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THE EFFICIENCY THEORY OF CAUSATION AND RESPONSIBILITY: UNSCIENTIFIC FORMALISM AND FALSE SEMANTICS

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In his article, Robert Cooter asserts that the efficiency theory of tort law is consistent with the traditional corrective-justice, rights-based view of tort liability. More particularly, he claims that the efficiency theory is consistent with the causation requirement in tort law, according to which a defendant is not held liable unless her tortious conduct caused injury to the plaintiff's rights in his person or property.[1] I have argued that the efficiency theory is fundamentally inconsistent with both the traditional view of tort liability and the causation requirement that is a central part of that view.[2]

In this comment, I intend to demonstrate that the claims of Cooter and the other legal economists are built on an habitual confusion over and misuse of fundamental concepts. As this symposium indicates, the confusion is not limited to the legal economists, although they have done more than anyone else in recent years to maintain and expand the confusion. Since I have much ground to cover, I must be succinct. I hope that readers will refer to the sources that I cite for more thorough development of the various points.

I. DISTINGUISHING CAUSATION FROM RESPONSIBILITY

Cooter recognizes that the traditional conception of tort law is that it is a system of liability based on individual autonomy and individual responsibility. But he erroneously assumes that the dividing line between individual autonomy and individual responsibility is marked solely by causation of injury to the person or property of others.[3]

Cooter and others have been misled on this point by a too literal reading of some statements by H.L.A. Hart, Tony Honoré, and Richard

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1. Cooter, *Torts as the Union of Liberty and Efficiency: An Essay on Causation*, 63 CHI.-KENT L. REV. 523, 524-25 (1987) (Professor Cooter's article appears in this symposium issue.).

2. Wright, *Actual Causation vs. Probabilistic Linkage: The Bane of Economic Analysis*, 14 J. LEGAL STUD. 435 (1985) [hereinafter Wright, *Bane*].

3. Cooter, *supra* note 1, at 524.

Epstein.[4] Hart, Honoré, and Epstein in turn have been misled by a superficial analysis of ordinary language. They assume that, because we often use the phrases "proximate cause," "legal cause," or "the cause" to identify a factor which has been singled out for legal liability, causation is equivalent to responsibility.[5] They fail to note that the emphasis in these phrases is on the words "proximate," "legal," and "the," respectively, rather than on the word "cause." The phrases are merely elliptical ways of saying that, out of all the contributing factors (causes), the selected factor is judged to be "*the (proximate, legal, or responsible)* cause." When we want to emphasize causation per se, we ordinarily use the phrase "a cause" rather than "the cause," although sometimes even the phrase "a cause" is used elliptically to denote a responsible cause.[6]

Responsibility in tort law is based on three distinct but interconnected inquiries. The first inquiry is the tortious-conduct inquiry. Did the defendant behave tortiously (for example, intentionally, negligently, or by creating an ultrahazardous situation or a defective product)? The second inquiry is the actual-causation inquiry. Did the tortious aspect of the defendant's conduct contribute to an injury to the plaintiff's person or property? The third inquiry is the so-called "proximate-cause" inquiry. Are there any principles which would absolve the defendant of liability despite her tortious causation of the injury? Only the second inquiry, the actual-causation inquiry, is a causal inquiry. The first and third inquiries use noncausal principles to select the responsible cause(s) from all the other causes. Only tortious causes will be held responsible (hence the tortious-conduct inquiry), and even tortious causes may be absolved from liability as a result of noncausal principles embodied in the so-called proximate-cause inquiry.[7]

Cooter acknowledges the distinction between the actual-causation (cause-in-fact) inquiry and the proximate-cause inquiry, but, like every other legal economist, he treats both as causal inquiries and therefore

4. H.L.A. HART & T. HONORÉ, CAUSATION IN THE LAW lxxvii-lxxxi, 65-67, 302 (2d ed. 1985) [hereinafter HART & HONORÉ]; Epstein, *A Theory of Strict Liability*, 2 J. LEGAL STUD. 151, 163, 168-69 (1973) (causation of harm results in prima facie liability); *see* Cooter, *supra* note 1, at 526.

5. *See* sources cited *supra* note 4; *accord* Malone, *Ruminations on Cause-in-Fact*, 9 STAN. L. REV. 60, 62-67 (1956). For criticism of the arguments made by Hart, Honoré, Epstein, and Malone, see Wright, *Causation in Tort Law*, 73 CALIF. L. REV. 1735, 1741-58, 1792, 1807-13 (1985) [hereinafter Wright, *Causation*].

6. Wright, *Causation, supra* note 5, at 1741-50; R. Wright, Pruning the Bramble Bush by Clarifying the Concepts: Causation, Responsibility, Risk, Probability, Naked Statistics, and Standards of Proof §§ II(A) & II(B) (October 1987) (unpublished manuscript, IIT Chicago-Kent College of Law) [hereinafter Wright, Bramble Bush].

7. Wright, *Causation, supra* note 5, at 1741-50, 1759-74 & n.161; Wright, Bramble Bush, *supra* note 6, §§ II(A) & II(B).

confuses the causation issue with the responsibility issue.[8] He recites a Mother Goose verse which states that a kingdom would not have been lost (through a series of steps) if not for the want of a horseshoe nail. He then asserts that "the conclusion that the downfall of the kingdom was caused by the want of a horseshoe nail is absurd."[9] The conclusion is absurd only if the issue is whether the want of the nail should be treated as the (or a) significant or responsible cause, which clearly is the issue that Cooter has in mind—the *proximate*-cause or responsibility issue. If the issue instead were the actual-causation issue—whether the want of the nail contributed to (was one of the many causes of) the downfall of the kingdom—it would be absurd to conclude that the want of the nail was not a cause, since the kingdom would not have been lost if the nail had not been missing. Thus, Cooter's discussion of the "decaying transitivity" of causation misses the point. Responsibility, not causation, has possibly decayed as the causal chain lengthened.[10]

II. THE CONCEPT OF CAUSATION

Cooter and other legal economists like to portray the efficiency theory as a scientific advance in dealing with tort liability issues, as contrasted with the allegedly unscientific nature of other views, including the traditional corrective-justice view.[11] Cooter contrasts the intuitive approach to causation in the traditional view with the formal mathematical treatment of functional relationships in the efficiency view.[12] But it is the efficiency view, rather than the traditional view, which is unscientific and unrealistic.

Cooter asserts that the courts' causal determinations are based on direct observation of causation between events, with no reference to any causal law or generalization.[13] As I have demonstrated elsewhere, the

8. Cooter, *supra* note 1, at 525, 528-31; *accord* Calabresi, *Concerning Cause and the Law of Torts: An Essay for Harry Kalven, Jr.*, 43 U. CHI. L. REV. 69, 70-73, 105-08 (1975); Landes & Posner, *Causation in Tort Law: An Economic Approach*, 12 J. LEGAL STUD. 109, 109-11 (1983); Rizzo, *The Imputation Theory of Proximate Cause: An Economic Framework*, 15 GA. L. REV. 1007 (1981); Rizzo & Arnold, *Causal Apportionment in the Law of Torts: An Economic Theory*, 80 COLUM. L. REV. 1399 (1980); Schwartz, *Causation in Private Tort Law: A Comment on Kelman*, 63 CHI.-KENT L. REV. 639, 639-40, 641-43, 645 & n.14 (1987) (Professor Schwartz's article appears in this symposium issue.); Shavell, *An Analysis of Causation and the Scope of Liability in the Law of Torts*, 9 J. LEGAL STUD. 463, 463-64, 466-70 (1980).

9. Cooter, *supra* note 1, at 528.

10. *Id.* at 529. Responsibility no doubt would be found if the nail was removed intentionally to prevent delivery of a message which would have turned around the critical battle.

11. *E.g.*, Landes & Posner, *The Positive Economic Theory of Tort Law*, 15 GA. L. REV. 851, 851-56 (1981).

