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Causation and Foreseeability

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1. Introduction

U.S. courts have held that a defendant will be immune from liability for an accident otherwise caused by negligence if it was not "reasonably foreseeable." This is the doctrine of proximate cause and the subject of this chapter.

The classic case is *Palsgraf v. Long Island R.R.*[1] The plaintiff was standing on a platform of the defendant's railroad station after buying a ticket to go to Rockaway Beach. A train stopped, bound for another place. Two men ran forward to catch the train after it had started moving. One reached the platform of the car without mishap. The other, carrying a small package, jumped aboard the car, but seemed unsteady as if about to fall. A guard on the car reached forward to help him in, and another guard on the station platform pushed him from behind, dislodging the package, which fell upon the rails. The package, covered by newspaper, turned out to contain fireworks, which exploded when the package fell. The explosion knocked down some scales at the other end of the platform, many feet away. The scales struck the plaintiff, causing the injuries for which she sued. The Court of Appeals of New York, in a famous majority decision by Justice Benjamin Cardozo, held that the plaintiff could not recover because the accident was not "reasonably foreseeable" to the defendant.

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[1] 162 N.E. 99 (N.Y. 1928).

Shavell (1980b) presents a particularly important law-and-economics theory on proximate cause, also one of the first positive theories of tort law. Landes and Posner (1981) was published the following year. Precursors to Shavell's theory include Posner (1972), Brown (1973), Diamond (1974), and Calabresi (1975).

Although Shavell's (1980b) causation models were formal, throughout his article he described both actual and hypothetical legal cases and cited articles by legal scholars ranging from Leon Green (1927) to Guido Calabresi (1975). Shavell (1980b, 464n10, 498, 502–503) was careful to acknowledge his debt to jurist and law professor Henry Edgerton (1924a; 1924b). In the last sections of his article (1980b, 490–503), Shavell extended his discussion of legal cases and referred to the works of even more legal scholars, including Prosser (1953), Keeton (1963), Beale (1920), Seavey (1939), and Charles Carpenter (1932a; 1932b; 1932c).

Shavell's article was ambitious in every sense. Besides the early law-and-economics articles that he cited, the remaining scholarship upon which he relied came from two successive scholarly movements, legal science (1870 to ca. 1930) and legal realism (1925 to present).

The legal scientist Joseph H. Beale (1920) had written a famous proximate cause article that Shavell discussed (1980b, 501). Using Francis Bacon's scientific ideas as a lens, Beale ultimately inducted the following rule for proximate cause (1920, 658):

> "[T]he force . . . created [by the defendant] must (a) have remained active itself or created another force which remained active until it directly caused the result; or (b) have created a new active risk of being acted upon by the active force that caused the result."

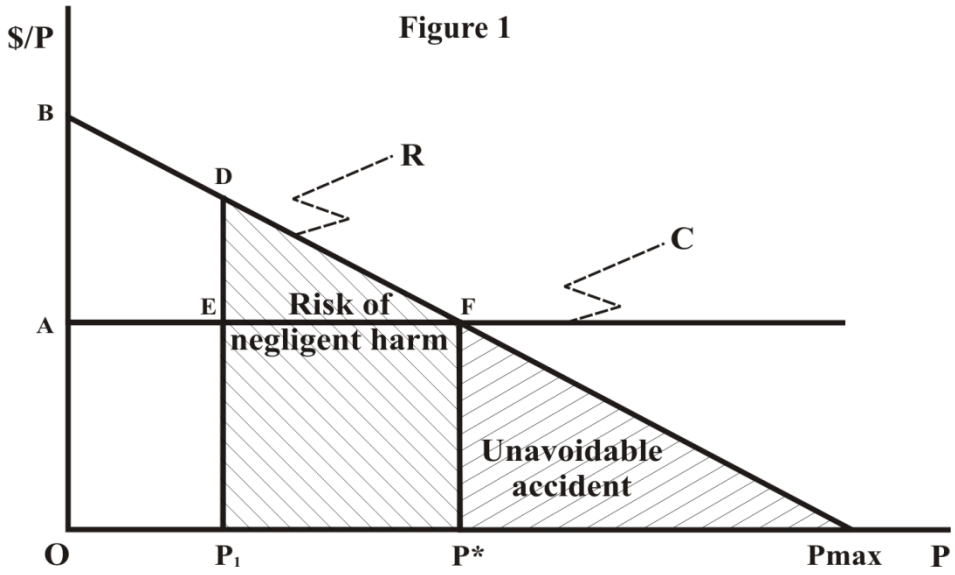
Beale's theories later became targets for the legal realists. See, e.g., Jerome Frank's (1930; 1963, 53-61) lampoon of "Bealism" and "Bealish Law." The legal realists believed that common law had nothing to do with natural laws. Instead, common law was an instrument to achieve social policy, and the purpose of legal scholarship was to contest the law's policy objectives. The realists published hundreds of articles on proximate cause, and yet, it is fair to say, no coherent policy theory of the doctrine ever emerged. Precisely what social policy was at stake—besides compensation for accident victims—never became clear. "Crushing liability"—the idea that liability could be too great to be productive—was a concept within both the legal science (see Terry 1914, 27) and legal realist literatures (see Pearson 1982, 484), but it remained ambiguous and unattached to any clearly articulated social policy, except perhaps that compensation could "go too far" and kill the goose.

Relying on both legal traditions, Shavell wrote as if he wanted take the best from each. On the one hand, following the legal scientists, he sought to give a parsimonious description of proximate cause. Simultaneously, following the legal realists, he sought to explain why his reduced-form causal rules were good social policy. This chapter has the same two objectives. Although Shavell's model was an ambitious first attempt to give an economic explanation of

proximate cause, it is now possible to improve on his theory. This chapter takes on that task.

2. The Relationship Between Breach of Duty and Cause in Fact

All economic models of accident law assume that its purpose is to minimize social cost, which includes both the cost of the accidents themselves and the precaution cost needed to prevent them. On figure 1, we can define the R-curve—a marginal curve—as including a number of expected harms (harms discounted by their probabilities)—all of which can be reduced or eliminated by increasing the level of precaution measured along the horizontal axis. The legal term for expected harm is "risk," so that the area *under* the R-curve represents the set of legal risks that could be reduced or eliminated by lowering speed—moving to the *right* on the horizontal precaution axis. Thus, if a motorist drove through a school zone and used zero precaution, the risk (expected harm) would be the entire triangle OBP_{max}. In order to reduce this risk, the actor must use more precaution (move right on the P-axis) and incur cost under the C-curve. The height of R-curve technically reflects the marginal reduction in risk at different levels of precaution, and the C-curve is technically the marginal cost of precaution. Nevertheless, under appropriate assumptions, the respective *areas* under these curves correspond to increases in precaution cost and associated reductions in expected harm from moving from a discrete lower level of precaution to a higher level. Social cost is minimized at precaution level P*.



Courts behave as if they see figure 1 from two perspectives. The breach-of-duty perspective sees areas under the R-curve as expected harms to be prospectively reduced or eliminated. Thus, as the actor slows his speed through a school zone, he eliminates successive zones of expected harm under the R-curve even as he increases precaution cost by corresponding areas under the C-curve. By moving from P_1 precaution to P^*, the actor incurs a precaution cost equal to P_1EFP^* and reduces "foreseeable risk" by the area P_1DFP^* under the R-curve, which is greater. According to Judge Learned Hand's famous formula, any precaution less than P^* will be a breach of duty because the formula asks whether the cost of an untaken precaution was less than the reduction in risk (expected harm) it would have produced.[2] All precaution levels less than P^* create potential

2 In United States v. Carroll Towing Co., 159 F.2d 169 (2d Cir. 1947), Judge Learned Hand announced his formula, which asked whether B (the "burden" of precaution) was greater or less than P times L (the probability of harm times its magnitude, that is, "expected harm" or "risk"). Although Judge Hand's formula seemed to make total risk the issue, his application of his formula to the facts of the case made clear that he was comparing the burden of a specific untaken

liability because in this zone the cost (or "burden") of some untaken precaution is less than that precaution's reduction in risk (P times L).[3]

The proper breach-of-duty perspective is always *ex ante* any accident—from the time when the actor was planning his precaution. He had information about how likely and how harmful an accident would be and thus was able to estimate how productive various reductions in speed would be. If an accident actually occurs, a court will impute risk information to the actor depending upon what was reasonably apparent *before the accident*, about both the magnitude of the possible harm and its probability. If it was midnight and the children were asleep, the R-curve would be lower. Conversely, if children were swarming the sidewalk, the R-curve would be higher. Given a constant cost of precaution over both scenarios, the intersection between the C-curve and the R-curve will be farther to the right in the second situation, which implies a lower required speed when children are present.

The cause-in-fact perspective is *ex post* the accident. Given that an actor has used P^*, some potential accidents have been eliminated—those corresponding to expected harms under the R-curve to the left of P^*. Nevertheless, other accidents will still occur, and these exist under the R-curve to the right of P^*, the zone labeled "unavoidable accident" on figure 1.

If a court knows that the actor was negligently at P_1 (45 miles per hour), that same court can look at an accident *ex post* and see whether it was probably

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precaution to the amount of risk (P times L) that this precaution would have eliminated, that is, the reduction in risk that the untaken precaution would have yielded.

3 Nevertheless, incentive problems can still arise when few people sue when they possess a good negligence claim or when the actor is judgment-proof (see Shavell, 1986).

within the area under the R-curve labeled "risk of negligent harm," or whether it was instead within the area under the R-curve to the right of P^* called "unavoidable accident." Note that "unavoidable accident," as courts use the term, is not literal; instead, it means only that *reasonable care* (P^*) would have failed to prevent the accident.

Courts can indeed undertake cause-in-fact analysis, despite doubts by some economists (see, e.g., Cooter 1989). Suppose that witnesses testified that the defendant's car was traveling 45 miles per hour when he ran over a jaywalking child, and the investigating officer testified that the defendant left a 90-foot skid mark. This evidence would make it clear that, *but for* the excessive speed, the accident would not have occurred and was therefore within the zone of negligently caused harm. Suppose, on the other hand, that witnesses testified that the child was hiding behind a bush and, just as the defendant was driving past, he jumped out into the street directly in front of the defendant's oncoming car. That would be an accident that a court would see was within the zone of unavoidable accident. In order to have avoided hitting this child, the driver would have had to be driving much more slowly than P^*; he would have had to have been close to P_{max} (traveling at perhaps one mile per hour or less).

Even if the actor was actually traveling faster than the speed limit, and was thus at some point less than P^*, the court would usually[4] not impose liability (Grady 1983; 2009). In the conventional terms of cause in fact, if the child darted

4 If a defendant was recklessly driving through the school zone at a speed much faster than the speed limit, courts sometimes relax the cause-in-fact doctrine, a point that the subsequent discussion will stress.

out a few feet in front of the defendant's car, eliminating the negligence would have made no difference for the accident; the but-for test of cause in fact would fail even when the defendant clearly breached the duty of care. In fact, this is the function of cause in fact. We do not need the cause-in-fact doctrine when there was no breach of duty in the first place (compare Landes and Posner 1983).

What then is the policy purpose of cause in fact? One purpose is to avoid overprecaution when the actor was unsure what due care required or when courts can make errors (see Grady 1983; Calfee and Craswell 1984; Craswell and Calfee 1986; Marks 1994; Miceli 1996; Dari-Mattiacci 2005b; Tabbach 2008). Yet, the cause-in-fact limitation also plays an important role when no one could mistake what due care requires, for instance, when actors fail to stop for red lights, fail to remove sponges before closing patients, or fail to amputate the proper limb (cf. Kohn et al. 2000). Thus, to fully understand the significance of cause-in-fact we need to examine its role when there is no uncertainty about negligence, a point to which we will return. In any event, having understood the basic relationship between breach of duty and cause in fact, we can now better understand Shavell's theory of causation.

