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Torts is not my field. But in one sense neither is it Guido Calabresi's, although he is a professor of tort law at the Yale Law School. In neither *The Costs of Accidents* nor the series of earlier articles1 of which the book is a summation and amplification will the reader find more than passing mention of the rules and concepts that constitute the body of accident law or of the procedures and institutions by which that law is formulated and applied.2 Few cases are discussed and, if I recall correctly, no statutes.

To note the untraditional character of Calabresi's concerns is not to criticize, but to mark a new direction in legal scholarship. It is no secret that many law professors have lost interest in the traditional undertakings of legal research. These were, by a close reading of cases, to determine what the law was and what it should be. The two inquiries were really the same. In both cases, one first sought to isolate the basic premises or policies underlying an area of the law by a close reading of judicial opinions (and, where applicable, statutes and legislative history) and then compared the specific rules of law developed by the courts with these premises. If a rule was found to be inconsistent with the premises, it was rejected as an aberration or, if too well established for that, as bad law. To be sure, rules were sometimes found wanting on grounds other than inconsistency with the dominant policies in the field—usually these had to do with the fact-finding or remedial limitations of the judicial process—but for the most part logical consistency with premises derived from legal documents was the

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2 The only extended discussion of cases in the Calabresian oeuvre is in Some Thoughts on Risk Distribution and the Law of Torts, supra note 1, at 534-53; and the discussion is limited to a few special doctrines. The central concepts of the fault system—negligence and contributory negligence, causation, standard of care, etc.—are not involved.
touchstone of analysis. Legal scholarship consisted of the interpretation and logical elaboration of legal materials.

This is not the complete story, because from at least Brandeis' time there was also a branch of legal scholarship that emphasized facts rather than logic, generally facts that demonstrated that the premises of a body of law were out of touch with contemporary social reality. They can more accurately be described, however, with no invidious intent, as anecdotes. The "facts" marshalled by Brandeis and other fact-oriented legal reformers were for the most part stories (not necessarily untrue) told to legislative committees, rather than a product of rigorous empiricism.

The limitations of textual analysis, logic, and anecdote as tools of inquiry should be apparent. But they do not explain why the traditional approach has fallen into disfavor among a number of legal scholars. One displaces a scholarly approach not by showing that it has limitations but only by producing a better approach.\(^3\) Today there are legal scholars—I would guess a growing number—who believe that over a broad range of subjects they will make greater progress utilizing the theories and empirical procedures of the social sciences than continuing to depend exclusively on the methods of traditional legal scholarship.

In what has been my own field of primary interest, antitrust, this displacement of emphasis is already far advanced. Few antitrust scholars believe any more that sound rules of antitrust can be deduced from the statutes or leading cases; and a celebrated piece of debunking has cast the anecdotal method into some disrepute.\(^4\) One now finds substantial and explicit use of economic theory\(^5\) and at least one example of the use of quantitative methods to describe and analyze the enforcement of the antitrust laws.\(^6\) But antitrust is an unusual field: Not only have economists made significant contributions to it,\(^7\) but there is even a tradition of collaboration between lawyers and economists on research into antitrust questions.\(^8\)

\(^3\) Cf. T. Kuhn, The Structure of Scientific Revolutions (1962).
The Costs of Accidents is an ambitious effort to employ a social science perspective (again that of economics) in a field of law in which, when Calabresi started his work, there was no supportive tradition, no pioneering work by economists or other social scientists, on which to rely. In its bold break with conventional legal analysis of tort questions, Calabresi’s work may be a portent of the future direction of legal scholarship in fields that, unlike antitrust, remain bastions of the traditional approach.

By this time the reader must be impatient to find out what exactly the book has to say. Its salient points can be summarized briefly.