12. Cooter, *supra* note 1, at 523-24, 530-31, 541-42 & n.54.

13. *Id.* at 542.

intuitive, unelaborated concept of causation applied by the courts is the concept embodied in the NESS (Necessary Element of a Sufficient Set) test, which is based on the dominant regularity account of causation that was developed by Hume and Mill. The major thesis of this account is a rejection of the notion that there are causal forces or qualities which can be directly observed and an insistence that singular causal judgments consist precisely in the belief that a certain sequence of events instantiates one or more causal laws. A causal law (Hempel's "covering law") lists all the antecedent conditions which together are minimally sufficient for the consequence (hence the NESS test).[14]

Cooter argues that, if any generalizations are used by the courts, they "are so commonplace that cause is said to be observed, not deduced."[15] He contrasts legal and historical explanations, which allegedly do not invoke generalizations or at most use unhelpful platitudes, with scientific explanations, which clearly do rely on generalizations. Cooter has been misled by writers, including Hart and Honoré, who think that the distinction between scientific explanations on the one hand and legal or historical explanations on the other is a causal distinction. It is not. The distinction is based on lawyers' and historians' need to identify the legally responsible or historically significant cause(s), respectively, which is a proximate-cause issue rather than a causal issue. Hart and Honoré acknowledge that legal explanations, as well as scientific explanations, invoke causal generalizations of just the sort that Cooter dismisses.[16]

Cooter begins his discussion of the "plain meaning" of cause with the superficial analysis of ordinary language, described above, which leads to a confusion of the concepts of causation and responsibility. Although he notes that causal attribution seems to be a factual issue while attribution of responsibility seems to be a normative issue, he erroneously treats Hart and Honoré's and Epstein's theories of responsibility, which allegedly make causation decisive for liability, as theories of causation.[17] He also considers the but-for test, which he rejects since it fails in the overdetermined-causation cases.[18]

Finally, Cooter reaches the NESS test. He cites John Mackie's "INUS" (Insufficient but Necessary part of an Unnecessary but Sufficient

14. Wright, *Causation*, *supra* note 5, at 1784-1813.

15. Cooter, *supra* note 1, at 542.

16. *Id.* at 542 n.54; HART & HONORÉ, *supra* note 4, at 9-22, 24-25, 44-49, *criticized in* J. MACKIE, THE CEMENT OF THE UNIVERSE: A STUDY OF CAUSATION ix-x, 63-76, 117-32 (rev. ed. 1980); *see supra* text accompanying notes 4-10. *See generally* D. PAPINEAU, FOR SCIENCE IN THE SOCIAL SCIENCES (1978); Marc-Wogeau, *On Historical Explanation*, 28 THEORIA 15 (1962).

17. Cooter, *supra* note 1, at 526; *see supra* text accompanying notes 4-7.

18. Cooter, *supra* note 1, at 526-27; *see infra* text accompanying notes 96-99.

condition) formulation of the test.[19] Although he admits that this test is more convincing than the but-for test, and that there "are apparently scholars who believe that some such analysis will provide the best explanation of causation in torts," he declines to explore the alleged "paradoxes and problems" of this approach, preferring instead to indicate why he thinks the efficiency theory is "more promising":[20]

> Drawing the boundary [between freedom and responsibility] involves questions about liberty and efficiency. For judges to debate these questions, there must be language that is neutral in the sense that alternative conceptions of liberty and efficiency can be described without bias. The debate cannot be decided by the meaning of the basic terms in which it is conducted. To be specific, an analysis of the meaning of "cause" in plain speech, as applied to tort cases, cannot decide the issues facing judges. Rather, an analysis of meaning accomplishes the more modest task of increasing the clarity of expression by the different sides in the debate. Plain speech theories should clarify issues of causation, not foreclose them. Deciding issues of causation in tort law requires appeal to substantive values like liberty and efficiency.[21]

To decipher this paragraph, one must recognize that Cooter is using the words "cause" and "causation" to refer to the issue of ultimate responsibility. Cooter's main point is that issues of responsibility cannot be resolved by an analysis of the meaning of ordinary statements used to attribute responsibility, particularly statements using causal language. But what better evidence is there of general attitudes regarding responsibility? The principles of responsibility can only be determined through a careful analysis of the context in which particular attributions of responsibility are made. The danger with this approach, which Cooter (following Hart, Honoré, and Epstein) fails to avoid, is that one may engage in a superficial analysis of the meaning of ordinary language that confuses statements on causation-per-se with statements that use elliptical causal language to identify a responsible cause, thereby confusing the concepts

19. Cooter, *supra* note 1, at 527 & n.13, *citing* Mackie, *Causes and Conditions*, 2 AM. PHIL. Q. 245, 245-47 (1965). Cooter also acknowledges Hart and Honoré's earlier NESS formulation. Cooter, *supra*, at 527 n.13.

20. Cooter, *supra* note 1, at 527-28 (citations omitted). Cooter states that "It is possible to contrive still more subtle and complicated combinations of logical operators that are even more convincing." *Id.* at 527-28. He suggests that it would be interesting "to define a logical operator called 'cause' and develop the rules by which it joins variables. This is a more rigorous, formal approach than concatenating necessity and sufficiency." *Id.* at 528 n.14. He does not indicate why using a "logical operator" called "cause" would be more "rigorous" or "formal" than relying on familiar logical operators such as necessity and sufficiency. Moreover, the causal relationship is an empirical one, in which necessity and sufficiency are empirically contingent facts, rather than a purely logical one. HART & HONORÉ, *supra* note 4, at 14-15, 114; J. MACKIE, *supra* note 16, at 10-17, 21, 32, 214-16.

21. Cooter, *supra* note 1, at 528.

of causation and responsibility.[22] It is Cooter's unsupported assumption that the issue of responsibility involves "questions about liberty *and efficiency*" that introduces a bias into the debate.

I have argued that a realistic, rather than superficial, analysis of the meaning of attributive statements reveals that causation-per-se, as embodied in the NESS test, is treated as an essential element (along with the tortious-conduct and proximate-cause inquiries) for legal responsibility.[23] To show that the efficiency theory is "more promising," Cooter must demonstrate that my analysis is invalid and that a proper analysis validates the efficiency theory. He has done neither. With respect to my analysis, he refers vaguely to alleged "paradoxes and problems" that have been raised by Michael Moore.[24] With respect to the efficiency theory, he makes the legal economists' familiar mistake of confusing actual causation with mere increased risk.

To support this last statement, I must explain the distinctions among causal laws, causal generalizations, and actual instances of causation, which have been ignored by the legal economists (and others). A causal law, which is stated in abstract universal form, lists the set of antecedent conditions which are minimally sufficient for the occurrence of the result. The antecedent conditions and the result are described as abstract types, which cannot in themselves cause anything. For example, a causal law might abstractly state that "a blow of a certain force" (without designating any actual blow), when "applied in a certain manner" (without designating any actual application) to "a box constructed in a certain way" (without designating any actual box) is sufficient for "a flattening of the box" (without designating any actual flattening). The type-description, "a blow of a certain force," is an abstract concept which cannot in itself cause anything.

An actual singular instance of causation consists of the complete, concrete instantiation of a causal law on a particular occasion. Each actual antecedent condition which is a part of this complete instantiation of the causal law is a (NESS) cause of the instantiated result. But it is a cause *only* if the causal law is completely instantiated, that is, if all the other abstract antecedent conditions and the abstract result listed in the causal law also were instantiated.[25] For example, an actual instance of

22. *See supra* text accompanying notes 4-6.

23. Wright, *Causation, supra* note 5, *passim; see supra* text accompanying note 7.

24. Cooter, *supra* note 1, at 528 & n.16. For my discussion of questions raised in this symposium by Moore, Mark Kelman, Alan Schwartz, and Judith Thomson, see Wright, Bramble Bush, *supra* note 6, pt. III & § IV(C).

25. J. MACKIE, *supra* note 16, at 260-67. Although Cooter says that a cause which is identified in this manner is called a "prospective" cause, this term instead has been used (invalidly) to refer to

causation occurs when an actual blow of the specified force is actually applied in the specified manner to an actual box constructed in the specified way and results in an actual flattening of the specified type.

In the real world of imperfect knowledge, we use causal generalizations, which are incompletely specified causal laws that list only some, not all, of the abstract antecedent conditions that would be found in the fully specified causal laws—for example, "hitting a person on the nose (often) causes the nose to bleed." When we assert that a particular actual antecedent condition (an actual hitting of a person's nose) was a cause of some actual result (an actual bleeding of the nose), we are asserting (1) that the actual antecedent condition and the actual result instantiate an abstract antecedent condition and the abstract result listed in some causal generalization, (2) that all the other abstract antecedent conditions, if any, listed in the causal generalization also have been instantiated (or at least that there is no reason to believe that they have not), and (3) that all the unknown abstract antecedent conditions which complete the causal law (for example, the required force of the blow, the fragility of the nose, and the lack of other causal mechanisms which would coincidentally produce a nose bleed immediately prior to the blow) also must have been instantiated. The third assertion, which is critical, is an inference drawn from the sufficiently high probability that this particular causal generalization is applicable in the specific circumstances and the sufficiently low probability that any competing causal generalization is applicable.[26]

The courts, relying on their intuitive knowledge of the concept of causation, have fashioned evidentiary standards that require proof of these three assertions. First, in order to prove that a certain condition was a cause of a certain result, it obviously must be established that the condition and the result both actually occurred and that there is some causal generalization that links conditions of the type that occurred to results of the type that occurred. Second, proof of causation will be strengthened to the extent that it can be established that other conditions known to be part of the causal generalization also actually occurred, while the proof will fail if it is established that some required condition did not exist. Third, the courts insist that it is not sufficient to prove that a certain condition made it more likely that a certain result would occur,

conditions which merely increase the ex ante risk of some result. Cooter, *supra* note 1, at 542 n.53; Shavell, *supra* note 8, at 466-68, *cited in* Cooter, *supra*, at 534 n.32.

