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## A THEORY OF NEGLIGENCE

*RICHARD A. POSNER\**

**N**EGLIGENCE—the failure to exercise the care of an ordinarily prudent and careful man—has been the dominant standard of civil liability for accidents for the last 150 years or so, in this as in most countries of the world; and accident cases, mainly negligence cases, constitute the largest item of business on the civil side of the nation's trial courts. Yet we lack a theory to explain the social function of the negligence concept and of the fault system of accident liability that is built upon it. This article attempts to formulate and test such a theory, primarily through a sample of 1528 American appellate court decisions from the period 1875-1905.

### I

There is an orthodox view of the negligence concept to which I believe most legal scholars and historians would subscribe that runs as follows: Until the nineteenth century a man was liable for harm caused by his accidents whether or not he was at fault; he acted at his peril. The no-fault standard of liability was relaxed in the nineteenth century under the pressure of industrial expansion and an individualistic philosophy that could conceive of no justification for shifting losses from the victim of an accident unless the injurer was blameworthy (negligent) and the victim blameless (not contributorily negligent). The result, however, was that accident costs were "externalized" from the enterprises that caused them to workers and other individuals injured as a byproduct of their activities. Justification for the shift, in the orthodox view, can perhaps be found in a desire to subsidize the infant industries of the period but any occasion for subsidization has long passed, laying bare the inadequacy of the negligence standard as a system for compensating accident victims. The need for compensation is unaffected by whether the participants in the accident were careless or careful and we

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have outgrown a morality that would condition the right to compensation upon a showing that the plaintiff was blameless and the defendant blameworthy.<sup>1</sup>

There are three essential points here. The first, that the adoption of the negligence standard was a subsidy to the expanding industries of the nineteenth century, is highly ambiguous. It is true that if you move from a regime where (say) railroads are strictly liable for injuries inflicted in crossing accidents to one where they are liable only if negligent, the costs to the railroads of crossing accidents will be lower, and the output of railroad services probably greater as a consequence. But it does not follow that any subsidy is involved—unless it is proper usage to say that an industry is being subsidized whenever a tax levied upon it is reduced or removed. As we shall see, a negligence standard of liability, properly administered, is broadly consistent with an optimum investment in accident prevention by the enterprises subject to the standard. Since it does not connote, as the orthodox view implies,<sup>2</sup> an underinvestment in safety, its adoption cannot be equated with subsidization in any useful sense of that term. We shall also see that many accident cases do not involve strangers to the enterprise (such as a traveler at a crossing), but rather customers, employees, or other contracting parties, and that a change in the formal law governing accidents is unlikely to have more than a transient effect on the number of their accidents. Finally, whether the period before the advent of the negligence standard is properly characterized as one of liability without fault remains, so far as I am aware, an unresolved historical puzzle.<sup>3</sup>

The second major point implicit in the orthodox view is that the dominant purpose of civil liability for accidents is to compensate the victim for the medical expenses, loss of earnings, suffering, and other costs of the accident. Hence, if it is a bad compensation system, it is a bad system. Yet Holmes, in his authoritative essay on the fault system, had rejected a compensation rationale as alien to the system.<sup>4</sup> People, he reasoned, could insure themselves

<sup>1</sup> The various strands of the orthodox view are exemplified by P. S. Atiyah, *Accidents, Compensation and the Law* ch. 19 (1970); Guido Calabresi, *The Costs of Accidents, A Legal and Economic Analysis* pts. 4-5 (1970); Grant Gilmore, *Products Liability: A Commentary*, 38 U. Chi. L. Rev. 103 (1970); Cornelius J. Peck, *Negligence and Liability Without Fault in Tort Law*, 46 Wash. L. Rev. 225 (1971); Herman Miles Somers and Anne Ramsay Somers, *Workmen's Compensation—Prevention, Insurance, and Rehabilitation of Occupational Disability* ch. 2 (1954).

<sup>2</sup> And as is made explicit in Guido Calabresi, *Some Thoughts on Risk Distribution and the Law of Torts*, 70 Yale L.J. 499, 515-17 (1961).

<sup>3</sup> Holmes argued brilliantly that it was not. See Oliver Wendell Holmes, Jr., *The Common Law* 100-05 (1881), and for the same argument in slightly different form, his article *Trespass and Negligence*, 1 Am. L. Rev. (N.S.) 1, 15-20 (1880). Other historical discussions are cited in Cornelius J. Peck, *supra* note 1, at 225-27.

<sup>4</sup> See Oliver Wendell Holmes, Jr., *The Common Law*, *supra* note 3, at 96, 110.

against uncompensated accidents,<sup>5</sup> and there was accordingly no occasion for a state accident-compensation scheme. Holmes left unclear what he conceived the dominant purpose of the fault system to be, if it was not to compensate. The successful plaintiff does recover damages from the defendant. Why? Suppose a major function of the negligence system is to regulate safety. We are apt to think of regulation as the action of executive and administrative agencies. But the creation of private rights of action can also be a means of regulation.<sup>6</sup> The rules are made by the judges aided by the parties. The burdens of investigation and of presenting evidence are also shouldered by the parties. The direct governmental role is thus minimized—a result highly congenial to the thinking of the nineteenth century. Such a system cannot function unless the damages assessed against the defendant are paid over to the plaintiff. That is the necessary inducement for the plaintiff to play his regulatory role of identifying violations of the applicable judge-made rule, proving them, and when appropriate pressing for changes in the rule.

The third essential point in the orthodox view is that negligence is a moral concept—and, in the setting of today, a moralistic one. The orthodox view does not explore the moral roots of fault, but contents itself with asserting that such moral judgments as can be made in the usual accident case are an anachronistic, even frivolous, basis for determining whether to grant or withhold redress. The rejection of moral criteria as a basis for liability follows easily from the conception of the fault system as a compensation scheme and nothing more: it would be odd to deny welfare benefits on the ground that the recipient's misfortune was not the product of someone's wrongful conduct.

Characterization of the negligence standard as moral or moralistic does not advance analysis. The morality of the fault system is very different from that of everyday life. Negligence is an objective standard. A man may be adjudged negligent though he did his best to avoid an accident and just happens to be clumsier than average.<sup>7</sup> In addition, a number of the established rules of negligence liability are hard to square with a moral approach. Insane people are liable for negligent conduct though incapable of behaving carefully. Employers are broadly responsible for the negligence of their employ-

<sup>5</sup> Life and accident insurance was apparently fairly common during our period, at least among workers. See Gilbert Lewis Campbell, *Industrial Accidents and Their Compensation* ch. III (1911). In 1907-1908, some 49 per cent of workers in New York State involved in accidents carried some type of insurance. 1910 Rep't New York State Employers' Liability Commission 101.

<sup>6</sup> A book published by the Association of Railway Claim Agents exhorting railroad personnel to observe safety rules laid down in the book illustrates the regulatory function of private law. R. C. Richards, *Railroad Accidents, Their Cause and Prevention* (1906).

<sup>7</sup> See Oliver Wendell Holmes, Jr., *The Common Law*, *supra* note 3, at 108.

ees. The latter example illustrates an immensely important principle. In less than four per cent of the cases in our sample was the defendant accused of actually being negligent. In all other cases the defendant was sued on the basis of the alleged negligence of employees or (in a few cases) children. The moral element in such cases is attenuated.

Moreover, to characterize the negligence concept as a moral one is only to push inquiry back a step. It is true that injury inflicted by carelessness arouses a different reaction from injury inflicted as the result of an unavoidable accident. We are indignant in the first case but not the second. The interesting question is why. What causes us to give the opprobrious label of careless to some human conduct but not other and to be indignant when we are hurt by it? The orthodox view gives no answer.

## II

It is time to take a fresh look at the social function of liability for negligent acts. The essential clue, I believe, is provided by Judge Learned Hand's famous formulation of the negligence standard—one of the few attempts to give content to the deceptively simple concept of ordinary care. Although the formulation postdates the period of our primary interest, it never purported to be original but was an attempt to make explicit the standard that the courts had long applied. In a negligence case, Hand said, the judge (or jury) should attempt to measure three things: the magnitude of the loss if an accident occurs; the probability of the accident's occurring; and the burden of taking precautions that would avert it.<sup>8</sup> If the product of the first two terms exceeds the burden of precautions, the failure to take those precautions is negligence. Hand was adumbrating, perhaps unwittingly,<sup>9</sup> an economic meaning of negligence. Discounting (multiplying) the cost of an accident if it occurs by the probability of occurrence yields a measure of the economic benefit to be anticipated from incurring the costs necessary to prevent the accident. The cost of prevention is what Hand meant by the burden of taking precautions against the accident. It may be the cost of installing safety equipment or otherwise making the activity safer, or the benefit forgone by curtailing or eliminating the activity. If the cost of safety measures or of curtailment—whichever cost is lower—exceeds the benefit in accident avoidance to be gained by incurring that cost, society would be better off, in economic terms, to forgo accident prevention. A rule making the enterprise liable for the accidents that occur in such cases cannot be justified on the

<sup>8</sup> *United States v. Carroll Towing Co.*, 159 F.2d 169 (2d Cir. 1947); *Conway v. O'Brien*, 111 F.2d 611 (2d Cir. 1940).

<sup>9</sup> But it should be noted that Hand was no stranger to economic analysis. See especially *United States v. Corn Products Co.*, 234 Fed. 964 (S.D.N.Y. 1916).

ground that it will induce the enterprise to increase the safety of its operations. When the cost of accidents is less than the cost of prevention, a rational profit-maximizing enterprise will pay tort judgments to the accident victims rather than incur the larger cost of avoiding liability. Furthermore, overall economic value or welfare would be diminished rather than increased by incurring a higher accident-prevention cost in order to avoid a lower accident cost. If, on the other hand, the benefits in accident avoidance exceed the costs of prevention, society is better off if those costs are incurred and the accident averted, and so in this case the enterprise is made liable, in the expectation that self-interest will lead it to adopt the precautions in order to avoid a greater cost in tort judgments.

One misses any reference to accident avoidance by the victim. If the accident could be prevented by the installation of safety equipment or the curtailment or discontinuance of the underlying activity by the victim at lower cost than any measure taken by the injurer would involve, it would be uneconomical to adopt a rule of liability that placed the burden of accident prevention on the injurer. Although not an explicit part of the Hand formula this qualification, as we shall see, is implicit in the administration of the negligence standard.

Perhaps, then, the dominant function of the fault system is to generate rules of liability that if followed will bring about, at least approximately, the efficient—the cost-justified—level of accidents and safety.<sup>10</sup> Under this view, damages are assessed against the defendant as a way of measuring the costs of accidents, and the damages so assessed are paid over to the plaintiff (to be divided with his lawyer) as the price of enlisting their participation in the operation of the system. Because we do not like to see resources squandered, a judgment of negligence has inescapable overtones of moral disapproval, for it implies that there was a cheaper alternative to the accident. Conversely, there is no moral indignation in the case in which the cost of prevention would have exceeded the cost of the accident. Where the measures necessary to avert the accident would have consumed excessive resources, there is no occasion to condemn the defendant for not having taken them.

If indignation has its roots in inefficiency, we do not have to decide whether

<sup>10</sup> The first systematic attempt to explain a portion of tort law by economic theory was R. H. Coase, *The Problem of Social Cost*, 3 *J. Law & Econ.* 1 (1960) (English nuisance law). The extension of the approach to negligence is suggested, but not developed, in Harold Demsetz, *Issues in Automobile Accidents and Reparations from the Viewpoint of Economics* (June 1968), in Charles O. Gregory and Harry Kalven, Jr., *Cases and Materials on Torts* 870 (2d ed. 1969); and Guido Calabresi, in *The Cost of Accidents, A Legal and Economic Analysis* (1970), and in his earlier articles, cited *id.* at 321, has used economic theory to mount an attack on the negligence system. The utility of economic theory in explaining the law of intentional torts is explored in Richard A. Posner, *Killing or Wounding To Protect a Property Interest*, 14 *J. Law & Econ.* 201 (1971).

regulation, or compensation, or retribution, or some mixture of these best describes the dominant purpose of negligence law. In any case, the judgment of liability depends ultimately on a weighing of costs and benefits.

In order to explore the hypothesis that liability for negligence is designed to bring about an efficient level of accidents and safety, I sampled American appellate decisions in accident cases from the period 1875-1905. That was the classical flowering of the negligence concept. Before 1875 the standard was rather new (although most of its major doctrines had been announced) and the reported decisions few. After 1905 the tort system entered a new phase. The first Federal Employers' Liability Act was passed in 1906 and the first workmen's compensation statute a few years later. These enactments cut deeply into the domain of the traditional negligence doctrines and, after initial constitutional difficulties, brought the classical period of the negligence standard to an end.<sup>11</sup> The disadvantage of choosing such a period is that it obscures the dynamics of legal change. The negligence system may have reached maturity in 1875, but it did not begin then. The process of selection and rejection by which earlier doctrines and procedures were woven into the coherent system that we will be examining in the following pages is of the highest interest, but it is a study in itself.

The sample was constructed in the following manner. I read every published accident opinion of an American appellate court (state or federal, final or intermediate) issued in the first quarter of 1875, 1885, 1895, and 1905.<sup>12</sup> A few categories of borderline cases were excluded, primarily those involving lost freight, nondelivery of telegrams, nuisances, and sales of liquor to drunkards. I abstracted the information in the opinions and then tabulated that information. The opinions in the sample constitute about one thirtieth of all the appellate accident opinions issued during the period.<sup>13</sup> By taking such a

<sup>11</sup> These developments are traced in Herman Miles Somers and Anne Ramsay Somers, *supra* note 1, ch. 2. The texts of the early federal employers' liability acts are set forth in W. W. Thornton, *A Treatise on the Federal Employers' Liability and Safety Appliance Acts* 545-48 (3d ed. 1916).