3. Evaluating Shavell's Theory of Strict-Liability Causation

Under strict liability, the defendant is liable for all harms that the courts have subjected to that liability rule. U.S. courts have applied strict liability to a special set of "ultrahazardous" risks. These are the risks from escaping fumigation gases, escaping radioactive particles, and so forth. An authoritative definition is contained in Restatement (Second) of Torts § 519 (1965), which lists

a set of factors for courts to consider. The most important are the "existence of a high degree of risk" and the "inability to eliminate the risk by the exercise of reasonable care." Thus, strict liability applies to large risks against which the injurer's reasonable precautions are ineffective.

Once a court determines that strict liability attaches to an activity, the R-curve is defined both by the court's decision and by the injurer's estimate of how much increased precaution will reduce the risk. If the risk turns out to be greater than what the injurer reasonably estimated, the injurer will still be liable for any harm falling within the defined risk regardless of how much precaution the injurer actually used. Thus, on figure 1, the strictly liable injurer is responsible for both "negligently caused harm" *and* "unavoidable accident." In fact, the distinction loses significance in the strict-liability context.

Shavell's major claim about causation under strict liability is his "fundamental characteristic": "*[F]or an accident to be in the scope of [strict] liability, the injurer's not having altered his level of care should be a cause in fact of the accident*" (Shavell 1980b, 482; emphasis in original). This statement is difficult to interpret in the strict-liability context because cause in fact is meaningless unless a demarcation exists between negligently caused harm and unavoidable accident. As was just noted, a strictly liable actor is responsible for *all* accidents falling under the R-curve.

Cause in fact thus cannot exist unless there is some alleged untaken precaution, as with "specific" negligence cases, or at least a theoretical division between negligent harm and unavoidable accident, as with *res ipsa* negligence

cases (see Grady 1994; 2009). One could say that cause in fact is absent if the harm would have occurred independently of the defendant's *activity*, as then the harm is beyond the risk to which strict liability attaches. Shavell, however, never uses the cause in fact in this way. Whenever he discusses cause in fact, he always reasons that the question is whether some additional *care level* was or was not a cause in fact (speeding vs. not speeding, controlling pollutants vs. not controlling them, etc**.).**[5] Shavell's model of strict liability thus incorrectly links cause in fact to unused care levels when the courts themselves fail to make this connection—mainly because care levels are legally irrelevant in the strict-liability context. Although courts can and do ask whether the defendant's *activity* actually caused the plaintiff's harm, this is not Shavell's theory. An activity-level conception of cause in fact would be much different from Shavell's actual theory of strict-liability causation and not necessarily more successful. When an accident would have occurred whether or not an injurer undertook his activity, it is true there would be no strict or negligence liability, but Shavell's theory seeks to go beyond this modest point.

The same reasoning applies to Shavell's idea of "coincidental injury," still in the setting of strict liability. Whether an injury is "coincidental" always depends on some hypothetical untaken precaution (or unused "care level"). In Shavell's main example—*Berry v. Borough of Sugar Notch*[6]—the alleged

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5 Here is a representative quote from the strict liability section of Shavell's (1980b, 484) causation article: "Causation in fact is a prerequisite for inclusion in the scope of [strict] liability. If failure to alter the level of care is not a cause in fact, then, by definition, there is no potential for reducing losses by taking more care."

6 191 Pa. 345 (1899).

untaken precaution was the plaintiff's failure to slow down the streetcar he was operating so that it would have avoided a direct hit from the defendant's falling tree. In the actual negligence setting in which the case was decided, the plaintiff's injury was indeed coincidental. Whether the trolley was going fast or slowly did not alter the ex ante probability that the train could be hit by a falling tree. Nevertheless, with strict liability, no unused care level or untaken precaution is germane, and for that reason the concept of "coincidental injury" also lacks meaning. As a matter of actual law, the only causal question is whether the harm fell within the judicially defined risk.[7]

An economic theory of law need not correspond to every actual legal detail. Nevertheless, Shavell's theory of strict-liability causation—his "fundamental characteristic"—also mispredicts cases of strict liability. His model says that when the defendant's precautions are relatively unproductive against an accident, the courts will *exclude* the accident from strict liability. The opposite is true. Under Restatement (Second) of Torts § 520(c) (1965), one of the most important factors that creates liability is the defendant's "inability to eliminate the risk by the exercise of reasonable care." Courts will see an activity *as falling under* strict liability *precisely because* the defendant's precautions were

7 Note also that in *Berry* the accident was caused in fact by the plaintiff's *activity*, but Shavell nevertheless argues that it was properly a case in which the plaintiff should *not* be liable. Thus, Shavell's theory cannot be that cause in fact depends on activity levels. He is instead quite clear, as the text asserts, that in the strict-liability context cause in fact depends on unused care levels. It is this theoretical point that the text disputes.

ineffective against a large amount of unavoidable accident,[8] the virtual opposite of Shavell's theory.

A significant causal limitation does exist with strict liability, but it is unlike anything Shavell describes. This is the limitation of Restatement (Second) of Torts § 519 (2) (1965), which says: "[S]trict liability is limited to the kind of harm, the possibility of which makes the activity abnormally dangerous." If the harm results from a nondangerous facet of the activity, strict liability will not apply. Thus, if the defendant uses a machine that is ultrahazardous because it spews rocks, a plaintiff suing for injuries to his business resulting from the noise the machine makes will not get the benefit of strict liability.[9]

In short, Shavell's theory of strict liability seems inconsistent with the law of strict liability and is certainly not a successful positive theory of it.

4. The Reasons for Causal Limitations in Negligence Law

Let us now turn to the negligence rule. In his famous article about Justice Cardozo and *Palsgraf*, Warren Seavey gave us his great epigram about negligence causation: "Prima facie at least, the reasons for creating liability should limit it" (1939, 404). In almost the same breath, Seavey offered this conundrum which he suggested was the clue to understanding his epigram: "One who, while carefully driving an automobile with which he is kidnapping a child, runs over and kills a pedestrian is not civilly liable for the death, even though he may be guilty of murder" (ibid.). Here Seavey was referring to murder law's rules of causation,

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[8] See, e.g., Yukon Equip., Inc. v. Fireman's Fund Ins. Co., 585 P.2d 1206 (Alaska 1978) (holding defendant liable when criminals intentionally sabotaged its explosives dump).

[9] See Great Lakes Dredging & Dock Co. v. Sea Gull Operating Corp., 460 So. 2d 510 (Fla. Dist. Ct. App. 1984).

which are surprisingly *broader and more inclusive* than the corresponding causal rules for civil negligence. It turns out that Seavey's conundrum is indeed the most important clue to proximate cause doctrine, and we will return to it at the end of this chapter.

Nevertheless, if we temporarily put aside the conundrum, Seavey's *epigram* fails to make good *economic* sense in terms of explaining causal limitations. For an economist, the purpose of negligence liability is to deter negligence. Any limitation on the scope of negligence liability therefore increases the amount of negligent behavior. It follows that the economist cannot find the reasons for limiting liability in the reasons for creating liability. If the *Palsgraf* railroad guards were liable for *every* consequence of failing to prevent passengers from boarding moving trains, it would make them and others *less* likely to be negligent in the future, which is exactly the economist's goal for them. Thus, if we continue to follow Seavey's epigram, which *is* logical, we must be in some kind of "non-prima-facie" or "second glance" situation. As will be developed more fully below, the most likely possibility is, "The reasons for limiting liability are to prevent collateral damage *from* liability.

Shavell's formal model of causation in negligence law failed to yield a result that Shavell could accept. His formal model of the negligence rule, which was set out in the Appendix to his article (1980b, 512-516, esp. 515, "Interpretation"), led to what he acknowledged was an "unrealistic" result (489). His *formal model* predicted that negligence causation should depend simply on how large the plaintiff's accident loss was (489); large losses should be included

within the scope of negligence liability but not small losses. Shavell wisely rejected this result because it so obviously failed to explain the actual legal doctrine of negligence causation.

Shavell then reasoned less formally that when people are negligent, it is *as if* they are strictly liable on that occasion (see Shavell 1980b, 486, 489), and if people cannot always avoid being negligent, it is *as if* they are always, potentially at least, strictly liable. Thus, for those situations in which people cannot avoid negligent conduct, Shavell claimed that his strict-liability equations yielded a theory of *negligence causation*.[10] Thus, to the extent that Shavell's theory of negligence causation is formal, the formality comes from his theory of strict liability, discussed above.

Shavell's logic was questionable because when people are negligent it is *not* as if they are strictly liable. If we refer back to figure 1, someone who uses P_1 precaution and who is strictly liable faces an expected liability proportionate to P_1DP_{max}. Conversely, someone who uses the same P_1 precaution, but is subject to the negligence rule, faces an expected liability proportionate to P_1DFP^*, which is much less. Breach of duty operating in conjunction with cause in fact truncates negligence liability; no similar truncation exists for strict liability. Shavell did not realize that this difference existed (see Shavell 1980a).

Shavell stressed that causal limitations are needed to avoid making people liable for "uncontrollable movements." According to him, when people cannot

10 As an introduction to this less formal model of negligence causation, Shavell wrote: "Let us now try to explain why, contrary to our present result of the magnitude of loss determining the scope of liability, in reality the scope of liability under the negligence rule is determined by the body of principles deduced as desirable in the previous part on strict liability" (Shavell 1980b, 489).

control their movements, in the absence of causal limitations, they might reduce their activities to inefficiently low levels in order to avoid negligence liability. Nevertheless, to the extent that movements really are uncontrollable, courts hold them to be nonnegligent. For instance, if a driver collides with another driver because he unexpectedly sneezed, that will not be negligent in the first place (see Zabunoff v. Walker, 13 Cal. Rptr. 463 (1961)). Similarly, if a driver crashes because he was blinded by a sudden glare, he was not negligent either (see Anderson v. Katz, 30 Cal. Rptr. 849 (Ct. App. 1963); Diaz v. Duke, 482 P.2d 48 (Kan. 1970)). Sudden and uncontrollable movements do not negate proximate cause; more fundamentally they negate negligence itself (see Hammontree v. Jenner, 97 Cal. Rptr. 739 (Ct. App. 1971)). Thus, actors cannot reduce their activity levels because of liability for "uncontrollable movements." That liability does not exist in the first place. We must search elsewhere for the source of causal limitations.

We can start with the premise that any given negligent act was avoidable and controllable, or else it would not have been negligent. Nevertheless, there is the issue of the appropriate rate of advertence and thus of negligent behavior. For someone to reduce his rate of negligent behavior ultimately comes at increasing marginal cost. Ideally, courts would assess whether someone was operating at an efficient rate of negligence and impose liability only for negligent acts that exceeded the limit. The biggest impediment is that "efficient" negligence often looks exactly the same as "inefficient" negligence. Moreover, as a related point,

even if courts could define a "reasonable" limit for negligent acts, how would they ever tell whether any given act was below this limit or above it?

Most negligent behavior is inadvertent, either an inadvertent failure to see risk or an inadvertent failure to use precaution against it. Rather than distinguish between different types of inadvertence, for the most part courts allow juries to impose liability for all of it[11] (see Grady 1988b; 1994; 2009; see also Arlen & MacLeod 2003 (arguing that in some contexts negligent acts can arise from a defendant's prior failure to have properly invested in expertise).[12]

The problem of "possibly efficient" negligence goes beyond the difference between advertent and inadvertent lapses. Even some deliberate acts of negligence may be relatively innocent depending on the circumstances. Consider the *Palsgraf* railroad guards who helped the passenger board the moving train. They must have known that their conduct violated their employer's standard of care. What is a railroad guard's job if not to prevent passengers from boarding moving trains? Still, did the *Palsgraf* boarding passenger appear capable of accomplishing his goal? Did it seem as though he would stop boarding the train if the guards warned him? An eyewitness testified that the package-carrying

11 A small exception was the restrictive doctrine of "momentary distraction" (sometimes called "momentary forgetfulness"), which has now been superseded by and included within the modern doctrine of comparative negligence. See, e.g., Flynn v. City of New York, 478 N.Y.S.2d 666 (App. Div. 1984).