Accidents impose costs. These costs, in the Calabresian terminology, are primary (personal injuries and property damage), secondary (economic dislocation resulting from failure to compensate the victim of an accident), and tertiary (the costs of administering any scheme designed to reduce primary and secondary accident costs). The object of accident law or policy should be to bring about the socially preferred accident-cost level, subject to the constraint that the methods chosen to do so be consistent with “justice.” In practice this constraint turns out to be rather unimportant; as Calabresi points out, the notion of what is a just accident policy is likely to be strongly influenced by its success or failure in coping with the problem of accident costs. Notice that the goal is not to minimize accidents or accident costs, unless by accident costs we mean costs net of any benefits. Traffic accidents could be eliminated by banning motor vehicles. But the price would be too high. The goal, rather, is to optimize accident costs.

Its attainment is complicated by the reciprocal character of the components of those costs. A plan that reduced secondary costs—for example, a scheme of compulsory social insurance against accidents—might increase primary accident costs by reducing the incentive to avoid an accident. A plan designed to reduce accidents by (say) forbidding liability insurance would concentrate accident costs and thereby aggravate the secondary-cost problem. Schemes to reduce tertiary (administrative) costs could increase both primary and secondary costs. And so on. The obliviousness of most accident-law reformers to these reciprocal relationships, and in particular to the effects of secondary-cost-reduction schemes on primary accident costs, provides Calabresi with some occasions for highly effective polemic.9

But there is a hitch in his demonstration of reciprocity. It is not obvious that the problem of secondary costs is not adequately taken care of by the availability of medical, life, and disability insurance, in which event we could largely forget about that problem and con-

9 See especially pp. 6-23.
centrate on primary accident costs. Calabresi is aware of this objection and answers that people, by reason of a psychological quirk, simply will not insure adequately against accidents; they do not take the risk of serious personal injury seriously. As we shall see, this is not a satisfactory reply. But the point is not crucial at this stage (it will become so later) since, as a matter of fact, Calabresi devotes most of his book to discussing how to optimize primary accident costs.

He distinguishes two basic approaches. The first is the market, or in his terminology "general deterrence," approach. In its pure form, the market approach involves no government regulation of accident-producing activities at all; the level of accidents is determined entirely by voluntary arrangements among members of society. Thus, the number of coal miners killed each year would be a resultant of the demand for coal, the attitude of coal miners toward risk, the costs of safety devices, and the costs of other inputs. If the demand for coal was very large, if safety devices were very costly, and if the supply of coal miners willing to work for moderate wages despite highly dangerous conditions was also large, then the mortality rate among coal miners would be relatively high. But suppose instead that prospective coal miners are highly risk averse. They will demand very high wages, or safety devices, or both. This assumes that they are informed of the risks associated with coal mining, but the assumption is reasonable. Just as product markets provide consumers with the information necessary to enable them to choose a product (more on this shortly), so the labor market should provide workers with the information necessary to enable them to choose a job whose risk (and other) characteristics accord with their preferences. Further, the collection of safety information is an important function of unions.

The costs of mining coal will now be higher and the output smaller, unless coal operators can readily substitute other inputs for labor. Either way fewer miners will be employed; perhaps there will be safety devices, too. Mortality in the mines will be reduced. The important point is that whatever the risk preferences of miners may be, the level of mine accidents will be determined by voluntary transactions in the marketplace.

10 He gives other reasons for doubting the efficacy of private insurance (see pp. 55-64): Individuals lack knowledge of risk; they don't insure enough because they think society will pick up the tab for many of their accident costs; and the establishment of different risk classes by insurance companies might lead to very high premiums for some people, and thereby in effect concentrate the costs of accidents heavily on those groups. The importance and magnitude of these factors are wholly unclear. And Calabresi may himself regard them as makeweights, since in later discussion he relies exclusively on the psychological quirk mentioned in the text. See, e.g., pp. 206, 220.
Unfortunately, it costs something to negotiate in the marketplace, and on occasion the costs of voluntary arrangements determining the number of accidents may be prohibitive: Pedestrians cannot get together and negotiate with drivers in the same fashion that coal miners can with coal operators (although the private owner of a toll road might be able to carry on such negotiations implicitly). Where, as in this example, private contracting is precluded by high transaction costs, it may still be possible, through law, to simulate a market result. The trick is to impose the costs of the accident on that participant or contributor who, by a change in his activity, can reduce those costs net of any benefits. This will produce the same result as would private contracting. However, for reasons first explained in a classic article by Ronald Coase and well summarized by Calabresi, it is not always an easy trick to pull off because it may be unclear which accident contributor should be induced to alter his activity. A rule making the driver always liable in a car-pedestrian accident might induce auto manufacturers to install safety devices in instances where a cheaper way of avoiding the same number of accidents might be to build pedestrian overpasses.