<sup>12</sup> Federal cases prior to 1895 are excluded because in the earlier periods there were no federal appeals courts other than the Supreme Court, and the Court decided few negligence cases (only one in the first quarter of 1885, for example). A problem with the 1875 and 1885 cases in the sample is that decisions in these early periods were not always dated, and some guesses had to be made. As a result, some of the cases included in the sample for 1875 were probably decided in 1874 and 1876; and in order to circumvent the dating problem I went to the first quarter of 1887, by which time dates can be found for all cases, for cases in a few of the jurisdictions in place of the first quarter of 1885. A spot check indicated that these modifications of the sampling method made no significant difference in the number and type of cases collected.

<sup>13</sup> This is a rough estimate. The flow of appellate decisions is not even throughout the year; in particular it tends to be thinner in the summer. In this respect, the sample may represent more than  $\frac{1}{4}$  of the year's cases. But in two other respects the sample is incomplete: (1) not all appellate decisions were reported or reported sufficiently completely

sample, rather than following the conventional approach in legal scholarship of analyzing "leading" cases, I hoped to obtain a representative view of the actual functioning of the negligence system. The reader may wonder at the use of appellate cases rather than trial-court cases for this purpose. Since most cases are never appealed a sample of appellate cases gives only a partial, and perhaps distorted, glimpse of the operation of the negligence system. It would have been impractical, however, to base this study on trial-court records. At least in the period with which we are concerned, such records as are available typically contain less information about a case, especially with regard to its facts, than the typical appellate opinion. Furthermore, trial-court records are neither published nor indexed, and are dispersed among thousands of county and municipal court houses—circumstances that interpose formidable obstacles to obtaining a proper sample. Finally, even a good sample of trial-court cases would not solve the tip-of-the-iceberg problem. Nowadays at most 2 per cent of accident claims are actually tried;<sup>14</sup> in a somewhat higher but still small percentage a lawsuit is begun but settled in advance of trial.<sup>15</sup> The vast majority of claims leave no trace in judicial records. Comparable statistics for the period 1875-1905 are unavailable, but it would seem that then, too, the majority of claims were settled without any litigation although the ratio of litigated claims to all claims may have been higher than today.<sup>16</sup>

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to identify the nature of the case, although I believe that most were; (2) decisions were sometimes reported long after they were rendered and some of these I must have missed in my search of the reports.

<sup>14</sup> See, e.g., H. Laurence Ross, *Settled Out of Court—The Social Process of Insurance Claims Adjustments* 179, 216 (1970); Alfred F. Conard, *et al.*, *Automobile Accident Costs and Payments, Studies in the Economics of Injury Reparation* 237, 241 (1964); Hans Zeisel, Harry Kalven, Jr., and Bernard Buchholz, *Delay in the Court* 40 (Table 14) (1959); Marc A. Franklin, Robert H. Chanin, and Irving Mark, *Accidents, Money and the Law: A Study of the Economics of Personal Injury Litigation, in Dollars, Delay and the Automobile Victim, Studies in Reparation for Highway Injuries and Related Court Problems* 39 (Walter E. Meyer Research Institute ed. 1968); Vernon K. Dibble, *What Is, and What Ought To Be: A Comparison of Certain Formal Characteristics of the Ideological and of the Legal Styles of Thought* 70 (Table 4) (Third Draft, July 1971, unpublished).

<sup>15</sup> See, e.g., H. Laurence Ross, *supra* note 14, at 216-17.

<sup>16</sup> In one sample of 614 fatal accidents in Illinois, 281 families settled without court proceedings, and there were 135 lawsuits. Report of the Ohio Employers' Liability Commission, pt. 1, xxxi (1911). In a sample of 370 Ohio death cases in which compensation was paid 285 were settled without litigation. *Id.* at xl; *id.* at xxxvii indicates a lower ratio of litigated to all claims. In a sample of 125 New York death cases in which some compensation was paid, 104 cases were settled without the filing of a suit. Computed from New York State Employers' Liability Commission, *supra* note 5, at 30-31, note 1. Another sample of New York death cases contains 111 cases in which compensation was paid without any litigation and 73 lawsuits. *Id.* at 97. All of these statistics involve industrial accidents only (*i.e.*, accidents arising in the course of the employment relationship), and relate to the period 1905-1910 (they were compiled as part of the movement for workmen's compensation), which is somewhat later than the



Unfortunately, so far as I have been able to ascertain, the claims records of railroads and other companies frequently involved in accidents and of liability insurers no longer exist for the period.

A sample limited to appellate cases turns out to be more varied and apparently representative than one might have expected. Negligence cases appealed during our period were not limited to cases involving very large sums of money or novel issues of law. Most of the cases in the sample involve neither. Of the 64 cases involving damage to property in which the amount of the judgment is reported, more than 25 per cent involve judgments of less than \$100 and more than 75 per cent judgments of less than \$1000.<sup>17</sup> And only about 20 per cent of the cases in the sample involve pure questions of law. The issues on appeal typically involve the sufficiency of the evidence, the trial judge's rulings on admissibility, and the clarity and accuracy of his instructions to the jury. Yet there must be some biases in a sample limited to appellate cases. In an effort to identify and correct these a sample of 111 railroad and street-railway accident cases for the relevant period was drawn from the records of Cook County, Illinois (the county in which Chicago is located) and rural Du Page County to the west. I shall indicate at the appropriate places where these cases require modification of conclusions drawn from the appellate cases. The trial-court sample confirms that only a small percentage of cases are appealed: of the 47 cases in the sample that went to trial, only 6 were decided on appeal.

### III

We begin by looking at the broad institutional and doctrinal framework of the negligence system as revealed by the appellate cases. Both in this and the next part (specific rules of liability) I have tried to report the information revealed by the sample as fully as possible rather than simply mine it for examples, although I have excluded a certain amount of redundant or peripheral material.

It will be helpful to make an initial distinction between two broad categories of accident: accidents to strangers (for example, a streetcar running down a pedestrian), and accidents to parties in a contractual or other bargaining relationship (customers, employees, tenants, and the like). Of the

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period of the present study. The higher ratio of litigated to all claims than today is intelligible when one reflects that the contemporary statistics relate primarily to automobile accidents. The fact that a few liability insurance companies handle virtually all claims and that most automobile accidents involve simple and highly recurrent factual situations facilitate massive disposition outside of the judicial system. The accident picture in the period covered by this study was more heterogeneous and therefore less susceptible of routinized settlement.

<sup>17</sup> See Table 9, *infra*.

1494 cases in the sample for which the requisite information is available, 54 per cent involve accidents between strangers, 30 per cent involve accidents to employees, 12 per cent involve accidents to passengers (mostly railroad and streetcar passengers), and 4 per cent involve accidents to other customers and other contracting parties, mostly tenants. The regulatory function of negligence liability is evident in cases involving accidents to strangers. Where the costs of transacting are high, an unregulated market will not bring about an optimum level of accidents and safety. More than 90 per cent of the cases in this group involve types of accidents in which the costs of transacting are probably very high—mainly cases involving railroad and streetcar crossing accidents, railroad collisions with trespassing people and cattle, accidents to pedestrians and other travelers involving defects in the sidewalk or street, other road accidents, ship collisions, and dog bites.<sup>18</sup> In such chance-encounter accidents it is unrealistic to expect much bargaining between the parties in advance over the level of safety and the economic function of liability is evident: it is to bring about the level of accidents and safety that the market would bring about if transactions were feasible—the efficient level. In the second group of cases, the parties already have a contractual relationship and the impact of liability rules on accidents and safety is more problematic. The parties are normally free to rearrange by contract whatever liabilities are imposed by the law: the stagecoach company can contract with its passengers for a lower or higher standard of care.

Even here, the costs of explicit agreement on safety may not be negligible. Many transactions take place without a formal written contract. The costs associated with specifying in detail the performance contracted for are too high. When buying a train ticket, one doesn't receive a contract spelling out the railroad's undertaking with respect to safety appliances and to the careful selection and supervision of engineers, firemen, conductors, and dispatchers. It is left to the courts to decide, should the need arise, what safety precautions the parties would have agreed upon if negotiations had taken place, and this is doubtless on the whole a cheaper way of proceeding. The level of safety that the parties would have negotiated would presumably have been the efficient level, in the sense that the passenger would have demanded and the company supplied that quantum of safety precautions at which the cost of preventing an additional accident (in a higher price for the ticket, in less comfort, more delay, etc.) would have just exceeded the cost of the accident, if it occurred, discounted by the probability of its occurrence. In the event of an accident and a consequent suit by the injured passenger, it is the court's job to determine whether the company lived up to its bargain—whether, that is, it supplied the optimum amount of safety. The inquiry is

<sup>18</sup> See Tables 2 and 3, *infra*.

thus the same as in the case of an accident to a stranger and this, together with the similarity in the type of injury that results, may explain why the courts treat both stranger and contracting-party cases mostly without distinction under the negligence standard. They make some distinctions, however, with respect to cases involving accidents to employees, and in discussing the elements of the doctrinal framework of the negligence system we will therefore treat those cases separately.

*Breach of the Defendant's Duty.* The general rule is that the defendant owes to those whom he might chance upon and injure a duty to exercise due care—the care of an ordinarily prudent and careful man. The breach of that duty is actionable negligence. However, a higher duty—the duty of the highest practicable care, the duty to avoid the slightest negligence—is owed by a common carrier (usually, in our period, a railroad) to its passengers while they are on board. As an approximation to the likely understanding of the parties to the contract of carriage, the exception seems a reasonable one. Strictly speaking, it is nonsense to speak of a standard of care higher than that of due care. An enterprise will not spend \$100 in safety appliances to avert a \$90 accident when it can satisfy its legal obligations by paying a \$90 judgment. The rule that common carriers owe a higher duty to their passengers signifies that passengers expect (and are willing to pay for) a high level of safety—because the railroad has a comparative advantage in accident prevention (indeed, passengers are normally helpless to avert an accident) and because a collision or derailment (like a plane crash today) is likely to kill or seriously injure them. These factors are absent or attenuated in the case of a passenger injured on the station grounds—say by a loose board in the platform—or a passenger injured in a private vehicle, and, as we would predict, the standard of highest practicable care is not applied in those cases.

The second major exception to the ordinary-care standard concerns the liability of land occupiers, in our period usually railroads, to uninvited entrants, usually trespassers using the track as a path. Here the duty (with some exceptions discussed later) is a lesser one: not to use due care, but only to avoid a knowing injury. The rule is a corollary of a system of property law that is designed to protect rights of exclusive possession. Since it is often difficult to exclude trespassers, the imposition of a duty to look out for their safety would interfere with the landowner's use of his property. The rule of no liability may also rest on a judgment that the utility of trespassing, in general, is less than the cost that would have to be incurred to prevent injury to trespassers along railroad rights of way and in other areas that the general public is not invited to enter.

It is difficult to particularize the standard of ordinary care without discussing particular types of accident, a later inquiry, but there are two general

principles relating to its implementation that are significant. The first is that the violation of a statute prescribing a duty of care is negligence per se as to a member of the class intended to be protected by the statute who is injured as a result of the violation. The theoretical interest of this principle is that it potentially displaces a good deal of the judicial function in negligence cases, including the Hand formula. If the legislature fixes a speed limit of 10 miles per hour for trains at crossings, it is no longer open to the court to decide, by a balancing of costs and benefits, what speed under what conditions will optimize railroad crossing accidents. It would be comforting for the economic theory of negligence liability to think that legislatures, too, used a Hand-type formula in fixing statutory duties of care but as we shall see the theoretical basis for expecting them to do so is much weaker than in the case of courts.

Another critical element in applying the standard of due care is the weight assigned customary practices. Can a plaintiff argue that the failure to have air brakes is negligence, at a time when no railroad has them? Or is it a defense that the railroad has the same safety appliances as every other railroad or as the average railroad of its class? If compliance with the average or customary practice in the trade automatically discharged the defendant's duty of due care, there would be cases where the negligence system failed to optimize safety. Suppose the only benefit of a safety appliance is to a stranger to the industry in our earlier sense—someone with whom the enterprise has no contractual relationship and will not enter into one because of transaction costs. No firm in the industry will have an incentive to install the appliance, for it will not be able to recover its cost by charging a higher price to customers or setting a lower wage to employees (notice, however, that air brakes are not that kind of appliance). Thus, the market will not induce the adoption of such an appliance even if its benefits in accident prevention exceed its costs—and neither would the negligence system if compliance with industry custom were a defense. It is therefore interesting, in terms of principle, to observe that the courts in our period held that custom was not a defense, although, as we shall see, in practice a plaintiff faced an uphill struggle to convince a court that failure to adopt an appliance nowhere in use in an industry exhibited a want of ordinary care.

*Contributory Negligence.* Another fundamental principle of the common law of negligence is that if the victim of the accident failed to exercise due care, and his breach contributed to the accident, he is barred from recovery even though the defendant was negligent. That the plaintiff has a duty of care flows directly from our exegesis of the Hand formula. There are cases where the cheapest accident preventer is the prospective victim himself and so should be liable. But the principle of contributory negligence, as the name

implies, is commonly applied in cases where the defendant is also negligent and the question arises, why bar recovery in those cases too? The answer, I suggest, is that it is impossible, in general, to show that permitting recovery in cases where either party could have avoided the accident (if the plaintiff was negligent but the accident would have happened anyway the defense of contributory negligence fails) would bring the level of safety and accidents closer to the optimum point. If we make the defendant always liable in such a case, defendants as a class will have more incentive to take safety precautions than if they are never liable, since in the latter instance the cost of accidents to them would be lower. But correspondingly plaintiffs as a class would have less incentive to take safety precautions in the first case than in the second, because the accident cost to them would be higher in the second—more of their accidents would be uncompensated. If the effects are thus symmetrical, there is no economic basis for attempting to shift the loss from injured to injurer.

This analysis ignores, however, the case where, although either party, victim or injurer, could have prevented the accident at a lower cost than the accident cost discounted by the probability of its occurrence, the cost of prevention to the injurer would have been lower than the cost of prevention to the victim. The correct economizing rule here is to make the injurer liable, even though the victim may be said to have been contributorily negligent. This refinement is nowhere explicit in the cases, but it may have been implicit. Glancing ahead for a moment at the specific rules of contributory negligence discussed in the next part, one finds only rare instances where the sacrifice required of the victim by the law to avert an accident is disproportionate to that required of the injurer.