26. HART & HONORÉ, *supra* note 4, at 10-11, 31-32, 44-49; J. MACKIE, *supra* note 16, at 63-80; Wright, Bramble Bush, *supra* note 6, § IV(B); *see* Papineau, *Probabilities and Causes*, 82 J. PHIL. 57 (1985).

or that there is some possibility that the condition was a cause of the result. Other plausible causal explanations must be distinguished before it is appropriate to conclude that this condition *actually was* a cause of the result.[27]

Cooter and the other legal economists apply the term "probabilistic cause," or one of its variants, to an actual condition which merely increases the probability that some result will occur.[28] Thus, the only definite requirement for a "probabilistic cause" is that it be an instantiation of one of the abstract conditions that is linked to the abstract result in a causal generalization (half of step one). It is not required that the abstract result be instantiated (the other half of step one), although it is often assumed that it has been. It is not required that there be sufficient evidence that the other abstract conditions have been instantiated (step two). Finally, it is not required that other plausible causal generalizations be distinguished (step three). Hence, proof that an actual condition was a "probabilistic cause" of some result is at most only proof that it increased the risk or probability of the result's occurring. It is not proof that it was a cause of the result itself (especially when the result has not even occurred!). The legal economists, and others who use the term "probabilistic cause," are confusing ex ante or ex post analysis of increased risk with ex post proof of actual causation.

Cooter carries the confusion two steps further. He assumes that the values of the independent variables in any functional relationship are "causes" of the value of the dependent variable.[29] It is not appropriate to use causal terminology at all unless the functional relationship represents an empirically contingent relationship—for example, a multi-valued causal generalization linking different abstract types and levels of precaution and harm—rather than a purely logical or mathematical relationship.[30] Moreover, even if the functional relationship represents a multi-valued causal generalization of the sort described, the abstract values of the independent variables (which are different abstract levels of precaution) are not "causes" of the abstract values of the dependent variable (which are different abstract levels of harm). Only a concrete instantiation of an abstract antecedent condition (an actual level of precaution in

27. *See generally* 4 F. HARPER, F. JAMES, JR. & O. GRAY, THE LAW OF TORTS § 20.2, at 93-101 & n.8, 108-10 & nn.43, 44 & 49 (2d ed. 1986).

28. Calabresi, *supra* note 8, at 71-72, 73-74, 78, 84-85 (causal linkage); Cooter, *supra* note 1, at 534 & n.32 (probabilistic cause), 541, 543-44 (material cause); Rizzo, *supra* note 8, at 1009-16 (probabilistic causation); Schwartz, *supra* note 8, at 640, 645 & n.14 (probabilistic cause); Shavell, *supra* note 8, at 466, 468-69 & n.17 (probabilistic cause).

29. Cooter, *supra* note 1, at 541.

30. *See supra* note 20.

a certain instance) can be a cause. It is a cause of the result itself only if the abstract result and all the other abstract antecedent conditions in the causal law that underlies the particular causal generalization also have been instantiated.

The legal economists' treatment of a "probabilistic cause" as a cause of the result itself, rather than (at most) a cause of an increased risk of the result's occurring, is only one example of the hollowness of their claim to be the servants of science and legal realism. It is true that, in order to present the appearance of scientific progress, rigor, and credibility, "the mathematical mode . . . has become the norm in the economic analysis of tort law."[31] Yet mathematics per se is not science, and the legal economists' mathematical apparatus, like their concept of "probabilistic causation," is a sham. Contrary to Cooter's assertion, the legal economists' functional notations are not "explicit mathematical expressions" which "precisely describe" causal relationships, nor do the economists use these functions to derive efficient rules or efficient levels of care.[32] Instead, they *assume* a functional relationship, but they never fill it out with a mathematical description of any specific causal generalization. Similarly, they *define* the efficient level of precaution as the level that would minimize the social costs, but they never actually derive such an efficient level by mathematically manipulating precisely described causal generalizations.[33]

Instead, when the legal economists discuss actual cases, they use common (and uncommon) generalizations similar to those that Cooter has dismissed.[34] But for the efficiency theory, unlike the traditional corrective-justice theory, this is not adequate, since the efficiency theory depends on precise identification of the efficient levels of activity and care, which in turn requires precise mathematical descriptions of all the risks.[35] Thus, contrary to Schwartz's claim, the efficiency theory of tort law, even if it made sense normatively and analytically, could not be implemented due to insuperable empirical problems.[36]

31. Cooter, *supra* note 1, at 533.

32. *Id.* at 534, 551.

33. *E.g., id.* at 533-35, 541-42. The mathematical proofs that are attempted (on abstract efficient rules rather than real ones with actual efficient levels of care) often rely on erroneous assumptions and frequently exhibit faulty mathematical reasoning. See the discussion in Wright, *Bane, supra* note 2, at 444-49, 452-54 & nn.51, 52, 58 & 67.

34. *E.g.*, Landes & Posner, *supra* note 8, at 120-22 & n.28; Landes & Posner, *supra* note 11, at 889-916; Posner, *A Theory of Negligence*, 1 J. LEGAL STUD. 29, 52-73 (1972).

35. *See infra* text accompanying notes 77-78.

36. Schwartz, *supra* note 8, at 647-49; *see* Kelman, *The Necessary Myth of Objective Causation Judgments in Liberal Political Theory*, 63 CHI.-KENT L. REV. 579, 587-89, 617-26 (1987) (Professor Kelman's article appears in this symposium issue.); Rizzo, *The Mirage of Efficiency*, 8 HOFSTRA L. REV. 641 (1980).

In sum, Cooter's opening and closing references to the disappearance of cause from science and from the efficiency theory of torts are misleading.[37] As Cooter himself admits, the functional relationships used in science are mathematical descriptions of causal generalizations,[38] with much more content and precision than the empty formulas of the legal economists. The legal economists themselves, including Cooter, assume that the functional relationships that they use represent causal generalizations.[39] However, it is true that causation per se—identification of actual instances of causation—is missing from the efficiency theory. As a supposed account of causation in general and the causation requirement in tort law in particular, this is neither scientific progress nor legal realism, but rather the reverse of each.

III. THE INCOMPATIBILITY OF LIBERTY AND EFFICIENCY

Cooter, like other legal economists, states that the normative foundation of the efficiency theory of tort law is the concept of Pareto efficiency, according to which one allocation of resources is considered to be more efficient than (and hence preferred to) a second allocation only if someone is better off and no one is worse off under the first compared to the second. He asserts that opponents of the efficiency theory have failed to notice the alleged "natural link between liberty and Pareto efficiency."[40] To the contrary, opponents of the efficiency theory have noted and rejected the alleged link.[41]

The alleged link is premised on the notion that liberty is protected under the Pareto criterion since, given the requirement that no one be made worse off, no reallocation of resources is permissible without the consent of the parties involved.[42] But the Pareto criterion would permit (indeed require) coercive reallocations without actual consent, as long as at least one person is better off and no one is worse off, and it would not require consent for any particular division of the net gain.[43] More im-

37. Cooter, *supra* note 1, at 523, 551; *see id.* at 541.

38. *Id.* at 523, 541-42 & n.54. Functional relationships in science are simply mathematically quantified statements of causal laws or generalizations, which often are written in terms of time-based derivatives of the regularities of change and succession which we commonly think of as causal laws. In the 75 years that have passed since Russell made his provocative statement, causation continues to be a vigorous concept in science as well as in law. J. MACKIE, *supra* note 16, at 143-48, 153-54; *see* D. PAPINEAU, *supra* note 16, at 5 & n.3 and the sources cited therein.

39. Cooter, *supra* note 1, at 541-42.

40. *Id.* at 524; *see id.* at 547.

41. Coleman, *Efficiency, Utility, and Wealth Maximization*, 8 HOFSTRA L. REV. 509, 531-33, 540-48 (1980); Dworkin, *Why Efficiency?*, 8 HOFSTRA L. REV. 563, 573-84 (1980).

42. Posner, *The Ethical and Political Basis of the Efficiency Norm in Common Law Adjudication*, 8 HOFSTRA L. REV. 487, 488-490 (1980).

43. R. NOZICK, ANARCHY, STATE, AND UTOPIA 63-65 (1974); Coleman, *supra* note 41, at 533.

portantly, if, as assumed, the Pareto criterion is employed restrictively to prohibit any reallocation unless it would be a Pareto improvement, the liberty thereby protected would be similar to the unappealing absolute rights in person and property that are espoused by the libertarians.[44] The libertarian theory of rights and liability is inconsistent with the traditional corrective-justice view that is followed by the courts,[45] which Cooter and the other legal economists purport to be explaining.