The problem just discussed does not exist in all accident contexts. Where there is a contractual relationship between the potential accident participants, as there is, for example, between an airline and its passengers and crew, the level of safety and compensation for accidents can be negotiated just like any other aspect of the relationship. (This would be true of traffic safety in general if the right of access to the roads were sold to each individual pedestrian and driver.) Calabresi, to be sure, argues that such negotiations cannot be depended upon to produce a socially acceptable accident level. He argues that the individual (passenger or crew member in my example) will systematically undervalue the risk of an accident, first, because of the psychological quirk mentioned earlier, and second because individuals lack good information. But he presents no evidence in support of either ground, and they are not self-evident. A distinguished contemporary philosopher has constructed an entire concept of justice on the assumption that people, far from being reckless in their evaluation of risks, are profoundly risk averse. And the individual's initial state of ignorance in safety matters should not be a serious problem in a competitive economy. Let consumers be ignorant of the safety hazards presented by rotary mowers; one would expect the sellers of other mowers, who have every incentive to inform consumers of those dangers, to take steps

to dispel that ignorance. In sum, I think Calabresi erred in treating "accidents" as the category of analysis. He should have reserved accidents occurring in the course of a voluntary relationship for a different book: a book on contracts.

Calabresi's criticism of the market or general-deterrence approach to the problem of primary accident costs sets the stage for a discussion of the alternative approach, "specific" or "collective" deterrence. The term means direct public regulation of safety, as in traffic rules and in laws requiring the installation of seat belts in all new cars. The distinction between market and collective deterrence is unfortunately quite unclear. Some types of safety regulation, such as traffic rules, can, it seems to me, be explained better in market-deterrence than in collective-deterrence terms. Imagine a state in which the highways were privately owned and there were no traffic laws. One would expect the highway owners to establish rules of the road, speed limits, and the like for the same reason that auto manufacturers installed some safety devices even before they were required by law to do so: in order to promote use of their product by meeting the user's demand for safety. These rules might be laxer or more stringent than those imposed by governments; my point is only that many safety regulations, and specifically the traffic regulations that loom large in Calabresi's discussion of specific deterrence, need not reflect any dissatisfaction with the level of accidents determined by the market. These regulations are imposed by the community because the community is the proprietor of the transportation facility, the road.

Even where the government is not a proprietor, its safety rules may instance market rather than collective deterrence. Whether rules defining the circumstances under which an activity will be deemed negligent are formulated by courts in the decision of particular cases or by legislatures is surely a detail. Collective deterrence, as a functionally distinct mode of regulation, comes into play when the government decides that the violator of a rule shall be made to pay a fine or be imprisoned rather than merely held liable for any injuries or damage that he may cause. This determination may reflect a feeling that the payment of money to an accident victim in exchange for killing or injuring him is an inadequate surrogate for a voluntary transaction (the purchase of the victim's body) and that we should therefore reduce the occasions on which people are forced into such exchanges.

Safety-belt and mine-safety laws instance a distinct form of collec-

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tive deterrence. Their rationale is pure paternalism. They force people to pay more to protect themselves (not strangers) than they would voluntarily pay.

Calabresi concludes that a mixed system of general and specific deterrence is desirable, although he does not indicate in what proportions because he regards that as a mixed empirical and political question. Having established the goals and methods of accident control, he then asks whether the prevailing system of accident control in this country, the "fault system" (negligence law), is a rational system for optimizing accident costs. He concludes that it is not. The fault system not only ignores the problem of secondary costs, save by permitting private insurance (the inadequacy of which, as we saw, was asserted by Calabresi earlier in the book); it actually aggravates them by delaying compensation until the conclusion of an often lengthy jury trial or settlement negotiation. The dependence on costly and time-consuming judicial processes also multiplies tertiary (administrative) accident costs.