*Causation.* The courts require proof of a causal connection between the breach of duty, either defendant's or plaintiff's, and the injury. Dispense with such proof, and you are no longer talking about the costs of accidents. If the defendant was negligent but the accident would have occurred anyway, it would be incorrect to view the costs of the accident as the consequence of his negligence since they would not have been avoided by the exercise of due care. Yet the defendant was negligent: would not an award of damages serve a useful purpose, therefore, by punishing him for his breach of duty, thereby encouraging him to comply in the future with the requirements of efficiency? This I question. Where the standard of care applied to a particular activity is economically correct there will be incentive enough for firms to comply. If they do not they face a judgment bill (for accidents occasioned by their failure to comply with the standard) larger than the cost of taking the precautions required by the standard. Punishment—an exaction that exceeds the costs to society (here, accident costs) imposed by the particular violation being pun-

ished—is necessary where the violator is frequently not apprehended, because a rational lawbreaker will discount the gravity of any legal sanction by the probability that it will be imposed.<sup>19</sup> There are hit-and-run accidents, and if they are a more serious problem in the age of the automobile, there must have been cases in the period covered by this study in which the injurer was not apprehended, especially when trains killed livestock or lone walkers on the track or engine sparks ignited crops or buildings. But such cases must have been exceptional and it is unlikely that most victims of negligent injuries failed to assert their claims because they couldn't identify the injurer. It is, in contrast, quite likely that most price-fixing conspiracies (for example) are never brought to bar, due to their covert character.<sup>20</sup> One is therefore not surprised to find that punitive damages are normally disallowed in negligence cases and allowed in price-fixing cases. Moreover, an appropriate punishment component is built into the negligence system. If an injurer attempts to conceal his identity and is sued, his efforts at concealment may be considered evidence of willfulness justifying the imposition of punitive damages (however, the sample contains no such cases).

Punishment for negligence would close an important safety valve in the negligence system. A standard of care is necessarily a crude approximation to optimality. Allowing enterprises a choice whether to comply or pay the social costs of violation may permit a closer approximation. Suppose there is a rule that a dam owner is responsible for flood damage unless his dam is at least 16 feet high. Presumably the rule reflects a judgment that the cost of raising the dam is less than the cost of the floods that a lower dam would fail to contain. One owner thinks the rule is incorrect. He estimates that the only flood likely to occur is one that would swamp a 16-foot dam and therefore that he can save money by violating the rule. Courts are not infallible and we give maximum play to individual judgment if we let the dam owner act on his estimate. If he is wrong, he will have to pay a judgment, but if he is correct an unnecessary expenditure on dam building will have been saved.<sup>21</sup> One can reply that it is just as likely that a standard of care will be too lax as too strict; and if the former a punitive sanction will tend to compensate for the laxity. But this leads to the same stand-off as in our earlier discussion of contributory negligence, and with the same implications. If the only recognized basis for invoking legal processes to shift an accident loss from the victim to another party is the expectation of improving the efficiency of resource use, then before we can recognize a right of action (in this case a

<sup>19</sup> See Gary S. Becker, *Crime and Punishment: An Economic Approach*, 76 J. Pol. Econ. 169 (1968).

<sup>20</sup> See Richard A. Posner, *A Statistical Study of Antitrust Enforcement*, 13 J. Law & Econ. 365, 401-11 (1970).

<sup>21</sup> Cf. Gary S. Becker, *supra* note 19, at 199.

right to sue for injuries that would have occurred anyway) we must be able to say that the shift will improve efficiency; and we cannot.

*Foreseeability.* Courts invoke the doctrine of "proximate cause" to excuse defendants from liability for unforeseeable consequences of negligence. A train stops at a crossing and a group of rowdy passengers debark. A lady driving a carriage waiting at the crossing for the train to move on is frightened. After a delay the passengers reembark and the train moves on but the lady is now late, it is growing dark, her driving is erratic because of fright and anxiety, she drives into a ditch and is injured. The railroad may have been negligent in permitting the train to be delayed at the crossing and the rowdy passengers to debark but the courts do not view its negligence as the "proximate cause" of her accident. Such a result follows from the economic standard of negligence. If negligence is a failure to take precautions against a type of accident whose cost, discounted by the frequency of its occurrence, exceeds the cost of the precautions, it makes sense to require no precautions against accidents that occur so rarely that the benefit of accident prevention approaches zero. The truly freak accident isn't worth spending money to prevent. Moreover, estimation of the benefits of accident prevention implies foreseeability.

*Respondeat Superior.* As mentioned earlier, in few cases in the period covered by the sample was the defendant accused of being personally negligent. Most suits are based on the doctrine of respondeat superior, which makes an employer liable to third parties for the torts of his employees committed in furtherance of their employment. The doctrine at first glance seems inconsistent with the economic theory of negligence. A careless workman is like a defective machine. A company should devote resources to screening out careless workmen just as it should devote resources to inspecting its machinery for defects but there comes a point where a further expenditure on supervision of employees or on inspection of machinery would exceed the accident costs that the expenditure would save. The law recognizes this quite clearly with respect to machinery. A firm was liable (in the period covered by the sample at any rate) only for those defects that a reasonable inspection would have discovered. But the law seemingly takes an inconsistent position with respect to the careless workman. The employer is liable regardless of his care in attempting to prevent carelessness.

The inconsistency is more apparent than real. A machine is inanimate and undeterrable. A workman is not. But liability for negligence will not deter a workman who has no money to pay for the accidents he causes. This greatly complicates the formulation of an appropriate standard of care for the employer. Suppose that a railroad in hiring locomotive engineers makes a reasonable effort to screen out clumsy, irresponsible, accident-prone indi-

viduals. A serious problem would remain. An engineer—let him be as prudent and skillful as you want—is running behind schedule, so he opens the throttle. The resulting speed is dangerous to pedestrians at crossings but if the engineer is a coldly rational man the danger will not inhibit him. Being judgment-proof, he is not answerable for the consequences to pedestrians. Thus, a railroad not only must exercise care in hiring workers; it must impose sanctions on them for carelessness, because tort law cannot deter the judgment-proof. By making the railroad strictly liable for the torts of its employees in the scope of their employment, which is the effect of respondeat superior, the law creates a mechanism by which the railroad can decide for itself how much to invest in preventing its workers from being careless. It will invest until the last cent of its investment in worker safety saves one cent in accident costs. There will be cases where no reasonable expenditure would have averted the accident and where, therefore, the effect of respondeat superior is to shift losses without affecting the level of safety. But the only alternative would have been for the courts to regulate in great detail the company's methods of selecting, supervising, and disciplining employees.

Our interpretation of respondeat superior derives additional support from the distinction that the courts of the period made between employees and independent contractors. If you hired a contractor to do a job and left the manner of work entirely up to him, you were not liable for injuries caused by his negligence or the negligence of his employees. But if you supervised the details of his work you were liable. These distinctions are economically defensible. If there is no supervision of the work in which the accident occurs, there is no basis for anticipating that the work will be done more safely if the principal is liable. Nor is there a presumption that an independent contractor is insolvent and therefore undeterrable by the threat of tort liability from behaving, or permitting his employees to behave, carelessly. But the principal has a duty to select a competent contractor and if the work involves large risks to safety, such as bridge construction, this duty cannot be discharged, the courts held, by perfunctory inquiry.

The principle of respondeat superior was not applied to the family. Parents were liable for the torts of their children only if negligent in supervising them. Perhaps the reason for treating employers and parents differently is that employers in fact have greater control over the behavior of their employees on the job than do parents over their children. The employer can select his employees, discharge them, and prescribe rewards and punishments to which rational beings will respond. Children tend to be ungovernable; natural parents do not choose their children; children cannot be fired for having been careless. A rule of strict parental liability would have little regulatory effect—and would thus violate what we have tentatively



identified as the basic character of the negligence system—because in most cases parents would be incapable at reasonable cost of preventing careless behavior of their children.

*Industrial-Accident Doctrine.* In cases where the accident victim is a worker suing his employer, the courts in our period applied a number of special doctrines. The most fundamental was that respondeat superior was inapplicable: with important exceptions to be noted, an employer was not liable to his employees for injuries inflicted by their fellow employees. A comparison between this principle and the contrary principle in the case of accidents to strangers brings out clearly the essential economic logic of the negligence system. A pedestrian at a crossing doesn't know the engineer or fireman of any of the trains that pass and is in no position to play a role in preventing accidents by identifying careless workers. In contrast, a fellow employee is in the best position to identify a careless worker, at least if they work in reasonable proximity. The fellow-servant rule, as the exception to respondeat superior is known, provides, in principle at least, a powerful instrument for industrial safety when combined with the rule making the employer liable for injuries inflicted on an employee through the negligence of a fellow employee if the employer was on notice of the fellow employee's habitual neglect or incompetence. The effect of the two rules is to give employees a strong incentive to report careless fellow workers to their supervisors. Some incentive would exist anyway because people generally don't like to be injured, but it is reinforced when an employee knows that if he does not report his fellow's negligence and is injured he will have no right to compensation from his employer. Any rational human being, but perhaps especially a worker lacking assets or adequate insurance, private or social, fears an uncompensated accident even more than a compensated accident. The fellow-servant rule was evidently designed to direct that fear into constructive channels.

The major question in implementing the rule is what criteria to use in deciding whether one employee of a company is a fellow of another. To deem all the workers of a company fellow servants would carry well beyond the rationale of the rule, because an employee doesn't have the opportunity to observe and evaluate the work habits of all the other employees of a large firm. Several tests competed for judicial favor in our period. We shall examine them later. For now it is enough to note the major limitation on the scope of the rule: it did not immunize the employer from liability for the negligence of those employees responsible for the conditions in which the injured employees worked. The brakeman may be barred from recovery if injured through the negligence of a locomotive engineer, but not if the negligence is an employee's whose duty was to inspect the car for defective

hand holds or clear the roadbed or repair the automatic couplers or install a block system. Such work is not done in proximity to the operating employees and the latter will neither know who the responsible workers are or have any basis for evaluating the care with which they have worked until an accident occurs.

The rule of contributory negligence applied in cases where an employee was suing his employer. A distinct although related doctrine, assumption of risk, also applied and figures in many of the cases. Under this doctrine an employee was barred from recovering damages where the accident was the result of hazards known by or obvious to him. If a brakeman is employed on a train that is not equipped with the standard safety appliances, he knows this, and he is injured in an accident that would not have occurred had it been so equipped, the employer is not liable, even if the cost of the appliances is less than the discounted accident cost. This result is supported by economic logic. Attitudes toward risk are not distributed uniformly among the population. Some people will pay a good deal more than \$1 for a lottery ticket that gives the holder a chance of 1 in 1000 to win \$1000; others won't pay anything. The former have a preference for risk, the latter an aversion to it. Suppose in our train example that the cost of the standard appliances would be \$10 per worker per year and they would produce a \$15 saving in accident costs by reducing the likelihood that the worker would sustain a \$1000 injury from 1/50 to 1/200. Since the brakeman knew that the train was not equipped with the standard appliances, and therefore that his chances of injury were higher than normal, why was he willing to continue working? Presumably he was paid to take the risk. We can draw the further inference that he was a risk preferrer. Had he been risk neutral, and the going wage for brakemen on trains equipped with the standard appliances was (say) \$500 a year, the railroad would have had to pay him \$515 to compensate him for the increased risk; but it would not have done so since it could have employed him at a lower net cost (\$510) by installing the devices. If a brakeman is willing to work for less than \$510, as our example assumes, the efficient (cost-minimizing) solution is for the railroad to hire him and not install the safety appliances. This solution would be frustrated if assumption of risk were not a defense, because then the railroad would have to install the safety appliances in order to avoid a judgment bill larger than their cost.

The assumption of risk doctrine enables the risk preferrer to market his taste for risk, but it also allows the risk averse to exploit their aversion. Let the going wage for a locomotive engineer be \$750 a year with a 1/1000 chance of sustaining a \$3000 injury in the course of the year, and let the cost of reducing that chance to 1/2000 be \$2 per engineer per year in addi-

tional safety appliances. Since the cost of the additional appliances exceeds the benefits, the railroad would not be guilty of negligence if it failed to install them. But suppose that enough locomotive engineers to staff the company's trains are highly risk averse. They are so eager to minimize the likelihood of an accident that if the company will install the appliances they will accept a wage reduction from \$750 to \$745 a year. The company will install the appliances and save \$3 a year per engineer. If the company later removes the appliances without informing the engineers and one of them is injured in an accident that would have been prevented by the appliances, the company will be liable to him for the costs of the accident under the rule that a company is liable to an employee for breach of its customary safety standards.

*Damages.* For the Hand formula to optimize safety, the rules for determining damages once the defendant's liability has been established must measure with reasonable accuracy the social costs of accidents. In cases involving bodily injury short of death, an accident victim's economic loss has the following components: (1) any damage to property; (2) any medical and hospital expenses and other outlays necessitated by the accident; (3) the present value of all earnings lost or likely in the future to be lost as a result of any temporary or permanent disability caused by the accident; and (4) any suffering to the victim, his family, and in some cases perhaps others, resulting from pain, disfigurement and impairment of ability to enjoy life. In general the rules of damages during the period embraced by the sample track the elements of economic loss. Damage to property is fully recoverable, as are any outlays for medical or other expenses incurred in consequence of the accident. Lost earnings, past and future, are compensable. Damages for "pain and suffering," a category nearly coterminous with item (4) above, are also allowable although the only one whose suffering may be considered is the victim himself. In two respects the courts evidenced some economic sophistication. They allowed compensation for loss of nonpecuniary but real earnings, such as a housewife's; and by providing for compensation in a lump sum paid at the time of judgment rather than in periodic payments during the period of disability they avoided the disincentive effects of tying continued compensation to continued inability to work and economized on administrative and policing costs.