In any event, the legal economists' appeal to the Pareto criterion is spurious. Contrary to Cooter's claim, the foundation of the efficiency theory of law (and all of modern policy-oriented economics) is not the Pareto criterion, but rather the Kaldor-Hicks criterion. As Cooter admits, the Pareto criterion is useless in practice, since its conditions rarely if ever could be met. Thus, the legal economists shift to the Kaldor-Hicks criterion, which states that one allocation is more efficient than (and hence preferred to) a second if the winners win more than the losers lose, so that in theory (and ignoring transaction costs) the winners could compensate the losers and no one would be worse off. However, *no compensation is actually required.*[46] Thus, it is not only misleading, but downright wrong, to refer to a change ratified by this second criterion as a "hypothetical Pareto improvement"[47] or, worse yet, as a "Pareto improvement."[48] An essential condition for a Pareto improvement is that no one be made worse off. This condition gives the Pareto criterion what little normative appeal it has. It is precisely this condition that is dropped by the Kaldor-Hicks criterion.

The Kaldor-Hicks criterion must be justified independently of the Pareto criterion (which itself is normatively flawed). Cooter, like almost all other legal economists, does not attempt to do so. The few who have attempted to justify the Kaldor-Hicks criterion have understandably declined to rely explicitly on utilitarian arguments, given the notorious

44. *See infra* text accompanying note 66; B. ACKERMAN, ECONOMIC FOUNDATIONS OF PROPERTY xi-xiii (1975). On the other hand, if the Pareto criterion is used affirmatively only, to support Pareto improvements, but is silent on the choice between two allocations when neither is Pareto-superior to the other, then there is no link between liberty and Pareto efficiency.

45. Wright, *Causation, supra* note 5, at 1750-58; Wright, Bramble Bush, *supra* note 6, § II(C).

46. Cooter, *supra* note 1, at 547-48; *see* Hanks, *On a Just Measure of the Efficiency of Law and Governmental Policies*, 8 CARDOZO L. REV. 1 (1986) (argues should take transaction costs into account).

47. Cooter, *supra* note 1, at 548; *see* G. CALABRESI & P. BOBBITT, TRAGIC CHOICES 85-86 (1978) ("potential Pareto superiority"); A.M. POLINSKY, AN INTRODUCTION TO LAW AND ECONOMICS 7 n.4 (1983) (alleges all results derived under "more intuitive" Kaldor-Hicks criterion can also be derived under Pareto criterion); Posner, *supra* note 42, at 491 ("Potential Pareto Superiority").

48. Cooter, *supra* note 1, at 524.

weaknesses in those arguments.[49] Instead, they have argued that the Kaldor-Hicks criterion is justified by the hypothetical "implied consent" or the hypothetical "ex ante compensation" of the losers, who supposedly are better off overall under a world subject to the Kaldor-Hicks criterion.[50] But hypothetical consent and hypothetical compensation are no more real consent or real compensation than a hypothetical Pareto improvement is a real Pareto improvement.[51]

Cooter, like many other legal economists, also shifts back and forth between utility and wealth as the measure of value under the Kaldor-Hicks criterion.[52] Utility has the advantage of being something (pleasure or happiness) which seems to have intrinsic worth, while wealth only has a derivative, instrumental value as a means of obtaining something else (such as happiness). Yet, as Cooter and the other legal economists recognize, there is no scale which can be used to make interpersonal comparisons of utility, as required by the Kaldor-Hicks criterion. They therefore shift to values based on an individual's wealth—what she is willing and able to pay for a good—and they assume (invalidly) that market prices reflect willingness-to-pay.[53]

This move raises a host of technical and normative problems that, once again, Cooter and almost all other legal economists simply ignore.[54] An obvious normative problem is that, even as individuals, few of us adopt maximization of our private wealth (measured by the market price of our resources) as our sole or even dominant goal. And surely none of us is particularly concerned with, much less thinks that the basic normative principle should be, maximization of aggregate *social* wealth, with no

49. *E.g.*, Posner, *Utilitarianism, Economics, and Legal Theory*, 8 J. LEGAL STUD. 103, 110-117 (1979). Posner's claim that his wealth-maximization theory avoids the problems of the utilitarian theory does not hold up. Coleman, *supra* note 41, at 520-30 & n.28; Dworkin, *Is Wealth a Value?*, 9 J. LEGAL STUD. 191, 205-16 (1980); Weinrib, *Utilitarianism, Economics, and Legal Theory*, 30 U. TORONTO L.J. 307 (1980).

50. *E.g.*, Polinsky, *Probabilistic Compensation Criteria*, 86 Q.J. ECON. 407 (1972); Posner, *supra* note 42, at 488-502.

51. Coleman, *supra* note 41, at 533-40; Dworkin, *supra* note 41, at 573-84.

52. Cooter, *supra* note 1, at 524, 535, 541, 543, 548-49, 550; *see* S. SHAVELL, ECONOMIC ANALYSIS OF ACCIDENT LAW 2-3, 5-8 & n.2 (1987) (assumes subjective utilities can be calculated and compared); Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 2-15, 19-20 (1960) (assumes subjective utilities are fully expressed in market transactions); Landes & Posner, *Joint and Multiple Tortfeasors: An Economic Analysis*, 9 J. LEGAL STUD. 517, 521 (1980) (assume utility equals wealth); Rubin, *Predictability and the Economic Approach to Law: A Comment on Rizzo*, 9 J. LEGAL STUD. 319, 323, 327, 333 (1980) (moves without explanation from utility to willingness-to-pay to market prices).

53. Cooter, *supra* note 1, at 548-49, 550; *see* R. Wright, The Failure of the Economic Theories of Tort 7-10 (September 1987) (unpublished manuscript, IIT Chicago-Kent College of Law) [hereinafter Wright, Economic Theories].

54. Wright, Economic Theories, *supra* note 53, at 7-10.

regard for individual rights or how that wealth is distributed.[55] Yet that is the principle embodied in the Kaldor-Hicks criterion with values based on willingness-to-pay or market prices. The palpable unattractiveness of this principle perhaps explains the legal economists' continued resort to the concept of utility, despite their recognition that they must abandon the concept of utility to get their theories off the ground. Although utilitarianism (maximization of aggregate social utility) is an unattractive normative principle, it is much more attractive than wealth-maximization.[56]

Cooter, unlike most other legal economists, is sensitive to these concerns. Hence, he quickly concedes that efficiency theory cannot and should not be used to define the initial distribution of rights.[57] If utility is the measure of value, we can imagine people having a complete set of preferences without as yet having any rights, but we cannot determine who would get the greatest utility from being assigned various rights since interpersonal comparisons of utility are not possible.[58] If willingness-to-pay is the measure of value, an initial distribution of rights must be specified before we can measure how much any individual is willing and able to pay for anything.[59]

Cooter also states that for two distinct reasons, the first noneconomic and the second economic, the initial distribution of rights must be immune from nonconsensual redistribution through the efficiency analysis. First, he notes the normative implausibility of Posner's claim that efficiency analysis should be used to allocate basic tort rights, even if technically it were possible to do so.[60] Second, he recognizes that efficiency analysis cannot be applied to those redistributions which would have a large impact on individuals' income or wealth, since such redistributions would affect prices and thus render the before-and-after comparison of wealth incoherent.[61] He initially applies these insights to the right to bodily integrity, but subsequently extends them to all of a person's rights in her person or property.[62] This extension seems especially necessary for tort law, since tort injuries usually involve serious physical or economic harm.

55. Dworkin, *supra* note 49, at 194-205.
56. Coleman, *supra* note 41, at 526-30; Weinrib, *supra* note 49.
57. Cooter, *supra* note 1, at 524-25, 544-47, 551.
58. The Scitovsky Paradox also would have to be overcome. Coleman, *supra* note 41, at 519 & n.14.
59. Cooter, *supra* note 1, at 547-49; Coleman, *supra* note 41, at 524-25.
60. Cooter, *supra* note 1, at 545-47 (criticizing Posner, *supra* note 49, at 125-27).
61. Cooter, *supra* note 1, at 548-49 & n.60; Coleman, *supra* note 41, at 525-26.
62. Cooter, *supra* note 1, at 541-49.

At this point, Cooter has conceded more than he realizes. He has acknowledged that the rights that we have in our persons and property are defined by noneconomic principles, which are prior to and limit any efficiency analysis. But, like other legal economists before him, he assumes that these noneconomic principles and rights leave room for an efficiency analysis.[63] More particularly, he assumes that we can and should "maximize the value of these basic rights" by using the Kaldor-Hicks efficiency criterion to select liability rules, damage rules, and other tort rules to protect and adjust these rights in particular situations, thereby achieving the "union of liberty and efficiency."[64] This notion demonstrates a serious misunderstanding of the concepts of liberty and rights.

