ESSAY III.

"... OR SHOULD HAVE KNOWN ...":
ON FORESEEABILITY AND PARADOX IN LAW AND ECONOMICS

INTRODUCTION

A chief concern among critics of neoclassical economics has been that discipline's approach to conceptualizing agents' knowledge. Nelson and Winter, for example, count themselves critics of neoclassical orthodoxy on precisely these grounds. They note in their treatise that "defenders of orthodoxy may justifiably disdain to reply to criticisms of perfect-information assumptions, but they have something at risk if the criticism focuses instead on the assumption that all possible contingencies can be foreseen and their consequences weighed."[1]. This essay is intended to lodge exactly that criticism against the mainstream economic analysis of law. The differences between how knowledge is commonly characterized outside and within economics are thrown into sharp relief when economics turns its attention to imperfections in that knowledge. A comparison of Law and Economics' treatment of foreseeability with that found in a substantial portion of legal scholarship is illustrative of such a gap in characterizations. And as this essay seeks to show, the differences in the two conceptions of knowledge, imperfections in knowledge, and the foreseeability of events are hardly innocuous; mainstream economic analysis of law may face a difficult choice of representations.

Competing Frameworks

This section discusses two main conceptual frameworks for dealing with agents' information or knowledge, which serve as the points of reference for the analysis which follows. The aim of discussing two separate frameworks is to show the implications of adopting two different conceptions of imperfect information. The first framework is that of mainstream expected-utility theory in its formalist guise; the second is that of "modern Austrian" economics.

Mainstream neoclassical economics deals with uncertainty through the use of the expected utility construct. Austrian economics similarly possesses a notion of expected utility, but the likeness between the frameworks disappears somewhere in this neighborhood. Mainstream economics typically utilizes well-behaved von Neumann-Morgenstern expected utility functions, which are applied to the closed outcome sets and probability measures of well-defined lotteries. Agents are assumed to have a complete list of the events in the state-

[1]Richard Nelson and Sidney Winter, *An Evolutionary Theory of Economic Change* (Cambridge, MA: The Belknap Press of Harvard University Press, 1982), 8.

space of the lottery.[2] There are no genuine surprises to the agents: uncertainty is limited to *which one* of the listable outcomes (or fully mathematically describable outcomes, in the case of continuous variables) in the lottery *will* be the one realized. Peter Gärdenfors writes that

> The best-known models of epistemic states are the Bayesian models used in decision theory. Here a state of belief is represented by a *probability measure* defined over some object language or over some space of events. It is assumed within the Bayesian tradition that all information that is relevant for decision making is conveyed by such a probability measure.[3]

Neoclassical economics deals with uncertainty through the use of probabilistically closed-ended models, which are really no more "uncertain" than perfect knowledge of future events--certainty is merely shifted to a different, structural, level.

Typically neoclassical models also assume logical omniscience, meaning that agents are aware of all the implications of the logical and other statements in their belief sets in addition to the content of the beliefs themselves; the belief sets are described as "closed under logical consequences," "coherent," and/or "consistent."[4] This produces a logical no-arbitrage condition; there are no inconsistencies in the agents' beliefs or states of mind.

In contrast, the Austrian conception allows agents to lack a complete picture of the event-space. Austrian subjectivism, and its view of the entrepreneur, allow for varying perceptions of the means-ends framework--part of the agent's problem is in constructing the problem itself.[5] Elements can be *missing* from agents' subjective beliefs about outcomes, logical implications, and the like. The work of Israel Kirzner, and in particular his notion of "sheer ignorance," have been influential in shaping recent Austrian thinking on describing agents' epistemic states. Under sheer ignorance, agents do not know everything they do not know. This differs substantially from the neoclassical conception, wherein agents can *identify* any gaps in their knowledge and arrange means in order to obliterate their known ignorance through a process of search or other deliberate production of information.

Under the Austrian conception of knowledge, agents can be genuinely surprised about the actions of other agents, about the ability to seize arbitrage profit, about the ability to combine resources to produce goods they can sell at a profit (a form of arbitrage), about the ability to combine legal rules to appropriate characteristics of goods, *et cetera*. This suggests that Austrian economics does not assume logical omniscience in the way that neoclassical economics does; for example, agents can fail to grasp the logical implications of applying the concepts of price, cost, purchase, sale, and profit to the constellation of current

---

[2]Hal Varian, *Microeconomic Analysis*, 2nd Edition (New York: Norton, 1984), 155-157.

[3]Peter Gärdenfors, *Knowledge in Flux* (Cambridge, MA: MIT Press, 1988), 11.

[4]Ibid., 11.

[5]Israel M. Kirzner, *Competition and Entrepreneurship* (Chicago: University of Chicago Press, 1973), 32-37.

prices to obtain arbitrage profit. They can be unaware of existing terms of trade which are preferable to the ones at which they are currently transacting. This lack of logical omniscience is supported by the results of experiments[6] (not conducted by Austrians) which show that human subjects are frequently not aware of the implications of simple propositional models.

The implications for economics of adopting this framework are quite vast and have been discussed at length elsewhere; thus this essay will concentrate on the implications for one branch of economics, the economic analysis of law. It will attempt to show that Law and Economics' current approach to conceptualizing agents' knowledge (as evidenced by its treatment of unforeseeability) either contradicts some of its specific conclusions about legal rules for assigning liability, or renders it incapable of applying its traditional efficiency criteria to the study of comparative legal systems.

The "Duty to Know" in the Common Law of Tort

Important to this essay's critique of Law and Economics is the notion that agents' knowledge or lack of knowledge directly affects the functioning of the common law of tort in its performance of its role. That role, at least as it is understood by economists, is in the minimization of the social costs of accidents and accident avoidance.[7] Legal theorists and philosophers of law frequently write of a "duty to take care" existing in the common law; *economists* have interpreted the standard of "due care" as that which minimizes those accident and avoidance costs, and the "duty to take care" as a social norm instrumental to the objective of minimizing those costs (and thus maximizing social wealth).[8] Care (or precaution) is generally treated by economists as a costly, continuous input into a technology that lowers the probability of an accident.[9]

This section attempts to show that the uncontroversial notion of a "duty to take care," combined with a proper understanding of how agents use knowledge to act, induces a "derived demand" for knowledge about how to avoid accidents -- in other words, about how to be careful. This demand for knowledge can support an instrumentalist view of the "duty to know" in the common law (such as can be shown to exist in Law and Economics). However, it will be shown in later sections that mainstream Law and Economics has difficulty fully describing the circumstances by which an instrumental or "subservient" duty to know is defined. Specifically, mainstream Law and Economics has great difficulty making

---

[6]P.N. Johnson-Laird, *Mental Models* (Cambridge: Cambridge University Press, 1983).

[7]Richard Posner, *Economic Analysis of Law*, 3rd edition (Boston: Little, Brown and Co., 1986), 20-1.

[8]Ibid., 148 n. 2.

[9]Though it is recognized that different agents have different accident-prevention technologies. For example, in so-called unilateral precaution cases, it is suggested that only one party has access to the accident-prevention technology, i.e. only one party's precautions affect the probability of an accident.

an agent's "reasons to know" a sensible concept.

The existence of a "duty to take care" in the common law is an uncontroversial proposition. Agents are expected to avoid causing harm to others.[10] But a frequently overlooked prerequisite for care is the *knowledge* that certain courses of action will increase or decrease the probability of an accident. For example, Jonathan Baron, an influential utilitarian, has written that strict liability, which holds individuals liable for all those results their action legally caused[11] whether they were foreseeable or not, "is inconsistent with utilitarian prescriptions for the moral educator... If the task of the educator is to encourage virtues, traits that will lead to the best decisions when the opportunities arise to make them, it is inefficient to punish the innocent."[12]

I argue that Baron is mistaken about strict liability because his set of virtues lacks a seemingly logically prior set of enabling mental requirements. If virtue lies in making not just good, but the best decisions, virtue also lies in making *informed* decisions. It can be demonstrated that a duty to take care is meaningless without knowledge or awareness of the possible consequences of one's actions.

When legal theorists and judges talk about negligence and liability, it is often suggested that a defendant knew "or should have known" that his actions could have harmful consequences to others.[13] The duty to take care is generally recognized in the common law of tort (although there is debate over whether the duty is to persons generally or relative to specific persons only), and one way of interpreting the "should have known" is as meaning that the defendant would have *required* the information in question in order to

---

[10]Posner, *Economic Analysis of Law*, 147.

[11]"Legally" caused because strict liability is distinguishable from absolute liability by its possession of a proximate (or legal) cause standard. Proximate cause is a matter of policy, although some clear statements of superior proximate-cause rules have been developed.

[12]Jonathan Baron, *Morality and Rational Choice*. Kluwer *Theory and Decision Library*, Series A: *Philosophy and Methodology of the Social Sciences* (Dordrecht: Kluwer Academic Publishers, 1993), 158.