The fault system is not good at optimizing primary accident costs either. The notion of "fault" is freighted with moral concepts that get in the way of so allocating liability as to reduce the (net) costs of accidents. Furthermore, liability is determined by the facts of each particular case rather than by those of an entire class of cases. Moreover, the judge considers only who between the parties before him is better able to reduce accident costs, although someone not before the court at all (e.g., the auto maker) might be best. And in cases where it is not clear who is the best cost avoider, judges never consider imposing liability on the party best able to arrange a market transaction by which liability would be shifted to a better cost avoider. Finally, the ability of the fault system to devise discriminating rules of liability is limited by the degree to which insurance companies find it commercially feasible to establish different risk classes.

Calabresi concludes that the fault system is "absurd" and "ineffective" as a system of accident control. But while asserting that we could do better, Calabresi proposes no alternative system. The last part of his book is devoted to an inconclusive discussion of the same proposals for reform with which he opened. He finds that they cannot be accepted or rejected without further study.

So brief a summary of *The Costs of Accidents* cannot do justice to the author's graceful if somewhat sinuous and elusive style or to the excellent if sometimes protracted discussions of detail with which the book abounds. But it can indicate the dominant characteristics of his approach, which are two: reliance on economic theory, and a weak

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14 Pp. 276, 316.
sense of fact. His debt to economic theory is most obvious in the use of a variety of economic doctrines to establish key points in the analysis: to show why wide cost spreading might not increase the welfare of society, why schemes of secondary-cost reduction could impair incentives to avoid accidents, why the complete elimination of accidents would not promote welfare, what the market can and cannot do to bring about a socially preferred level of accidents, how the presence of monopoly might alter the analysis, and in a host of lesser ways. At several points I find myself in disagreement with his use of economic doctrine. The unwillingness of contemporary economists to ascribe an automatic increase in total welfare to any redistribution of income from a wealthier to a poorer person stems not from rejection of the assumption of the diminishing marginal utility of income, but from recognition that the interpersonal comparison of utilities is arbitrary. If a wealthier person's marginal utility curve happens to be higher than the poorer person's—if he gets more pleasure from a given increment of income—a redistribution of income from the wealthier to the poorer may actually diminish total utility even though both curves are downward sloping. And I have already mentioned my disagreement with Calabresi's tacit assumption that competing firms will not supply information needed by customers or employees to make intelligent choices of what to buy or whom to work for. But on the whole, Calabresi's handling of economic doctrine seems, to me at least, highly competent.

Calabresi's debt to economic theory is greater than I have indicated. That theory supplies the very structure as well as the details of analysis. The form of The Costs of Accidents is that of "cost-benefit" or "systems" analysis. These terms describe techniques of applied economics that involve (1) an initial specification of goals, (2) the arraying of alternative methods of achieving these goals, and (3) the costing out of each alternative. Calabresi begins by setting forth the goals of accident law, which he derives not from tort cases or other legal materials but from broad considerations of social policy. He then describes the full spectrum of alternative methods for achieving these goals; and this procedure immediately carries him beyond the conventional bounds of tort doctrine into areas usually thought to belong to the administrative and criminal law fields. Although he never actually costs out these alternatives, it is significant that his analysis is cast in terms of comparing their costs and that he subordinates considerations (such as "jus-

tice”) that are not susceptible of precise and objective description. In principle, his analysis could provide a framework for a quantitative evaluation of alternative accident-control schemes: at least, the considerations relevant to evaluation have been carefully marshalled.

The utilization of this systematic procedure to bring elementary but profound insights of economic theory to bear on the accident question proves a powerful forensic and analytical machine with which Calabresi easily sweeps rival approaches, employing more conventional legal analytic methods, from the board. He demonstrates that these methods overlook important consequences of different accident control schemes, proceed on no coherent theory, and provide little useful guidance to policy makers; and that an approach grounded in the procedures and theorems of economics offers greater promise. This is the heart of his achievement. His failure is in exaggerating the utility of the economic (or any other) approach when uninformed by facts.