The measurement of damages in death cases presents special problems. It is difficult to discover the value that an individual places on his life. If you ask someone how much money he would demand in exchange for giving up his life on the spot, he is likely to reply that no price would be high enough—his price is infinite. But that is because he would have only an infinitesimal amount of time in which to enjoy the proceeds of his sale.

Judging from how people risk their lives constantly for small gains in convenience, the average individual will, and in effect does, sell years of his life quite cheaply so long as he expects to have some time in which to enjoy the gains from the sales. The solution of the courts of our period was to allow no damages to the victim's estate for the death itself (there might, of course, be pain or suffering before death and they would be compensable), but to compensate the pecuniary loss suffered by the victim's family. They measured this loss not by the amount of earnings that the victim lost by his death but by the amount of contribution from his earnings to the family's support that the family lost by his death, which is the correct economic measure.

No damages were allowed for the survivors' grief. Since this is a real cost, its exclusion seems economically unsound, even if we assume that the family in working-class homes of the nineteenth century was a less romantic institution than the family of today (we shall see that the working class were the main victims of accidents). Cases involving the death or disability of children may seem especially anomalous in their exclusion of sentimental factors. The basic measure of damages was the child's contribution to his parents' income, which had two components: the child's earnings until he reached his majority, which by law belonged to the parents, minus the expenses of his upkeep; and the likely support that the child would contribute in the parents' old age. This is correct so far as it goes, and perhaps in an era of large families, high infant mortality, little knowledge of contraception, and no social security, a child of working-class parents was sometimes viewed by them as an income-producing asset whose destruction could be compensated for in much the same way as the destruction of property. That would be consistent with a notable study of working-class families of the period.<sup>22</sup> The modern view of children is different and the basis on which damages are computed in children's death cases has changed greatly since the period with which we are concerned.<sup>23</sup>

A seemingly peculiar feature of the law of damages is that the defendant is liable to the full extent of the victim's injuries, even if the extent could not have been foreseen. A team accidentally runs down a man with a preternaturally thin skull and kills him. A normal man would not have been injured seriously. The driver is nonetheless fully liable for the death if the accident resulted from his negligence. The result seems at first glance inconsistent with the principle discussed earlier that one is not liable for the unforeseeable consequences of negligence. However, there is a good reason for

<sup>22</sup> See Stephan Thernstrom, *Poverty and Progress—Social Mobility in a Nineteenth Century City* 155 (1964).

<sup>23</sup> See, e.g., *Wycko v. Gnodtke*, 361 Mich. 331, 105 N.W.2d 118 (1960).

distinguishing in this regard between the fact of injury and its extent. We want the total liability of negligent injurers to equal the total cost of their accidents. If instead of attempting to determine damages in each case on an individual basis, we used an average figure (the injury a man of average strength and health would have sustained in an accident of the same type), then we would be overcompensating some (those who are stronger or healthier than average) as well as undercompensating the weaker. But overcompensating for injuries may cause the accident rate to rise. Insurance companies will not insure a building against fire for more than it is worth lest arson be encouraged. Nor should the law of negligence encourage the strong to court injury by overcompensating them when an injury occurs. But then the weak must not be undercompensated, lest the total liability of negligent injurers fall short of the total cost of their accidents.

We have considered the major substantive doctrines of the negligence system as revealed by the sample. It remains to consider the institutional framework of the system. The essence of the system in its institutional or procedural aspect is that it is adversary, decentralized, and nonpolitical in a sense that I shall explain. The motive force of the system is supplied by the economic self-interest of the participants in accidents. If the victim of an accident has a colorable legal claim to damages, it pays him to take steps to investigate the circumstances surrounding the accident; if the investigation suggests liability, to submit a claim to the party who injured him or the party's insurance company; if an amicable settlement cannot be reached, to press his claim in a lawsuit, if necessary to the highest appellate level. The other party has a similar incentive to discover the circumstances of the accident, to attempt a reasonable settlement, and, failing that, to defend the action in court. By creating economic incentives for private individuals and firms to investigate accidents and bring them to the attention of the courts, the system enables society to dispense with the elaborate governmental apparatus that would be necessary for gathering information about the extent and causes of accidents had the parties no incentive to report and investigate them exhaustively. The parties, of course, are not disinterested, but competition between them to persuade a judge can be expected to produce a reasonable approximation to the underlying reality. And while most cases will be settled, enough will not be settled to assure the courts a continuous and voluminous stream of data. As mentioned earlier, the 1528 cases in our sample probably represent about one thirtieth of the appellate negligence cases decided between 1875 and 1905, from which we can infer that some 45,000 such cases were decided during the period. By 1905 the cases are apparently running at a rate of almost 3000 a year. And these are only the appellate cases.

I have stressed the informational role of the adversary system as a counterweight to the frequently expressed view that common law adjudication, with its focus upon the individual case, is an implausible method of obtaining efficient general standards of safety. The common law method may be compared with the economic market—also a highly decentralized, competitive and largely private system that generates strong pressures for efficient performance. The parties to a lawsuit are in competition for the favor of the tribunal in much the same way that sellers compete for the patronage of customers. Both systems create powerful incentives to furnish information. The analogy must not be pressed too far; we shall consider some important differences later. However, a rule based on an adversary presentation of information may be expected to correspond to reality at least as well as one based on the self-serving declarations of one of the accident participants, and a hundred lawsuits based on rigorous adversary scrutiny of the parties' allegations may be a firmer base for a rule of safe conduct than unverified contentions by injured and injuring parties in legislative and administrative rule-making hearings. The point is illustrated by a case in the sample that the plaintiff lost because, while alleging that he had been made a cripple for life as the result of injuries to many vital organs, he proved only a minor injury to his toe—a member omitted from his enumeration.

A common criticism of the negligence system as a method of regulation is that standards of conduct are established after the accident has occurred. However, the same is true, in practice, of legislative and administrative regulation as well: it is the shocking accident, rather than the expectation of an accident, that evokes regulation. Whether the lags involved in negligence adjudication are markedly greater than those associated with legislative and administrative processes is an empirical question. As shown in Table 1, the mean duration from the accident to the appellate opinion for all cases in our sample is 40 months; declines during the period; and in 1905 is only 37 months. The criticism of adjudicative regulation as *post hoc* also ignores anticipation. Prediction of how courts will decide is of the essence of legal training and expertise. A rule announced by an appellate court will often have been anticipated long in advance—possibly since before the accident. And courts may in general be more predictable than legislative or administrative bodies.

Another important characteristic of the adversary system of negligence adjudication is that it is calculated to encourage the formulation and application of safety principles that will be grounded in considerations of efficiency. Because punitive damages, as mentioned, are not allowed in negligence cases, evidence concerning the poverty, wealth, or other attractive or repulsive characteristics of the parties unrelated to whether the accident

TABLE 1  
DURATION OF CASES (MONTHS)

Region	Date	Mean	Frequency Distribution										Above 84	Number of Observations	Mean—Intermediate Appellate Decisions Only	Number of Observations	Second or Other Subsequent Trial or Appeal
			0-12 months	13-24	25-36	37-48	49-60	61-72	73-84								
New England	1875	28		2	5	2							1	6			1
	85	50			3	2								4			
	95	31			4									18			
	1905	33		5	6	5	2										
Total <sup>a</sup>		34		7	18	9							1	37			1
Mid-Atlantic	1875	60		1	1			1	3	1			1	8	48	5	
	85	39		2	11	4	2	2	3				1	22	38	9	
	95	45	1	7	12	7	6	4	4	2		3	42	40	24	4	
	1905	36	1	19	17	10	8	4	1	2		2	62	34	38	6	
Total <sup>a</sup>		41	2	29	41	21	17	14	4			6	134	37	76	10	
South	1875	78		1				1					1	3			
	85	39			1	1	1							2			
	95	38		3	6	1	1	2	2				14				
	1905	28		18	11	4	2	2	3				35				2
Total <sup>a</sup>		34		22	18	6	4	3				1	54				2
North Central	1875	77			1								2	3			
	85	42		3	9	3	1	1	1			2	19	37	5	3	
	95	40		6	21	16	7	11	2			2	55	38	24	3	
	1905	44		13	25	27	11	2	2			3	92	46	52	7	
Total <sup>a</sup>		43		22	56	46	19	14				8	169	43	81	13	
Border	1875	107										1	1	2			
	85													10			
	95	41		1	3	3			1				11				3
	1905	32	1	4	9	3	2	1	1			1	23				3
Total <sup>a</sup>		42	1	4	9	3	2	1									
West	1875	39		1	4	1	1	1	1	3			8	43	1	1	
	85	47		2		5	1						12	50	4	1	
	95	44	1	8	19	12	12	7	1			5	65	37	33	1	
	1905	36	1	34	20	17	10	4	2	3		3	91	31	51	10	
Total <sup>a</sup>		40	2	45	43	35	24	15				8	176	34	89	13	
Federal Courts	1895	38	1	8	3	6	1					1	22	30	19		
	1905	41		3	10	6	2		2			1	24	38	23	1	
		40	1	11	13	12	3		4			2	46	34	42	1	
Total <sup>a</sup>		40	6	140	198	132	71	47	18		27	639	37	288	43		
Grand total <sup>a</sup>		49		5	11	3	2	5	1		4	31	47	6	1		
Total <sup>b</sup> —1875		45		7	24	24	4	7	2		4	63	40	18	5		
Total <sup>b</sup> —1885		42	2	25	65	39	29	16	5		9	190	38	81	8		
Total <sup>b</sup> —1895		37	3	92	85	63	33	19	6		8	309	37	141	28		

Source: Judicial reports.

<sup>a</sup> Or average. Federal cases excluded.<sup>b</sup> Or average. Federal cases excluded.

was brought about by a failure to take cost-justified precautions is excluded at trial, although such characteristics can often be inferred.

The division of functions between judge and jury is consistent with emphasis on efficiency. The heavy use of juries is a striking feature of the negligence system during the period covered by the sample. Plaintiffs recovered judgments in jury trials in 945 of the cases in the sample, but recovered judgments in nonjury trials in only 59; defendants recovered judgments in jury trials in 98 cases, but recovered judgments in nonjury trials in only 23.<sup>24</sup> In one sense the use of the jury assures, insofar as possible, that the trial of the case will not be tainted by evidence or argument involving the income or wealth of the parties or other inadmissible grounds: such grounds are literally excluded from the jury's consideration. On the other hand, formally excluded considerations are often obvious and a jury is a less disciplined adjudicator than a judge. The use of the jury does bring to bear on safety problems the judgment and experience of a broader segment of the community than if judgments of negligence were made by judges alone. Judges may not know a great deal about driving a farm wagon, boarding a streetcar, operating a rip saw, or the other activities in which accidents were common during our period. They were drawn from the professional class and most accidents did not involve members of that class. As mentioned earlier, 30 per cent of the cases in the sample involve accidents to employees, with only one exception that I recall workers rather than executives. Although the occupation or income group of the remaining plaintiffs usually cannot be determined from the cases, of 145 cases in which the information is available 106—73 per cent—are cases where the plaintiff is a worker or a member of a worker's family.<sup>25</sup> If this proportion holds for the remaining nonemployee cases in the sample, then 81 per cent of all the cases in the sample involve injury to members of an economic class to which judges do not belong. Although we know little about the composition of the juries of this period, they were probably more representative of the population of accident victims (and injurers) than the judges, and may therefore have had a better feel for the facts in many accident situations.

The jury's function was not limited to finding the facts; it was also responsible for deciding whether the facts found constituted negligence. It was the jurors who applied, within certain broad limits set by the judge, the Hand formula. It may seem paradoxical to entrust to laymen selected largely by chance so much of the lawmaking function, but the paradox disappears

<sup>24</sup> In our trial sample, however, the jury was waived about 25% of the time.

<sup>25</sup> I exclude ship-collision cases tried in federal courts under the admiralty jurisdiction. These are cases where the plaintiff is invariably an enterprise, and where, it is interesting to note, there is no right to trial by jury.



when we recall that the formula requires a common sense lay judgment rather than a technical lawyer's judgment. If due care is taking cost-justified precautions, panels of randomly selected laymen, operating with such guidance as is afforded by the testimony of witnesses, the argument of counsel and the instructions of the judge, should be able to make roughly adequate judgments, at least much of the time. The nature of the required judgment, after all, should be familiar to anyone with experience of everyday life. We are constantly reckoning in our minds, in most instances unconsciously to be sure, the probability of an accident, the magnitude of the loss if it occurs, and the cost of taking precautions to prevent it from occurring. These judgments are implicit in the decision to climb a ladder, cross a street, step into the shower, or fly in an airplane, and similar judgments were no less inescapable in the period covered by the sample. Doubtless the cost judgments of juries are very crude in comparison to those that would be made by a market were a market in accidents feasible. But such a market does not appear to be feasible. The meaningful comparison is therefore to decisions by judges or administrators or legislators. And in that frame of reference juries may do quite well.

The evidence thus far examined indicates that the basic formal structure of the negligence system broadly supports an economic theory of negligence. However, there is a danger of being fooled when all one is looking at is the formal level of an institution, so the remaining portion of the article attempts a closer examination of the specific rules and results of the negligence system.

#### IV

Tables 2 and 3 categorize the accidents (other than industrial accidents) involved in the cases in our sample and indicate their relative frequency.