[13]Or "ought to have known," as in *Smith v. London & SW Rwy.,* L.R. 5 C.P. 103 (1869-70). Or "should have foreseen," as in *Re Polemis*; or "ought to have foreseen," as in Holdsworth's *History of English Law* (London: Methuen, 1926), 463. Glanville Williams, in "The Risk Principle," writes "... we say that a defendant is in breach of a duty to care because he should have foreseen and guarded against a particular risk, ..." *Law Quarterly Review* 77, 179-80. In the foregoing Williams, the Risk Principle itself is defined in terms of "what harm or other injury should the defendant have foreseen, ..." Sometimes the expression appears in the passive voice, as in Lord Romer's opinion in *Glasgow Corporation v. Muir*, [1943] A.C. 448 at 467 (H.L. (Sc.)): "In my opinion, the appellants can only be fixed with liability if it can be shown that there materialized a risk that ought to have been within the appellants' reasonable contemplation." The language also appears in Fleming's influential treatise, *The Law of Torts* (Toronto: Carswell, 1971), 183: "... no one is held to account for the consequences, however injurious, of his conduct unless he was, or at all events should have been, aware that it was fraught with risk of at least some harm to somebody."

meet the standard of care.

Agents act because of their belief that their *actions* will be causally efficacious in some way--that they will cause a corresponding change in the external environment which will further their immediate or longer-term goals. The fact that agents know or believe their actions will cause change is the foundation for purposeful action. Lacking the knowledge that they *can* act to reduce the probability of an outcome, agents will not act with the specific *intent* to reduce its probability (although their action may inadvertently have as its result such an effect; "accidents will happen").

As a thought experiment we might consider the case where agents are unable to form expectations about the future; their lack of an ability to look forward or to visualize the possible consequences of their actions will prevent them from taking any actions that will avoid harm in any but an inadvertent sense. It will entirely prevent them from conceiving any purposeful action. Moving from this polar case, we can see that a greater ability to form reliable models of causal efficacy of action better equips agents for purposeful behavior of any type, including behaviors intended to avoid harm. Knowledge of consequences is not *sufficient* to produce careful action, as we can see from the opposite polar case -- that of complete foreseeability. If all the consequences of an agent's action unfolded before her as she considered the act, she still might not take sufficient care unless she were other-regarding or unless some process were in place whereby she was made to account for the influence her actions had on others. As I will mention again below, and as has been generally recognized by economists, this facilitation of external cost accounting is one of the apparent social functions of *liability*.

Even a limited moral obligation placed upon agents to take care, which can be understood instrumentally as helping to maximize social value, is useless unless sufficient data exist to help agents in their formation of mental models of causation. An agent who has no idea how to be careful, no notion of how her actions might lead to (or avoid) unfavorable consequences to herself, to others, or to others and therefore herself, cannot serve the ultimate social end for which a moral obligation or duty to take care might be instrumental. The fact that agents require information to act in a socially desirable way means that meeting the informational requirements for careful behavior is a social objective of comparable importance to that of accident avoidance, and is logically prior to it. Ultimately, constructing legal systems and social policies which disregard or undermine the informational requirements for socially desirable or "responsible" conduct (because they have incorrectly modeled them) may frustrate their intended[14] goal of socially optimal accident avoidance. To this point Law and Economics has not sufficiently reflected the necessary *balancing* of immediate accident avoidance against the long-run adoption, through learning, of superior accident-avoidance technologies. The ability to take care, and therefore the duty,

---

[14]"Intent" here is a reconstruction along instrumentalist lines. Law is a decentralized, organic process which evolves to suit the myriad, often contradictory, means-ends frameworks of the agents whose decisions it influences and by which it is in turn influenced. We might therefore substitute "the" for "their intended" to reflect the interpretation that optimal accident avoidance is one of many potential goals for the system.

rule of conduct or moral obligation to do so, are meaningless unless the mental prerequisites for careful behavior are met or addressed. The judicial use of "should have known" may therefore reflect the court's support of a *standard of knowledge* required to make the *standard of care feasible*. There is, therefore, some indirect support for the existence of a "duty to know" in order to be careful.

More direct support also exists. Lord Wright of Durley, in an essay on the ancestry and history of the *Polemis* decision (which he argued), writes that "Due care necessarily involves either awareness of the potential of danger to him [the victim] if the act is done or, more precisely, not necessarily awareness in fact but a duty to be aware."[15] Wright argues that the "most general head" of the source of the duty to take care lies in the "potentialities of damage to him [the victim] such as were or should have been reasonably apparent to the doer,"[16] and further suggests that the relationship between the knowledge of potential harms and the duty to take care means that a greater awareness (say, of predispositions) by an individual should result in a higher standard of care: "the more specific degree of awareness may impose a higher and more specific standard of care corresponding to the awareness."[17]

Harari on Classifying Legal Duties

Abraham Harari, in his 1962 treatise[18], uses a classification scheme separating duties into levels in order to clarify their origins and the origins of statements of liability that arise then they are broken. Harari's analysis is important to us in a number of ways: First, it is useful in illustrating where law and the economic analysis of law differ on what the duties are and where they are located; second, it sets out a framework critical of the notion of foreseeable harm as the basis for duty, and which supports *coordination* as a test for the appropriateness of rules. I argue in the closing to this essay that such a test may be a more coherent tool for the economic analyst of law than one of social-wealth-maximization.

For Harari, a distinction exists between "dominant" and "subservient" duties. Subservient duties derive their importance from the existence of dominant duties and are modulated by the particular set of circumstances in which the agent finds herself. In contrast, the dominant duty

> ... is general and categorical. It does not depend on any particular circumstance, relation or situation. Thus, it may be said that there is, in English law, a duty (and it may be called a duty of care) not to cause personal injuries to another. This duty does not arise only in certain circumstances, only when there is a certain relation between people ..., or only when people

---

[15]Lord Wright of Durley, "*Re* Polemis." *Modern Law Review* 14(4):400.

[16]Ibid., 398.

[17]Ibid., 400.

[18]Abraham Harari, *The Place of Negligence in the Law of Torts* (Sydney: Law Book Co. of Australasia, 1962).

> find themselves in certain situations... Yet one gets the impression that this is just what the books imply.[19]

And so Harari finds himself in disagreement with the mainstream of legal scholarship. As we will discuss later, this view he opposed, one of particularity, also seems to be what Law and Economics implies for the duty of care; this indicates the presence of another duty to which it is subservient. Despite its concentration on particulars (such as avoidance costs), Law and Economics does not say that dominant duties do not exist, merely that the duty not to cause personal injuries is not one of them.

A *dominant* duty (not to cause harm to others) is translated into a particular *subservient* duty (not to speed) by the agent's circumstances (the fact that she is driving). Thus subservient duties are instrumental and contingent: They are said to exist only inasmuch as they support the existing dominant duty. They are defined by their circumstances: "It is contingent in that given the dominant duty it will only arise if the circumstances are such that speeding or not sounding one's horn will result in a breach of that (*i.e.* the dominant) duty... The circumstances to some extent define *how* given consequences *can be* avoided, and not *whether* they *are to be* avoided."[20] The circumstances relate through perceived causal connections to the way in which the accident may be avoided; by defining how the forbidden consequence is to be avoided, they define the particulars of the subservient duty.

Harari does not direct his work to the treatment of an explicit "duty to know." He is, however, a vigorous critic of the notion that the foreseeability of harm defines the scope of a duty to take care, because the duty not to cause harm is the dominant duty. It is because of the agent's breaking of the duty not to cause harm to others that liability arises. This duty is the ultimate "point" of particular subservient duties, and so its breach is a source of liability regardless of the scope of those subservient duties. If an agent *caused harm*, its foreseeability, which might have an impact on the scope of those particular subservient duties, is still quite beside the point. Harari argues that a test of foreseeability is useless when questions of *coordination* exist (i.e. when more than one party could reasonably have foreseen harm), and that the law argues for strict liability in those cases where coordination is *not* at question and no "acts of God" occurred.[21]

Insofar as there is a dominant duty to avoid harm to others, we may think of the aforementioned duty to know as a subservient or instrumental duty. I have suggested above why it is reasonable to think of it as instrumental for the fulfillment of the duty to take care. Having thus established the direct or indirect importance to the law of agents' knowledge,

---

[19]Ibid., 64.

[20]Ibid., 66.

[21]Harari's own view of the foreseeability of events seems somewhat extreme: He argues that all intervening natural events are either "reasonably foreseeable" or "acts of God." An "act of God" is one to which the agent's action had no causal relationship, but in using the language he does Harari apparently sets the standard for human foresight quite high.

we now have a basis for pointing out the urgency of what will be the chief conclusion of the following section: That mainstream Law and Economics encounters difficulty in dealing with agents' knowledge precisely where that knowledge becomes legally interesting--at its boundaries.

Foreseeability in Mainstream Law and Economics

As suggested in the introduction to this essay, differences in the conceptions applied to the boundaries of human knowledge may result in significant variation in how disciplines evaluate alternative institutional arrangements. Unforeseeability, a term at use in tort law, marks such a boundary. The conceptual framework mainstream economics has lent to the economic analysis of law, as we will discover, may not have equipped it to navigate the boundary as legal scholarship does.