12 Investments in expertise actually increase the amount of negligent behavior when the expertise is equivalent to a "durable precaution" that makes complementary "nondurable precaution" more productive (see Grady 1994; 2009). Think of a family practitioner who becomes a board-certified internist. Because of his increased expertise, he is now in a position to inadvertently neglect more patient symptoms that he should have seen. His increased expertise has expanded his opportunity set for negligent lapses. Airline pilots use pre-takeoff checklists to prevent lapses. These checklists almost certainly reduce error, but they are not economically the same as increases in expertise. A checklist could be less productive for a family practitioner than for a pilot because the family practitioner's encounters with risk are less routine.

passenger seemed determined to catch the train (Palsgraf Record [1928], p. 907), partly because his companion was already aboard it (p. 909), and another witness testified that both of the late boarders were young, vigorous men who were running to board (p. 916). Mrs. Palsgraf, moreover, testified that the train was barely "creeping along" when the package-carrying man boarded (Palsgraf Record [1928], 907). On these facts, the guards certainly were not reckless in trying to help this determined passenger. It almost seems that they were not negligent at all. Was the guards' breach of duty simply that they inadvertently failed to notice the package? That seems to have been Cardozo's view of the railroad's negligence, which would make it "possibly efficient." The cost would be prohibitive for railroad guards perfectly to notice every small risk like the small, newspaper-wrapped package the *Palsgraf* passenger was carrying. At least one juror took the view that the railroad's breach of duty was the guards' failure to close the train door immediately before the train started in motion (*Palsgraf* Record 1928, 931), which certainly could have been an efficient error so long as it did not happen too often.

Consider the opposite type of case where the *inefficiency* of the defendant's negligent act appears right on the surface. The central example is a deliberately omitted precaution that was cheap and highly productive. The Restatement (Third) of Torts § 3 calls this type of omission "recklessness," though other authorities refer to it as "willful and wanton negligence." From this point of view, the Restatement definition of "recklessness" seems unduly restrictive; some negligence can be "clearly inefficient" without rising to the level

of recklessness. The real question is how cheap it is *perfectly* to avoid the type of negligence in question; it is usually very cheap to avoid deliberate negligence. Just say no to drunk driving, driving at 90 miles per hour, and so forth. However, it was *not* cheap perfectly to avoid the type of negligence involved in *Palsgraf*, which is why it was "possibly efficient."

The distinction between "possibly efficient" and "clearly inefficient" negligence is the true source of causal limitations on negligence liability. Much negligence that we observe could be efficient; it is usually impossible to say merely from observing a single act or omission. Any ultimate judgment depends on how frequently the person engages in the negligent act and sometimes, as in *Palsgraf*, on whether there were special circumstances that neither actors nor courts can easily evaluate. To impose comprehensive liability on these potentially efficient acts can induce inefficient precaution substitutions as well as inefficient reductions in activity levels.

This theory also predicts legal doctrine. If the reason for causal limitations is to prevent collateral damage from liability for *efficient* negligence, then we should expect that causal limitations should be more pronounced when a defendant inadvertently failed to use a precaution, especially a relatively unproductive precaution, and causal limitations should be correspondingly less pronounced when someone has deliberately failed to use a highly productive precaution that he should have known was reasonable. In fact, this is the legal doctrine. Restatement (Third) of Torts § 33(b) (2010) provides that

> An actor who intentionally or recklessly causes harm is subject to liability for a broader range of harms than the harms for which that actor would be liable if only acting negligently.

Restatement (First) of Torts § 501(2) (1934) stated the same principle more clearly:

> The fact that the actor's misconduct is in reckless disregard of another's safety rather than merely negligent is a matter to be taken into account in determining whether a jury may reasonably find that the actor's conduct bears a sufficient causal relation to another's harm to make the actor liable therefor.[13]

5. The Policy Purposes of the "Reasonable-Foresight" Doctrine

Shavell's main justification for proximate cause is to preserve efficient activity levels. Nevertheless, besides preserving activity levels, causal limitations also reduce inefficient substitutions among different types of precautions, because some precaution technologies are much more likely than others to lead to negligence liability.

When people inadvertently cause harm—even when their overall rate of advertence is efficient—courts will allow juries to find them negligent. In the face of this harsh rule, those subject to the negligence liability will seek to maintain their activity levels, which are beneficial to them. One way is through

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[13] See also Restatement (Second) of Torts § 501(2) (1965) (same as first Restatement on this subject); Jordan v. Adams, 533 S.W.2d 210 (Ark. 1976) (holding defendant liable for gunshot wound to plaintiff when through deliberate negligence he threw his friend's purse toward her, across a crowded room, but without knowing it contained a loaded pistol); Haft v. Lone Palm Hotel, 478 P.2d 465 (Cal. 1970) (holding defendant liable under relaxed cause-in-fact standard because defendant deliberately omitted many highly productive precautions).

substituting precaution that requires *less* advertence. Think of substituting an inspection machine for a human inspector. It is primarily *nondurable* precaution—that is to say, *repetitively used precaution*—that yields liability for inadvertent negligence (see Grady 1988b; 1994; 2009). A substitute *durable* precaution can reduce the need for advertence and thus reduce expected liability. Not all of these substitutions will be efficient, however. An *efficient* substitution of durable for nondurable precaution takes place when the net social benefit from the durable precaution is greater than that of the nondurable precaution. Thus, if the durable precaution is cheaper or yields greater safety, then it can be and often is socially beneficial to make the switch. Under the negligence system, however, the private benefit from durable precaution can be greater than its social benefit. The reason is that someone who has been efficiently negligent will often be liable.

Consider the famous case of *Escola v. Coca Cola Bottling Co.*[14] The plaintiff was a server in a restaurant that sold Coca Cola. While retrieving a bottle for her customer, it blew up in her hand, and she sued the local Coca Cola bottler, which had recycled and refilled the bottle. The possibilities for negligence were that the bottle itself had been defectively manufactured by the original bottle manufacturer, that the defendant had inadvertently failed to notice that the bottle had been damaged before it refilled the bottle, or both. A bottle manufacturer testified that its testing of new bottles, which was standard in the industry, was relatively automated. By contrast, other evidence indicated the defendant's employees' visual checks of recycled bottles was intense and took place "at

14 150 P.2d 436 (Cal. 1944).

several stages during the bottling process." The court held, paradoxically, that this evidence of the high rate of advertence demanded by the bottler's inspection process entitled the jury to find that the bottler had been inadvertent and negligent on this occasion. The defendant's manual process provided many chances for fallible humans to lapse.

What would be the solution for the bottler? It could substitute in favor of durable precaution by automating the bottle inspection process. If exploding bottles were a major source of negligence claims, as they seem to have been, an inspection machine could appear privately beneficial even though it might cost more and yield more dangerous bottles than the manual process it replaced. The negligence rule requires humans to maintain almost perfect levels of advertence, whereas machines need be only "reasonably" designed (see, e.g., Jablonski v. Ford Motor Co., 955 N.E.2d 1138 (Ill. 2001) (holding that an automobile need possess only a reasonable design, not an infallible design). The negligence rule itself prevents the most egregious substitutions, but it seems doubtful that any court would blame a bottling company for automating its inspection process if it used high-quality technology that was not *radically more dangerous* than the replaced manual inspection process.

By reducing liability for some consequences of inadvertence, the reasonable-foresight doctrine of proximate cause reduces the number of inefficient substitutions of durable precaution for the nondurable precaution.

Many substitutions of durable for nondurable precaution are efficient, and the negligence rule encourages these as well. For instance, if surgeons tie plastic

strings on sponges, in order to make sure that they are all counted before the patient is closed, or if they put X-ray markers in these sponges so that they can easily be identified when they are left inside the patient, these substitutions probably reduce social cost, just as the negligence system intends. With harsh liability for inadvertent errors the negligence system can also induce excessive substitution of durable for nondurable precaution. This formulation of the problem is highly general. Suppose Caesarean deliveries require less advertence than conventional deliveries. Negligence law's effective strict liability for compliance errors could also induce excessive substitution toward this type of technology.

The harshness of the negligence rule can especially retard new and complicated *safety* technology (see Grady 2009). Think of the introduction of the air bag. Suppose that the first air bags were quite effective, but were highly subject to manufacturing defects that came from human error on the assembly line. The rule governing these inadvertent errors—whether called negligence or products liability—has been harsh. Over the past 50 years manufacturing errors have almost always yielded liability, originally under negligence principles and later under products liability. If many of these manufacturing errors were efficient—but could not be judged as such because of courts' high measurement costs—then the liability rule would inefficiently retard the introduction of air bags and thereby reduce safety. To a manufacturer, the private net benefit of air bag production could be negative, once the liability costs are counted, even when the net social benefit is highly positive.

Besides preserving activity levels, a basic policy purpose of the reasonable-foresight doctrine of proximate cause is to reduce the number of inefficient substitutions that those bound by the negligence rule will make because of their liability for efficient as well as inefficient rates of advertence. It is for both reasons that the doctrine targets inadvertent negligence and limits liability for it. Causal limitations are less pronounced for recklessness because this behavior is almost always inefficient.

6. Two Doctrines of Proximate Cause

From an early date, the two themes of proximate cause doctrine have been the reasonable-foresight and direct-consequences approaches. Under reasonable-foresight, the broad question is whether the type of harm suffered by the plaintiff was reasonably foreseeable. Under the other approach, the question becomes whether between the defendant's breach and the plaintiff's harm, there intervened some cause of a type that "superseded" and should therefore cut off the defendant's liability. A "superseding cause" is usually a tort by some other individual or by the plaintiff himself. The view that these two approaches were alternatives was bolstered by *Palsgraf* where there were two famous opinions: the majority opinion by Judge Cardozo, which embraced a reasonable-foresight test; and a dissenting opinion by Judge Andrews, which embraced the direct-consequences approach.

Grady (1984; 2002) indicates that the proximate cause decisions of most, if not all, common-law jurisdictions can be best understood by supposing that courts simultaneously enforce these two different approaches. Thus, both the

reasonable-foresight doctrine and the direct-consequences doctrine must be satisfied in order for proximate cause to exist in a given case.

7. The "Reasonable-Foresight" Doctrine of Proximate Cause

A. Introduction

A now-conventional legal theory of reasonable foresight proximate cause is that "An actor's liability is limited to those harms that result from the risks that made the actor's conduct tortious." (Restatement (Third) of Torts, 2010, § 29). Although the Second Restatement modestly embraced a "hindsight" test of reasonable foresight (see Restatement [Second] of Torts § 281, comment g; Stapleton 2001, 1003n159), the drafters of Restatement (Third) left it ambiguous whether we should prefer true ex ante foresight or some combination of foresight with hindsight.

Figure 1 can again help us frame the problem. The R-curve reflects at its most basic level a prediction of ex ante or "expected" harms. Yet, we when get into causation cases, it becomes impossible to retain a purely ex ante perspective. We have already seen with cause in fact that it is also possible to have an ex post perspective on the R-curve. Suppose we have a probabilistic prediction of floods along the Mississippi River that defines, together with the cost of precaution, how high and strong the Corps of Engineers should build the levees. Ex post a particular flood, we can sensibly ask whether it was a 500-year flood or a 10-year flood and therefore whether a breach of the levees was a negligent harm or an unavoidable accident. In addition, if a levee broke because a terrorist destroyed it, we can similarly tell that it was not at all harm within the Corps of Engineers'

relevant risk; it was harm under some entirely different R-curve, maybe the FBI's R-curve. In either case, in order to determine causation we are relying on information that only arose *after* we defined the R-curve in the first place.