*Railroad Crossings.* Although cases involving accidents at railroad crossings constitute almost 9 per cent of the cases in the sample, more than any other type of accident case except suits against municipal authorities for highway and sidewalk defects, we find few particularized rules of common law governing the standard of care of railroads at crossings. The reason for this paucity seems to be legislative preemption. The cases contain repeated references to statutes and ordinances prescribing, often in great detail, the duties of a railroad at a crossing. The enactments fix speed limits, prescribe signals (bell or whistle) to be given at specified distances before reaching the crossing, require flagmen or gates at some crossings, and obligate the railroad to build and maintain safe crossings. On the whole, the statutory provisions seem appropriate from an economic standpoint. There are two kinds of cost that must be considered in designing optimum accident prevention measures for railroad crossings. The first is the cost to the railroad of

TABLE 2  
RAILROAD ACCIDENTS

Region	Date	Total cases	Total railroad accident cases <sup>a</sup>	Total such cases involving bodily injury or death	Crossing accidents	Trespassers	Total of columns 4 and 5	Passengers—derailments or collisions	Total passenger accident cases	Employees—derailments or collisions	Brakemen <sup>b</sup>	Total employee accident cases	Engine-spark cases	Trespassing stock—failure of railroad to fence	Total trespassing-stock cases	Private-railroad cases
New England	1875	20	1	1	1		1									
	85	17	4	4	1		1									
	95	34	9	9	1		1		2			3	1			
Total	1905	68	9	8	2		2	2	3	1	1	2	1			
		139	23	22	5		5		7		1	5				
Mid-Atlantic	1875	13	3	2												
	85	53	16	15	6	1	7	1	1	1	1	5	1		1	
	95	105	38	37	9	1	10	4	7	4	4	14				
Total	1905	153	31	30	14	3	17	1	1	4		6	1			4
		324	88	84	29	5	34	6	10	9	5	26	3		1	4
South	1875	8	3	2												
	85	7	7	7		3	3		1	2	1	1			1	
	95	41	27	17	4	2	6		2	2	2	8	3	2	7	
Total	1905	99	54	43	7	5	12	1	10	3	5	12		2	10	1
		155	91	69	11	10	21	1	13	7	8	23	4	4	18	1
North Central	1875	33	21	15	6	2	8									
	85	51	29	24	6		6		1	4	4	10	2	3	3	
	95	119	68	56	11	5	16	3	6	3	8	25	4	4	8	
Total	1905	186	61	54	16	1	17		8	5	8	21	1	4	6	
		389	179	149	39	8	47	3	15	14	21	61	7	14	23	
Border	1875	1														
	85	7	6	4	1		1	1	1			2			2	
	95	24	27	21	8	3	11		1		2	6	1	1	5	
Total	1905	36	19	17	2	2	4	1	4			5			2	
		78	52	42	11	5	16	2	6	2	4	13	1	1	9	
West	1875	17	14	7	1		1									
	85	35	20	10	2	2	4	1	1	2	2	4	1	4	7	
	95	122	71	60	13	3	16	4	16	9	9	25	4	7	10	1
Total	1905	194	97	78	15	5	20	4	17	5	7	28	5	12	14	1
		368	202	155	31	10	41	9	36	16	18	59	10	25	38	2
Federal Courts	1895	37	19	19	3	1	4	1	1	6	2	11				
	1905	38	15	13	2		2		1	3	3	7	2		2	
		75	34	32	5	1	6	1	2	9	5	18	2		2	
Total		1528	669	553	131	39	170	24	89	58	62	205	28	44	89	9
		92	42	27	8	2	10	1	2	5	4	11	2	7	14	
		170	82	64	16	6	22	2	8	6	7	21	3	10	15	
Total—1885		455	240	200	46	14	60	11	35	19	25	81	12	9	28	1
		736	271	230	56	16	72	9	42	42	21	74	9	18	32	8

Source: Judicial reports.

<sup>a</sup> Excluding cases involving private railroads (last column).<sup>b</sup> Injured other than in a train collision or derailment.<sup>c</sup> Excluding federal cases.

TABLE 3  
OTHER PRINCIPAL ACCIDENT TYPES

Region	Street Railway Accident Cases															Electric shock
	Date	Collision with vehicle or pedestrian	Passenger injured boarding or alighting	Total street railway cases	Highway or sidewalk defects: action against municipality	Other highway or sidewalk defect or obstruction, and unsafe premises	Road accidents <sup>a</sup>	Suits against the state or its agencies <sup>b</sup>	Ship collisions	Total sea cases	Hunting accidents	Dog bites	Floods	Defective products	Malpractice	
New England	1875				12	1			1	2	1					
	85				7	1										
	95	1		3	3	3	1	3		2	1					
Total Mid-Atlantic	1905	6	1	13	6	5	4	4	1	3		3				1
		7	1	16	28	10	7	8	2	7	2	3				1
	1875				4	2	2		1	1						
Total South	1875	85	3		7	6			1	4		2	1		1	
	95	14	2	19	7	15	3	1	1	6	1	1	1		1	2
	1905	19	11	49	10	6	7	7		3		1	1	2	2	1
Total North Central	1905	36	14	74	28	29	13	8	2	14	1	4	1	2	4	3
		1			2			1					1			
	1875	85								1					1	
Total North Central	95				3		1			1						4
	1905	8	2	12	5	7	1	1		1			1		1	4
		9	2	14	7	10	2	2		2						
Total Border	1875				4		1	1								
	85				9	2										
	95	1	1	3	9	2	3	1		1	1	1	1		6	1
Total West	1905	5	2	12	12	4	3	4		1		1	2	2	8	2
		15	8	31	18	9	3	4		1	1	2	3	2		
	1875	21	11	46	43	16	7	6		1	2	2	3	2		
Total Federal Courts	1875				1											
	85				2											
	95	1	1	2	2	1		2				1		1		1
Total Grand total	1905	1	3	4	2	3		3				1	1	1		1
		2	4	6	5	4							1			
	1875															
Total Federal Courts	85				2	6	3									
	95				14	6	1			1						
	1905	5	8	23	17	11	1	1		3			2		2	2
Total Grand total	1895	1	1	1	33	23	5	1		4			3		4	
	1905				1	1										
		2		4	1	3										
Total Grand total	1875	90	45	199	145	95	34	28	21	25	5	10	8	5	17	7
	1885	1	1	2	22	2	3	3	26	44			2		1	13
	1895	4	1	8	26	15	6	1	1	3	1	3	2		9	
Total Grand total	1905	29	10	53	38	33	9	5	11	11	2	2	1	5	4	3
		54	33	132	58	41	16	19	2	10	1	5	4	5	3	4
	1905															10

Source: Judicial reports.

<sup>a</sup> Not included in columns 4 or 5.<sup>b</sup> Not included in column 4.<sup>c</sup> Excluding federal cases.

stopping, slowing, or warning of a train's approach. It would be very difficult (costly) for railroad trains to stop at crossings to permit vehicles and pedestrians to cross, so railroads are never required to stop. It is relatively costless for the train to blow a whistle or ring a bell (the major cost, it appears from the cases in the sample, is the occasional frightening of a horse approaching the crossing), and it is not too costly for the train to slow down, although the cost rises as the speed limit is reduced. Somewhere in between stopping and signalling is the cost of manually or (rare in this period) electrically operated warning gates.

The second kind of cost is the delay, inconvenience, and sometimes danger to pedestrians and vehicles (in our period mostly horse-drawn wagons and carriages) of stopping to let the train pass. This cost will normally be low in sparsely populated areas and high where the road crossing the tracks is a busy thoroughfare. Accordingly, we would expect to find rules that require the railroad to give warning signals and slow down slightly at infrequently used crossings—thereby compelling the traveler to listen for the signals and, if necessary, stop before proceeding—but to go very slowly or, better, install warning gates at busy, particularly urban, crossings so that traffic can proceed in a smooth flow without constant stopping to check for approaching trains. Judging from the cases, that is just the pattern one finds in the statutes and ordinances. The only mystery is why the courts were not left to work out these rules on their own without legislative intervention. It is not as if the courts were likely to have formulated inefficient standards, for in those cases where there was no applicable legislative standard of care the courts created standards difficult to distinguish from the legislative. Thus, we find the courts ruling that it is for the jury to decide, depending on the circumstances, what kind of warning signal must be given at a particular crossing; that the permissible speed of a train at a crossing is a jury question; and that at a busy thoroughfare the duty to warn may not be discharged simply by a signal—there may have to be gates and a gateman. Other rulings include: a speed of 35-45 miles per hour is not negligent per se in a sparsely populated area; when backing across a crossing, a train must have a lookout, because people aren't on guard for a backing train; it is grossly negligent to "kick" a car across a busy thoroughfare without a warning; wholly apart from the requirements of any statute or ordinance, it is negligence per se for a train to approach a crossing without giving a warning. The last is the same rule as the legislative, for, as was pointed out earlier, the violation of a statutory standard of care is ordinarily treated as negligence per se.

We find much more judicial rulemaking with respect to the duties imposed upon the traveler—pedestrian, horseman, or wagon or carriage driver—at railroad crossings. The basic rule is that it is contributory negligence per se

not to look and listen when crossing a railroad track. But there are exceptions. Although ordinarily a crossing accident can be prevented at small cost, no matter how careless the train crew has been, by the traveler's looking and listening as he approaches the track, that is not so true of the busy thoroughfare, where the constant slowing of vehicles could cause considerable traffic delays and increase the likelihood of traffic accidents. A different rule is therefore applied when there is a gate at the crossing—we noted previously that gates are required precisely at the busy crossings. The traveler may rely on the open gate as an assurance of safety. Correlatively, it is contributory negligence per se to pass a closed gate.

The courts are alert to the special difficulties involved in controlling teams of horses. Where the view of an approaching train is limited, it is contributory negligence per se to approach the crossing at a fast clip (10 miles per hour). In contrast, where a road descends steeply to the crossing so that it is difficult to control a team, it is not contributory negligence per se to be unable to stop the team before it collides with an approaching train. In the first case, the accident can be prevented at low cost by the driver's moderating the speed of his team. The only practicable way of eliminating the second accident is by improving the grade of the crossing or by creating an unobstructed view of sufficient extent that the traveler can see an approaching train from the crest of the road before the descent to the crossing.

There are anomalies. In one case a traveler was held to have been contributorily negligent because he was struck while standing between two tracks on which trains were passing in opposite directions, although the evidence indicated that there was a clearance of only a few inches between the trains. A more important anomaly is the rule made famous by Mr. Justice Holmes many years later that it is contributory negligence per se not to stop, look, and listen at a crossing.<sup>26</sup> During our period the rule was followed in only one state, Pennsylvania (it was called the Pennsylvania rule). Even as applied by the Pennsylvania courts, the rule admitted of at least one exception. Where there were several parallel tracks, the traveler was barred from recovery if hit by a train after he failed to stop before the first track, but not if, having stopped before the first track, he was hit crossing a subsequent track before which he had not stopped. Once on the tracks, it is prudent to proceed quickly across them and not stop before each one; this much the Pennsylvania courts could perceive. Nonetheless the Pennsylvania rule was quite wooden and its rejection by the other states showed a sound instinct for the economics of railroad crossing accidents. The cumulative delay, inconvenience, and danger—in a word the cost—of making a full stop at every crossing would be considerable, especially at busy thoroughfares, and it would

<sup>26</sup> *Baltimore & Ohio R.R. v. Goodman*, 275 U.S. 66 (1927).

not be offset by the gain in safety. That gain would be trivial at busy crossings guarded by gates or flagmen, the very places where the costs of stopping are greatest, and even at many rural crossings. Often a driver has a better view of approaching trains when he is still some distance from the crossing. If he stops at the crossing he may actually reduce his chances of getting safely across, especially if the view at the crossing is obstructed by buildings or weeds. This is so even if he dismounts from his horse or gets out of his carriage for a better look: during the period required to get back into the carriage, start up the team, and cross the track, he may be helpless.

I have concentrated thus far on collisions at railroad crossings, but other crossing accidents—vehicles upset by defects in the crossing and horses frightened by train whistles—were also common and the courts formulated rules of conduct for them. One finds the courts ruling, uniformly and sensibly, that it is not negligence per se to blow a train whistle even if a horse is frightened by it and throws his rider. It is more important that the whistle be blown to warn travelers at the crossing and the horse's rider should know whether the horse has a skittish disposition and should govern him accordingly. (If the whistle is blown without any reason, the courts find negligence toward someone injured by the frightened horse.) The courts also hold that the railroad must maintain a safe crossing. In urban areas the full width of the crossing must be made safe for use by vehicles, in rural areas just the center of the crossing—a distinction that can again be referred to the heavier traffic at urban crossings.

*Trespassers on the Track.* The courts in our period were careful to distinguish between trespassers and licensees, the latter a term meaning essentially frequent users. Where people use railroad tracks as a path in great number and without any effort by the railroad to keep them off, the railroad is required to watch out for and warn them. Frequency of use not only increases the accident cost but is also evidence that the use of the track for a footpath may, like a crossing, involve significant benefits. The occasional walker on the track, however, is a trespasser entitled, as mentioned earlier, to nothing more than the duty to avoid knowing injury. This is so even when the train crews have previously noticed trespassers on the track and especially when they have erected fences or otherwise tried to keep trespassers off the right of way. (Only in Texas, it seems, was a different rule applied; there train crews were required to watch out for trespassers.)

With the no-duty-to-trespassers rule almost everywhere in force, one might expect few cases to arise. The significant number in the sample can be ascribed to an important qualification of the rule—the doctrine (applied also in other contexts) of “last clear chance.” Although the train crew had no duty to watch out for trespassers and hence was not negligent in failing

to see them, if it did see them in time it had to warn them or if necessary stop the train. This can be viewed as an alternative formulation of the principle that the land occupier owes trespassers a duty of avoiding a knowing injury to them.

The doctrine of last clear chance is a logical application of the Hand formula. Let it be assumed that the cheapest accident avoider in the usual railroad-trespasser case is the trespasser: he has only to avoid trespassing, which may be assumed to be less valuable than freedom from the interruption of railroading. The no-duty-to-trespassers rule places the prospective trespasser on notice of the risk he takes. But there will still be—we want there to be<sup>27</sup>—some trespassing, and at the moment when the train crew sees the trespasser and realizes that if it does not blow the whistle or stop the train he will be killed it is the railroad rather than the trespasser that at trivial cost can avoid an accident. The engineer has only to blow the whistle or apply the brakes.

The principal victims of accidents to trespassers appear to have been drunks and children. The courts ruled that if the train crew see a man staggering toward the track, obviously drunk, they must not assume that he will watch out for his own safety although this would be a proper assumption were he not visibly impaired. On the other hand, where a drunken man goes to sleep on the tracks and is run over, the no-duty-to-trespassers rule is invoked. It is held in a case involving a child that the engineer must not wait to see whether that object on the tracks is really animate. But where parents let a child play near the tracks, they, not the railroad, are responsible if the child is run over, assuming the train crew did not actually see it in time to stop.