The economic analysis of law posits an entirely different dominant duty from Harari's duty of care, and also locates the duty in a different place. The duty to know is still demonstrably subservient, but becomes problematic.

Judge Richard Posner, a preëminent Law and Economics scholar, has written extensively on the role of social wealth maximization as a positive and normative tool for understanding and shaping the common law. Posner, his colleagues and his students hoped to "elide the age-old philosophical disputes over the meaning of intention and causation by recasting them in economic terms that do not refer to them"[22] and thus to improve upon what is an admittedly confusing thicket of conflicting theories on what is "at the bottom of" the law. Whether the notion of foreseeability, and its role in the law, have been *improved* by such a "recasting" in economic terms is one subject of this paper.

Harari believed that there was a dominant duty in English law to avoid personal injuries to others, in other words a duty under which everyone fell regardless of circumstances. In contrast, Posner's norm of wealth maximization is not consistent with a no-accident world; only with a world in which the accidents that occur were *not worth preventing*. Agents are only held liable for negligence in the economic framework if they *could have avoided* the accident at a lower cost than the costs created by the accident and failed to do so. If they can only avoid an accident by engaging in strictly more costly precautions they are not required to avoid it. Thus Law and Economics departs from Harari's conception that "the duty does not arise only in certain circumstances" by replacing the dominant duty of care with a dominant duty to maximize social wealth. The duty of care thus becomes subject to modulation by the particulars of the agent's circumstances.

The replacement of the duty of care with a duty to maximize wealth means that the burden of the duty falls on different shoulders. In Posner's framework, law takes over where markets fail; thus the dominant duty to maximize social wealth falls to the judge, in contrast to the decentralized *ideal* market where agents pursue their own interests and thus maximize social wealth without needing to be aided or instructed in doing so. In Harari's framework the burden of the dominant duty of care rested with all agents.

---

[22]Richard Posner, "Wealth Maximization and Tort Law: A Philosophical Inquiry." In *Philosophical Foundations of Tort Law*, Ed. David G. Owen (Oxford: Clarendon Press, 1995).

The duty to know in the mainstream Law and Economics framework is still instrumental for wealth maximization, and is perhaps *more* clearly subservient. The view of information-acquisition upon which Law and Economics principally relies suggests that information is costly, that agents collect information in a deliberate process of weighing costs and benefits (i.e. that agents learn everything they think worth knowing), and that pursuing the duty to know in isolation from other goals can thus conflict with social wealth maximization. The "optimality" of rational ignorance indicates that the duty to know is not the dominant duty. Agents may know as much as the social evaluator thinks they need to, and their knowing more may cost more than the gains to be had.

While clearly viewing the acquisition of knowledge as a deliberate weighing of costs and benefits, Law and Economics exhibits some conceptual fuzziness as to whether the framework *within which* agents gather information is complete. Combining the view of deliberate information-gathering with a view of agents' knowledge which includes "gaps" (a view which exists in the law), makes agents' "reasons to know" and thus the scope of the subservient duty to know almost impossible to define. Moreover, it suggests that the judge's *dominant* duty of social wealth maximization is incoherent -- a point discussed at length below. On the other hand, if agents' knowledge exhibits *no* gaps, or in other words if agents can foresee all future contingencies (even if they assign zero probabilities to many of them), then economics suggests that liability should be strict (if not *absolute*), or that negligence under a foreseeability rule and strict liability should amount to the same thing. I discuss these results in detail in the following section.

Posner on Foreseeability

Posner argues that the notion of foreseeability, while "much favored in the law though it is, is maddeningly vague."[23] There are four curious paragraphs on foreseeability in Posner's chapter on tort law, which suggest various meanings for unforeseeability and offer justifications for the doctrine of limiting liability to the foreseeable consequences of agents' acts. Posner suggests that "unforeseeable consequences" may mean a number of things: First, that the consequences were "unlikely and therefore unexpected"; second that they possess only doubtful causal linkage with a negligent act that is their alleged predicate[24]; and third that high costs of information led agents evaluating the consequences to make a rational, yet imperfectly-informed, surmise as to expected payoffs--he closes the section by

---

[23]Posner, *Economic Analysis of Law*, 115. This language is retained *verbatim* in the 4th edition at 127-8.

[24]In Posner's words, "One is that there is considerable doubt whether there was a causal relationship between the negligence and the injury" [170]. Again, the language at issue here is retained in the 4th edition, without changes, at 185-186. The use of "was" may imply retrospection (possibly even by third parties) over events which occurred. This causes no problem for my analysis: If the doubt applies *only* after the fact, then Posner has simply left *undescribed* the decision maker's state of knowledge at the time of his action--a position which is itself hardly satisfactory. If the doubt exists at the *time* of the agent's action, I argue as above that this means the agent actively weighs the consequences.

suggesting that when an agent foresees, he "inform[s] himself at a reasonable cost" about "the consequences of his conduct."[25] I suggest that the first two meanings rely upon the same understanding of foreseeability, which corresponds to the neoclassical conception of a probability function defined over a complete list. The first of the two meanings focuses on the probability side of the probability-event pair, and the second focuses on the event side. The first says that the probability attached to the event is so small that it cannot affect the deciding agent's expected payoffs. The second suggests that *the event is not believed to be* a consequence of the predicate.

I argue that the second meaning also falls within the neoclassical view on the exhaustive assignment of probability, particularly if we consider the agent's doubt or disbelief to be an *active psychic event*. By this I mean that in doubting or disbelieving the causal relevance of act to outcome, the agent must *consider* (and thus necessarily *foresee*) the outcome as an element of the event-space. If it were impossible for him to *conceive* of the outcome he could hardly actively *doubt* its causal connection to the act. Both meanings are subject to the criticism, as Posner suggests, that they provide an unreasonable truncation of liability because "most accidents are low-probability events." In fact, any given description of a possible event drawn from a continuous probability distribution may yield a negligible probability.

The foundation of the third meaning is more difficult to ascertain because of a vagueness, within Posner's work as a whole, as to the nature of the imperfections in the agent's knowledge. Some economic perspectives[26] on the formation of expectations would allow for the agent *either* to have assigned faulty probabilities to the correct set of outcomes, or to have an incomplete list of outcomes to which to *assign* probabilities. In his discussion of the limited-liability rule of *Hadley v. Baxendale*[27] Posner begins to recognize, then quickly retreats from, the latter interpretation of *foreseeable*: "In our tale of the commercial photographer, although the developer does not know the consequences of losing or spoiling the film he knows that such losses can occur."[28] Posner seems here to recognize foreseeability as applying to whether agents *grasp* that consequences lie in the event-space, otherwise the developer's knowledge of the *possibility* of spoiled or lost film would be a trivial matter not meriting mention. As I will suggest later, this is a troublesome interpretation for

---

[25]Ibid., 170.

[26]Notably the Austrian perspective, as mentioned above.

[27]*Hadley* [9 Ex. 341, 156 Eng. Rep 145 (1854)], a highly influential case, refers to a breach of contract suit between a mill and a carrier; the carrier took insufficient precaution against delay in its delivery of a broken engine shaft belonging to the mill. The carrier argued that the fact that a broken engine shaft was highly valuable to the mill (it was to be used to cast a replacement) was an unforeseeable circumstance, and that the mill failed to communicate the importance of the delivery to the carrier. The mill failed to recover lost profits on these grounds; it was suggested that *had* notification taken place, the mill *would* have been allowed to recover.

[28]Posner, *Economic Analysis of Law*, 115.

Posner's economics; he is able to square the circle here because it can be persuasively argued that the film developer *would* know that losing film was a valid category of occurrence, *i.e.* that it was something that could lie in the event-space. Posner can thus leave unconsidered the more problematic case where an outcome is explicitly *missing* from the event-space.

There is a tension between the exhaustive- or incomplete-list meanings, and some degree of uncertainty as to which one Posner was using, or whether he is attempting to use both. When we consider below what the missing-event meaning does to the greater part of mainstream Law and Economics, we may probably safely *infer* Posner's intended meaning--that the agent assigned the wrong probabilities to an exhaustive list of outcomes. Yet this interpretation leaves Posner's analysis subject to a different set of challenges.

Some of Posner's uses of "unforeseeable" may be viewed as contradictory. When Posner discusses the case[29] of the trespasser who lodges in an unfinished house, only to be asphyxiated because the contractor spliced a gas main into water pipes leading into it, he suggests that the "high costs of information prevented [the trespasser] from taking any precautions against the particular accident that occurred."[30] In evaluating whether the defense of "no duty to trespassers" should be made available to the builder, Posner argues that there are sometimes social benefits to be gained from trespass, and therefore it is in society's interests to have trespassers weigh the costs and benefits of their actions, "[b]ut they cannot weigh costs that are unforeseeable. A newly constructed residential building is normally a safe place. The trespasser has no reason to foresee being asphyxiated. He may have made a perfectly rational judgment that the value of his trespass exceeded all expected costs, including accident costs."[31] Posner here is attempting to explain in economic terms the reasoning behind the decision: The fact that the trespasser had "no reason to foresee" asphyxiation as a consequence of his trespass means that the losses in the case should not lie where they fell -- thus the builder's defense should be denied.