Consider *Berry v. Borough of Sugar Notch*, the trolley case. On figure 1, imagine that P_1 is the streetcar driver's actual speed and that P^* is the speed limit. The issue is whether the accident that actually occurred (a direct hit by a tree) corresponded to some expected harm within the area P_1DFP^*. What are these expected harms within the zone of negligently caused harm? Most are collisions with vehicles, pedestrians, and objects that the streetcar would strike were it traveling at a speed of P_1 but would avoid at the lower speed of P^*. Was the direct hit by the rotten tree such a collision? Reducing speed from P_1 to P^* has no effect on the ex ante probability of a direct hit from a tree. Thus, a direct hit could not be within the zone of negligently caused harm. In fact, this accident is nowhere under the R-curve.[15] This reasoning is partly ex post because it depends on knowing what type of accident actually took place and whether the defendant's untaken precautions would systematically reduce its probability. If we knew ex post that the tree fell 50 feet in front of the speeding streetcar, we would also know that proximate cause would be satisfied because that would be a harm within the risk.

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15 Because the proximate cause question arose on the issue of contributory negligence, the relevant R-curve is defined with respect to the *plaintiff's* precautions. The defendant, the town that failed to cut down its rotten tree, also had an R-curve. A direct hit from this tree was indeed under the *defendant's* R-curve because cutting down a rotten tree does reduce the ex ante probability of a direct hit as well as the risk from trees that fall in front of advancing streetcars. Consistently, the court held that the defendant was liable even when the plaintiff was not.

Ex ante we can know only general types of harms that will be avoided by using the untaken precaution. Nevertheless, the actual accident that we see ex post will never be the perfect archetype; it will always include odd and unpredictable details. Must these details have been ex ante foreseeable in order for liability to exist? Clarence Morris (1950, 193–194) once offered the Texas case of *Hines v. Morrow*,[16] as an illustration of the problem. The plaintiff was one of two workers sent out on a service truck to tow a stalled car. He secured the tow rope and attempted to step out from between the vehicles when his artificial leg slipped into a mud hole caused by the defendant railroad's negligent failure to maintain this portion of the highway. The plaintiff, unable to extricate himself, reasonably grabbed the tailgate of the truck to pry himself loose. Without any negligence on the plaintiff's part, a loop in the tow rope then lassoed his good leg and broke it. Could he recover for this unusual injury? That question seemed to depend on how much of this detail needed to be "foreseeable" in order to yield liability.

In deciding for the plaintiff the court quoted with approval his lawyer's description of the facts: "The case stated in briefest form, is simply this: Appellee was on the highway, using it in a lawful manner, and slipped into this hole, created by appellant's negligence, and was injured in attempting to extricate himself." If we neglect all of the unusual detail, the type of accident becomes clearly foreseeable from an ex ante point of view. How do we know, however, that this is the appropriate level of generality?

16 236 S.W. 183 (Tex. Civ. App. 1922).

The basic purpose of reasonable-foresight proximate cause is to cut off liability for "unique" accidents. These are accidents that are *not* mere variants of those that were ex ante foreseeable. Unique accidents are analogous to those falling within the zone of unavoidable accident, except that they exist *beyond* the R-curve ("outside the risk"). Hence, it is possible to eliminate liability for "unique" accidents without damaging actors' basic incentives to use due care. With both unavoidable accidents and "unique" accidents the circumstance justifying immunity is that the actor's negligence was "possibly efficient." Extensive liability for "possibly efficient" negligence can damage incentives by causing actors to reduce their activities to inefficient levels, to make inefficient precaution substitutions, or both. The next two paradigms of no liability allow courts to see "unique" accidents for which immunity would improve private incentives.

B. Untaken Precaution Would Be "Last Thing" to Prevent Similar Accident

(Paradigm LT/MSR—no liability)

Reasonable-foresight cases can be reconciled by asking whether the untaken precaution alleged to have been the breach of duty would have been the first or the last thing that someone would use to prevent the recurrence of a similar accident. This question answers ex post whether the reasonably foreseeable risk contained the accident that actually occurred. An equivalent and sometimes more serviceable inquiry is whether only a minimally systematic relationship existed between the untaken precaution and the accident. Hence, I

call this paradigm "LT/MSR," which stands for "last thing/minimal systematic relationship."

The "last thing" test resolves the "reasonably foreseeable" accident. Again in terms of figure 1, the ultimate question in *Hines v. Morrow* (the mud hole case) was whether the accident was similar to or different from the common types of accidents within the zone of negligently caused harm—the area P_1DFP^* on figure 1. We know that the harms within that zone of negligence would be reduced by the untaken precautions in question—otherwise, the zone of negligent harm would not exist. If P^* is filling in the mud hole and P_1 is not doing so, the obvious harms "within the risk" include pedestrians slipping into the hole, car drivers skidding on or into it, and people extricating themselves from it. For any of these accidents, filling in the mud hole would be the *first thing* one would consider in order to prevent a recurrence. That is the key to seeing that all of these accidents are functionally indistinguishable and that liability must exist for all. Moreover, depending on how dangerous the mud hole was and how long the defendant had left it there, *Hines v. Morrow* could even have been a case in which the defendant's negligence was "clearly inefficient." In this eventuality, liability would be even clearer.

Because *Palsgraf* resulted in no liability under the reasonable-foresight doctrine, it should be a contrasting case in which the "last thing" test predicts that result. Because the defendant's guards failed to prevent a package from dropping from the arms of a belated passenger, it fell to the tracks and exploded, jarring the platform and causing scales to fall onto the plaintiff, who was waiting to catch a

train. Imagine on figure 1 that P_1 represents the defendant's actual precaution level. Was Mrs. Palsgraf's injury a mere variant of some expected harm between P_1 and P^* for which there should have been liability?

Cardozo stressed that the risks between P_1 and P^* involved mainly injuries to the passenger's package, which might have contained valuables. In order to prevent a recurrence of the actual *Palsgraf* accident, the first thing a safety expert would recommend is for passengers not to board moving trains when they are carrying explosives. Probably the second measure would be for the defendant to stabilize its scales. In any event, for the railroad guards to be more careful with passengers' packages would be the *last thing* someone would recommend to prevent an accident in which someone was hurt by toppling scales.

The boarding passenger's decision to carry an unmarked bundle of explosives did not exist under the *defendant's* R-curve but instead under the passenger's own R-curve. Moreover, Mrs. Palsgraf's attorney failed to allege that the scales were dangerously unstable. The latter could have been an error (see Prosser 1953, 7–8), or it could have been that the plaintiff's attorney knew that the scales were actually stable or, if the scales were actually unstable, that the explosion was so severe it would have toppled even stable scales. In short, Mrs. Palsgraf's attorney may have seen that any allegation about the scales would have caused his client to lose on breach-of-duty or cause-in-fact grounds.[17] In any

[17] The "negligently unstable scales" allegation would also create a problem under the direct-consequences doctrine, discussed below, because the passenger's negligence in boarding the moving train while carrying explosives was a *reckless* act that was clearly *later*, and therefore a "superseding" cause, relative to the railroad's prior opportunity to stabilize the scales. The plaintiff's actual allegation of the guards' misbehavior made the passenger's negligence simultaneous with the guards' negligence. On the "negligently unstable scales" conception, the

event, the "last thing" test shows that the *Palsgraf* accident either did not exist under the railroad's R-curve or was within the railroad's zone of unavoidable accident. Thus, the *Palsgraf* case appropriately resulted in no liability.

The basic purpose of the reasonable-foresight doctrine is to cut off liability when the accident arose from someone's "possibly efficient" act or omission that was generally ineffective against the type of accident that occurred. The "last thing" test bars liability for "unique" accidents for which liability is not needed in order to induce proper precaution.

This theory of proximate cause is different from Shavell's "fundamental characteristic." Most significantly, Shavell's model fails to distinguish between "possibly efficient" and "clearly efficient" negligence. If a defendant's negligence was clearly inefficient, that defendant may be liable even though its untaken precaution was generally ineffective against the accident in question. Also, the "last thing" test focuses on the effectiveness of the particular untaken precaution offered by the opposing party to prove the actor's negligence, not on the global effectiveness of the actor's care level as under Shavell's approach. Although the *Palsgraf* defendant may have possessed highly effective precautions against that accident—perhaps it could have stabilized its scales—the court focused on the particular untaken precaution offered by the plaintiff to prove the defendant's breach, namely, the guards' behavior in helping the belated passenger board.

Palgraf case was like the no-liability cases of *Seith* and *Snyder*, both of which are discussed below. The *Palsgraf* case illustrates how plaintiffs' attorneys must thread a needle to find an untaken precaution that simultaneously satisfies the breach-of-duty, cause-in-fact, and proximate-cause requirements. See Grady (1989).

The policy behind this rule is that "possibly efficient" negligence may be *actually* efficient. It would be unwise totally to immunize "possibly efficient" negligence because then we would see too much indistinguishable inefficient negligence. People would deliberately reduce their advertence levels. Nevertheless, in those limited situations in which the possibly efficient untaken precaution would have been generally *in*effective against the accident in question, it can make good sense to wait for a better occasion for liability. That occasion will come when the untaken precaution in question was highly effective against some accident. If that occasion never comes, then the untaken precaution could not have been negligent in the first place. This type of rule will diminish inefficient substitutions of durable for nondurable precaution and help maintain activity levels.

Shavell also asserted that "unusual, abnormal, freakish—in short, unforeseeable—accidents are often excluded from the scope of liability" (Shavell 1980b, 490). Nevertheless, it is clear from the cases that "freakish" does not equate to "unforeseeable." Consider *Morris*'s mud hole, an unusual accident that did in fact result in liability. "Unusual" accidents represent a significant class of liability cases. In *Johnson v. Kosmos Portland Cement Co.*,[18] the defendant hired the decedents' employer to make alterations to the defendant's combination oil and rock barge. The defendant knew the alternations required the use of welding equipment. The barge had recently carried a load of oil, which the defendants knew generated gases that remained in the hold. The best practice was to scrape

18 64 F.2d 193 (6th Cir. 1933).

the sides of the tank and remove all oil possible and then exclude the gases by filling the hold with water or steam. The defendant did neither. The decedent's welding torches could have easily ignited the remaining gases. Instead, plaintiff was killed when the barge exploded upon being struck by lightning. The "last thing" test predicts the liability result. Although the accident may have been freakish because of the lightning strike, the *first thing* you would use to prevent a recurrence of a similar accident would be to evacuate the gases from the hold, which was precisely the untaken precaution that the plaintiffs alleged as the defendant's breach of duty. In fact, no other safety measure comes to mind. Accordingly, the accident was a mere variant of the type of mishap that was clearly foreseeable.

Consider an even more "abnormal" accident in which proximate cause also existed. In *United Novelty Co. v. Daniels*,[19] the defendant's manager told a young employee to clean the store's vending machines and failed to warn him not to follow the employees' common practice of using gasoline as a cleaning solvent. The deceased used gasoline although an open-flame gas heater warmed the room. The gasoline fell upon a rat, whose fur was ignited by the gas heater. The burning rat ran back to the machine that the young man was cleaning, causing it to explode, killing him. The plaintiff alleged that the defendant's breach of duty was allowing the deceased to use gasoline as a cleaning agent. For the defendant's manager to have warned the decedent *not* to use gasoline would again

19 42 So. 2d 395 (Miss. 1949).

be about the *first thing* one would recommend to prevent a recurrence of this accident. The court appropriately held that proximate cause existed.