*Trespassing Livestock.* Collisions between trains and trespassing livestock were another common type of accident in our period. And it is here that we find the other great burst of legislative activity in setting standards of care. At common law, the railroad owed a duty of care to trespassing stock. The train crew had to keep a reasonable lookout for stock ahead on the track, to avoid excessive speed, and to signal, or if necessary and possible stop the train, if it spotted stock ahead. At first glance it is paradoxical, if not revolting, that the law should have recognized a higher duty to trespassing animals than to trespassing children but the paradox is superficial. Trespassing animals are more helpless than trespassing people. Even young children generally know enough to get out of the way of an approaching train, while truly helpless infants as a rule lack the mobility required to get as far as the tracks. Trespassing animals are also more dangerous. A collision with a human

<sup>27</sup> See, e.g., *Ploof v. Putnam*, 81 Vt. 471, 71 Atl. 188 (1908), discussed in Richard A. Posner, *supra* note 10, at 225-26.

being will not derail a train; a collision with a 1200 lb. cow may. As we would expect, the law imposed reciprocal duties on the owners of animals, just as it did (as mentioned earlier) on the parents of children. If the owner negligently allowed his animal to stray onto the tracks, he was barred from recovering damages. At the same time, it was not assumed that there was an absolute duty to enclose domestic animals securely; it would be very costly to prevent all straying.

The contribution of the legislatures was to require the railroads to fence certain portions of their rights of way. Judging from the cases, statutes of this kind were common throughout the country during the period covered by our sample. Because the duty to fence was usually limited to areas where the right of way passed through enclosed or cultivated fields, and because it naturally did not apply at crossings, cases continued to arise in which the common law rules were applied, even in states that had fencing statutes. But many cases were brought under those statutes, which generally dispensed with proof of negligence although not to the point where strict liability was imposed. It was usually open to the railroad to show that a hole in the fence had appeared, without fault on the part of the railroad, so recently that it could not have been discovered by a reasonable inspection before the accident.

The reason that the common law did not require railroads to build fences against trespassing animals is illuminated by considering a parallel instance where the land occupier (usually a railroad) is required to fence against a trespasser. The doctrine of "attractive nuisance," applied in several cases in the sample, requires that where a condition is at once peculiarly dangerous and peculiarly attractive to young children (the usual example is a railroad turntable), the owner must fence it. It is cheaper for land occupiers to fence the occasional structure or piece of equipment presenting this special hazard than for parents to pen their children. It would be much more costly for railroads to fence the entire length of their rights of way; and farmers enclose their livestock anyway and probably have a comparative advantage in building livestock fences.

It is unlikely that the statutes reflect dissatisfaction with the accident level brought about by the common law rules. We may take it for granted that agricultural land along railroad rights of way would have been fenced whenever there was a substantial danger of cattle straying onto the tracks. The question was who should pay for the fence and its maintenance. Under the common law, it would normally have been the farmer. The fencing statutes shifted the cost to the railroads. The result was modestly to enrich farmers at the expense of railroad shippers (many of them farmers of course), stockholders, and employees. We observed earlier that redistribution of wealth is not likely to be an independent objective (it may of course be an



incidental effect) of the judicial application of the negligence standard. Neither in principle nor in practice is redistribution of wealth excluded as a major goal of legislation. Much legislation is in fact intended to redistribute income, and farmers have long been a favored class.<sup>28</sup>

*Engine Sparks.* The other important class of accidents involving damage to farmers' property by railroads in our period is that of fires set by sparks emitted from locomotive engines. The rule applied by the courts was that proof that a fire had been started by an engine spark created a prima facie case of the railroad's liability but that the railroad could rebut by showing that the engine was equipped with the latest and best spark-arresting equipment, properly maintained, and that the train was being operated in a careful manner. The last condition is important. The spark-arresting equipment of the time was not foolproof and an engine would emit more sparks when moving at a high rate of speed. If the railroad could show no reason why the train had been moving so rapidly as to increase the spark output greatly (benefit), then it would be held liable for the resulting crop or building damage (cost). The railroad was also responsible for keeping its right of way clear of highly combustible material, and reciprocally the farmer was responsible for not stacking ricks and other highly inflammable material too near the tracks during the dry season.

*Railroad Passenger Accidents.* We discussed earlier the high duty of care owed by railroads and other common carriers to their passengers. One basis for the rule, we noted, is that the passenger is rarely in a position to avert an accident, so we are not surprised to find that where a passenger is in a good position to avert an accident, the railroad is held to owe him a duty of ordinary rather than extraordinary care. The rule was applied mainly to passengers injured boarding or alighting from trains (and also, as we shall see in a moment, streetcars); here the passenger is usually in as good a position as the carrier to avoid an accident. The parties' reciprocal duties in the boarding and alighting situations were rather particularized. The railroad had to provide the passenger a safe method of ingress and egress and the train had to remain stopped long enough for the passenger to get to (or from) his seat. The passenger, in turn, had to wait for the train to stop, or at least slow considerably, before getting on or off; he had to watch where he was stepping; and he had to use the route to and from the train provided by the company. He was not to lean out of the car while the train was in motion. He was free to walk about in the car, but in a mixed train (passenger and

<sup>28</sup> See George J. Stigler, *Director's Law of Public Income Redistribution*, 13 J. Law & Econ. 1 (1970); George J. Stigler, *The Theory of Economic Regulation*, 2 Bell J. Econ. & Management Sci. 3 (1971).

freight cars) he had to watch out for the frequent jolts of this type of train especially during coupling.

We find few particularized rules dealing with railroad collisions, probably because there was usually nothing to argue about. A passenger cannot do anything to avert a collision between trains, so there are no interesting questions involving the duties of passengers. On the other hand, because a collision or derailment involving a passenger train tends to be a very serious matter (the cost of the accident is very high), the fact of the accident will by itself often be strong evidence of a failure to take cost-justified precautions. There will be some "unavoidable" accidents in the sense that the cost of preventing the accident would have been prohibitive, but these were apparently rare. Typical, evidently, is the case where one passenger train parked across the track of another railroad and was hit by one of the other railroad's trains. The second train was not expected, but the court pointed out that in view of the danger of a serious collision the crew of the first train should have sent a flagman down the track of the second railroad to warn any approaching train of the danger of a collision.

It is interesting that although the literature on railroading of the period is full of grisly stories of passenger-train collisions and derailments,<sup>29</sup> only 24 of the 669 railroad-accident cases in the sample involve injuries to passengers in collisions or derailments and in only two of these do I recall any indication of multiple deaths. Here is an interesting clue to another constitutional difference between the adjudicative and legislative modes of rule-making. Legislative rulemaking is very little shielded from the emotional impact of sensational and calamitous but perhaps isolated events. Judicial rulemaking is more insulated. There is the famous story of the legislature that was in session when a disastrous train wreck occurred and immediately passed a unique and thoroughly unsound law intended to prevent a recurrence.<sup>30</sup> This kind of thing was less likely to occur in the courts of our period. To begin with, the disaster would usually reach the courts after public recollection of the accident had faded. It might never reach them, either because the law was clear cut—as was generally true in collision cases—or because the railroad, which always had the option of settling the case out of court, decided it would be an inauspicious vehicle for persuading the courts of the merits of its position. Furthermore, since most railroad deaths and injuries occurred

<sup>29</sup> See, e.g., Charles Francis Adams, Jr., *Notes on Railroad Accidents* (1879); cf. Robert C. Reed, *Train Wrecks—A Pictorial History of Accidents on the Main Line* (1968).

<sup>30</sup> See Charles Francis Adams, Jr., *supra* note 29, at 94. A train had fallen into an open draw and the statute required all trains to make a full stop before entering any draw-bridge.

other than in passenger train wrecks,<sup>81</sup> that particular type of calamity would not, and as we have seen did not, bulk large in a judge's experience of the railroad-accident problem. He would have a more balanced impression of the problem of railroad accidents than a legislator who concerned himself with the problem only in rare moments of public uproar over a well-publicized catastrophe.

*Street Railway Crossing Accidents.* Streetcars—horse-drawn and, later in our period, electrically powered cars running on tracks laid in city streets—arrived on the scene much later than the steam-powered railway. The explosive growth of this mode of transportation is indicated in Table 4, which shows that street railway cases grew from 2 to 18 per cent of the cases in the sample between 1875 and 1905 while the percentage of steam railway cases was declining. The courts must have felt tempted to carry over the extensive body of law developed in steam railway litigation to the emerging problems of street railway accidents, and to some extent they did so, but with modifications that bring out clearly the basic economic character of the negligence standard.

Crossing accidents presented striking although superficial similarities to railroad crossing accidents. The street railway owned a right of way, usually running down the center of the street, where its tracks were laid, and the courts could have held that the railway owed no duty to other travelers who might happen to be using the right of way as a path or roadway, except at crossings. In fact they held that the street railway did not have a "paramount" right to use the streets even between crossings, which translated means that other vehicles were entitled to drive on the tracked portion of the street and that the streetcar's crew was required to maintain a constant lookout for vehicles and pedestrians. A persuasive basis for these rulings is that street railways, unlike steam railways, were occupying substantial swathes of major thoroughfares; to deny the use of these areas to other vehicles would have greatly constricted urban traffic arteries. Also, a streetcar can be stopped much more quickly than a train, partly because it is lighter, partly because it travels more slowly. Moreover, it appears that wagons and carriages in this period were not equipped with rear-view mirrors and frequently did not have an unobstructed rear view; the motorman in contrast always had a clear front view.

We find the courts making numerous careful distinctions that illuminate the economic foundations of negligence law. A pedestrian may not walk on the tracks if there is room to walk on the side (rarely are streets so

<sup>81</sup> See, e.g., Interstate Commerce Commission, *Statistics of Railways in the United States*, Fifteenth Annual Report 97-99 (1903), which discloses that of 8,588 persons killed in railway accidents in 1902, only 170 were passengers killed in collisions or derailments.

**TABLE 4**  
**PRINCIPAL ACCIDENT TYPES AS PERCENTAGES OF ALL CASES IN SAMPLE**

Region	Date	Railroad accidents	Street-railway accidents	Highway and sidewalk defects—actions against municipalities	Other highway and sidewalk defect and obstruction cases, and unsafe premises	Workers caught in machinery	All other
New England	1875	5		60	5		30
	85	24		41	6		29
	95	26	9	9	9	12	35
	1905	13	19	9	7	13	39
	Total <sup>a</sup>	17	12	20	7	9	35
Mid-Atlantic	1875	23	8	31	15		23
	85	30	9	13	11	6	31
	95	36	18	7	14		25
	1905	20	32	7	4	2	35
	Total <sup>a</sup>	27	23	9	9	2	30
South	1875	38	13	25			24
	85	100					0
	95	66	2		7		25
	1905	55	12	5	7	5	16
	Total <sup>a</sup>	59	9	5	6	3	18
North Central	1875	64		12	3		21
	85	57	6	18	4	4	11
	95	57	10	10	3	6	14
	1905	33	17	10	5	6	29
	Total <sup>a</sup>	46	12	11	4	5	22
Border	1875						
	85	86		14			0
	95	80	6	6	3		5
	1905	53	11	6	8		22
	Total <sup>a</sup>	67	8	6	5		14
West	1875	82					18
	85	57		6	17	3	17
	95	58	13	11	5	1	12
	1905	50	12	9	6	5	18
	Total <sup>a</sup>	55	11	9	6	3	16
Federal Courts	1895	51	3		5	3	38
	1905	39	8	3	3	3	44
	Total <sup>a</sup>	45	5	1	4	3	42
	Grand total <sup>a</sup>	44	13	9	6	4	24
	Total <sup>b</sup> —1875	46	2	24	2		26
Total <sup>b</sup> —1885		48	5	15	9	4	19
	Total <sup>b</sup> —1895	53	12	8	7	3	17
	Total <sup>b</sup> —1905	37	18	8	6	5	26

Source: Judicial reports.

<sup>a</sup> Or average.

<sup>b</sup> Or average. Federal cases excluded.

congested that pedestrians must walk in the middle of the street, where the tracks are located, to avoid being seriously inconvenienced). The motorman need not slow down just because he sees people standing at the corner or on the sidewalk; he can assume they will wait for him to pass. However, if he sees a darting child, he cannot indulge that assumption. Parents must make reasonable efforts to keep their young children off streets where streetcars run, as by keeping their yard fenced if they abut a street that is on the streetcar's route, or by entrusting care of the child, when it is playing in the vicinity of streetcar tracks, to a responsible older child.

This is a convenient place at which to note that the much criticized common law rule imputing the negligence of the parents to the injured child had a plausible basis in economic analysis, however distasteful to modern sensibilities. In a period when, as mentioned earlier, children may sometimes have been valued largely as income-producing assets, one could not rely on parental affection alone to protect them against unreasonable hazards. Therefore it was appropriate to condition compensation on the parents' taking reasonable precautions to prevent accidental injuries to their children. A mixture of (1) careful lookouts, well maintained brakes, and moderate speeds on the part of the street railway,<sup>32</sup> and (2) parental supervision, must have seemed a cheaper method of obtaining an efficient level of accidents than imposition of all of the responsibility for accident avoidance on the street railway. A rule of imputed negligence, which barred the parents from suing in respect of an injured child if their own negligence contributed to the accident, was necessary to achieve this mixture.