Within that paragraph lies a potentially disturbing inconsistency. Posner chooses to say that the trespasser "cannot weigh costs that are unforeseeable." This is distinct from saying (as he could, easily) that by unforeseeable events we mean those that *have no weight*, as we would expect from a zero-probability-listed-outcome interpretation. Yet at the same time Posner says that the trespasser has "no reason to foresee being asphyxiated." If the trespasser cannot in fact weigh costs (or, presumably, benefits[32]) that are unforeseeable, *what* would provide the basis, within an economic framework for action, for a *reason* to *foresee*

---

[29]This roughly matches the facts in the case of *Ehret v. Village of Scarsdale*, 269 N.Y. 198, 199 N.E. 56 (1935). Landes and Posner also discuss this case in *The Economic Structure of Tort Law* at 238-239, using language subject to the same criticism I apply here.

[30]Posner, *Economic Analysis of Law*, 170. This discussion, as noted above, is retained without revision in the 4th Edition at 185-186.

[31]Ibid., 170. This language is retained without revisions in the 4th Edition.

[32]The avoided costs of accidents, net of costs of care, help define the magnitude of the benefits from taking care.

something currently unforeseen? We might imagine that the "reason" to which Posner refers is some recognizable payoff to the agent for foreseeing. But what does it mean to talk of "reasons to foresee" when there is no event in the agent's cognitive framework to which to attach an expected payoff? Until an agent can *visualize* the event, an expected-payoff framework *cannot* provide motivation with respect to it.

It can be counter-argued that Posner's real meaning with regard to a "reason to foresee" has to do with the relative frequency of dangerous conditions in recently constructed houses. If such dangers are not commonly encountered by the trespasser, we might say that his *experiences* did not give him "reason" to expect them in the case which killed him. He had none of the familiarity with such conditions which might have led him to take them into account. But this essentially amounts to evaluating the "reasonableness" of a *reconstruction* of the agent's history which contains the proposition that he *already knew* something untoward *could* occur at the time of his decision, but considered the outcome unlikely. This is the reasoning Landes and Posner apply to their discussion of the dog owners' "one-bite rule" of liability: "Put more precisely, the rule is that the owner is liable only if he has reason to suspect the dog's vicious disposition; and ordinarily there is no reason to suspect it until the dog has bitten someone."[33]

Posner's attempt to make use of multiple readings of "unforeseeable" is not consistent and leads to contradiction. We cannot talk about agents' "reasons to foresee" events and *at the same time* claim that they "cannot weigh" unforeseeable costs. For if an event is truly unforeseeable to an agent, economics cannot speak of implicit prices, costs or benefits attached to it which provide *reasons* for knowing it. Nothing in the language of economics that would provide a "reason" for an agent to act with respect to gaining foresight of the event (which he does not yet visualize) can be said to be imputable to that event or to its associated actions. True unforeseeability puts events beyond the weighing of costs and benefits, "reasons" for foreseeing. In contrast, a situation in which economics *can* describe "reasons to foresee" an event which would *cause* an agent to *choose* to "foresee" it, is one in which the agent's cognitive framework already *includes* the event in question -- the event has been foreseen already.

Posner cannot have it both ways. Posner *must either* mean that events that are "unforeseeable" are unforeseeable in the incomplete-list or missing-event sense, *or* that events which are "unforeseeable" are in fact events of which agents *have* cognition (events which they can visualize) but to which they assign a negligible probability. Both of these avenues of interpretation are problematic for mainstream Law and Economics.

The first causes difficulty because it corresponds to a view of knowledge in disequilibrium, and hence a disequilibrium *process* conception (a "market process" in a propertarian setting) rather than a static equilibrium conception (in which Posner's economics seems to rest) where the state of social knowledge has come to a resting point because of information costs. A world of unforeseeability (in the incomplete-listability sense) is a world of genuine surprise and thus a world of unpredictable technical and social change. Sheer ignorance (a state wherein agents do not know what they do not know),

---

[33]Landes and Posner, *The Economic Structure of Tort Law*, 247.

applied to the actions of other agents and to the existence of mutually beneficial trade opportunities[34], means that neither behavioral patterns nor market prices are in equilibrium.[35] Outside of equilibrium, prices fail to correspond to opportunity costs at the margin; this *n*th-best situation renders hopeless the kind of judicial cost-benefit analysis championed by Posner and his students, and which forms the basis for the dominant judicial duty of wealth maximization in the Posnerian framework.

Sheer ignorance also undermines the primacy of the information-cost theory of imperfect information. If the gathering of information is modeled as a process of costly search, or the costly production of information *known to be missing*, then agents with incomplete lists do not know what they are looking for. Even if gathering the relevant information were "free," these agents would not recognize their need for it. This criticism of the search-theoretic framework of Stigler and others is also found in Shackle[36] and Boulding.[37] Posner's reasoning for limiting liability to the foreseeable consequences of an agent's actions derives from his positive-information-cost rationale for imperfections in agents' knowledge: "high costs of information prevented a party from taking precaution against the particular accident that occurred; put differently, *B* in the Hand Formula was prohibitive once information about risk is recognized to be a cost of avoiding risk."[38] Posner would thus want to avoid making an agent pay more to learn how he could avoid an accident than avoiding the accident is worth. This reasoning about what an agent *would have to pay* to learn, of course, involves a hypothesis about the agent's *current* knowledge that cannot be verified under the limited-liability negligence regime which it supposedly promotes, and which all views of imperfect information (in law, in economics, and in Posner's own work) do not necessarily support. If imperfections in agents' knowledge are not tied to economic parameters like transaction costs (or even to economic decisions[39]), but

---

[34]To which, it seems, it must be applicable if it is applicable to events like accidents. Making the argument that accidents are the only elements missing from agents' beliefs about the event-space seems terribly *ad hoc*.

[35]Kirzner, *Perception, Opportunity and Profit*, 110.

[36]Shackle wrote in *Uncertainty in Economics and Other Reflections* (Cambridge: Cambridge University Press, 1955, pp. 17-18) that "knowledge would not be bought if it were already possessed; and when we buy knowledge we do not know what we are going to get."

[37]Boulding, in "Knowledge as a Commodity" (from *Beyond Economics: Essays on Society, Religion and Ethics* (Ann Arbor: University of Michigan Press, 1968), 146) wrote that "We have the paradox ... implicit in the very concept of knowledge, that we have to know what we want to know before we can start looking for it. There are things that we ought to know, and which we do not know that we ought to know, that remain largely unknown and unsought for."

[38]Posner, *Economic Analysis of Law*, 4th Edition at 185, 3rd Edition at 170-1.

[39]As Kirzner writes in *Perception, Opportunity and Profit*: "Ignorance of knowledge that can be absorbed without decision is simply the expression and the evidence of a sheer failure to notice

are in large part *indeterminate* and *unpredictable*, it is probably better not to construct grounds for liability which swing on fine epistemic judgments about what agents knew at the time they acted. Causal frameworks, in contrast, do not possess such problems, and can lead to simple rules that generate stable expectational frameworks.

The second interpretation of unforeseeability causes difficulty because it is ultimately inconsistent with the mainstream of Law and Economics' pronouncements on the efficiency of limiting liability to foreseeable events. Under the second interpretation, no event is really unforeseeable after all. Discussions of an agent's "reasons to foresee" become logically strained unless we are *really* discussing an agent's *reasons to act* based upon given, complete probabilistic knowledge. The agent here does foresee, and foresees everything. Holding to the second conception, one cannot say that an outcome was *unforeseeable* to an agent, merely that he visualized it but assigned to it a probability that was too low to cause him to take[40] the necessary (costly) avoidance measures to prevent it. The fault, if one were to be assigned, lay in the agent's assignment of that low probability, or perhaps in his underassessment of the expected costs to be borne. But this does not motivate the conclusion of *limiting* liability, and strains comparability with the legal notion of "limiting liability to foreseeable consequences," as it *admits no other kind* of consequence. The argument, often made in the literature, that attaching implicit prices to unforeseeable contingencies will fail to lead agents to take care is *inapposite* in the case where all consequences *are* foreseeable.

The share of the problem due to a misassignment of probability *may* be remedied by the agent's witnessing (or being informed of) the event, which could cause him to update his mistaken prior beliefs. His behavior relative to *taking precaution*, however, will not change unless he is held liable for the costs associated with the event, no matter how unlikely that event seems to anyone. The mere updating of his beliefs to recognize a greater-than-previously-realized probability for the outcome in question will *not* suffice to change the agent's behavior if he is to be spared liability because of the unlikelihood of the outcome. He acts based upon an expected payoff which depends *both* upon a prior subjective probability *and* an implicit price. His ability to learn and to update his prior beliefs only produces some general benefit if it causes him to change his behavior, and no change in behavior will occur unless he is held liable.

