, we need to appreciate the importance of certainty regarding the appropriate level of precaution. Injurers have good reason to want the boundaries of their responsibilities to be clear: Uncertainty frustrates planning, impairs the coordination of activities, and debilitates freedom of action. Less obvious, victims also have reason to favor clear specification of injurers' responsibilities. Knowledge of the precautions that injurers can be expected to take enables victims to plan their lives and coordinate their own precautions. Establishing a level of precaution is therefore desirable, and reliance on such a level justified (or reasonable), so long as that level is within the boundaries of reasonableness set by the Hand Formula and ARP doctrine. Thus, custom draws support from two sources—due care doctrine's quest for salient precautions, and the principle that reasonable reliance should not be disappointed.

Jury adjudication also serves to establish precautions in circumstances where the general canons of due care are indeterminate. This subordinate doctrine gathers its support partly from its identification of salient precautions and partly from independent moral principles. Salience is contextual. It "depends on time and place and who the people are." Insofar as juries presumably embody the culture and conventions of their communities, they are well suited to selecting contextually salient precautions. Salience is not the end of the matter, however. The practice of jury adjudication also has independent moral support. Jury adjudication is intended to bring the moral sense of the commu-

244. Raim v. Ventura, 113 N.W.2d 827, 830 (Wis. 1962) ("[T]here was evidence that more than two thousand doors like the respondent's have been installed in the Kenosha area during the past eight years; 98% of all the glass doors in such area are like the one in question in that they employ 1/4-inch plate glass.").

245. SCHELLING, supra note 218, at 58.
nty to bear on controversial disputes. Thus, it draws authority from its claim to articulate the sense of justice shared by a particular community. By virtue of this claim, jury adjudication legitimizes controversial outcomes even in the face of persistent disagreement.

Finally, negligence law determines concrete standards of due care by deference to statutes. Legislative specification of precautions as mandatory surely makes those precautions salient. Equally sure, the principle of legislative supremacy and the duty to comply with just institutions provide further—and independent—grounds for deferring to statutes.

These remarks, of course, only situate these aspects of due care law in relation to the general social contract conception of due care. Full consideration of custom, jury adjudication, and statutes would require a paper in itself. (Among other things, these subordinate doctrines pull in different directions and their supporting principles stand in some tension with one another. For example, jury adjudication assigns less weight to certainty and more to community judgment than custom does.) Even this brief discussion, however, enables us to understand the basic role of, and justification for, these aspects of negligence law. It also clarifies a fundamental difference between the economic and social contract approaches to due care. Economics sees no sequential structure to the law of due care, and no differences of kind, role, or legitimate authority among the Hand Formula, ARP doctrine, statutes, custom, and jury adjudication. To the contrary, economics uses the doctrines to address the same question in the same way and evaluates the duties specified by these doctrines according to the same criteria of optimality. Social contract theory, on the other hand, pictures the enterprise as a sequential one, which "work[s] from a general framework for the whole to sharper and sharper determination of its parts," and sees an essential role for subordinate principles of institutional legitimacy.

In sum, social contract theory argues that due care doctrine works from general canons of reasonableness to the specification of substantive duties through a sequence of doctrines. The Hand Formula and ARP doctrine specify general substantive and methodological criteria of reasonableness; jury adjudication, custom, and statutes specify concrete duties of care. Each stage in the sequence frames and limits the subsequent stages, and draws authority both from general notions of reasonableness and from its own distinctive principles. Juries, customs, and statutes may set duties of care only insofar as they respect the boundaries set by the general canons (both methodological and sub-
stantive) of reasonableness. Within those boundaries, their own distinctive institutional principles (such as legislative supremacy) reinforce their authority. When they transgress against those boundaries, they forfeit their authority.

CONCLUSION

At the outset of this article, I argued that reciprocity theory suffered from two shortcomings. First, the theory offered no benchmark for measuring the benefits and burdens of accidental risk imposition. Second, the theory lacked criteria for fixing an appropriate level of reciprocal risk imposition. These gaps have so far prevented reciprocity theory from addressing the problem of due care and have undermined the theory as a whole. My aim in this article has been to close these gaps and extend reciprocity theory to the problems of duty and breach.

I have argued that, within social contract theory, the benefits and burdens of accidental risk imposition should be measured in terms of their impact on the injurer's freedom of action and the victim's security. By comparing the burdens that precautions impose on the injurer’s freedom of action with the benefits of those precautions to the victim’s security, we can determine the appropriate levels of risk. These two arguments close the gaps in reciprocity theory and allow us to articulate a social contract conception of due care. This conception both supplies a normatively powerful alternative to the economic conception, which has dominated recent academic discourse, and shows much of the pertinent doctrine in a better light (or better justifies it) than the economic conception does.

The claims of and the case for the social contract conception can be summarized in three theses. First, because negligence law assigns paramount importance to the concept of reasonableness, it receives stronger support from social contract theory than from economics. Social contract theory supplies an account of reasonableness which shows how and why it differs from rationality, and why questions of accidental risk imposition are properly governed by the canons of reasonableness, rather than by the canons of rationality. The economic conception, by contrast, collapses reasonableness into rationality. Second, the domain of accident law fits more smoothly with the social contract conviction that the interests at stake are matters of equal and inalienable right than it does with the economic conviction that the interests are matters of infinitely variable individual preference. Third, social contract theory’s assignment of great weight to security appears to be consistent with ARP doctrine, and with jury practice in making judgments of due care. And, although the Hand Formula does not explicitly embrace the “disproportion test,” it is open to the adoption of a test that places great relative weight on security.