From the very requirements that courts have developed for specific negligence cases (Grady 1983; 1989; 2009; Ott and Schäfer 1997; Kerkmeester and Visscher 2003; Kerkmeester and Visscher 2010), it appears that they wish to regulate safety incentives one precaution at a time. In fact, if we leave aside *res ipsa* cases, where proximate cause issues are uncommon, it is only by considering the alleged untaken precaution that we can define the zone of negligence liability. The issue then arises whether the actual accident was a mere variant of those within this negligent zone, or whether the accident was "unique" and therefore outside the zone of what was ex ante foreseeable. If ex post the untaken precaution was the last thing one would use to prevent the occurrence of a similar accident, the odds are good that the accident was ex ante *un*foreseeable to someone considering whether to use the precaution in the first place. Finally, through its ex post perspective, the "last thing" test also provides a practical solution to the most vexing problem of reasonable-foresight proximate cause: how much detail about the accident must the actor have "foreseen" in order to be liable. With Paradigm LT/MSR, we can use all of the detail and still arrive at the appropriate result; that is to say, we can accurately predict the result a court will reach.

C. Chain Too Complicated (Paradigm CTC—no liability)

The second no-liability paradigm is functionally similar to the "last thing" test and also identifies "unique" accidents that were *not* mere variants of those ex

ante foreseeable. When the connection between the untaken precaution and the accident was an extremely complicated causal chain, one can infer that the accident was unique and therefore beyond what was ex ante foreseeable. Extremely complicated causal chains are as unique as Rube Goldberg cartoons.[20] According to the pattern of court decisions, an extremely complicated chain of events immunizes the original wrongdoer whose untaken precaution set it in motion, and that is especially true when the causal chain entailed a transformation of one type of force or energy into another kind, which is an especially unique event. Beale's (1920) theory is related, but Beale asserted that the "forces" conception of proximate cause was more general than it actually is. The most general conception of reasonable-foresight doctrine is the "last thing" test (Paradigm LT/MSR). Paradigm CTC ("chain too complicated") is, however, consistent with the last thing test because it is an alternative way of assessing whether the accident was unique and therefore ex ante unforeseeable. In addition, Beale stressed the idea of "forces coming to a rest," not the mere complication of causal chains emphasized by Paradigm CTC.

Although the *United Novelty* "exploding rat" accident was certainly freakish, the causal chain was not particularly complicated. From a "transformation-of-forces" point of view, the *United Novelty* accident was basically a simple chemical explosion, though of course some additional force, whether a breeze or a rat, had to carry the gasoline fumes close to the heater. In

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20 Rube Goldberg was a mechanical engineer who lampooned the mechanical age by drawing cartoons of complicated inventions that accomplished simple results. Rube Goldberg's biography and examples of his "machines" can be found at http://www.rubegoldberg.com. A Paradigm CTC case will typically involve a mechanical force that has been transformed into some other type of force. Such cases are thus even more fantastic than a Rube Goldberg machine.

Palsgraf, by contrast, the mechanical force of the defendant's guards when they jostled the package loose was transformed into a chemical force when the fireworks fell and exploded, presumably as they were mechanically crushed by the train wheels, and then again became a mechanical force when the explosion shook the platform, and that subsequent mechanical force was in turn multiplied by gravity when the scales fell onto Mrs. Palsgraf. This chain of events was much more similar to a Rube Goldberg cartoon than the corresponding causal chain in *United Novelty*.

An even more complicated causal chain produced the accident in *Amica Mutual Insurance Co. v. Town of Vestal*.[21] The plaintiff alleged that, as a result of a power company's failure to trim tree branches near its electrical transmission lines, tree branches broke during a storm and fell onto a speed limit sign erected by the defendant Town of Vestal. Electric current was then conducted through the sign's pole into the ground where the electricity arced onto a natural gas main, owned by the defendant Columbia Gas of New York. The electricity burned three holes in the gas main, causing the natural gas to escape. The gas seeped through the ground, collected in the plaintiff's house, and then exploded, destroying the house. The defendant power company moved for summary judgment, and on that record it was unclear whether and to what extent the intervening actors—the town and the gas company—had been negligent. Nevertheless, based simply on how complicated the causal chain was, the court granted the original wrongdoer's (the power company's) motion to dismiss. The *Amica* causal chain entailed both more

21 594 N.Y.S.2d 418 (App. Div. 1993).

steps and more transformations of force than even *Palsgraf* and accordingly was a more obvious case of no proximate cause. The extreme complication of the causal chain demonstrated that the accident itself was unique and therefore ex ante unforeseeable.

If, contrary to *Amica*, an accident was merely an improbable variant of a significant risk that would have been eliminated by the untaken precaution in question, then liability must remain because the mere degree of improbability, standing by itself, is an impossible test for truncating liability. From this standpoint, the doctrine of proximate cause is like the "thin-skulled-plaintiff" rule.[22] If one simply removes the liability for the more improbable harms prevented by a given untaken precaution, it is impossible to know when to stop. Thin versus thick skulls reflect a mere difference in the degree of harm, never a difference in kind. Conversely, Paradigms LT/MSR and CTC together define a difference in kind that allows courts to know when to stop immunizing defendants.[23] Again, the purpose of the truncation is to ensure that actors who may have been efficiently negligent do not face so much liability that they

22 See Steinhauser v. Hertz Corp., 421 F.2d 1169 (2d Cir. 1970) (defendants liable for schizophrenia plaintiff developed because defendants' car negligently crashed into plaintiff's car); Hastie v. Handeland, 79 Cal. Rptr. 268 (Ct. App. 1969) (defendant liable for vulnerable plaintiff's death from back surgery when normal plaintiff would have walked away from minor collision practically unscathed).

23 For instance, liability would remain if ten people were improbably electrocuted by the falling electrical wire or if the wire fell on the stop sign and improbably electrocuted someone who was leaning against it. Paradigms LT/MSR and CTC create a clear distinction between those cases of liability and the *Amica* case. Perhaps so many observers now think the real proximate cause test is the mere improbability of the accident—a much simpler concept to understand—that it is difficult for them to accept that the courts' decisions are actually consistent with each other, not incoherent as one would conclude if one believed that some easy version of the "improbability test" guided judicial decisions. Shavell (1980b) seems to have adopted the "improbability test" from legal scholars.

inefficiently substitute durable precaution or inefficiently reduce their activity levels. Cause in fact creates a similar truncation under a different legal principle.

Consider the following liability case that contrasts with *Amica*, though it was equally "unusual" in the standard sense of that word. Unlike *Amica*, however, the accident about to be described lacked uniqueness; it was merely a variant of a more common type of accident for which liability must be preserved, as under the thin-skulled-plaintiff rule. In *Chase v. Washington Water Power Co.*,[24] the defendant breached his duty of care by allowing, for a period of two years, a rancher's barbed-wire fence to lean against a guy wire that supported the defendant's 60,000-volt transmission lines. This was indeed a breach of duty because if the guy wire became live, the barbed wire would transmit the current to whatever or whoever was touching it. The power company, moreover, possessed a much greater knowledge of this risk than did the rancher.

Here is the unusual aspect of the accident. The rancher's fence in turn connected with the plaintiff's barbed-wire fence, which attached to the plaintiff's barn. At the top of the pole, there was a 28-inch separation between the guy wire and the actual transmission lines, a distance approved both by many public utility commission regulations and by industry custom. Nevertheless, on the day in question, two chicken hawks joined together in aerial combat, their talons locked together, and somehow the wing of one touched the guy wire at the same time as the wing of the other touched the high-voltage line. They completed a circuit, energizing the rancher's fence. The electricity immediately passed to the

24 111 P.2d 872 (Idaho 1941).

plaintiff's barn, which exploded. Plaintiff sued, alleging as the untaken precaution the power company's failure to push the fence off the guy wire or to tell the plaintiff's neighbor, the rancher, to do it.

The court held that proximate cause existed. *Chase* was basically the same case as *United Novelty*. Both were freakish accidents, but both accidents were also mere variants of much more common accidents that were certainly ex ante foreseeable. In *United Novelty* the same result could have occurred if the fumes had merely exploded without the intervention of the rat, and in *Chase* the same result would have occurred if a wire or even a single hawk had completed the circuit to the fence. The defendant had previously experienced outages due to single chick hawks. Moreover, in both *Chase* and *United Novelty* more probable but otherwise indistinguishable accidents were serious and worthy of prevention by the same untaken precaution (pushing the fence back from the guy wire). A person touching the fence, or even standing near the fence, would have been electrocuted if the fence became charged with 60,000 volts. Here is precisely why the actual *Chase* accident lacked uniqueness. Similar to *United Novelty*, *Chase* involved only the single force of electricity, not the multiply transformed forces at work in *Palsgraf* and *Amica*. More importantly, in *Chase* (as in *United Novelty*) the untaken precaution alleged as negligence would be the first thing, certainly not the last thing, someone would recommend to prevent a recurrence. *Chase* may indeed be the stronger case of liability because that defendant failed for two entire years to fix the dangerous situation so that its negligence was at least verging into the "clearly inefficient" type, which relaxes causal limits.

Many analysts have long thought that courts' treatment of freakish and unusual accidents lacks a consistent pattern. And yet, the degree of causal complication matters and can help us see how unique an accident was and therefore whether we can immunize the actor and still preserve the basic incentive for care. As noted above, excluding liability for low-probability, *unique* accidents is possible, but excluding liability for merely improbable variants of common accidents is not. A threshold limit of "improbability" cannot be systematized so as to yield an enforceable and predictable rule of decision.

D. Scientists Didn't Know (Paradigm SDK—no liability)

With a purely ex ante perspective on proximate cause analysis one often cannot tell whether a particular type of accident was foreseeable because the traditional ex ante conception fails to explain what level of detail should be included. It is thus better to look ex post and to assess whether an unusual accident was similar to other accidents that would have been prevented by the untaken precaution in question. Paradigm LT/MSR and CTC both examine the accident ex post in order to see how unique it was. Suppose, however, that even scientists did not know *before the accident* that the untaken precaution would have prevented it. Instead, the accident itself teaches even scientists that the untaken precaution would be one of the first measures used in the future. In these cases the courts also find no proximate cause. By so doing, the courts limit the hindsight tests, which would yield "false positives" of what was ex ante foreseeable in this special context.

Paradigm SDK ("scientists didn't know") has been more prominent in the U.K. than in the U.S. and is illustrated by *Doughty v. Turner Manufacturing Co.*,[25] The defendant maintained at its factory a vat filled with sodium cyanide, which was heated to 800 degrees centigrade and was therefore in a molten state. This vat had a removable cover made of "sindayo," a combination of cement and asbestos that everyone, including scientists, believed could be immersed in 800-degree liquid without any damaging result. One of the defendant's employees inadvertently allowed the vat cover to fall into the vat. Had the resulting splash injured someone, the defendant would have been liable because that harm would have been in the scope of the risk. But, no one thought that leaving the vat cover within the vat posed any risk. Nevertheless, within one to two minutes of its immersion, the vat cover exploded, producing a large splash that hurt the plaintiff. Later scientific tests revealed what no one had known before: that at temperatures above 500 degrees centigrade, sindayo underwent a chemical change that could create an explosion.

The plaintiff's lawyer argued that the eruption was a mere variant of mechanical splash risk, but the court decided for the defendant. Notice that this case does *not* fall within Paradigms LT/MSR or CTC. *After the accident*, which is the proper time perspective for LT/MSR, preventing the cover from slipping into the vat would be the *first thing* someone would do to prevent a recurrence of a similar accident. The no-liability result, moreover, also fails to fit under Paradigm CTC. The chain of events was no more complicated than what led to

25 [1964]1 Q.B. 518 (Eng.).

the *United Novelty* accident; in both it was merely a volatile substance that exploded after it was heated. Indeed, the *Doughty* chain was less complicated because no rat was involved.