We may also safely (though unnecessarily from the point of view of this analysis) speculate on whether the agent would even *update* his priors without the action of a vector of implicit prices including the penalty cost of his actions. Rationality, in the sense of updating priors, or of learning, may be contingent on an economic framework that includes the set of implicit prices for *ir*rationality and the *failure* to learn. Economics is already assumed to be operational in the rules agents use for updating (revising, expanding, or contracting) their beliefs. Peter Gärdenfors, in *Knowledge in Flux*, points this out in describing the rules for

---

what is there to be seen. In can be given a name--lack of entrepreneurial alertness--but it cannot be explained in terms of the standard economics of microtheory, the theory of deliberate economic decisions" [145]. Also see his *The Meaning of Market Process*, at 190.

[40]Provided that the agent, in fact, *could* take steps to avoid the accident.

expansions of agents' belief sets: "The next postulate for expansions can be justified by the 'economic' side of rationality. The key idea is that, when we change our beliefs, we want to retain as much as possible of our old beliefs--information is in general not gratuitous, and unnecessary losses of information are therefore to be avoided... This heuristic criterion is called the criterion of *informational economy*. This criterion plays an important role in several places in this book."[41] If the notion of rationality is shot through with economics, as Gärdenfors suggests, we can perhaps argue convincingly that liability (or other social processes that assign implicit prices for making mistakes or being mistaken) is responsible, at least in part, for the belief-updating process itself. Absent liability, the agent may not even *change his mind* about the consequences of his actions.

Other Economists on Foreseeability

While it would be difficult to overstate Richard Posner's influence on generations of Law and Economics scholars, the criticisms in this paper are meant to be applied more generally than to his work alone. Posner's work is a handy target because he discussed explicitly what would later become implicit as the Law and Economics literature matured; yet later treatments of foreseeability fall prey to many of the same difficulties.

Steven Shavell's work on the scope of liability takes a theoretically-informed stand on the *inclusion* of low-probability events, but then uses an extraeconomic assumption about cognitive bias in order to "explain" how *excluding* unforeseeable events from the scope of liability may still advance the maximization of social welfare.[42] Shavell introduces a decision-theoretic framework to explain why certain types of accidents fall within the scope of liability, the set of outcomes for which the defendant is held liable. His system shows how, given standard definitions of social benefit and cost, the various legal concepts used to limit or extend liability are socially rational. In his framework, social welfare is defined as the sum of benefits parties derive from their activities (and so "crushing liability" is generally to be avoided), less the costs of precaution, expected accidents and judicial administration. The scope of liability is altered in order to induce agents to engage in behaviors that maximize social welfare. Shavell finds that the scope of liability should be defined as the set of accidents with the "characteristic that, given the circumstances under which the type of accident occurs, the effect of an increase in care in reducing accident losses should be sufficiently pronounced,"[43] with sufficiency of effect defined as covering the administrative costs of including the accident in the scope of liability.

One of Shavell's important results is to show that the probability of an accident has no bearing on whether it should be included in the scope of liability. The following numerical example, taken from Shavell, illustrates the principle. A legal decisionmaker has to decide on the set of accidents for which the defendant, a factory, is held liable. The

---

[41]Gärdenfors, *Knowledge in Flux*, at 11.

[42]Steven Shavell, "An Analysis of Causation and the Scope of Liability in the Law of Torts." *Journal of Legal Studies* 9(3):463-516.

[43]Ibid., 481.

factory has three options for action, and the decisionmaker's job is to induce the factory to take that option that maximizes social welfare by setting the boundaries of the scope of liability. The factory's choices are to operate without controlling emissions, to operate and control emissions, or to shut down. There are three possible states of the world regarding weather conditions: One in which the weather is normal, which has a probability of 90 percent; one in which the weather is bad, which has a probability of 9 percent; and one in which the weather is "freakish," which has a probability of 1 percent.[44] The value to consumers of the factory's output, net of the value of resources used in its production, is 45. The cost of controlling emissions is 9.1.

[44]Shavell makes the point (which the reader can confirm) that these latter probabilities could also be 9.99 percent and 0.01 percent, or 9.999 percent and 0.001 percent, with no effect on the model's conclusions.

Table 5. Accident Losses

		States of World	
Probability:	*.9*	*.09*	*.01*
Actions:	**Weather Normal**	**Weather Bad**	**Weather Freakish**
Operate without controls	loss of 100	loss of 200	loss of 200
Operate with controls	loss of 100	loss of 100	loss of 100
Do not operate	loss of 90	loss of 90	loss of 90

The first-best solution is for the factory to operate and to control emissions, because this results in the smallest social loss, that is, 45 - 100 - 9.1 = -64.1, versus either -65 for operating without controls or -90 for closing its doors (in which case no consumer benefit of 45 is derived). This first-best result is achieved by holding the factory liable for accident losses in both bad *and* freakish weather conditions, with the solution invariant in this case to the probability of the freakish conditions. Shavell writes: "Notice that control of emissions reduces losses only when weather conditions are bad or freakish. Notice also that the levels of loss as a function of the firm's actions are the same whether the weather is bad or freakish; the sole difference, therefore, between pollution losses suffered in these two states is that the latter state is relatively unlikely."[45] All this discussion points back to the principle Shavell is trying to articulate in his article, mainly that the chief determinant of an accident's belonging to the scope of liability is the *effectiveness of precautions* given the conditions under which it occurs, and that this effectiveness is invariant to the probability of those conditions. Therefore, inasmuch as "foreseeability" is interpreted as relating to the probability of events, it should have nothing to do with determining the scope of liability. Low-probability accidents like those occurring in the "freakish" weather of the Shavell example should fall within the scope of liability.

Since Shavell views his project as largely a positive one, he is put in the uncomfortable position of squaring his theoretical argument with the fact that considerations of foreseeability frequently motivate the *exclusion* of low-probability events from the scope of liability in actual judicial decisions. To extricate himself from this spot, he relies on psychological literature suggesting that individuals often have a cognitive bias when it comes to low-probability events, and that the factory's decisions will be based on its (possibly flawed) probabilities rather than the court's.[46] Including "underestimated" events within the scope of liability, then, increases administrative costs without the beneficial

[45]Ibid., 483.

[46]Ibid., 490-491.

impact of a change in agents' behavior. In his later book[47], Shavell would reverse on this view that "it would be best" to exclude such events on grounds of administrative costs, as he had come to realize that excluding such events provides defendants with incentives to deceive the court about what they foresaw, which might add to administrative costs per trial (though still reducing the number of trials); the total effect on administrative costs is thus ambiguous.

The more serious problem for Shavell is that once such a cognitive bias is introduced, the value of the judicial cost-benefit analysis which animates his work becomes suspect. Despite his frequent use of the phrase "first-best" in the "Scope of Liability" article, it is clear that having his way on foreseeability, and squaring it with the substantive law, requires a descent into the murky world of the *n*th-best. If agents are unable to correctly assess low probabilities, then prices fail to correspond to opportunity costs at the margin in any of a number of different markets, and the judge cannot be sure that she is making improvements to social welfare via piecemeal tinkering with the scope of liability.

Perloff's Signalling Model

Jeffrey Perloff's treatment of the issue of foreseeability is couched in his analysis[48] of the rule of *Hadley v. Baxendale* discussed above. Perloff correctly notes in the introduction to his article that the problem of incomplete contracting "could be due to the parties' lack of foresight (bounded rationality), asymmetric information (for example, moral hazard problems), or high costs of contracting."[49] However, Perloff chooses to concentrate on the asymmetric-information explanation and models the contracting situation as a principal-agent problem (while he assumes away moral hazard).

The players are a buyer and a seller/supplier. The seller operates in a competitive industry wherein all firms have identical cost functions, so average cost equals marginal cost, with both a constant . This horizontal line defines the industry supply curve. All competitors produce the same initial product, but buyers want the product customized, a process which takes time. The buyer places a "special order" with a specific seller for customizing and delivery. If enough output is not produced by the supplier, the buyer must wait for the additional units in order to obtain them. The buyer requires Q units by a certain time. She suffers a monetary loss of L(X) where X is the shortfall, and L , L > 0. All parties are *assumed to know* that there exist two states of nature, one occurring (1 -) of the time where all of the output is good, and one occurring of the time where some fraction *r* of the output supplied is defective and useless. Perloff states in an introductory footnote that

---

[47]Steven Shavell, *Economic Analysis of Accident Law* (Cambridge, MA: Harvard University Press, 1987).

[48]Jeffrey M. Perloff, "Breach of Contract and the Foreseeability Doctrine of *Hadley v. Baxendale*." *Journal of Legal Studies* 10(1):39-64.

[49]Ibid., 40.

"we will assume that the true probabilities are known by all agents."[50] The sole asymmetry of information between the two parties is that only the buyer knows the monetary loss L she faces in the event of the shortfall. Thus the problem of unforeseeability is *not* characterized by Perloff as the misassessment of probabilities of breach.