The rights that we have in our persons and property are *constituted* by the rules that specify the sorts of actions against which we are protected, the types of harm for which we can obtain relief, and the available forms of relief (for example, damages, injunction, or specific performance).[65] In the absence of any such rules, the "rights" are an empty shell. The libertarians argue for absolute rights, which are defined as protection against and compensation for any harm caused by an actual or threatened invasion of the boundary around one's person or nominal property.[66] The rights defined by actual tort law are much less absolute but still quite extensive. Briefly (and very roughly), we can obtain compensation for harm that is caused to our persons or nominal property by the tortious aspect of the defendant's conduct, and also protection against such harm if the tortious conduct is unreasonable, subject to certain fairly narrow proximate-cause and damage limitations.[67]

It makes no sense to state that application of the Kaldor-Hicks efficiency criterion "maximizes the value of the rights" as so defined. What is maximized is *aggregate social wealth*, rather than the rights of any individual. For example, under the efficiency interpretations of negligence and nuisance, the "rights" of an individual in her person or property can be taken, without compensation or consent, and given to someone else if they are worth more to that other person, measured by the amoral stan-

63. *Id.* at 524-25, 547, 549-50, 551; *accord* G. CALABRESI, THE COSTS OF ACCIDENTS: A LEGAL AND ECONOMIC ANALYSIS 24-26, 291-308 (student ed. 1970); *see* Wright, *Bane, supra* note 2, at 436-37 n.7.

64. Cooter, *supra* note 1, at 549-50, 551; *see id.* at 524.

65. Coleman & Kraus, *Rethinking the Theory of Legal Rights*, 95 YALE L.J. 1335, 1340-47 (1986).

66. R. NOZICK, *supra* note 43, at ix, 30-35, 57-78; Epstein, *supra* note 4, at 152, 163, 168-69, 192, 198, 203-04.

67. *See supra* text accompanying note 7.

dard of willingness-to-pay (remember that payment is not actually required). Such "rights" are ephemeral. Moreover, such ephemeral rights, subject to being appropriated at any time by a "higher-value" use, undermine the stability of entitlements which Cooter concedes is necessary for the efficiency theory.[68] On the other hand, if the rights specified by traditional tort law are taken seriously, there is no room for the social-wealth-maximizing redistributions that are called for by the efficiency theory. Liberty and Kaldor-Hicks efficiency are fundamentally opposed. The concepts of liberty and rights are foreign to the efficiency theory. They can be accommodated in that theory only by an invalid redefinition of the concepts.[69]

IV. THE FAILURE TO ACCOUNT FOR THE CAUSATION REQUIREMENT

The usual argument offered for the efficiency theory is not its normative appeal (it has none), but rather its alleged success in describing and predicting the actual decisions of the courts.[70] This argument has recently been reduced to a claim that efficiency theory explains and predicts most of tort law, since some "anomalies" are admitted to exist.[71] Clearly, however, the causation requirement cannot be dismissed as such an anomaly, since it is a central, pervasive element of tort liability.[72] The legal economists therefore have expended considerable effort on attempts to demonstrate that the causation requirement is consistent with the efficiency theory.

Cooter provides a brief summary of these attempts which, for the most part, does not indicate their true nature and the extent of their failure. Thus, he indicates that Guido Calabresi finds the (but-for) causation requirement useful as a cost-accounting device in the overall search for

68. Cooter, *supra* note 1, at 548 & n.60; *see* Wright, Economic Theories, *supra* note 53, at 10-13, 23-25. Cooter assumes that preferences ("tastes") and technology remain stable. Cooter, *supra*, at 543, 548.

69. Posner, like Cooter, argues that rights might be (re)defined using the efficiency criterion. Posner, *The Concept of Corrective Justice in Recent Theories of Tort Law*, 10 J. LEGAL STUD. 187, 188, 190-91, 201-06 (1981). But (1) this would make the supposed "rights" ephemeral and (2) actual tort rights are not so defined, as the rest of this comment should make clear.

70. A.M. POLINSKY, *supra* note 47, at xiv-xv; R. POSNER, ECONOMIC ANALYSIS OF LAW § 1.3, at 12-14, § 2.1, at 16-17, § 2.2, at 17-19, § 2.3, at 20-21, § 8.1, at 179-81 (2d ed. 1977); Kitch, *The Intellectual Foundations of "Law and Economics,"* 33 J. LEGAL EDUC. 184, 196 (1983); Rubin, *supra* note 52, at 320-22.

71. W. LANDES & R. POSNER, THE ECONOMIC STRUCTURE OF TORT LAW 8-9, 19, 23-24, 27-28, 312-14 (1987); R. POSNER, ECONOMIC ANALYSIS OF LAW § 2.2, at 21, § 2.3, at 23-24 (3d ed. 1986).

72. Wright, *Causation*, *supra* note 5.

the "cheapest cost avoider,"[73] but he fails to note that (as Calabresi himself states) other devices would be more useful, that the alleged actuarial utility of the causation requirement is nonexistent, and that Calabresi ultimately renews his earlier claim that the causation requirement is neither intelligible nor efficient.[74]

Cooter notes that John Brown's article on tort liability does not explicitly deal with the causation requirement, but he incorrectly states that Brown implicitly uses the concept of "probabilistic cause," according to which a condition is treated as a cause of an injury if it increased the risk of the injury.[75] Brown uses assumed functional relationships between types of precaution and types of injury to define the efficient level of precaution. He properly analyzes the risks in the tortious-conduct inquiry, rather than in the causal inquiry. When he addresses the causal issue, he assumes that a person is only liable for harm which is actually caused by her activity, and that she is liable regardless of her level of precaution in strict liability but only if her level of precaution was negligent in negligence liability.[76]

Contrary to Cooter's claim,[77] Brown shows that, in the usual bilateral-precaution case, the two parties will achieve the efficient levels of precaution only if the court (1) correctly identifies the efficient level for at least one of them and (2) subjects her to (negligence) liability if, and only if, she fails to achieve that level. In a semi-ideal world of perfect information and risk-neutrality, there allegedly are a number of efficient rules. In the real world of imperfect information and risk aversion, there are none.[78]

Cooter implies that Steven Shavell's analysis of causation dealt only with "probabilistic causation," notes Shavell's conclusion that "there is a close, but imperfect correspondence between the [causal requirements] in tort law and the scope of liability required to achieve economic efficiency," and observes, rather opaquely, that, "[i]f there is a close fit between legal cause and economic efficiency, the court will say that a defendant caused the accident when his behavior was inefficient, but not

73. Cooter, *supra* note 1, at 532-33 & n.28.

74. Calabresi, *supra* note 8, at 85-87, 105-08; Wright, *Bane*, *supra* note 2, at 436-42.

75. Cooter, *supra* note 1, at 534; *see supra* note 28 and text accompanying notes 25-28.

76. Brown, *Toward an Economic Theory of Liability*, 2 J. LEGAL STUD. 323, 325-28 (1973). However, like other legal economists, Brown incorrectly assumes that a person who has behaved tortiously is liable for any harm caused by her activity, whereas in fact she is liable only for harm that was caused by the tortious aspect of her activity. *Id.* at 328-29; *see* Wright, *Causation*, *supra* note 5, at 1759-74 & n.104.

77. Cooter, *supra* note 1, at 533-34.

78. Brown, *supra* note 76, at 323-24, 333-34, 337-44, 346-47; *see* sources cited *infra* note 106.

otherwise."[79] There is no discussion of Shavell's claim that the actual-causation requirement can be logically "deduced" from the Kaldor-Hicks efficiency criterion.[80]

In another article, I have shown that Shavell's argument relies on unrealistic assumptions, contrived illustrations, faulty mathematical proofs, and, most importantly, a confusion of forward-looking risk analysis with backward-looking causal analysis. When these flaws are corrected, Shavell's discussion demonstrates the reverse of what he intends: that the causation requirement is inexplicable under the efficiency theory.[81]

Finally, Cooter notes Landes and Posner's assertions that the concept of causation has no inherent meaning, that causal attributions by courts are merely implicit efficiency judgments, and that the concept of causation therefore can be dispensed with by the economically literate.[82] Again, Cooter does not present the arguments underlying these assertions. The basic argument is that all the decisions which are thought to turn on causal analysis can be explained by ex ante risk analysis. But, as I have demonstrated elsewhere, Landes and Posner actually rely on ex post causal analysis, while claiming to rely solely on ex ante risk analysis.[83]

For example, Landes and Posner discuss a case, *Weeks v. McNulty*,[84] in which the defendant, McNulty, failed to install the statutorily required fire escapes in his hotel. The victim, Weeks, died in the hotel as a result of a fire. The court concluded that McNulty was not liable, since the evidence proved that Weeks would not have tried to use the fire escapes even if they had been installed: a but-for causal rationale. Landes and Posner argue: "Evidence that the fire escapes would not have averted Weeks' death means . . . the probability of his death was independent of whether or not a violation occurred . . . and hence that due care with respect to [installing fire escapes] was zero."[85] This clearly is an ex post causal analysis masquerading as an ex ante risk analysis. The failure to install the fire escapes increased the ex ante risk of injury to every guest in the hotel, including Weeks, although as it turned out it did not contribute to Weeks' death.[86]

79. Cooter, *supra* note 1, at 534-36.
80. Shavell, *supra* note 8, at 465-66.
81. Wright, *Bane*, *supra* note 2, at 444-52.
82. Cooter, *supra* note 1, at 540.
83. Wright, *Bane*, *supra* note 2, at 452-55 (criticizing Landes & Posner, *supra* note 8).
84. 101 Tenn. 495, 48 S.W. 809 (1898).
85. Landes & Posner, *supra* note 8, at 115-16.
86. Wright, *Bane*, *supra* note 2, at 453-54.