*Street Railway Passenger Accidents.* Collisions in which streetcar passengers were injured were not, it seems, a frequent subject of litigation. The standard of high care followed in railroad-collision cases was followed in streetcar-collision cases for the same reasons, and was not followed—again as in the railroad context—with regard to other kinds of passenger accident. Thus, the sample contains many cases where a passenger is injured by a sudden jolt, rather than by a collision, and the rule is that a mild jolt is not evidence of negligence but a severe one is. The danger to passengers posed by slight jolts is small while the cost of making streetcar rides absolutely smooth would have been very high. The balance tends to be reversed in a severe jolt. In a number of cases injury occurred only because the passenger was standing on the platform of the car rather than sitting down in the car. The rule applied here was that if there was room to sit down in the car, it was contributory negligence per se to remain standing on the platform, where the

<sup>32</sup> We find some legislation specifying street railways' duties with respect to other vehicles and pedestrians, primarily speed limits, but the pattern of regulation is less pervasive than in the case of railroads' duties at crossings.

danger from sudden jolts was much greater. The street railway in turn was obligated to avoid overcrowding.

A number of cases involve accidents to passengers boarding or alighting from streetcars. Typically the issue is whether the accident resulted because the streetcar started up too quickly, before the passenger had a chance to get on (or off), or because he was trying to board (or alight) before the car had come to a full stop. In the judicial consideration of this issue, once again we find the attention to relevant if fine distinctions that seems characteristic of the common law method of rulemaking. It is not contributory negligence *per se* to board a car with one's arms full of packages—how else does one get one's shopping home? When a car is stopped and the doors open, the motorman or conductor must look out for boarding or alighting passengers and must not start the car until he sees that no one is trying to get on or off. If an oiling box is so placed on the running board of a car that it is likely to trip a descending passenger, the street railway is negligent; the running board was improperly designed.

*Highway and Sidewalk Defects.* Injuries to drivers (usually of wagons or carriages) caused by defects or obstructions in highways, and to pedestrians caused by defects or obstructions in sidewalks, were a staple of negligence litigation in the period embraced by the sample. The city or other public authority responsible for road and sidewalk maintenance is the most common defendant but we also find frequent actions against abutting owners who have obstructed the sidewalk. Where the city is a defendant, it is common for the action to be brought under a statute. But the statute usually does not establish a standard of care. The purpose is either to waive the city's sovereign immunity (although there was authority that no waiver was necessary because the maintenance of streets was a proprietary rather than governmental function) or, more commonly it would seem, to impose a requirement unknown at common law that anyone injured as the result of a street or sidewalk defect must notify the city immediately, in advance of filing suit.<sup>83</sup>

The courts ruled that the city was liable if, and only if, (a) there was a defect apparent to reasonable inspection, and (b) either the city actually knew of the defect or the defect had existed for so long that the city should

<sup>83</sup> Again, we find some statutes specifying the standard of care—for example, one requiring the city to use hemlock planks in its sidewalks. This statute exemplifies a characteristic of tort legislation that I have discussed elsewhere—its tendency to be more categorical and less flexible in the duties imposed than common law rules. Cf. Richard A. Posner, *supra* note 10, at 233. Speed limits are another good example of this. We find many cases in which the courts of our period say that, in the absence of a legislative speed limit, no speed is negligent *per se* or non-negligent *per se*; it is for the jury to decide whether, in the circumstances, the defendant was traveling at a safe or an unsafe speed.

have known about it. A defect in this context was a condition that posed a substantial danger of injury to a passerby. A hole so small that it would not catch a foot but might catch a crutch was said not to be a defect, and the unarticulated premise of the distinction, we may speculate, is that, since crutches are an uncommon means of locomotion, the total accident cost created by the small hole is likely to be slight, while to discover so small a hole would require a much more careful (costly) inspection than if it were larger. The courts were properly impressed by evidence that thousands of people had traversed a defective area without incident before the accident giving rise to the suit; such experience would suggest that the benefits of accident prevention, and hence the maximum cost-justifiable effort to discover and remove the defect, were small.

In an era when sidewalks were frequently made of wood and streets were often unpaved, an absolute duty to keep highways and sidewalks free from defects, implying as it would constant inspection, could not have been justified by its benefits in preventing accidents, especially when we consider the ability of the pedestrian or driver to protect himself against a defective roadway or sidewalk. No such duty was imposed. The city's duty was reasonably diligent, reasonably frequent inspection. At a busy intersection, where expected accident costs would be high due to the frequency of use, the city might be held negligent if a defect discoverable by a reasonable inspection remained unrepaired for a day or even a shorter period. The standard was less exacting when the defect was in a less frequented thoroughfare. The sliding scale accords with the economic approach to negligence.

Cases frequently arose involving the duty of the city to keep the sidewalks clear of snow and ice, and the courts made some interesting distinctions. In areas where the winter is severe, such as Illinois, cities were held not to be responsible for accidents caused by snow or ice on the sidewalks unless it had been permitted to remain for an unreasonable length of time, liberally construed, or unless the accumulation was due to a defect for which the city was responsible. In areas of mild climate the courts ruled that the city must clear the sidewalks promptly. Why the distinction? In areas of normally severe climate people are accustomed to snow and ice under foot and routinely equip themselves against their hazards, so the risk of injury to them is small. Moreover, the cost of removing large accumulations is great, especially if one can anticipate that the ground will again be covered in a few days or weeks. In a mild climate, people are less prepared to cope with dangerous conditions created by ice or snow. The danger is therefore greater at the same time that the costs of removal are less.

An important group of highway-defect cases involves the safe design of highways. Rulings such as that highways with steep embankments must be

railed and that sidewalks need not be built along country roads are significant in view of the charge that the fault system in dealing with road accidents looks myopically only among the drivers for the cheapest accident avoider and ignores the possibility that the accident could have been avoided at least cost by a safer design of the road.

Contributory negligence was frequently invoked as a defense in actions involving highway and sidewalk defects. The courts held that the pedestrian does not have to scrutinize every foot of the sidewalk in front of him; the driver who is watching for vehicles approaching at an intersection is not expected simultaneously to be searching the street for potholes; a passerby need not cross the street to avoid a defect, although he must exercise care in traversing the defective portion. These rulings reflect the considerable costs in inconvenience and delay that would be incurred if travelers took every possible precaution to avoid defects. Because highway and sidewalk defects in our period caused relatively few serious injuries, the same degree of caution that one might demand of a man driving an automobile could not have been cost justified, especially since there were dangers in devoting all of one's attention to skirting potholes (one might get hit while crossing to the other side of the street).

I forgo discussion of any other accident types involving injuries to third persons in order to turn my attention to industrial accidents. The categories we have discussed comprise approximately 58 per cent of the cases, other than industrial-accident cases, in the sample, and while it would be interesting to discuss the rules that the courts evolved for dealing with dog-bite and hunting and ship-collision and malpractice and (especially) electrical-shock accidents, it would extend this paper unduly to do so and the additional evidence would only be cumulative.

*Industrial Accidents* (Table 5). The courts in our period gave much attention to the problem of separating conduct covered by the fellow-servant rule from conduct not covered. A number of criteria for determining the scope of the rule competed for judicial favor. Under the "superior servant" doctrine, the employer was liable for an accident caused by the negligence of an employee superior in rank and empowered to give orders to the injured employee. Under the "different department" rule, the employer was liable for the negligence of an employee in a different department of the company from the one in which the injured man worked. Under the "common employment" rule, fellow servants were those who worked in reasonable proximity—on the same line of the railroad, the same building project, in the same plant—although they might belong to different trades and be foremen as well as common workers. In terms of the economic considerations analyzed in our previous discussion of the fellow-servant rule, the common-employment test is



TABLE 5  
ACCIDENTS TO EMPLOYEES

Region	Date	Total cases in- volving employees	Cases			Type of Accident									
			As percentage of all cases in sample	Percentage of cases in which employee prevailed in ap- pellate court	Same, all plaintiffs in sample	Total employee cases, excluding railroad employees	Caught in machinery—any industry	Sawmill	Coal mine	Textile manufacturing	Other manufac- turing and mining	Construction	Electrical Industry	Laundries	
New England	1875	3	15	67	60	3		1			1	2			
	85	1	6	0	47			1							
	95	15	44	43	35	12	4	2		1	3	2			
1905		24	35	42	47	22	9	2		7	4	3			
Total <sup>a</sup>		43	31	43	46	37	13	5		8	8	7			
Mid-Atlantic	1875	4	31	0	69	3									
	85	13	25	31	45	8	3		1		6	1			
	95	26	25	38	54	12				2	2			2	
1905		43	28	55	50	37	3	2	5	15		15		1	
Total <sup>a</sup>		86	27	44	51	60	6	2	6	17	8	16		3	
South	1875	1	13	0	13										
	85	2	29	50	43										
	95	10	25	20	41	2	5	5	1	1	1		1	1	
1905		27	27	67	59	15					6		1		
Total <sup>a</sup>		40	26	53	51	17	5	5	1	1	7		2	1	
North Central	1875	7	21	50	45	5		1							
	85	13	25	38	51	3	2	1			2			1	
	95	43	36	40	49	18	7	2	2	1	7	1			
1905		77	41	49	58	56	11	7	11		29	10	1		
Total <sup>a</sup>		140	36	45	53	82	20	11	13	1	38	11	1	1	
Border	1875			0	0										
	85	2	29	0	29										
	95	7	21	57	44	1					1				
1905		8	22	38	38	3		1	1		3				
Total <sup>a</sup>		17	22	41	48	4		1	1		3				
West	1875	4	24	67	41										
	85	3	9	100	51	1	1	1							
	95	31	25	48	34	6	1	3	2				2		
1905		62	32	45	35	34	9	6	1		16	4	3		
Total <sup>a</sup>		100	27	48	54	41	11	10	3		16	4	5		
Federal Courts	1895	14	38	64	73	3	1				3				
1905		15	39	53	61	8	1		1		3				
Total <sup>a</sup>		29	39	59	67	11	2		1		6				
Grand total <sup>a</sup>		455	30	47	52	252	57	34	25	27	86	38	8	5	
Total <sup>b</sup> —1875		33	36	41	48	11		1			1	2			
Total <sup>b</sup> —1885		34	20	37	48	12	6	3	1		8	1			
Total <sup>b</sup> —1895		132	29	42	49	51	12	7	4	4	14	3	3	3	
Total <sup>b</sup> —1905		241	33	50	54	167	38	23	19	23	57	32	5	2	

Source: Judicial reports.

<sup>a</sup> Or average.

<sup>b</sup> Or average. Federal cases excluded.

the most appropriate, and is in fact the one most frequently applied in our period. From the standpoint of encouraging employees to monitor the safety of each other's activities and to report dangerous conduct to the employer on pain of being barred from compensation in the event of injury, it is inessential whether the other employees are of the same rank or belong to the same department but crucial that they be working in reasonable proximity: otherwise there is no opportunity for observation. Reasonable proximity is not a sufficient condition, however; this the courts also recognized. An employee who may sometimes be a superintendent or a foreman but need not be may have superior knowledge that invites reliance and precludes effective evaluation by other workers. This situation arises again and again in cases involving defective scaffolds, apparently a common problem in this period. The scaffold is built by a crew of carpenters and then a bricklayer, employed by the same employer on the same job and, probably, a member of the same department, is injured working on the scaffold because of a knot in the wood or because the scaffold was improperly buttressed. The courts usually hold the employer liable.

The attempt to differentiate between those situations, within the common-employment test, where employees can monitor each other's safety and those where they cannot produced a spate of "nondelegable" duties of the employer to the employee. The employer must provide the employee with a safe place to work, as in the scaffold case. He must furnish and reasonably maintain the safety appliances common to the trade. He must warn the employee of defects or hazards that the employer can discover by the exercise of reasonable diligence but the employee cannot. He must promulgate reasonable safety rules. He must not hire or retain incompetent employees. The combined effect of these rules was to limit the application of the fellow-servant rule to approximately those areas where the employee was reasonably competent to discover and report negligent conduct endangering him. The pattern that emerged with respect to railroad collisions is illustrative. If a member of the operating crew is injured through the negligence of another operating employee, a brakeman, fireman, switchman, or engineer, whether on his train or another train of the employer on the same line, the employer is not liable. But if the cause of the accident is that the railroad failed to install the block system for preventing collisions that is used on most railroads, or didn't have enough telegraph offices, or hired an 18-year-old boy with a record of falling asleep on the job for the sensitive position of telegraph operator, or failed to inspect foreign cars for defective parts, or did not check the rails at reasonable intervals, or failed to discharge a drunken engineer after his drunkenness had been reported to a supervisory employee, then the railroad is liable.

The sample also contains many rulings elaborating the assumption of risk

doctrine. Their effect is to give the worker the level of safety for which he bargained. If the hazards of unguarded moving parts in machinery are obvious to an employee in view of his previous experience with machinery, the company has no duty to warn him of those hazards; he may be assumed to know them and to be compensated for assuming them in his wage. If a person is hired for hazardous duty, such as making the roof of a mine safe against the danger of cave-ins, the employer's normal duty to provide a safe place to work does not apply; the employee is being paid to make the place safe for other employees. If the employee is a child, less knowledge about the hazards of unguarded machinery will be presumed.

An interesting and recurrent problem involves promises to repair. An employee notices a defect in machinery that he is working with and reports it to a supervisor. The supervisor either promises to repair it or assures him that it is in fact safe. Unless the danger of continuing to work at the machine is patent and extreme, the employee will not be deemed to have assumed the risk if he is injured as a result of the defect's not being repaired despite the supervisor's promise or proving defective despite the supervisor's assurance. The promise or assurance is an inducement to continue working upon which the employee relies and will be enforced by requiring the employer to compensate him for any injury.

The courts in these cases are simply enforcing the employment contract. The employee is paid to take certain risks, those known or obvious to him. If he is injured as the result of a risk that he did not know about (or was told would be eliminated) and therefore did not bargain for, the employment understanding has been breached and he is entitled to damages. A brakeman who works on a logging railroad that runs on wooden rails assumes a higher risk of being injured by a derailment than if he were working on a regular railroad—but he does not assume the risk, in the absence of an explicit warning, that the rails are not only wooden but rotten.