Perloff considers four different rules which affect the profit functions and the output decisions of suppliers. They are the *excuse rule*, the *refund rule*, the *foreseeability rule* and the *no-foreseeability rule*. Under the excuse rule, the supplier is not liable for damages -- he is able successfully to argue that the loss was unforeseeable. Under the refund rule, the supplier must return payment for the defective units. Under the foreseeability rule, the supplier must pay a damages figure corresponding to the monetary loss the buyer *tells him* she will suffer in the event of a breach. Finally, under the no-foreseeability rule, the supplier must pay damages corresponding to the buyer's monetary losses regardless of whether or not she informs him of their possible magnitude.

Under the first two rules the issue of representing unforeseeability does not arise. We do not know about the supplier's expectation-formation because his view of the buyer's loss never enters into his expected profit function. Under the foreseeability rule the situation is no more revealing because in equilibrium, the buyer reveals her potential monetary loss to the seller and a complete contract is written; no process of expectation-formation is required. Under the no-foreseeability rule we finally get a glimpse of the supplier's expectation formation process -- he is *assumed to know* the average damages figure for buyers! We might then ask what is really unforeseeable in this model, because that descriptor *fails* to apply either to the *probability* of breach or to the *extent of possible loss* in the *event* of breach. There is neither bounded rationality nor misassessment in the Perloff model. Perloff is really only describing rules which result in loss-signalling- or no-loss-signalling equilibria, and dressing the model up as a discourse on legal doctrine. Again, the potential wrongdoer in the model foresees, foresees everything, and here foresees everything with the objective probabilities!

The Bebchuk-Shavell Signalling Model

Bebchuk and Shavell, in a later article[51], approach the foreseeability doctrine of *Hadley* in much the same fashion as Perloff did, treating the issue as one of the social efficiency of a valuation-signalling versus a non-signalling equilibrium. Bebchuk and Shavell deal with a population of buyers divided into high- and low-valuation categories (i.e. how they view the value of contract performance). They concentrate on the impact of a limited or unlimited-liability rule on the communication of information about the value of contract performance. Social welfare is defined as the value of contract performance less costs of precaution and "communication costs" of signalling valuation. Sellers are initially assumed to know the population proportions of high- and low-valuation buyers, but this assumption

---

[50]Ibid., 40 n.5

[51]Lucian Arye Bebchuk and Steven Shavell, "Information and the Scope of Liability for Breach of Contract: The Rule of *Hadley v. Baxendale*." *Journal of Law, Economics and Organization* 7(2):284-312.

is later relaxed to allow sellers to be ignorant of the *existence* of high-valuation buyers. This seems a promising approach; the results of the model, however, confirm the efficiency of the *limited-liability* rule of *Hadley*, even (and especially) in the case where the seller is not cognizant of the existence of high-valuation buyers. Unforeseeability, as it is modelled in the Bebchuk and Shavell article, leads to a *confirmation* of the legal doctrine excluding unforeseeable consequences from the contract-breaker's liability.

It is difficult to attack Bebchuk and Shavell on the basis of their representation of unforeseeability; indeed, it is impossible to tell whether they interpret unforeseeability as misassessment or sheer ignorance, because at the point where they discuss this extension of the model their terms are no longer mathematical -- the "ignorance" they describe could be a faulty assignment of zero probability to the share of high-valuation buyers or the complete absence of that category from the seller's cognitive framework. However, one can hold to an interpretation of their view of unforeseeability (that of a zero-probability assignment) which spares them the contradictions inherent in Posner's analysis, and still disagree with their conclusions. If we argue that sellers lack "gaps" in their cognitive frameworks, so that equilibrium theorizing is fruitful, there is still a nagging inconsistency in their evaluation of the unlimited-liability rule.

Bebchuk and Shavell argue that if sellers fail to recognize the existence of high-valuation buyers in a world controlled by the limited-liability rule, their ignorance is irrelevant, because high-valuation buyers will signal their existence so that the damage payments they receive in the event of breach are not capped at the low-valuation level. Sellers will learn that there exist both high-and low-valuation buyers and will adjust their prices accordingly. In a world controlled by the unlimited-liability rule, however, there will supposedly be no signalling by anyone, sellers will assume that they are pricing and utilizing precaution correctly, and the result will be socially suboptimal. High-valuation buyers, protected by the unlimited liability rule, will not signal their high valuation because that will cause them to face a higher, more actuarially fair price. Low-valuation buyers will not identify themselves because "they would not obtain a discount" and signalling entails communication costs.[52] Of this result I am less confident. Low-valuation buyers, like high-valuation buyers, are confronted in this market simply with an *absence of price dispersion*. If *they* know about the existence of other classes of buyers (which it is assumed they *must*, if the option is available to them to differentiate themselves by signalling -- differentiation must have some recognizable significance to the buyer-players in the social game), but see the *absence* of multiple pricing tiers, then some signalling may in fact take place. While high-valuation buyers will not signal their existence (under an unlimited-liability rule they are indifferent between performance and breach), low-valuation buyers *may* signal their existence because they aren't sure on *which* valuation level the price is actually set, and may expect a discount to be the reward for speaking up and finding out. There simply isn't enough structure on the commonality of knowledge in the Bebchuk-Shavell model to be able to rule this situation out.

In addition to this more immanent criticism of Bebchuk and Shavell, there is (as

---

[52]Ibid., 305.

above, with Shavell's model) the charge that opening the door to "gaps" in the cognitive frameworks of agents (which exist if we instead assume tht ignorance of high-valuation buyers means mis*perception*) removes all hope that the authors' efficiency pronouncements stand up to the theory of the second-best.

Foreseeability in the Legal Tradition

Foreseeability is a crucial element in much of negligence law, although many legal philosophers, from varying critical positions, have tried to reformulate negligence law around other principles such as causation. Much of their criticism[53] has concentrated on the foreseeability formulation's inability to resolve the nagging type-extent-distinction problem[54], which has injected considerable uncertainty into the application of a foreseeability-based negligence law. There is also dissatisfaction with the notion of foreseeability itself as a guide to decision making, as it shares a position with such enshrined legal concepts as the "reasonable man" in possessing considerable vagueness of meaning. As I show below, however, the set of variant meanings contains at least one element that mainstream economics has difficulty incorporating.

Joel Feinberg, in "Sua Culpa," analyzes the philosophical and epistemic foundations of the notion of *fault* in the law. He characterizes the ways an agent may be at fault (he terms it a "standard legal classification") in terms of three categories: intentional wrongdoing, recklessness, and negligence. In doing so he parses the multiple situations under which an agent may create an unreasonable risk. The knowing creation of an unreasonable risk is called *recklessness*; *negligence* applies to "unknowingly but faultily creat[ing] such a risk."[55] Under his classification there are a number of situations falling under negligence:

> There are a large number of ways of "unintentionally but faultily" creating an unreasonable risk. One can consciously weigh the risk but misassess it, either because of hasty or otherwise insufficient scrutiny (rashness), or through willful blindness to the magnitude of the risk, or through the conscientious exercise of inherently bad judgment. Or one can unintentionally create an unreasonable risk by failing altogether to attend to

---

[53]See e.g. Allen M. Linden, "Down with Foreseeability! Of Thin Skulls and Rescuers." *Canadian Bar Review* 47(4):545-572.

[54]This problem can be described as follows: Agents have been held responsible, under the rule of *Smith v. Leech Brain & Co. Ltd.*, for the full *extent* of all *types* of harm that were foreseeable results of their negligent actions. Yet this is not a sufficiently clear distinction. Is an explosion a severe extent of a type of harm, say a fire, or is it a different type entirely? This muddiness has left the foreseeability basis for negligence empty as a guide to applying or predicting rules or judicial rulings.

[55]Joel Feinberg, "Sua Culpa," in Joel Feinberg and Hyman Gross, Eds., *Philosophy of Law*, 3rd Edition (Belmont, California: Wadsworth, 1986), 514ff.

> what one is doing (the manner of execution), or to the very possibility that harmful consequences might ensue. In the former case, best called *carelessness* or *clumsiness* (in execution), one creates a risk precisely in virtue of not paying sufficient attention to what one is doing; in the latter case, which we can call *heedlessness* (in the very undertaking of the action), the risk is already there in the objective circumstances, but unperceived or mindlessly ignored.[56]

Here in Feinberg is the recognition of *both* kinds of imperfections in knowledge: The assignment of the wrong probabilities to the list of outcomes (misassessment), or the failure to grasp the possibility of (to *list*) the outcome in question (misperception or ignorance). The "failure to grasp" conception is difficult for mainstream economics because it opens the door to a set of arguments mentioned above which undermine the efficiency criteria of economics in general and Law and Economics in particular.

In fairness to Judge Posner, the law comprehends various conceptions of foreseeability, not all of them internally consistent (a discussion of their vagaries constitutes the bulk of Harari's work). As in the passage from Feinberg quoted above, some recognize the active weighing of consequences[57], while some recognize that events and outcomes may completely escape agents' consideration.[58] Still, it is troubling that Law and Economics cannot provide a unifying framework. Some legal scholars also take the troubling approach of evaluating, simultaneously, the rules which determine the extent of liability and the agent's "reasons for knowing," which, in an implicit-price framework, are partly *determined by* the legal rule in use.[59] None of these legal scholars, however, takes the hard epistemic line that neoclassical economics must take, I argue, if it is consistent. Logical omnisicence is not entertained, and in some cases is explicitly rejected.[60] Legal scholars also recognize the distinction between foreseeing an event (as visualizing it) and assigning a probability to it: Fleming writes that

---

[56]Ibid., 515.