Cases like *Doughty*, which are rare, require a new paradigm, which I will call SDK ("scientists didn't know"). Ex post the accident, we see that the untaken precaution would have been highly productive in preventing similar accidents, but ex ante the accident scientists did not know about the relationship. The most famous SDK case is *Overseas Tankship (U.K.) Ltd. v. Morts Dock & Engineering Co.* (The Wagon Mound (No. 1)).[26] The defendant negligently allowed bunker oil to escape from its ship into Sydney Harbor. At the time, scientists, including Professor Hunter who testified in the case, believed that bunker oil was nonflammable when spread on water. The plaintiff, after asking whether the oil situation was dangerous and being informed that it was not, began to weld. Welding material soon ignited the oil slick and then burned down the plaintiff's dock. The case resulted in no liability. This was the same case as *Doughty* and fell under the same SDK paradigm.[27] To impose liability in this situation for a possibly efficient act could only reduce activity levels or induce inefficient precaution substitutions.

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[26] [1961] A.C. 388 (P.C. Austrl.).

[27] Under this view, *Wagon Mound* is distinguishable from *In re Polemis*, [1921] 3 K.B. 560 (C.A.) and need not be viewed as overruling it. If the *Polemis* accident is viewed ex post, the first thing to prevent a recurrence would be for the stevedores to be more careful not to drop planks into the benzene-filled hold. In addition, scientists did indeed know before the accident that dropping heavy planks among leaking cans of benzene could create a spark that could ignite heavy benzene fumes. Moreover, between the stevedores' dropping of the planks and the explosion, no other tort intervened. *Polemis* was therefore RFH under the reasonable-foresight doctrine and NIT under the direct-consequences doctrine thus implying liability, the same result that the *Polemis* court actually found.

E. Outside Statutory Risk (Paradigm OSR—no liability)

Finally, proximate cause analysis can play out differently when the duty to use some precaution arose from a statute and not from common law. The common-law no-liability paradigms all apply fully to statutory cases, though a special paradigm provides an additional restriction on statute-based liability. The distinctive test for statutory proximate cause is whether the harm fell within the risk that the legislature or agency meant to reduce and whether the plaintiff was within a class of persons that the enacting authority had in mind. See Osborne v. McMasters, 41 N.W. 543 (Minn. 1889).

It may seem anomalous that the common-law paradigms also apply here, but they can clarify whether the harm was within the risk that the statute was designed to reduce. In *Mahone v. Birmingham Electric Co.*,[28] a local ordinance provided that buses should let their passengers off only at the curb and only where the curb was marked as a bus zone. The defendant's bus driver let the plaintiff off in the street where she slipped on a banana peel. One could speculate quite a while whether the city council had this type of accident in mind when it passed the ordinance, but an easy way to resolve it is to see that the case fell within Paradigm LT/MSR just as *Berry v. Borough of Sugar Notch*. Zero systematic relationship existed between letting the plaintiff out on the street and her slipping on a banana peel. The banana peel in question was just as likely, or more likely, to be on the sidewalk. Therefore, letting the passenger off at the curb would be

[28] 73 So. 2d 378 (Ala. 1954).

the last thing one would consider in order to prevent a recurrence of similar accidents.

A paradigmatic OSR case was *Di Ponzio v. Riordan*.[29] The City of Rochester Fire Prevention Code required gas stations to post warning signs directing their customers not to smoke and to "[s]top motor[s] during fueling operation" (section 54–22(Q)). It was unclear from the evidence whether the defendant had posted these signs. A motorist left his engine running because he had been experiencing carburetor problems and was afraid that he would not be able to restart his car. As the motorist exited the defendant's store after paying for his gasoline, the car started moving and struck the plaintiff as he was pumping gas into his car. The injured customer sued the gas station on the theory that it was negligent in failing to train its employees to make sure that customers turned off their engines in accordance with the fire code that required a warning. The court found for the defendant, stressing that the statute was designed to prevent fire and explosion risk, not the risk of vehicles running out of control while in gear with their motors running. Note that no common-law duty existed here because the defendant committed a mere nonfeasance, and it is unlikely that the court would have found the relationship between the plaintiff and the defendant or the offending motorist and the defendant sufficiently "special" to require the training.

Di Ponzio probably would have come out differently had the duty to train employees arisen from common law instead of a statute because turning off engines *does* foreseeably reduce the type of accident that occurred. I will call this

[29] 679 N.E.2d 616 (N.Y. 1997).

no-liability paradigm OSR ("outside the statutory risk"), and it applies as an additional restriction only to cases like *Di Ponzio* where the defendant's duty to use a precaution arose entirely from statute and not from the common law as well. This paradigm is common. See also Aguirre v. Adams, 809 P.2d 8 (Kan. 1991) (holding defendant landlord not liable for failing to provide plaintiff's family hot water, in violation of a statute, when she was burned by hot bath water that her mother had boiled and carried to the bathtub). The purpose of Paradigm OSR is to limit the effect of statutes and regulations to the particular safety objectives their enactors had in mind and thus to limit also the derogation of the common law.

F. Reasonably Foreseeable Harm (Paradigm RFH—liability)

The one *liability* paradigm under reasonable-foresight proximate cause is simply the residual of the previous paradigms, all of which are no-liability paradigms. So, if the case is *not* one in which the untaken precaution would be the last thing considered by someone trying to prevent a recurrence, if the causal chain was *not* too complicated, and so forth under the other no-liability paradigms, then the case should result in a finding of proximate cause under Paradigm RFH ("reasonably foreseeable harm").

8. "Direct Consequences" and Contributory Negligence

A. Introduction

Given the tendency of legal realists to see rules as policy alternatives, only some of them noticed that the traditional doctrine of proximate cause represents two branches that must both be satisfied: the reasonable-foresight doctrine and the

direct-consequences doctrine. Indeed, the Restatement (Third) of Torts § 34 (2010) (citing scholarship) has seemingly rejected the independent importance of the direct-consequences doctrine. Nevertheless, it remains impossible to predict case results unless you assume that both branches apply. Thus, for proximate cause to exist, a case must fall under Paradigm RFH ("reasonably foreseeable harm") *and* under one of the liability paradigms—still to be discussed—of the direct-consequences doctrine. If the case falls under a single no-liability paradigm of either doctrine, the case will entail no liability overall.

The reasonable-foresight doctrine is universal. As we have seen, its basic question is whether the untaken precaution alleged to be the breach would be the last thing or more like the first thing someone would want to use in order to prevent a recurrence of a similar accident. This question can be sensibly asked of any negligence case, which is why the reasonable-foresight doctrine is universal. The direct-consequences doctrine is concerned only with joint or "concurrent efficient" causes, sometimes called "sequential" causes in the law-and-economics literature (Wittman 1981; Shavell 1983). The direct-consequences doctrine is not universal because this sequential aspect must be present for the direct-consequence doctrine to apply.

In the discussion of the reasonable-foresight doctrine I distinguished between "possibly efficient" and "clearly inefficient" negligence. The former is associated with "inadvertent" negligence and the latter with "reckless" or deliberate negligence. Since those terms are more conventional and less

awkward, I will sometimes substitute them but intend the same meaning as before.

The core of the direct-consequences doctrine is Paradigm NCP ("no corrective precaution") and one-half of Paradigm IIT ("independent intervening tort"), all of which will be explained below. Under NCP, someone who has been inadvertently negligent will escape liability if another defendant or potential defendant recklessly failed to use "corrective precaution" to head off the disaster. Similarly, under one subset of Paradigm IIT, courts focus liability on a second wrongdoer who either recklessly or intentionally made a dangerous situation worse. If it were not for these, we could dispense with the whole direct-consequences doctrine, because it would be possible—albeit with slightly less precision—to analyze the remaining cases using only the reasonable-foresight doctrine. These two paradigms are similar to contributory negligence.

B. Direct-Consequences Doctrine and Contributory Negligence

Two economic purposes of contributory negligence exist. The first and more common is to reduce courts' measurement costs for "primary negligence"—the defendant's negligence. If a plaintiff has been recklessly negligent, it can eliminate the need to assess whether the defendant has committed a breach of duty. Interestingly, many jurisdictions have retained this doctrine even after they have adopted comparative negligence, which only reduces a plaintiff's recovery. An example is *Feng v. Metropolitan Transportation Authority,*[30] where the plaintiff waited for a train with his back facing where trains entered the station

30 727 N.Y.S.2d 470 (App. Div. 2001).

and stood so close to the tracks that the defendant's train hit him. Although New York had adopted comparative negligence, the court found entirely for the defendant without inquiring very closely into the defendant's negligence. In effect, the plaintiff's recklessness saved the court the trouble. Given that this decision totally barred recovery, some legal taxonomists might call *Feng* an application of "assumption of the risk," which is the name commonly used when the plaintiff's conduct totally bars his recovery.

The second purpose of contributory/comparative negligence arises in cases where the plaintiff, through inadvertent negligence or something similar, has placed himself in harm's way. The defendant then sees the plaintiff's predicament and has the opportunity to use "corrective precaution" to avoid hurting the plaintiff. For instance, a driver could hit the brakes and thereby avoid hitting a pedestrian who failed to notice that the light changed. Indeed, both contributory and comparative negligence require this corrective precaution of injurers. In a contributory negligence system, the example I have given falls under the doctrine of "last clear chance," which allows the inadvertent plaintiff a total recovery; with comparative negligence the plaintiff gets a partial recovery. See Restatement (Second) of Torts (1965) § 479 (helplessly negligent plaintiff), § 480 (inadvertently negligently plaintiff). The comparative negligence system also induces corrective precaution, perhaps more effectively than the contributory negligence system, because it forces a splitting of damages when one party has been originally negligent and the other has failed to use corrective precaution against that original negligence (see Grady 1988a; 1990).

Both purposes of contributory negligence have analogs in the direct-consequences doctrine of proximate cause. The analogs to *Feng* are a raft of proximate cause cases in which it was unobvious what the defendant's negligence was, but it appears to have been fairly innocent ("possibly efficient"), if it even existed. Then, a last wrongdoer—either another defendant or a second injurer not joined in the lawsuit—commits a reckless or deliberate act of wrongdoing. In these cases, courts are likely to focus liability on the last wrongdoer by immunizing the original wrongdoer—the defendant. The doctrine saves judicial measurement costs; in order to optimize incentives, liability should be focused on the reckless last wrongdoer who most needs to be taught a lesson. It may not even be worthwhile to consider in detail whether the original wrongdoer was or was not negligent, so long as it was reasonably clear that any negligence by him must have been inadvertent or similar. A good example is *Lone Star Industries, Inc. v. Mays Towing Co.*,[31] where the original wrongdoer's possible negligence in inadvertently damaging a barge was unclear, but the last wrongdoer's recklessness in loading the barge without inspection was totally clear.

The second purpose of direct-consequences proximate cause is similar to the last chance doctrine. The defendant, which will have been the original wrongdoer, has inadvertently created a risk to the plaintiff; then the last wrongdoer, which may or may not be a party in the lawsuit, comes along and sees the impending risk to the plaintiff *and also owes a duty to him* by virtue of a special relationship or something similar. The last wrongdoer then recklessly fails

31 927 F.2d 1453 (8th Cir. 1991).

to use this corrective precaution. The courts typically cut off the liability of the original wrongdoer and make the last wrongdoer solely liable, again to focus the liability on the entity that most needs a deterrence lesson. Remember that the original wrongdoer's negligence will have been inadvertent, and it is too costly for people to maintain perfect rates of advertence.