In response to my criticism, Landes and Posner continue to insist that they are using ex ante risk analysis rather than ex post causal analysis in the *Weeks* case:

> [Wright's] criticism is incorrect. The point is that the owner's carelessness did not in fact make it more likely ex ante that Weeks would die, given the particular circumstances of the fire. For we know, although after the fact, that even if the hotel owner had been careful, Weeks would have died anyway.[87]

I presume everyone (except Landes and Posner) will recognize that the owner's carelessness clearly did make it more likely, ex ante, that any resident of the hotel, including Weeks, would die in a hotel fire (indeed, Landes and Posner implicitly admit this by referring to "the owner's *carelessness*"). Moreover, the last sentence in the quotation obviously is not an ex ante risk analysis, but rather an explicit application of the ex post but-for test of causation. Similarly, when Landes and Posner attempt to rebut my claim that they inconsistently restrict or abandon their ex post due-care approach in other cases, they simply repeat their inconsistent failure to follow the approach.[88]

In sum, the legal economists have been unable to reconcile the ex post focus of the causation requirement with the ex ante focus of the efficiency theory. They therefore have adopted two last-ditch tactics. As Cooter candidly notes, the first tactic is to disparage the concept of causation by asserting that it is incoherent and meaningless. This paves the way for arguments that the concept of causation should be replaced by, or used as a cover for, efficiency judgments.[89] The second tactic is to proclaim what obviously is not true—that mere creation of increased risk of harm constitutes causation of the harm ("probabilistic causation")—so that efficiency theory, which relies on analyses of ex ante risk, allegedly is consistent with the causation requirement after all.[90]

We have already seen that the second tactic is untenable.[91] The first tactic also has failed. Even in the absence of a comprehensive definition, the concept of causation had enough substance to withstand the efforts of Calabresi, Landes, Posner, and Shavell to co-opt it or eliminate it.[92] Now a comprehensive definition has been provided (the NESS test) which, as I have shown in a prior article, explains—as the economists

87. W. LANDES & R. POSNER, *supra* note 71, at 235.

88. *Id.* at 238.

89. Cooter, *supra* note 1, at 527-28, 531-34, 540; *see* Calabresi, *supra* note 8, at 86-87 & nn.23 & 24, 106-08; Landes & Posner, *supra* note 8, at 109-10; Schwartz, *supra* note 8, at 640, 646 & n.20.

90. *See* sources cited *supra* note 28.

91. *See supra* text accompanying notes 25-28.

92. *See supra* text accompanying notes 73-74, 79-88.

have been unable to—the actual decisions of the courts.[93]

However, the legal economists are unwilling to admit that the game is up. In this symposium, both Cooter and Schwartz fail to confront the merits of the NESS test, preferring instead to repeat the refrain that there is no workable concept of causation.[94] Similarly, although Landes and Posner describe my prior article as "a comprehensive and up-to-date survey of legal doctrine" (a plug for which I am indeed grateful), they do not mention the NESS test that is elaborated in that article, but rather also continue to assert that there is no workable concept of causation.[95]

V. THE FAILURE TO EXPLAIN THE PROBLEM CASES

Throughout the above discussion, I have argued that the traditional corrective-justice view of tort law explains the courts' actual decisions, both on the substance of the causation requirement and the evidentiary requirements for proving causation, while the efficiency view does not. In this final section, I will document that claim more thoroughly by examining the various types of "problem cases" that Cooter discusses in his attempt to demonstrate the utility of the efficiency theory.

A. Overdetermined Causation

Cooter asserts that, under the efficiency theory, there should be no liability in cases of causal overdetermination—for example, when each of two fires is independently sufficient to burn down a house, and either one fire arrives first and destroys the house before the other fire arrives or they merge and together destroy the house. Cooter and the other legal economists argue that a defendant who tortiously and independently started one of the fires should not be liable, since "[t]he law should not create incentives to waste resources attempting to avoid the inevitable."[96] This is poor economics and incorrect law.

Economically, behavior should be evaluated in terms of the expected consequences at the time that the defendant acted. When the defendant tortiously starts his fire, the other fire is not known or foreseen, so ex ante the destruction of the house is not inevitable. To create appropriate ex ante incentives, the defendant should be held liable (this is especially

93. Wright, *Causation*, *supra* note 5; *see infra* text accompanying notes 96-124.

94. Cooter, *supra* note 1, at 526-28; Schwartz, *supra* note 8, at 643-44 & n.12, 646 & n.20; *see supra* text accompanying notes 19-24.

95. W. LANDES & R. POSNER, *supra* note 71, at 228 & n.1; *see* Landes & Posner, *supra* note 8, at 109.

96. Cooter, *supra* note 1, at 536-37; *accord* Landes & Posner, *supra* note 8, at 116-18; Shavell, *supra* note 8, at 472-73 (ex. 3), 477-78 (ex. 6), 494-95.

clear when both fires were tortiously set).[97] From a noneconomic, ex post perspective, it might have been wasteful to prevent or put out only one of the two fires, but it would not have been wasteful to require the defendant (alone or in conjunction with the person, if any, who started the other fire) to prevent or put out both of the fires.

Thus, it would seem that the defendant should always be held liable, whether or not his fire was a cause of the destruction of the house. However, there is a counterargument that, absent collusion, the defendant should never be held liable in this type of case: since causal overdetermination is typically rare and unforeseeable, excluding these cases from the scope of liability allegedly will have a minimal effect on ex ante incentives but will reduce litigation costs.[98]

The law does not conform with either of these economic arguments. Defendants are often but not always held liable in these types of cases, on traditional corrective-justice grounds. No matter how unreasonable or inefficient the defendant's conduct may have been, he is not held liable if his fire was not a cause of the injury. If his fire was a cause of the injury, he will be held liable unless the other fire was a nonresponsible condition (for example, an act of God which was not covered by insurance), in which case the plaintiff's corrective-justice claim—that he would not have been injured if not for the tortious conduct of others—fails. The NESS test accurately identifies the causes. For example, when one fire arrives first and destroys the house before the other fire arrives, the first fire is a preemptive cause of the destruction of the house and the second fire is not a cause but rather a preempted condition. On the other hand, when the fires merge and together destroy the house, each fire is a duplicative cause of the destruction of the house.[99]

B. Lack of Causation

When there is no overdetermined-causation problem, the legal economists argue that a defendant who creates an inefficient risk should be held liable whether or not the risk results in harm.[100] Thus, Cooter and

97. Schwartz, *supra* note 8, at 646 n.20.

98. Landes & Posner, *supra* note 8, at 116-17; Shavell, *supra* note 8, at 493-94. This argument is undercut by the fact that, precisely because these cases are rare, the alleged reduction in litigation costs also will be minimal. Rizzo, *supra* note 8, at 1036; *see* Shavell, *supra*, at 483. Moreover, much greater litigation costs may be incurred in disputes over this limitation in a significant number of cases. *See infra* text accompanying notes 108-09.

99. Wright, *Bane*, *supra* note 2, at 445-48; Wright, *Causation*, *supra* note 5, at 1791-96, 1798-99.

100. *E.g.*, Calabresi, *supra* note 8, at 79-81, 98; *cf.* Landes & Posner, *supra* note 8, at 110, 112-14, 121-25 (liability based on ex ante analysis of risk rather than ex post causation); Shavell, *supra* note 8, at 472-81 (same).

Schwartz assert that, to provide the appropriate incentive to give warnings, a defendant who fails to provide required warnings to the plaintiff should be held liable for the plaintiff's subsequent injury whether or not the failure to warn contributed to the injury.[101] This is a proper conclusion under the legal economists' ex ante risk analysis, although Landes, Posner, and Shavell duck it by confusing ex ante risk analysis with ex post causal analysis.[102]

Landes, Posner, and Shavell's ploys are understandable. The decisions of the courts clearly disagree with the efficiency view and instead follow the traditional corrective-justice view of tort liability: no causation, no liability.[103] Contrary to Schwartz's assertion, ordinary moral sentiments, and the law which expresses those sentiments, are a reproach to the efficiency theory, not the corrective-justice theory.[104]

C. *Intervening Causes and the "Wrong Hazard"*

These are *proximate*-cause issues rather than causal issues. The question is whether a defendant who tortiously caused a particular harm should be absolved from liability because of intervening causes or because the harm is not the type of hazard the foreseeability of which made the defendant's conduct tortious.

Cooter asserts that the intervening-cause cases are no different than the cases involving bilateral precaution by the plaintiff and the defendant, and that "a standard conclusion" is that the efficient result can be achieved "in principle" in the latter cases through some form of negligence rule as opposed to a strict liability rule.[105] But the standard account is that a number of liability rules, including strict-liability rules

101. Cooter, *supra* note 1, at 537; Schwartz, *supra* note 8, at 644; *see id.* at 646 n.20 (liability for preempted condition). Cooter would not impose liability if it were certain ex ante that the warning would not have any effect.