[57]As in this selection from Glanville Williams (184): "Perhaps the point can be put in homely language as follows. A man is about to commit some negligent act, when the reasonable observer says to him: 'Don't do that; it's risky'. They then fall into a discussion as to what harm is to be expected, and the actor says: 'Well, at any rate X won't happen'."

[58]As in Lord Atkins' opinion in *Hambro Bros. v. Stokes* ([1925] 1 K.B. 141 at 157): "No doubt the particular injury was not contemplated by the defendant."

[59]Keeton's discussion (in n.60 *infra*) of the exploding rat poison in "The Basic Rule of Legal Cause..." is a perfect example of this simultaneity problem.

[60]As in *Ehrgott v. Mayor, Etc., City of New York* ([1884] 96 N.Y. 264): "Nothing short of Omniscience could have seen... " Also Robert E. Keeton: "To one who knows all, a future event is not 'probable' or merely 'foreseeable' but either certain to occur or certain not to occur..." From "The Basic Rule of Legal Cause in Negligence Cases," Feinberg & Gross, *Philosophy of Law*, 498.

> The *Wagon Mound* charterer, however, fared less well in a subsequent action by the owner of one of the damaged ships. This time, on somewhat different evidence, the trial court found that the officers of the *Wagon Mound* had reason to regard furnace oil as very difficult, though not impossible, to ignite, ... Once the risk was at all foreseeable, how great had to be the odds on it?[61]

Note the sequential-sounding language, which is consistent with the understanding that the foreseeability or visualization of an event is prior to (thus separate from) and necessary for the assignment of a subjective probability to it by an agent. Goodhart writes that "[Damages] may be foreseeable, even though not reasonably expected, for there is sometimes a great difference between foresight and expectation."[62] This is consistent with the case of a listable event being assigned a low probability.

Why Talk About Foreseeability?

This section considers the reasons why Law and Economics might deal with the issue of foreseeability despite the demonstrable conceptual difficulties it creates. One view is that considerations of foreseeability are necessary to the economist's efficiency pronouncements about negligence law rulings. Another considers the possibility that Law and Economics has dealt with foreseeability because of its concern with providing, concept-for-concept, economic justifications (typically efficiency-based) for the rules embodying the common law.

The efficiency approach suggests that we can't attach incentives or implicit prices to outcomes that are not part of agents' decision making frameworks -- this will impose administrative and other costs without changing behavior, which is ineffective and inefficient. But if agents *are* assigning the "wrong" probability to the event in question, this reopens the question of whether we incentivize correctly if we punish them for *assigning* the wrong probabilities. It may be necessary to punish agents for misassessment in order to get their beliefs about the likelihood of accidents and other events to conform with reality. Furthermore, it is not at all clear that economics *can* concern itself with efficiency, let alone use it as a yardstick for doing the work of comparing legal rules.

The other reason Law and Economics considers foreseeability in its theories may be because such concepts are considered in the law, and Law and Economics scholars want to be able to explain everything in economic terms--the "recasting" to which Posner made reference. The Law and Economics research program has sought to match legal theory and scholarship concept-for-concept. It would therefore be a glaring omission if these issues were discussed in the law but were absent from theories explaining the law in economic terms. Yet sometimes, as in the case of foreseeability, its mode of explanation puts it at odds

---

[61]Fleming, *The Law of Torts*, 185.

[62]Arthur L. Goodhart, "The Unforeseeable Consequences of a Negligent Act." *Yale Law Journal* 39(4):455 n.22.

with legal reasoning (or perhaps logic itself).

If Not Wealth Maximization, Then What?

I have suggested that mainstream Law and Economics faces a troubling choice: If it is to deal with foreseeability by adopting the model of cognition that underlies at least some legal scholarship, it must of necessity abandon its chief means of explaining and evaluating legal rules: The principle of wealth maximization. If it wishes instead to maintain a view of knowledge which permits equilibrium theorizing, and thus permits the analyst to make comparisons of equilibrium states, it must accept a sharp discursive and logical break from legal scholarship and reexamine many of its own conclusions about liability rules.

There is an approach to economic analysis, however, which admits all the diverse conceptions of knowledge found in the legal materials and does not find its analytical tools blunted by them. Furthermore, its descriptive and evaluative frameworks already have their counterparts in legal scholarship, notably in the work of Abraham Harari discussed in this essay.

Modern Austrian economics has made a serious attempt to examine social systems in terms of their coordination properties.[63] It is the absence of coordination characterized by the failure of mutually beneficial exchange to occur, rather than inefficiency, which concerns the analyst of the "market process." Institutions, such as the rules of liability, improve coordination because they help to shape agents' expectations about the actions of other agents -- they make planning in a multiperson world easier. Alternative institutional arrangements are evaluated by Austrians on the basis of their ability to communicate improved flows of information to agents when that information is meaningful--that is, when the system is in disequilibrium. Harari's critique of applying foreseeability rules when *many* agents might have reasonably foreseen harm illustrates his similar concern with such problems of coordination, and illustrates the applicability of a "coordination norm" to problems outside the purely economic realm:

> It is logically impossible to achieve a co-ordination of the conduct of individuals by making foreseeability of harm the determinant of what each of them ought or ought not do in a given situation or in given circumstances. On the other hand, where there are co-ordinating rules, whatever the technique by which they are established, the foreseeability test is of course redundant. In short, the non-existence of norms governing the conduct of individuals in a given situation rules out any application of the foreseeability test; the existence of such norms renders the foreseeability test superfluous.[64]

---

[63]See e.g. Israel Kirzner, *Competition and Entrepreneurship*, Chapter 6; Mario Rizzo and Gerald O'Driscoll, *The Economics of Time and Ignorance* (New York: Routledge, 1996).

[64]Harari, *Place of Negligence*, 108.

This essay addressed itself to a threat to the wealth-maximization norm which underlies the efficiency approach to describing and evaluating the common law; works by other analysts have attacked the efficiency approach for conceptual difficulties involving time, and for its inability to provide a stable institutional framework.[65] Clearly the vulnerability of the efficiency framework to such challenges suggests that a different approach might be taken. It is submitted that modern Austrian economics, with its focus on coordination and the role of institutions in transmitting information to agents acting in disequilibrium, possesses all of the promise and none of the problems of previous analyses.

Austrian Economics, Imperfect Knowledge and Alertness

Austrian economics has dealt extensively with the issue of imperfect knowledge: Hayek's insight into the division of knowledge in society is one of the most widely recognized (if frequently misunderstood) contributions of the modern Austrian paradigm.

While Austrians would point out that deliberate information-gathering is a costly process, and therefore any agent's data is possibly incomplete, the deliberate gathering of information does not exhaust the set of possible modes of information-gathering. Furthermore, knowledge can be incomplete for reasons unrelated to the costs of information. Agents can fail to have the complete view of their problem-environment, and thus can be unaware of their own ignorance. This ignorance leads to arbitrage opportunities for other agents who are *alert* to the possibility that, for example, all gains from trade are not being exhausted. The possibility of gaining profit through arbitrage "switches on" entrepreneurial alertness. As Kirzner writes, "I have already remarked that we do not know how entrepreneurs experience superior foresight, but we do know, at least in a general way, that entrepreneurial alertness is stimulated by the lure of profits. Alertness to an opportunity rests on the attractiveness of that opportunity and on its ability to be grasped once it is perceived."[66] Alertness is not an allocative process -- alertness is not deployed, it "has nothing to do with the comparison of alternatives."[67]

I argue that a view of unforeseeable events as examples of sheer ignorance will militate towards a regime of strict liability, on the grounds that imposing liability will switch on alertness to opportunities for avoiding accidents and thus avoiding accident liability. It will lead to opportunities for potential injurers to discover and correct errors in their valuation of resources spent on precaution. In contrast, under a negligence regime where liability is restricted to "reasonably foreseeable" events, the opportunity to avoid a low-probability, novel or otherwise "unforeseeable" accident is not necessarily attractive to a potential injurer because he is indifferent between the accident's occurring or not. In fact, vigorously *denying* he perceived any opportunity to avoid the accident is the better strategy for the defendant under a negligence regime. The imposition of liability creates the

---

[65]Mario J. Rizzo, "Law Amid Flux: The Economics of Negligence and Strict Liability in Tort." *Journal of Legal Studies* 9(2):291-318.

[66]Kirzner, *Perception, Opportunity, and Profit*, 11.

[67]Ibid., 11.

opportunity to gain by avoiding that liability (a cost eliminated is a benefit) and thus switches on alertness to that opportunity -- and not just among the class of potential injurers. The market for precautions is also energized by a strict-liability regime.