The economic and social contract conceptions of due care express competing aspirations for tort law as a whole. The social contract aspiration for tort is

251. See notes 14-28 supra and accompanying text.
252. See notes 29-54 supra and accompanying text.
253. See notes 107-125, 167-213 supra and accompanying text.
that it be a realm of equal liberty and mutual benefit. Because the liberty at stake is equal, fundamental, and inalienable, social contract theory leads to an ideal of relatively rigid norms that accord strong and formally equal protection to all citizens. The economic aspiration for tort is that it be a realm of maximal preference satisfaction. This results in a quest for wealth-maximization and cost-minimization,\textsuperscript{254} and leads to an ideal of flexible protections tailored to the variations in persons' tastes for risk.\textsuperscript{255}

With respect to the problem of due care, the fundamental difference is that economic analysis searches for cost-minimizing, wealth-maximizing precautions, whereas social contract theory hunts for precautions which are (or might be) salient to reasonable persons engaged in the (cooperative) activity that gives rise to the accident. Salient precautions may, but need not, be efficient ones. Efficiency is one attribute that might make a precaution salient, but it is hardly the only thing, or even the most important one. Indeed, the most efficient thickness of plate glass doors, for example, seems all but impossible to discern.\textsuperscript{256} Conversely, the salience of the customary thickness of such doors does not depend upon the likelihood that customary thickness is optimal thickness.

The theoretical differences are at least as acute. Even when economists conduct cost-benefit analysis on the assumption that persons place a high relative value on safety, their conception differs from social contract analysis. Social contract theory assigns lexical priority to basic liberties over the primary goods of income and wealth, and forbids offsetting losses of liberty with increases in wealth. Its conception of due care respects this priority by trading security—and only security—against freedom of action, one basic liberty against another. The very point of cost-benefit analysis is to enable the kinds of tradeoffs that social contract theory forbids. Cost-benefit analysis converts preferences into dollars, permits preferences of all different kinds to be traded against each other, and measures their relative importance in the coin of wealth. Economics asserts, and social contract theory denies, "that all human interests are commensurable, and that between any two there always exists some rate of exchange in terms of which it is rational to balance the protection of one against the protection of the other . . . ."\textsuperscript{257} Economics asserts, and social contract theory denies, "that the loss of freedom for some is . . . made right by a greater welfare enjoyed by others."\textsuperscript{258} By forbidding the sacrifice of the liberty or integrity of some for the sole purpose of increasing the wealth of others,

\textsuperscript{254} See notes 73-84 supra and accompanying text; see also COOTER & ULEN, supra note 55, at 347 ("The normative efficiency goal of tort law most widely accepted in law and economics is that first proposed by Dean Calabresi: that the rules of tort liability should be structured so as to minimize the sum of precaution, accident, and administration costs.") (emphasis in original).

\textsuperscript{255} See text accompanying note 123 supra.

\textsuperscript{256} To be sure, efficiency advantages (e.g., avoiding the search costs of pinpointing the optimal thickness of plate glass doors) do accrue from deferring to custom. But these advantages follow from the salience of custom, not the other way around. The customary thickness of plate glass doors is not salient because it correctly locates the point of optimal thickness. Indeed, we have no reason to suppose that it does.

\textsuperscript{257} RAWLS, POLITICAL LIBERALISM, supra note 1, at 312.

\textsuperscript{258} RAWLS, JUSTICE, supra note 28, at 586.
social contract theory shows us how to give institutional expression to "the value of persons that Kant says is beyond all price."259

These differences instantiate more pervasive ones. Economics is constructed around the idea that the justification for, and task of, all social institutions (including the law of accidents) is to promote the general welfare. It interprets the general welfare as utility and assigns to accident law generally, and to due care doctrine especially, the task of promoting utility by maximizing wealth. Social contract theory, by contrast, is constructed around an idea of justice—the idea that social institutions ought to be arranged in a way which protects the fundamental interests of each person on terms that all might accept. It takes the fundamental interests at stake in accidental risk impositions to be the injurers' freedom of action and the victims’ security, and seeks to reconcile those interests fairly.

For economics, the interests at stake in accident law are essentially the same as the interests at stake in other areas—the rational preferences of persons for their own welfare. Similarly, the task of accident law is much the same as the task of all social institutions—the optimal satisfaction of those preferences. For social contract theory, the interests at stake in accident law are particular to that arena, and their adequate protection is more central to our well-being than the optimal satisfaction of our preferences is. So too, for social contract theory the task of accident law is distinctive to the realm of accidents—the task of reconciling freedom and security on terms that both injurers and victims might freely and reasonably accept. So conceived, accident law is not about wealth or preferences but about freedom and responsibility: Freedom to impose risks of injury and death on others; freedom from accidental injury and death at the hands of others; and responsibility for harm accidentally inflicted upon others.

259. Id. (citing 4 IMMANUEL KANT, THE FOUNDATIONS OF THE METAPHYSICS OF MORALS 434-36 (Academie ed. 1911) (1785)).