102. *See supra* text accompanying notes 79-88; Wright, *Bane, supra* note 2, at 444-55.

103. W. PROSSER, HANDBOOK OF THE LAW OF TORTS § 41, at 236-41 (4th ed. 1971); Wright, *Causation, supra* note 5, *passim*. Schwartz implies that the courts do not adhere to the causation requirement in the failure-to-warn cases. Schwartz, *supra* note 8, at 644 & n.13. However, in the cases that he cites, the judges stress that the causation requirement still applies. Recognizing the speculative and self-serving nature of testimony on this issue, the judges create a reasonable, rebuttable presumption that a proper warning would have been read and heeded if it had been given. There is no liability if it is proven that a proper warning would not have been read or heeded. Reyes v. Wyeth Laboratories, 498 F.2d 1264, 1279-82 (5th Cir. 1974), *cert. denied*, 419 U.S. 1096 (1974); Nissen Trampoline Co. v. Terre Haute First Nat'l Bank, 332 N.E.2d 820, 826-27 (Ind. Ct. App. 1975), *rev'd*, 265 Ind. 457, 462-65, 358 N.E.2d 974, 977-78 (1976) (inadequate findings on causation); *see* Canterbury v. Spence, 464 F.2d 772, 790-92 (D.C. Cir. 1972), *cert. denied*, 409 U.S. 1064 (1972) (to avoid post hoc self-serving speculation, causal issue resolved by using objective test of what a reasonable person would have done if warned; burden of proof remains on plaintiff).

104. Schwartz, *supra* note 8, at 647; *see id.* at 643-45, 646 n.20.

105. Cooter, *supra* note 1, at 537-38 & n.41.

with some form of negligence defense, will lead both the plaintiff and the defendant to achieve the efficient result in a semi-ideal world of perfect information and risk-neutrality, while no rule will achieve the efficient result in the real world of imperfect information and risk aversion.[106] How then is efficiency theory helpful on the choice of a rule?

Moreover, even in a semi-ideal world, each rule works in the plaintiff-defendant context only because the party who does not bear the ultimate residual liability is potentially fully liable if he is negligent. Therefore he has the proper incentive not to be negligent.[107] In the intervening-cause cases, the issue is whether the defendant should be free of liability even though he was negligent and his negligence was a cause of the injury. Thus, contrary to Cooter's claim, these cases do raise special problems that are not present in the plaintiff-defendant context. To absolve the negligent defendant from liability because of an intervening (human or natural) cause would seem to remove the needed incentive not to be negligent.

The usual economic prescription for the intervening-cause and "wrong hazard" cases is identical to the one for the overdetermined-causation cases: absolve the negligent defendant from liability if the intervening cause was unforeseeable or if the harm was the "wrong hazard," since excluding these cases from the scope of liability allegedly will reduce litigation costs without having any adverse effect on incentives.[108]

But both parts of this argument seem clearly to be wrong. First, the resources devoted to the foreseeability issue in all the cases which are

106. A.M. POLINSKY, *supra* note 47, at 37-49; W. LANDES & R. POSNER, *supra* note 71, at 54-84; Brown, *supra* note 76, at 323-24, 333-34, 337-44, 346-47; Wright, Economic Theories, *supra* note 53, at 15-28.

107. *See* sources cited *supra* note 106.

108. Calabresi, *supra* note 8, at 81, 87-88, 91-100; Cooter, *supra* note 1, at 538; Grady, *Proximate Cause and the Law of Negligence*, 69 IOWA L. REV. 363, 440, 449 (1984); Landes & Posner, *supra* note 8, at 125-33; Shavell, *supra* note 8, at 492-93, 497-98; *see supra* text accompanying note 98. Shavell asserts that it is not low probability per se which is relevant, but the defendant's lower subjective estimate of probability compared to the court's in these types of cases, which allegedly justifies absolving the defendant from liability to save administrative costs. Shavell, *supra*, at 490-91, 500. Shavell's psychological assumptions are doubtful. COMMITTEE ON RISK AND DECISIONMAKING, NATIONAL RESEARCH COUNCIL, RISK AND DECISIONMAKING: PERSPECTIVES AND RESEARCH 11-12, 15-17 (1982) (people often underestimate probability of usual events and overestimate probability of unusual events). Moreover, he does not explain why the court would not also underestimate these risks, nor why the court should eliminate liability entirely rather than just reducing its estimate to that of the defendant. He himself notes that the court would have to probe the subjective state of mind of the defendant in each case (how then are administrative costs saved?), and that use of subjective estimates would reduce the defendant's incentive to become better informed on risks. Shavell, *supra*, at 492, 500. Finally, it is clear that the courts do not do what Shavell suggests, but rather rely on objective assessments of risk. W. PROSSER, *supra* note 103, § 32, at 149-51, § 43, at 250-51. *See also* Rizzo, *supra* note 8, at 1036-37 & nn.120 & 122 (criticizing Shavell's argument).

litigated would almost surely outweigh the reduction in litigation costs due to the few cases, if any, which are not litigated because of the foreseeability limitation. Second, the foreseeability limitation will have adverse incentive effects. With the limitation, potential defendants will have an incentive to avoid research on risks to others and to conceal risk information that is not generally known (as has occurred in many of the "toxic tort" cases). Without it, they will have a better incentive to engage in efficient research on risks and less incentive to conceal data on risks.[109]

In any event, once again the actual practice of the courts is not consistent with either the legal economists' standard prescription (the foreseeability limitation) or the alternative prescription (no foreseeability limitation). Although much work remains to be done in this area, the work that has been done strongly suggests that the decisions are consistent with the traditional corrective-justice view.

The decisions which deny liability for harm that was "outside the risk" ("wrong hazard") are usually based on a failure to meet the tortious-aspect causation requirement.[110] Conversely, when the tortious-aspect causation requirement is satisfied, the courts often impose liability even though the injury was unforeseeable or was "outside the risk."[111] The scope of liability varies with the type and degree of the defendant's tortious conduct.[112] Liability ordinarily is denied if the injury would have occurred anyway as a result of nonresponsible conditions,[113] or if it would not have occurred if not for unforeseeable tortious conduct by others or independent abnormal conditions.[114]

109. Wright, *Bane, supra* note 2, at 442-44.

110. Wright, *Causation, supra* note 5, at 1759-74.

111. L. GREEN, RATIONALE OF PROXIMATE CAUSE 177-85 (1927); HART & HONORÉ, *supra* note 4, at 176-78, 254-90; R. KEETON, LEGAL CAUSE IN THE LAW OF TORTS 28-32, 39, 49-54, 60-78, 96-97, 100-03, 109-10, 117 (1963); W. PROSSER, *supra* note 103, §§ 43-44, at 250-80; Smith, *Legal Cause in Actions of Tort* (pts. 1-3), 25 HARV. L. REV. 103, 127-28, 233-52, 321-27 (1911-1912).

112. The scope of liability is greatest for the intentional torts, less for negligence, and least for strict liability, as would be expected under the morality-based corrective-justice scheme. *See* W. PROSSER, *supra* note 103, § 43, at 250-70, § 79, at 517-22; Watermeyer, *Causation and Legal Responsibility* (pts. 1 & 2), 58 S. AFR. L.J. 232, 248-62 (1941), 62 S. AFR. L.J. 126, 132-45 (1945) (author identified in HART & HONORÉ, *supra* note 4, at 303). Landes and Posner's effort to explain the varying scope of liability assumes that the probability of unforeseeable injury is higher and the administrative costs are lower in the intentional and strict-liability cases, compared to the negligence cases, which would seem to imply an equivalent scope of liability in the intentional and strict-liability cases, greater than the scope in negligence. Yet they assert that the scope of liability should be greatest in the intentional cases and equivalent in the negligence and strict-liability cases. Landes & Posner, *supra* note 8, at 133-34. Either way, they have failed to describe the actual practice.

113. Wright, *Causation, supra* note 5, at 1798-1801; *see supra* text accompanying note 99.

114. HART & HONORÉ, *supra* note 4, *passim*; Carpenter, *Workable Rules for Determining Proximate Cause* (pt. 3), 20 CALIF. L. REV. 471 (1932); Wright, *Causation, supra* note 5, at 1745-50, 1774 n.161.