It is suggested, then, that either of the two approaches which might be taken by Law and Economics in its conceptualization of unforeseeable events -- misassessment or sheer ignorance -- leads to strict liability as an attractive doctrine. If agents can foresee all possible contingencies but mistakenly assign low probabilities to them, only the imposition of liability will change their attitudes towards taking precaution -- updating priors will achieve nothing in a no-liability regime because the implicit prices of the undesirable outcomes will not have changed. On the other hand, in the framework which treats unforeseeability as sheer ignorance or misperception, imposing liability switches on alertness to opportunities to avoid that liability by avoiding accidents.

Addressing Legal Scholarship: A Duty to Be Alert?

Focusing on legal scholarship, we can see that Lord Wright's discussion of *Polemis*, with his suggestion that agents are under a "duty to be aware," might derive from a logic similar to Kirzner's arguments about entrepreneurial alertness and action. Wright wrote: "... the criterion of negligent conduct is reasonable foreseeability of harm to the other person. That may seem a very vague and indefinite basis but it establishes a sufficient principle of definition to be applied in judging the facts. Negligence is failure to use due care in regard to the other party's particular interest. Due care necesssarily involves either awareness of the potentiality of danger to him if the act is done or, more precisely, not necessarily awareness in fact but a duty to be aware -- reasonable or imputed awareness."[68] Commenting further, he clarified "reasonable awareness": "awareness means the imputation of reasonable awareness of danger affecting the plaintiff on the assumption that he is normal, that is, in the absence of awareness of any particular susceptibility..."[69] This duty to be aware is not the central point of Wright's essay, but it raises very interesting questions. Given the statements we might be entitled to make about the value of awareness of, or alertness to, new sources of harm, why not suggest that agents *should* act under a duty to be aware or alert?

As noted above, penalizing agents for the *breach* of a duty to be aware might look like strict liability. Agents would be held liable for any harmful consequences of their negligent acts, because of their duty to keep themselves alert to the possibility of avoiding those harmful consequences. The burden thus would fall to them to perceive how to avoid harms and to avoid them.

Would a duty to be aware or alert be dominant or subservient? The world does not exhibit complete stability. New technologies -- new sources of harm -- new circumstances defining the particular subservient duties, may cause new *particular* duties to arise. Agents may respond to the changing circumstances of their environment by retaining some flexibility in their cognitive frameworks. This *alertness* to *new* sources of harm, however, is

---

[68]Wright, "*Re* Polemis," 400.

[69]Ibid., 400.

more general than particularistic, more dominant than subservient. I would elevate the duty to be aware (or *alert*) to the same (dominant) status as the duty to avoid harm to others because of its logical priority, especially in a world characterized by novelty. We cannot dispose of the duty to avoid harm, however; if we did we would be leaving alertness to exist for its own sake.

Would *economics* suggest that the duty to be aware is dominant, or subservient and thus dependent upon circumstances (like costs)? A duty to be aware or alert is distinguishable from a "duty to know" because it does not directly dictate a resource allocation decision. What is the cost of imposing liability (based on a duty to be aware) which "switches on" the *state of mind* that opens the agent's perceptions to different possibilities? Which does not involve the conscious deployment of existing information (and thus the conscious sacrifice of alternative objects of choice) or the deliberate (costly) gathering of new information, but instead the passive intake of information and the willingness of the agent to reevaluate her problem-environment? It costs the agent nothing, in the traditional economic sense, to keep her cognitive framework flexible, whereas the imperative "know X" compels her to engage in a deliberate, costly process of information-gathering. Traditional economics would suggest that the costs of following a duty to "know X," in contrast to a duty to "be open to the possibility of X," might render the fulfillment of that duty to know antagonistic to other goals, and thus imply that it is not on a par with the dominant duty of wealth-maximization. A duty to be aware incurs no such costs.

Addressing the Substantive Law

This essay was not an exercise in positive economics. It was an attempt to address on an analytical level some contradictory elements in the mainstream economic analysis of law, with particular regard to foreseeability. While it suggested that mainstream Law and Economics is out of step with a significant portion of mainstream legal scholarship on conceptualizing imperfections in knowledge, it did not attempt to suggest that the body of laws themselves (which serve as the set of observations for economist and jurist alike) stand as a coherent example of the pursuit of an economic logic, conscious or otherwise, by their creators. I am bound by no methodological commitment to argue that the laws necessarily represent (say) efficiency-enhancing rulings, and I am thus free to criticize them.

Before proceeding to a discussion of the law itself, a final word for the coordination norm is perhaps appropriate: It should have become apparent by this point in the analysis that the coordination norm does *not* force us to choose between representations of imperfect knowledge. The misperception or sheer-ignorance view of unforeseeable events, which offers despair for the equilibrium-based wealth-maximization project, does no damage to the coordination norm utilized by the process theorist. Moreover, nothing about the mis*assessment* view is inconsistent with the use of the coordination norm, and thus an approach relying on coordination represents a *broader* possible view of comparative legal systems, encompassing different approaches to dealing with imperfect knowledge in the economic analysis of law.

As for the law itself, the doctrine of foreseeability in negligence is still very much alive. While much of the law has moved to a view of strict liability (for example, in products liability law) consonant with the coordination-based approach, the view towards strict

liability suggested by this essay is not completely reflected in "the way things turned out" in the law. This is understandable. The *contrary* development of the law can perhaps be traced to views of *culpability* based on conscious choice. The main point of this essay is not to discuss what the law *is* about if it is *not* about economics, but it must be recognized that the law has always been shaped by particular moral considerations as well, perhaps to a greater extent than by considerations of coordination or wealth-maximization. Fleming notes that 19th-century legal theory eventually did away with the broad application of strict liability (deformed though even *it* was by the bizarreries of immunity), replacing it with the doctrine of "no liability without fault."[70] Much philosophical debate has gone into the issue of distinguishing between aspects of responsibility[71], and voices still can be heard saying that if the law fails to align with moral intuitions its social value will be undermined (this is Baron's argument). Many of those intuitions revolve around the notion of fault inhering in *acts*; the failure of fault or praiseworthiness to be associated with *omissions* (a common occurrence) is thus comparable to the failure of fault to be associated with an improperly alert *state of mind*. They share a common root in public perceptions.

The failure to recognize the moral acceptability of *punishment* for a *lack* of alertness is parallel to the failure to recognize the moral acceptability of *reward* for the *possession* of alertness. There is a strong trend in popular thinking that resources must somehow be expended before reward is justified; the fact that alertness is not deployed leads to the notion that gains from alertness are undeserved windfalls. As Kirzner notes, there is an important distinction between a windfall occurring as a result of sheer luck and the discovery, through alertness, of an opportunity for gain. But for the agent's alertness in the second case, the opportunity might have gone unperceived indefinitely. Nothing inherent in the opportunity would cause it to be revealed without the perception of some agent, perception which is reflective of human motivation. The agent *creates* the opportunity through his alert perception or discovery of it, and thus deserves to reap the gains of his creation. Agents frequently chide themselves for having "stupidly" failed to grasp an opportunity that stared them in the face, as though the failure to grasp the opportunity were attributable to something *other than* "bad" luck.[72] A duty to be aware, which shifts liability to those who failed to grasp opportunities to avoid the harm which resulted, could rely (were it necessary) on such notions of culpability for its moral force.

Away from philosophy and back to law: Foreseeability has long been a treacherous area of the law to navigate. As mentioned above, the type-extent-distinction problem has plagued many jurists and serves still to sharpen the criticisms of those who seek to reformulate tort and accident law on causal principles. Richard Posner and his students and colleagues, rejecting the causal approach, made a valiant attempt to "recast" a form of

---

[70]Fleming, *The American Tort Process* (Oxford: Clarendon Press, 1988), 7.

[71]See e.g. H.L.A. Hart, "Responsibility." *Law Quarterly Review* 83 (1967), reprinted in Feinberg and Gross, *Philosophy of Law*, 474-482. See also Feinberg's "Sua Culpa," n. 55 *supra*.

[72]Kirzner, *The Meaning of Market Process*, 219-220.

jurisprudence around the principle of wealth-maximization, but once again were vanquished by the unforeseeable. A new approach to the economic analysis of law has a place for the unforeseen consequence, and a representation of it which corresponds to our reflections about imperfect knowledge (and those of many legal scholars); however, the presence of the unforeseeable leads, in the new framework, not to the limitation, but to the extension of liability to all harmful consequences proximately caused by the agent's act. Cases, elements of the substantive law, which use the notion of unforeseeability as a limitation on the extent of liability (such as *Palsgraf*[73] and its sister cases), thus must properly be viewed under the new framework as getting it backwards. Where the existence of unforeseeable consequences belongs in the law's considerations *at all* (and it is not really necessary that it be considered), it should militate towards the extension of liability in order to switch on alertness to opportunities to avoid harm.

[73]Though it is debatable that unforeseeability *per se* drove Cardozo's ruling in this case, or more so than considerations of whether negligence is "in the air" or relative only to a particular interest. *Palsgraf* is quite the misunderstood case in this respect, also inasmuch as its place within the canon on causation in the law (Cardozo said it had nothing to do with causation) comes from Andrews' *dissent*.