One sees this most clearly in his discussion of the fault system. I noted previously the strong language in which Calabresi rejected the possibility that the fault system might approximate the model of an effective accident-control system that emerges from his analysis of goals and alternative methods for achieving them. But his reasoning is analytic rather than empirical and the analysis is not compelling. That “fault” is not a term that an economist seeking to optimize accident costs by identifying the cheapest accident avoider would use is hardly dispositive. An economist with a taste for reading tort cases has argued that judges applying the “reasonable-use” standard of nuisance law were attempting, if perhaps artlessly, so to assign liability as to minimize the net social costs (or what is the same thing maximize the social product) of interfering activities. Could not the reasonable-man standard of accident law conceal a similar endeavor? The question cannot be answered by reference to a dictionary. My point is not that the language used in the judicial decisions should be disregarded, but that terms as inherently ambiguous as “fault” and “reasonableness” require interpretation.

17 What makes this somewhat deceptive, however, is that, as Calabresi recognizes (see p. 28, n.6), one of his cost components—secondary costs—are not real costs in the economic sense and cannot therefore be compared directly with primary and tertiary costs, which are. A secondary cost arises when an accident victim is not compensated (see p. 21). Now it hardly makes sense to reckon the accident costs of uncompensated victims as twice those of compensated victims. If, however, the secondary costs sustained by an uncompensated victim whose primary accident costs (in loss of earnings, medical expenses, and pain and suffering) are (say) $20,000 are not $20,000, then what are they? And what are his total costs? It may be important to compensate accident victims but the economic costs of not doing so are hard to pin down. Perhaps they are normally zero.

18 Coase, supra note 11, at 19-28.
Nor is it clear a priori that in deciding tort cases judges consider only the relative abilities of the particular parties before them to minimize net accident costs. It is open to a party to prove that not it but a stranger to the proceeding—the manufacturer of the automobile, the contractor who built the roadway, the city that installed (or failed to install) the traffic signals—was the one “at fault,” or to seek contribution from some other party, alleging it to be a joint tortfeasor. And perhaps the experience accumulated in a series of trials involving accidents of similar types does enable insurance companies to identify accident-prone activities, people, procedures, and equipment and fix premiums accordingly. Although their willingness to differentiate will be limited by the costs of differentiation, that would be a feature of any scheme of accident control. A more disturbing characteristic of present insurance practices is that the accident costs of the most dangerous drivers are systematically shifted to the less dangerous. Compulsory-insurance schemes now widely in force require insurance companies to insure, at rates not much above normal, those drivers whose driving records or other characteristics make them such poor risks that no company would voluntarily insure them at rates that the driver would be willing to pay.19 Such insurance is written at a loss, the deficit being made up by the companies’ other policyholders.

With features such as these, the fault-cum-insurance system is open to valid criticism. But a compulsory-insurance scheme that encourages accidents is not inevitable. We could if we wished require that drivers obtain adequate liability insurance at whatever was the competitive rate for their risk group—this to assure that the costs of their accidents be made costs to them—and simply bar from the roads any driver who failed to obtain that insurance. Otherwise we are subsidizing accidents: more concretely, permitting people to kill and maim without bearing the costs of such conduct. The weakness is not in the fault system; it is in the public regulation of the insurance industry.

While it is apparently true that the ratio of administrative overhead to claims paid is higher in the fault system than in most nonfault social or private insurance schemes, that is the wrong comparison. The fault system has a function beyond compensation: the deterrence of accidents. However large the administrative costs of the system in relation to the compensation paid under it, they may be well worth incurring if the tort system is responsible for even a small reduction in the accident rate—traffic accidents alone cost society billions of dollars

every year—unless the same deterrence could be obtained at lower cost by the use of another system. Finally, since I reject Calabresi's assumption that people are psychologically incapable of voluntarily protecting themselves by insurance—pitting my intuition against his; neither of us has evidence—I conclude that the fault system need not entail an intolerable problem of secondary accident costs.