D. Causal Uncertainty

The last type of case discussed by Cooter includes all those cases in which the defendant tortiously exposed the plaintiff to a risk of injury of a sort which subsequently occurred (or may yet occur), but it is (or will be) impossible to determine whether or not the defendant's tortious conduct contributed to the plaintiff's injury. This type of case includes many of the mass-exposure "toxic-tort" cases as well as the more conventional "increased-risk" or "reduced-chance" cases. It has become the major exhibit against the traditional corrective-justice view and the major support for the specious concept of "probabilistic causation."[115]

The legal economists argue that the liability problem in this type of case is easily solved under the efficiency view by using "probabilistic causation" (ex ante or ex post risk assessments) to assign liability for the actual injury to each tortious defendant in proportion to her share of the total risk.[116] They do not explain why in these cases "probabilistic causation" results in only partial liability while in other cases in which it allegedly is applied it results in full liability, or why ex post probabilities and actual injuries are often used when from the standpoint of ex ante incentives the ex ante expected harm should be used.[117] They also fail to take into account the duplicative effects of independent risks or the magnified effects of synergistic risks.[118] These effects cannot be apportioned in any way that will produce efficient incentives.[119]

In contrast, there is no conceptual barrier to recovery in these types of cases under the traditional corrective-justice view. All that is required is that the courts recognize a new type of injury in such cases—risk exposure per se or risk exposure which possibly led to the subsequent injury.

115. Cooter, *supra* note 1, at 539; Kelman, *supra* note 36, at 579-80, 597-600; Landes & Posner, *supra* note 8, at 121-24 & n.33; Robinson, *Probabilistic Causation and Compensation for Tortious Risk*, 14 J. LEGAL STUD. 779 (1985); Rosenberg, *The Causal Connection in Mass Exposure Cases: A "Public Law" Vision of the Tort System*, 97 HARV. L. REV. 849 (1984); Schwartz, *supra* note 8, at 640, 644-47 & n.14.

116. *See* sources cited *supra* note 115 (Cooter, Landes & Posner, and Schwartz).

117. *See supra* text accompanying notes 97, 100-02.

118. For example, Shavell's proof of the efficiency of the risk-apportionment approach assumes, among other things, that there are no duplicative or synergistic effects. Shavell, *Uncertainty Over Causation and the Determination of Civil Liability*, 28 J.L. & ECON. 587, 590, 591, 600 n.25 (1985).

119. Kelman, *supra* note 36, at 608-17; R. Wright, Allocating Liability Among Multiple Responsible Causes: A Principled Defense of Joint and Several Liability for Manifested Injury and Risk-Exposure (November 1987) (unpublished manuscript, IIT Chicago-Kent College of Law). Schwartz misreads Kelman as having concluded that only the efficiency theory resolves the risk-apportionment issue satisfactorily. Schwartz, *supra* note 8, at 646 n.20. Actually, Kelman focuses primarily on the incentive issues, argues that the risks cannot be apportioned to achieve efficient incentives, and makes a few minimally supported remarks about the inability of the corrective-justice view to apportion the risks in a conceptually compelling or rights-respecting manner. *See infra* text accompanying note 124.

The plaintiff would still have to prove that the defendant contributed to the risk-exposure. This approach greatly improves the liability analysis by clarifying the basic policy issue (should risk-exposure be recognized as a legal injury in certain types of cases?) and distinguishing it from the causal issue, whereas the "probabilistic causation" approach, by treating the policy issue as a causal issue, fails to address the policy issue explicitly and confuses mere increased risk with causation.[120]

Some courts seem to have implicitly adopted the "probabilistic causation" approach in these types of cases.[121] However, the most recent, better-reasoned decisions, which have explicitly considered both approaches, are clearly settling on the traditional corrective-justice approach as the proper approach,[122] despite the complaints of some commentators who mistakenly adhere to the concept of "probabilistic causation."[123] There is a well-established method for allocating injuries that can be applied to the new injury of risk-exposure: allocate to each party the risk of the harm's occurring solely through her activity, and allocate the duplicative or synergistic portion of the risk to all the parties

120. Wright, *Causation, supra* note 5, at 1809-21; Wright, Bramble Bush, *supra* note 6, pt. V.

121. *E.g.*, Thompson v. Sun City Community Hosp., 141 Ariz. 597, 688 P.2d 605 (1984); Roberson v. Counselman, 235 Kan. 1006, 686 P.2d 149 (1984); Evers v. Dollinger, 95 N.J. 399, 471 A.2d 405 (1984); Kallenberg v. Beth Israel Hosp., 45 A.D.2d 177, 357 N.Y.S.2d 508 (1974), *aff'd mem.*, 37 N.Y.2d 719, 337 N.E.2d 128, 374 N.Y.S.2d 615 (1975); Thornton v. CAMC, Etc., 305 S.E.2d 316, 323-25 (W. Va. 1983). Each court claims to be adhering to the traditional evidentiary standards. Some admit that this approach is merely a covert method for allowing juries to award damages for risk-exposure, rather than for the manifested injury. *E.g., Thompson*, 141 Ariz. at 608, 688 P.2d at 616. Each opinion relies on ambiguous dicta in Hicks v. United States, 368 F.2d 626, 632 (4th Cir. 1966). The Court of Appeals for the Fourth Circuit, which decided *Hicks*, recently has rejected the "probabilistic causation" approach, affirmed that risk-exposure is the relevant legal injury, and insisted that causation of the risk-exposure injury must be proven in accordance with the traditional evidentiary standards. Waffen v. United States, 799 F.2d 911, 917-19, 922-23 (4th Cir. 1986).

122. *E.g., Waffen*, 799 F.2d at 917-19, 922-23 (see description *supra* note 121); DeBurkarte v. Louvar, 393 N.W.2d 131, 135-38 (Iowa 1986); Weimer v. Hetrick, 309 Md. 536, 456-53, 525 A.2d 643, 648-50 (1987) (proof of increased risk of death may be allowed in action for risk-exposure, but is insufficient to establish causation in action for death itself); Herskovits v. Group Health Coop., 99 Wash. 2d 609, 619-36, 664 P.2d 474, 479-87 (1983) (Pearson, Stafford, and Utter, JJ., and Williams, C.J., concurring specially, reject mere increased risk as proof of causation of actual injury, but would allow recovery for risk-exposure as legal injury); *see id.* at 610-619, 664 P.2d at 474-79 (Dore, J., joined only by Rossellini, J., delivering opinion of the court, which allows mere increased risk to be used to establish causation of actual injury, but limits damages to those caused by increased risk, such as "premature death"); *id.* at 636-42, 642-45, 664 P.2d at 487-91, 491-92 (Brachtenbach and Dimmick, JJ. dissenting, and Dolliver, J., dissenting, reject mere increased risk as proof of causation of actual injury); Collins v. Eli Lilly Co., 116 Wis. 2d 166, 191 & n.10, 342 N.W.2d 37, 49 & n.10, *cert. denied sub nom.* E.R. Squibb & Sons v. Collins, 469 U.S. 826 (1984) (risk-exposure which possibly led to actual injury is compensable legal injury). For earlier cases, see O'Brien v. Stover, 443 F.2d 1013, 1018-19 (8th Cir. 1971); James v. United States, 483 F. Supp. 581, 586-87 (N.D. Cal. 1980). *See generally* Wright, Bramble Bush, *supra* note 6, § V(A).

123. F. HARPER, F. JAMES, JR. & O. GRAY, *supra* note 27, § 20.2, at 174 (Supp. 1987) (commenting on *Waffen*).

who contribute to the duplicative or synergistic portion under a rule of joint and several liability. This method holds each tortious defendant fully responsible for the risk that she created but does not overcompensate the plaintiff, in accordance with the traditional corrective-justice view of tort law.[124]

In sum, the efficiency theory does not account for the courts' decisions in any of these types of cases, while the traditional corrective-justice theory accounts for all of them. Once again, the efficiency theory fails to match reality and thus is less scientific than the corrective-justice theory.

CONCLUSION

The legal economists like to assert that the efficiency theory explains the decisions of the courts and that no other theory has been proposed which claims to do so. In this comment, I have challenged both assertions, by relying on the theory that has always dominated mainstream legal thought. This theory is not (as Kelman asserts) either libertarianism or the efficiency theory (which, in conjunction with Kelman's Critical Legal Studies, dominate fashionable academic thought),[125] but rather the traditional but still vital corrective-justice theory.

We are now in a position to answer Cooter's opening query, but with a much different answer than he gives.[126] The disappearance of the causation requirement from the efficiency theory and its replacement with mathematical functions, which indicate but do not describe ex ante risk that is misleadingly referred to as "probabilistic causation," is neither scientific progress nor a cause for celebration. The efficiency theory conceals and distorts fundamental legal, moral, and philosophic issues, through an habitual misuse of language and a false appearance of scientific rigor. Tort law is not, and could not be, the union of liberty and efficiency, since the two concepts are fundamentally irreconcilable. The efficiency theory has no room for individual rights and individual responsibility. Thus tort law, which is an expression of individual rights and individual responsibility, has no room for the efficiency theory.

124. R. Wright, *supra* note 119. There should be a provision for contribution among the defendants, based on comparative responsibility, for the joint-and-several-liability portion of the damages. *Id.*; Wright, *Causation, supra* note 5, at 1798-1801 & n.265.

125. Kelman, *supra* note 36, at 580.

126. Cooter, *supra* note 1, at 523-25, 551.