In the Paradigm IIT variant, the last wrongdoer, through its affirmative act, recklessly makes a bad situation worse. Just as with Paradigm NCP, the courts immunize the original wrongdoer, whose negligence was "possibly efficient," in order to focus liability on the second actor, whose negligence was "clearly inefficient."[32]

C. Shavell's Ideas About Direct Consequences

Shavell considers the problem of "intervening causes." He defines an intervening cause as "the occurrence of an event that is strongly outside the control of the injurer" (1980b, 497). With respect to human intervening causes, he says that "Criminal or intentional acts of parties other than the defendant would seem more important to discourage than those involving uncomplicated negligence, and the former but not the latter tend to exclude the defendant from the scope of liability" (ibid.) This statement is only partially true. There is much liability for subsequent criminal and intentional acts under the actual law of proximate cause.

Shavell's theory of the direct-consequences doctrine was limited by his view, more completely expounded a few years after the publication of his

32 Thus, the difference between NCP and this variant of IIT is merely that between the last wrongdoer's reckless nonfeasance or misfeasance.

causation piece, that no obligations of corrective precaution should exist (Shavell 1983). In that later article on "sequential torts" he argues, "The more general point is that optimal behavior will result under a liability rule provided that it leads the second party to take care if and only if the first party took care" (Shavell 1983, 591). Later on he claims that contributory negligence is a "superfluous addition" and not at all needed to induce victims to use efficient care (Shavell 1987 [2007], 15). In his causation article, Shavell claims that "From the point of view of inducing victims to act appropriately, it makes no difference whether a type of accident is included within the scope of liability" (Shavell 1980b, 494). In any event, Shavell's denial of an economic role for corrective precaution limits his theory of proximate cause because a major purpose of proximate cause is to incentivize corrective precaution.

9. The "Direct-Consequences" Doctrine of Proximate Cause

As just noted, the distinctive direct-consequences scenario is that a given accident possesses at least two causes in fact, each of which corresponds to breach of duty by two separate actors, one who acted earlier (the original wrongdoer) and another who acted later (the last wrongdoer). The distinctive purpose of the direct-consequences doctrine is the same as the doctrine of avoidance and last clear chance: to induce the second wrongdoer to use corrective precaution against the risk created by the first wrongdoer before it hurts the plaintiff. Nevertheless, confounds with this basic paradigm also exist, and I will organize the confounding cases into their own paradigms so that the analysis can be as unambiguous and as straightforward as possible. There are five direct-

consequences paradigms, which I will describe first in some detail and then radically simplify afterward.

A. No Corrective Precaution (Paradigm NCP—no liability)

Here is an example of the most important and most distinctive paradigm of the direct-consequences doctrine. In *Pittsburg Reduction Co. v. Horton*,[33] the defendant mining company's supervisor inadvertently, though negligently, discarded live blasting caps near a path to the local public school. Charlie Copple, a boy about 10 years old, picked up the cap that eventually did the damage. Charlie took the cap home and played with it in the presence of his father and mother for about a week. Charlie's father was a miner, and the court assumed that both of his parents recognized the blasting cap and still failed to confiscate it. About one week after he had found the caps, Charlie traded them at school with Jack Horton for some writing paper. Horton was 13 years old and was in the schoolhouse at the time he was hurt. Horton said he thought it was a shell of a .22 cartridge that had been shot and that he was picking the dirt out of it with a match when it exploded. His hand was torn so badly that it had to be amputated. The court held that the Copple parents' failure to confiscate the blasting caps from their son cut off the defendant mining company's liability.

Note that the elements of this doctrine were all present. Two causes in fact (but-for causes) concurred in producing a single harm. The original wrongdoer's negligence was inadvertent though of course very dangerous. The last wrongdoers' negligent failure to use corrective precaution was reckless, and

33 113 S.W. 647 (Ark. 1908).

the Copples did indeed owe a duty to the plaintiff because parents have an obligation to confiscate from their children articles that may harm others (see Kuchlik v. Feuer, 267 N.Y.S. 256 (App. Div. 1933), *aff'd*, 191 N.E. 555 (N.Y. 1934) (holding parents liable for failing to confiscate BB gun from their son who shot neighbor's child)). A case exactly the same as *Pittsburg Reduction* was *Sinram v. Pennsylvania R.R.*,[34] where one defendant's tug inadvertently struck another defendant's barge that defendant's barge captain recklessly failed to inspect for damage, cutting off original wrongdoer's liability to the cargo insurer when the barge sank from original damage.

Paradigm NCP is similar to the doctrine of contributory negligence, except more restrictive. During the heyday of contributory negligence, a plaintiff's even inadvertent failure to use corrective precaution against a defendant's prior negligence could cut off the defendant's liability (see Markwell v. Swift & Co., 272 P.2d 47 (Cal. App. 1954) (holding that plaintiff's failure to remember to use corrective precaution against defendants' negligently guarded hazard cut off their liability for her slip and fall)). As noted earlier, Paradigm NCP is similar to a modern doctrine emerging under comparative negligence in which a plaintiff's reckless negligence can totally bar his recovery, even when his merely inadvertent negligence would only reduce his recovery.

B. Independent Intervening Tort (Paradigm IIT—no liability)

Paradigm IIT contains two subsets that are facially different but ultimately similar to each other. The first subset is similar to "no corrective precaution"

34 61 F.2d 767 (2d Cir. 1932).

except that the last wrongdoer's negligence is an affirmative act as opposed to an omission of corrective precaution. In order to cut off the original wrongdoer's liability for its inadvertent negligence, the last wrongdoer's negligence must have been deliberate and patently wrongful in that he should have known his deliberate act created a grave risk of harm to the plaintiff. In both NCP and this first subset of IIT the last wrongdoer deliberately makes a bad situation much worse either by his reckless inaction when he had a duty to use corrective precaution on behalf of the plaintiff (NCP) or through the last wrongdoer's deliberate, risk-aggravating act (IIT).

A good example is *Seith v. Commonwealth Electric Co.*[35] The defendant power company strung its transmission wires over the streets and sidewalks of Chicago. One day, the wires between two poles in downtown Chicago broke. The wire that ultimately injured the plaintiff fell to the ground between the sidewalk and the roadway of a busy Chicago street. Two 9-year-old girls saw the wire just after it broke and rushed to a nearby saloon, where they told the saloonkeeper that a live electrical wire had fallen to the ground. Two police officers who were in the saloon came out to investigate, and one went up to the wire. At that moment, the plaintiff, ignorant about the wire, came down the back stairs of his nearby apartment. The officer took his police club and deliberately flipped the wire toward the plaintiff, who instinctively caught it, suffering a severe electrical shock. The police officer's deliberate negligence cut off the power company's liability for its apparently inadvertent negligence in allowing its

35 89 N.E. 425 (Ill. 1909).

transmission wires to become a danger. The case is similar to *Pittsburg Reduction* in that both intervening parties were intentionally negligent.

We could try to use the reasonable-foresight doctrine on *Pittsburg Reduction* and *Seith*, but we would predict the wrong result in each case. If one looked at the *Pittsburg Reduction* facts ex post and asked someone how they would prevent this accident in the future, the person would probably say, "A good way would be for the defendant's supervisor to use more care to check what he was throwing out." Similarly in *Seith*, if one looked at the case ex post, one would be tempted to say that a good way for someone to avoid that accident would be to use more care maintaining the electric wires. Thus, this ex post test of reasonable foresight, though it gives us the right answers in cases like *Berry v. Borough of Sugar Notch* and *Palsgraf*, gives us the wrong answers in cases like *Pittsburg Reduction* and *Seith*. That is why we need the direct-consequences doctrine in order to understand the total pattern of proximate cause cases.

Moreover, even if we used the more conventional ex ante test on *Pittsburg Reduction* and *Seith*, we would not get any obvious clarification. Despite these results of no liability, it was indeed ex ante foreseeable that discarded blasting caps could easily explode in curious children's hands and that poorly maintained electrical wires might very possibly electrocute pedestrians. It was perhaps *not* ex ante foreseeable that parents or police officers would be so recklessly negligent, but then again it was also *not* ex ante foreseeable in *Kosmos* that lightning, instead of some more probable spark from a welding torch, would destroy the ship. Yet, the unforeseeability of lightning did *not* relieve the *Kosmos* defendant of liability.

In short, contrary to Shavell, only a subset of unforeseeable intervening events destroys liability, and, as *Pittsburg Reduction* and *Seith* demonstrate, a reckless act by a responsible person usually qualifies. Shavell (1980b, 497) proposed that intervening *events* "strongly outside of the control" of the original wrongdoer should destroy his liability, but that idea also fails to create a distinction between *Kosmos* and, say, *Seith*. Lightning bolts seem just as "uncontrollable" to a ship owner as rogue police officers are to a power company, yet the police officer's conduct cut off liability while the lightning bolt did not.

Finally, although the reasonable-foresight doctrine lacks any transparent application to cases like *Pittsburg Reduction* and *Seith*, these two cases, no less than *Berry* and *Palsgraf*, likewise advance the more general goal of reducing the liability of original wrongdoers for their "possibly efficient" negligence. The direct-consequences doctrine thus diminishes the same inefficient substitutions as reasonable-foresight doctrine, though based on different judgments. In addition, Paradigm NCP encourages corrective precaution, and it together with Paradigm IIT focuses liability on people who have been reckless or worse and have thus engaged in clearly inefficient behavior.

In both *Pittsburg Reduction* and *Seith* and many similar cases of immunity, we need not worry much that focusing liability on deliberately negligent last wrongdoers will destroy the original wrongdoers' incentives to use care (cf. Shavell 1983). Many negligently discarded blasting caps will do injury without any intervention of reckless parents (see Mathis v. Granger Brick & Tile Co., 149 P. 3 (Wash. 1915) (holding defendant liable when child exploded

discarded blasting cap because his mother was reasonably ignorant of what it was)). Many negligently maintained electrical wires will immediately electrocute pedestrians without any help from reckless police officers. Ex ante, neither possibility creates a safe haven for original wrongdoers. In each case, the reckless intervention was so unlikely that immunity would not much alter the original wrongdoers' expectation of liability in the more usual case.

The second subset of Paradigm IIT is much more similar to the reasonable-foresight doctrine of proximate cause than the cases just described. Here, just as with *Pittsburg Reduction* and *Seith*, the accident will have had two sequential causes in fact, each a breach of duty by a separate actor. Nevertheless, in this subset the last wrongdoer's breach of duty is typically *not* a deliberately negligent act but often inadvertent negligence. The defining feature of this second subset, which we have not yet seen, is that the last wrongdoer's act, viewed ex post, destroys any systematic relationship that might have existed between the original wrongdoer's negligence and plaintiff's harm. In effect, the last wrongdoer's act makes the case equally soluble under Paradigm LT/MSR of the reasonable-foresight doctrine.

A good example is *Central of Georgia Ry. v. Price,*[36] in which the defendant railroad was inadvertently negligent in carrying the plaintiff beyond her stop. Because there was no train back to her destination until the following day, the conductor took the plaintiff to a hotel. The plaintiff alleged that the hotel proprietor then gave her a defective lamp, which exploded during the night,

36 32 S.E. 77 (Ga. 1898).

setting fire to the mosquito netting and burning plaintiff. Plaintiff sued the railroad and the hotel. The railroad's original negligence and the hotel's subsequent negligence were both causes in fact. Nevertheless, the hotel's intervening negligence was also inadvertent and not the same type of deliberate act that characterized the *Seith* police officer's deliberate throwing of the live wire toward that plaintiff and which cut off the power company's liability for its defective wires. The hotel's negligence made the case similar to *Berry v. Borough of Sugar Notch* and *Palsgraf*: it destroyed the systematic relationship between the original wrongdoer's negligence and the harm and put the case under Paradigm LT/MSR. If someone were told about this accident and were asked how to prevent similar accidents in the future, practically the last precaution that would occur to him would be for the railroad to use more care that passengers get to their right stops. It was a "unique" accident.