My argument is not that the fault system is in fact superior to alternative systems of accident control but that a judgment is impossible without studying how the system operates. Economic theory will help us to design the necessary studies, but in this instance at least, it will not yield the answer in advance. Calabresi's leap to judgment is the more surprising in view of his failure to specify an alternative accident-control system and his unwillingness to reject proposals for reform that—as he shows so convincingly—themselves rest on shaky conceptual foundations. As with Hamlet's emotions toward his mother, so with Calabresi's rejection of the fault system: the explanation must be sought outside the text.20

The book, in short, furnishes a useful perspective on the problem of accident control but not a predicate for deciding between competing solutions, and this I suspect will be a frequent characteristic of the new version of legal scholarship exemplified by The Costs of Accidents; at least it is a major pitfall. A taste for proposing new organizing principles need not be accompanied by interest in devising methods of empirical research that will enable us to use those principles to add to our knowledge of how the legal system operates and could be improved. Indeed, it may imply a lack of interest in a useful and familiar if insufficient technique of empirical legal research: the close reading of cases.

The history of legal scholarship is full of false starts. The promises of the Legal Realists were never redeemed, and, to move from the sublime to the ridiculous, there is that parody of empiricism called "jurimetrics."21 Calabresi's work is an uncertain portent, too, not so much because he himself has declined to move beyond prefatory statements of general principle as because he apparently considers such statements an adequate substitute for examining how the legal system works.22

Calabresi's defense, offered early in the book, is that "if we waited

21 For its flavor see Jurimetrics (H. Baade ed. 1963).
22 And it is disturbing to note the brief writer's trick of substituting assertions of fact where the evidence fails, as in Calabresi's discussion of people's psychological dispositions or the effects of workmen's compensation schemes.
for such facts [facts concerning the actual operation and effects of accident law] to be adequately proven before we made societal changes, we would rarely if ever depart from the status quo." But one could as plausibly argue the reverse: The status quo that Calabresi so deplores—the fault system—is likely to continue to resist change in the area of his primary concern, traffic accidents, until the alleged shortcomings of the present system are verified by empirical research. This need not mean forever. Empirical research has already proceeded further in the accident field than in most other areas of the law, although one would hardly guess this from *The Costs of Accidents*. Calabresi cites exhaustively to the economic literature on an obscure point of theoretical welfare economics, but he does not enlighten the reader as to the state of empirical research in the accident field. From a casual survey, it appears that the existing empirical work is almost exclusively concerned with the compensation aspect of the accident-control problem. And studies of the level, costs, and timing of the reparations received by accident victims do not illuminate what should be the central question of public policy in this area: whether the fault system is better at reducing the net costs of accidents than alternative systems. But it is possible to conceive of studies that would cast considerable light on this question and need not be of immoderate length, cost, or complexity. Let me suggest three:

1. One could compare accident rates in jurisdictions having different accident-control schemes or rules (are pedestrians more careless in jurisdictions in which contributory negligence is no longer a defense?), and in the same jurisdiction before and after a change in tort law or other relevant institutional change. For example, Saskatchewan has long had a scheme of social insurance for automobile accident victims, and one could compare the accident rate there with that in other Canadian provinces, correcting of course for other relevant differences among provinces.

2. As my colleague Harold Demsetz suggests, one could collect either instances where changes in technology altered the relative costs of accident avoidance and ask whether the rules of liability were changed to conform, or instances where the rules changed and ask whether the

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23 P. 13.
24 See p. 86, n.21.
changes followed technological developments that affected the relative costs of accident avoidance.

3. One could ask how many of the doctrines of accident law currently in force can be deduced from the premise that the purpose of such law is to reduce the (net) costs of accidents.

Perhaps such projects would prove more difficult to undertake than I think. There is ground for optimism in the fact that accidents, unlike some other important subjects of interest to the student of legal institutions, such as collusion, are not covert. At all events, I see no other way of making substantial forward progress in the accident-control area; and perhaps this is a point with general application to legal scholarship.