Finally, in many IIT cases, the key to seeing the no-liability result is to realize that the defendant's breach of duty was highly doubtful in the first place. That is an excellent way of understanding the *Wiener* case of the murderous driver, cited a few paragraphs below, and many others, including even *Palsgraf*, despite the dissenter's claim the direct-consequences doctrine would create liability in that case (see, e.g., Snyder v. Colorado Springs & Cripple Creek District Ry., 85 P. 686 (Colo. 1906) (defendant overcrowded its commuter train; crowded passenger picked up the plaintiff and threw him out of moving train); Lone Star Industries, Inc. v. Mays Towing Co., 927 F.2d 1453 (8th Cir. 1991), mentioned earlier).

C. Encouraging Free Radicals (Paradigm EFR—liability)

Negligence law makes a surprising distinction between *groups* of persons who are likely to respond to tort sanctions and groups that are not (Grady 2002; 2004). I call the former "responsible individuals" and the latter "free radicals." It is much more likely that the deliberately negligent acts of *responsible people* will cut off the liability of original wrongdoers than the otherwise similar acts of free radicals. Based on the case law, recognized free radicals include young people, especially but not exclusively children; persons with mental illness; intoxicated persons; and criminals. Because of their typical want of assets to pay tort judgments, free radicals are more likely than other groups to engage in negligence. Courts therefore set up duties for responsible people to avoid tempting the free radicals. Given the limited ability of tort law directly to influence free radicals, it is highly plausible that this doctrine is efficient. In any event, the doctrine is ubiquitous and a major part of negligence law.

A good example of the law's special treatment of free radicals is *Weirum v. RKO General, Inc.*[37] The defendant, a Los Angeles radio station popular with teenagers, broadcast its "Super Summer Spectacular," which promised a prize to the first listener who caught up with a roving disk jockey—"The Real Don Steele"—as he drove throughout Los Angeles in a fire-engine-red muscle car. The broadcasting DJ periodically announced the roving DJ's whereabouts. As the contest progressed, the roving DJ noticed that teenagers were racing to catch up with him. Still, the contest continued until the day in question when two

37 539 P.2d 36 (Cal. 1975).

teenagers racing independently over the Los Angeles freeways at 80 miles per hour in pursuit of The Real Don Steele ran the plaintiff's deceased off the highway. Although the teenagers engaged in deliberate and dangerous negligence, their conduct did not cut off the liability of the radio station. As the court reasoned, the radio station should have an incentive to avoid encouraging the teens. It should be stressed that (as in all of these EFR cases) the teens became jointly liable with the radio station so they retained most of the incentive that tort law could provide them to refrain from this type of behavior in the future.

Although the teens did not behave in a worse or more deliberate way than the police officer who flipped the live electrical wire toward the *Seith* plaintiff, whose behavior *did* cut off the original wrongdoer's liability, the *Weirum* teens were part of a recognized free radical group and the police officer was a member of the opposite type of group (see Grady 2002; 2004 for more examples). It is the group identity that makes the difference; otherwise, the Pittsburg Reduction Co. would have been liable despite the conduct of Charlie Copple's parents, who in recklessly failing to confiscate the blasting caps from their son revealed a risk disposition similar to that of the *Weirum* teens.

D. Dependent Compliance Error (Paradigm DCE—liability)

A common scenario entails an original wrongdoer who has inadvertently put the plaintiff into a situation in which he is especially vulnerable to inadvertent negligence by someone else. In these cases, the original wrongdoer's liability is preserved, and he becomes jointly liable with the last wrongdoer—the person who most immediately hurt the plaintiff. Proximate cause seeks to limit the liability of

inadvertent people to harms that their untaken precautions would have predictably reduced. The main consequence of some inadvertent negligence is to make someone vulnerable to the equally inadvertent and altogether predictable negligence of someone else.[38] In this situation it makes good sense for both defendants to split the liability in order to create an incentive for each. Paradigm DCE accomplishes this goal by retaining the liability of the original wrongdoer despite the intervening negligent act. The last wrongdoer's liability will be obvious on proximate cause grounds.

An example of Paradigm DCE is *Hairston v. Alexander Tank & Equipment Co.*[39] The plaintiff's deceased bought a new Lincoln Continental automobile from the original wrongdoer, the defendant Haygood Lincoln-Mercury, Inc. When the dealership's employees brought it to the plaintiff he noticed that it lacked the turbine spoke wheels for which he had paid. The employees said they would install the proper wheel immediately. The plaintiff's decedent drove the car away with the wheels installed. Three and a half miles down the road, the left rear wheel fell off, stranding plaintiff on the edge of a busy highway. The original wrongdoer's mechanics had inadvertently failed to tighten the lug nuts. Then, the last wrongdoer came driving down the highway and inadvertently, though negligently, crashed into the car of a Good Samaritan who had stopped to help the decedent. The collision propelled the Good Samaritan's

[38] This doctrine shows that courts themselves accept that inadvertent negligence can be efficient; otherwise, the subsequent negligence would not be predictable or "foreseeable." The doctrine of *res ipsa loquitur* also suggests that courts believe that some negligence must be efficient, because courts are willing to infer negligence simply from the fact that the defendant's most effective measure against the harm was a highly productive set of *nondurable* precautions that cannot be perfectly utilized except at prohibitive cost (see Grady 1994; 2009).

[39] 311 S.E.2d 559 (N.C. 1984).

car into the decedent, killing him. This second act of negligence, because it was inadvertent, failed to cut off the original wrongdoer's liability; the car dealer and the negligent driver became jointly liable for the death.

Two ways exist by which DCE cases like *Hairston* can be transformed so that the original wrongdoer's liability will be cut off: they can become IIT cases according to either of the two categories of that paradigm. In the first, the last wrongdoer's negligence is not inadvertent but deliberate and wrongful on its face. So, if the *Hairston* last wrongdoer was not inadvertently negligent in crashing into the Good Samaritan's vehicle, but instead murderous, that would have certainly cut off the car dealer's liability. See Wiener v. Southcoast Childcare Centers, Inc., 88 P.3d 517 (Cal. 2004) (defendant childcare center's chain link fence was weak, but murderer deliberately crashed through it in order to kill children). According to a classic gloss the last wrongdoer's negligence must be "extraordinary."

As a second variation, suppose that the *Hairston* car dealership's negligence had not stranded the deceased next to a busy highway, where he was especially vulnerable to other drivers' inadvertent negligence, but had luckily disabled his car in a safe place, such as a parking space in a parking lot. Then, another driver inadvertently, though negligently, pulled forward, bumped, and injured the stranded driver. That case would be Paradigm IIT in its second subset, which is virtually identical to Paradigm LT/MSR.[40] Viewing this accident ex

40 This second subset of Paradigm IIT is perfectly identical to the combination of Paradigms LT/MSR and CTC. Think of the *Amica* case, discussed above, a CTC case that could equally be regarded as an IIT case in its second subset.

post, the last precaution you would choose to prevent a recurrence of a similar accident would be to ensure that wheel nuts were tight. The probability of being hurt in this way would equal that in many other places, for instance, crossing a street in a crosswalk.[41]

E. No Intervening Tort (Paradigm NIT—liability)

Because the distinctive purpose of the direct-consequences doctrine is to create incentives for last wrongdoers to use corrective precaution and also to focus liability on responsible people who have behaved recklessly, neither objective is apposite when the last wrongdoer has failed to commit any tort (see *Robinson v. Post Office*, [1974] 2 All E.R. 737 (Ct. App. 1973) (intervening breach of duty could not cut off original wrongdoer's liability because this breach of duty was not a cause in fact).

These paradigms are easy to use because we do not need to distinguish DCE cases and NIT cases, which can be factually close to each other depending on the whether the intervening actor was or was not negligent. All we have to see is that the intervening act or omission was either inadvertent or not even negligent at all. Either conclusion about the intervening party's behavior retains the original wrongdoer's liability. Especially when the last wrongdoer was not a party to the case, it can be difficult to say whether that person was inadvertently negligent or not negligent at all.

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41 *Compare* Ventricelli v. Kinney System Rent A Car, Inc., 383 N.E.2d 1149 (N.Y. 1978) (holding defendant rental car company not liable for stranding plaintiff in a lawful parking spot) *with* Betancourt v. Manhattan Ford Lincoln Mercury, Inc., 607 N.Y.S.2d 924 (App. Div. 1994) (holding defendant rental car company liable for stranding plaintiff and her husband on icy highway after last wrongdoer negligently struck him there).

10. The Policy Purposes of the "Direct-Consequences" Doctrine

Like the reasonable-foresight doctrine, the policy purposes of the direct-consequence doctrine are to preserve efficient activity levels and to diminish inefficient substitutions from nondurable precaution that result from the law's harsh treatment of inadvertent negligence that none of us can perfectly avoid. The doctrine cuts off the liability of inadvertently negligent original wrongdoers when a last wrongdoer, who belongs to a group of people typically responsive to tort sanctions, either deliberately makes a bad situation worse or else deliberately fails to use corrective precaution against the impending risk.

11. Summary of Proximate Cause Doctrine

Table 1: Proximate Cause Doctrines and Paradigms

Direct-Consequences Doctrine		**Reasonable-Foresight Doctrine**	
Liability paradigms	**No-liability paradigms**	**Liability paradigm**	**No-liability paradigms**
NIT (no intervening tort)	**NCP** (no corrective precaution)	**RFH** (reasonably foreseeable harm)	**LT/MSR** (untaken precaution is "last thing" you would use to prevent similar accident because only a "minimal systematic relationship" existed)
DCE (dependent compliance error)	**IIT** (independent intervening tort)		**CTC** (chain too complicated)
EFR (encourage free radicals)			**SDK** (scientists didn't know)
			OSR (outside statutory risk)

Table 1 is a tabular summary of the proximate cause paradigms for reference. Recall that for a case to satisfy proximate cause, it must fall within a liability paradigm *under each doctrine*. That is it must be NIT, DCE, or EFR on one side *and* RFH on the other.

We can now radically simplify the prior discussion. If a case possessed a later tort that was also a cause in fact of the same accident, the first question is whether the later tort was reckless or deliberate. If it was, then the case will typically be no liability for the original wrongdoer unless the last wrongdoer belonged to a free radical group whose behavior the defendant's untaken precaution encouraged. Under the reasonable-foresight doctrine, the main question is whether the actor's untaken precaution was the last thing someone would consider to prevent a recurrence of a similar accident. If it was, then the case will likewise result in no liability. These few sentences summarize practically all of proximate cause doctrine.

12. Conclusion: The Solution to Seavey's Conundrum

We can also now solve Warren Seavey's famous conundrum, mentioned earlier, and see how prescient it was. Seavey wrote, "One who, while carefully driving an automobile with which he is kidnapping a child, runs over and kills a pedestrian is not civilly liable for the death, even though he may be guilty of murder" (Seavey 1939, 404). It is indeed a conundrum because one would expect that proximate cause rules for crimes would be *more restrictive* than proximate cause rules for civil negligence. Since the criminal law entails much harsher sanctions than does civil negligence, one would think that criminal courts would

be more reluctant to impose these sanctions in cases of attenuated causation. The opposite is true of the felony-murder rule to which the conundrum refers. The solution is to realize that most felonies, and all of the felonies to which the felony-murder rule applies, are highly inefficient acts. In the civil context, restrictive proximate cause rules arise from the possibility that people can be efficiently negligent. These causal rules are designed to limit the collateral damage from civil liability for efficient behavior. By contrast, when someone kidnaps a child and in the process runs over a pedestrian, there is little worry that harsh rules of criminal causation will unduly reduce the activity of kidnapping. Unlike with the activities governed by civil negligence, the optimum level of kidnapping is zero.

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