In one area, however, the reasoning of the courts was inconsistent with an economic theory of industrial-accident liability. There are several cases where an employee, injured on the job, sustained further injury as a result of negligent treatment by the company doctor. The courts hold that where the company made no profit from providing medical service to its employees, it is liable only if negligent in having originally hired (or failing to fire) the doctor. The fact that the services were provided "free" or "at cost," however, is beside the point. They were a part of the employee's compensation and the only question should be, what was his reasonable understanding with regard to the level of care that the company doctor would furnish him if he were injured? The courts—which ignored that question—were misapplying the doctrine of the immunity of charitable institutions from tort liability. That

doctrine, itself an anomaly in a system of law concerned with achieving an efficient level of safety, may be understood as a subsidy for charitable activity. The provision of a company doctor, in contrast, is a term in an employment contract.

If the courts in the industrial-accident context seem in the main to have been following the precepts of economic efficiency, the picture changes when we turn to the considerable legislative activity in the field of industrial accidents that is reflected in the cases in our sample. Many states enacted employers' liability acts for railroad employees that modified the common law in material respects, such as by abrogating the fellow-servant rule, curtailing or eliminating assumption of risk as a defense, and providing that conformity to the lawful order of a superior servant excuses an employee from the duty to act carefully. Similar provisions were sometimes enacted for other industries. In addition, a number of specific safety measures were enacted. Railroads are required to give engineers and firemen eight hours rest out of 24; if a crew has served more than 16 hours consecutively and there is an accident the railroad is strictly liable to any injured employee. Fenders or guards must be placed on machinery. Employers are strictly liable for accidents to children under 16 who are put to work with dangerous machinery. Coal operators must hire pit bosses to maintain safe conditions in the mine and are liable for accidents resulting from a pit boss's mistake. There are statutes prescribing fire escapes for factories and creating liability when workmen are injured by a defective scaffold.

The effect of the statutes is to whittle away at the fellow-servant rule and at the doctrine of assumption of risk; later statutes were to abolish both rules completely. It is unlikely that the purpose in modifying the common law rules was to bring about a better approximation to the efficient level of safety and accidents. Any marked inefficiencies in the common law approach would have been self-correcting. Were there little taste for working in hazardous conditions, we would expect to find employers voluntarily upgrading the safety of employment conditions in order to economize on wages. Similarly, if the fellow-servant rule did not accomplish an efficient division of safety policing functions between employer and employee, we would expect to find the parties abrogating the rule by contract. Yet the sample contains only one case in which the basis of a suit for injuries sustained by an employee was an agreement by the employer to indemnify him for accidental injury regardless of fault, rather than the employer's common law or statutory duty.

It would appear that the purpose of the legislation was to improve the lot of the risk-neutral or risk-averse worker at the expense of risk-preferring workers (and of consumers). No longer could a company hire a man at a lower net cost than the other applicants for the job because he was willing to

work for a risk premium that was smaller than the cost of a safety appliance that would eliminate the risk.

*Regional Differences in Liability Rules.* I have been discussing the rules of liability as if the United States were a single jurisdiction for accident-law purposes, but of course it is not. States were free to experiment in matters of accident law. In an effort to test the importance of regional differences to the negligence system, I classified the data collected in the study by region—New England, Mid-Atlantic, South, North Central, Border, and West. The federal courts were classified as a separate jurisdiction since the tort law applied in the federal courts was federal common law, not the common law of any state. The regional boundaries differ slightly from those of the conventional regions whose names were borrowed, because I wanted them to be politically homogeneous.

Using as my touchstone how a state's vote for the People's Party Presidential candidate in 1892 and the Democratic Presidential candidate (William Jennings Bryan) in 1896 compared with the national average I came up with three "radical" regions—South, Border, and West—and three "conservative" regions—New England, Mid-Atlantic, and North Central.<sup>34</sup> These regions would seem to correspond to economic and cultural as well as political differences.

One finds significant regional differences, mainly in the mixture of accident types and in the per capita rate of litigation,<sup>35</sup> but not in the rules of liability applied,<sup>36</sup> either common law or statutory. Nor do such variations as one finds in the level of damages award in different regions<sup>37</sup> correlate with political differences. Perhaps, then, the negligence system operated without very much political interference during our period.

<sup>34</sup> The composition of the regions is as follows: New England—Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; Mid-Atlantic—Delaware, Maryland, New Jersey, New York, Pennsylvania, and West Virginia; South—Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and Virginia; North Central—Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio, and Wisconsin; Border—Kentucky and Tennessee; West—Arizona, California, Colorado, Idaho, Kansas, Missouri, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, South Dakota, Texas, Utah, Washington, and Wyoming.

<sup>35</sup> See Table 4, *supra*, and Tables 12 and 13, *infra*.

<sup>36</sup> To be sure, where there are relevant economic differences among regions, we expect to and do find corresponding differences in the rules of liability; liability for sidewalk snow and ice is a good example. The fact that there are rather few such examples is not surprising when we reflect that although the proportion of urban and rural areas and the mixture of industry varied widely among the regions, thus resulting in a quite different mixture of accident case types from region to region, it does not follow that within a type of activity (walking down a city street, boarding a streetcar, etc.) there would be economically significant regional variations that should lead, under our theory, to different rules of liability.

<sup>37</sup> See Tables 6-9, *infra*.

*Particularization of the Standard of Care.* In conclusion of our discussion of the rules of liability, it is interesting to observe the *number* of particular rules of liability that may be found during our period. The reader should bear in mind that the rules we have discussed are based on only a small fraction of the total number of accident cases decided by appellate courts between 1875 and 1905. The frequent criticism of the fault system as the unpredictable product of the caprices of individual juries ignores the continuous and pervasive rulemaking, some statutory and some common law, that went on. The set of negligence rules constituted not an ambiguous moral imperative but a comprehensive code of safety regulation, lending point to Holmes' comment, made with specific reference to accident liability, that the tendency of the common law is to become more certain and to precipitate specific rules of conduct from general principles.<sup>88</sup>

## V

To summarize the evidence thus far discussed, I discern no systematic bias in the law of negligence as it was applied between 1875 and 1905 in favor of industrial growth and expansion, except insofar as the efficient use of resources may be thought to foster, or perhaps to be the equivalent of, economic development. The common law seems to have been fairly evenhanded in its treatment of the claims of victims and injurers. The rules of liability seem to have been broadly designed to bring about the efficient (cost-justified) level of accidents and safety, or, more likely, an approximation thereto. The tendency of legislatures in safety matters, in contrast, was to retard industrial expansion by enacting statutes protecting farmers and workers. The rhetoric of the protectionist movement portrayed the common law courts as indifferent to safety. But this characterization is imprecise. One can think of many rules, common law and legislative, that would have reduced the accident bills of railroads and other industries below an efficient level (and thereby have stimulated more rapid industrial growth), but we do not find such rules.

Our examination of the evidence, however, is not complete. Rules of liability and general organizing principles are not the only components of a

<sup>88</sup> Oliver Wendell Holmes, Jr., *The Common Law*, *supra* note 3, at 111-129. A number of treatises were written during our period on or relating to specific areas of negligence, and setting forth specific duties of care in great profusion, such as Wharton on Negligence, Campbell on Negligence, Bishop on Noncontract Law, Addison on Torts, Cooley on Torts, Keasberg on Electric Wires, Baldwin on Railroad Law, Elliott on Railroads and Street Railroads, Beach on Law of Railways, Dillon on Municipal Corporations, Labatt on Master and Servant, Nellis on Street Surface Railroads, Beach on Contributory Negligence, Bailey on Master's Liability for Injuries to Servants. These works are much cited by the courts in the cases in our sample.

legal system. Even if we were confident that the thrust of the system was toward achieving an efficient level of accidents and safety, we would want to explore how far it had carried. We need to look more closely at the practical operating level of the system. Unfortunately the data are fragmentary and only the most tentative conclusions possible.

*The Economic Adequacy of the Common Law Negligence Rules.* In principle, we have said, the negligence system should bring about the cost-justified level of investment in safety, but what about in practice? We lack sufficient information about the actual costs of alternative safety methods and appliances in the period between 1875 and 1905 to go much beyond the general appraisal of liability rules attempted in the preceding part of the paper. But there is important indirect evidence. Almost half the cases in the sample involve accidents arising in the course of a contractual relationship between the participants. The costs of contracting specifically with reference to safety need not be negligible merely because the parties have contracted with reference to some other term of their relationship, but neither should they be completely prohibitive. If, therefore, the common law rules were markedly inefficient we would expect to find numerous cases in which the participants in the accident had specified in advance their respective liabilities yet we find almost none. Nor do we find much statutory activity that can plausibly be interpreted as having been evoked by the inability of the common law to bring about efficient levels of safety.

But in one respect there are both analytical and empirical grounds for thinking the common law probably did not do a very good job. We referred earlier to the relevance of customary practices in defining the standard of care and to the significance, for an economic analysis of the negligence concept, of the courts' rejection of compliance with custom as a defense to a negligence action. The sample contains no case in which an enterprise was held to have been negligent for having failed to introduce a safety method or appliance not generally in use in the industry. All kinds of safety appliances were introduced during the period embraced by the sample: in railroading alone, there were the automatic coupler, the air brake, the steel car, steel rails, the electric block system for preventing collisions, and many others.<sup>39</sup> The safety standard is higher at the end of the period than at the beginning but there is no evidence that the law of negligence had anything to do with raising it. On reflection this is not surprising. A plaintiff who before the first railroad had installed the Westinghouse air brake tried to prove that the cost of the appliance was less than its benefits in accident prevention faced a terribly uphill struggle. There was a natural reluctance to permit a jury or

<sup>39</sup> See Charles Francis Adams, Jr., *supra* note 29; Carl S. Vrooman, *American Railway Problems in the Light of European Experience* 182-204 (1910).

even a series of juries to decide that the railroad industry, not just one backward line, should be investing very substantial sums in an unproven and inevitably controversial new appliance: the air brake was much derided in railroading circles when it was first invented.<sup>40</sup>

If the law is not responsible for major innovations in safety methods, what is? Although the question lies somewhat outside of the scope of this paper, I shall venture an answer. There are few areas, certainly in railroading, where the introduction of a safety appliance would benefit only third parties, whose injuries an enterprise will take account of only if forced to do so by the state. Spark-arresting equipment is one, and it is perhaps significant that the courts required railroads to install the "best and latest," not merely the customary, such equipment. But the air brake, for example, protected not only, or even primarily, trespassers on the track and travelers at crossings. It protected passengers, thereby increasing the demand for railroad travel; the railroad's equipment, thereby reducing its repair and replacement bill; and the railroad's employees, thereby reducing the risk premium that it had to pay its workers and the loss of human capital invested in injured workers. Industry had strong incentives, wholly apart from liability, for introducing air brakes and this is true of most other safety appliances.

I remarked earlier the affinity between the economic market and common law adjudication as methods of allocating resources. Our discussion of the difficulties faced by courts in compelling adoption of major safety innovations points to a fundamental difference between the methods. A market is strongly conducive to an honest valuation of goods. If you say that something is worth a dollar, and then actually buy it, I will be inclined to believe what you said; you put your money where your mouth was. The credibility conferred by a demonstrated willingness to pay is wanting in negligence suits. The plaintiff may argue that the expenditure by the railroad industry of \$X million on safety appliances will prevent \$2X million in accident losses, properly discounted, but since he is not about to make any such investment himself, his statement will be greeted with a measure of skepticism. The cost of overcoming that skepticism is likely to exceed his stake in the outcome of the case.

For the same reason we should not expect the courts to attempt interindustry safety comparisons, although the Hand formula, followed literally, would require them to do so. Suppose the cost of installing air brakes would exceed the cost of the accidents that they would prevent; that does not conclude the analysis. If a system of canals and roads provides nearly as fast and cheap a method of transportation as the railroads, and one that is a good deal safer, the economically optimizing solution may be neither to re-

<sup>40</sup> Charles Francis Adams, Jr., *supra* note 29, at 204.



quire the installation of air brakes nor to countenance the accidents resulting from their absence, but, rather, by making the railroads liable, to induce the substitution of canals for railroads.

The displacement of one industry by another is a common result of the operation of the market, but one can understand why courts would be unwilling to attempt to determine analytically whether such a displacement was justified. This is a serious limitation of the negligence system as a method of optimizing the allocation of resources to safety. Yet the courts did not brush the problem under the rug entirely. They carved an important exception to the standard of negligence for ultrahazardous activities, such as blasting. Those are by definition activities where unavoidable accident costs are great, and therefore where one is most likely to find that an alternative method of achieving the same result (digging instead of blasting) is cheaper when unavoidable accident costs are taken into account. A rule of strict liability—the rule applied to activities classified as ultrahazardous—compels them to be taken into account.

Railroads are dangerous, but the danger is mostly to passengers and employees,<sup>41</sup> who are presumably compensated by the railroads for any danger. The social benefits of railroad transportation in the late nineteenth century greatly exceeded any reasonable estimate of the costs of unavoidable railroad accidents to strangers and enable us to conclude that railroads would not have been displaced by canals and roads if railroads had been made liable for those costs.<sup>42</sup>

The problem of the honest valuation also plagues the negligence system in computing damages. If I testify in a negligence suit that the loss of my little finger was a source of unbearable psychological agony, for which \$100,000

<sup>41</sup> In 1891, for example, of 40,910 people reported to have been killed or injured by railroads, 32,065 were passengers or employees (and some of the others also had a contractual relationship with the railroad). United States Department of Commerce, Bureau of the Census, *Historical Statistics of the United States—Colonial Times to 1957*, 437 (1960).

<sup>42</sup> The social saving resulting from the existence of railroads has been estimated, for the year 1890, as somewhat more than \$400 million. See Introduction to Part III, in *The Reinterpretation of American History* 98, 101-02 & n.4 (Robert William Fogel and Stanley L. Engerman eds. 1971). If we assume that under the negligence standard railroads would not have been liable to one half of the 8,845 killed or injured in railroad accidents to strangers in 1891 (see note 41 *supra*; statistics for 1890 not available), and we assume an average cost of \$3944 per fatal and \$4227 per nonfatal accident (see Table 7 *infra*), then strict liability would have increased the costs of railroading by a little more than \$18 million that year. And this ignores the fact that the substitute modes of transportation, especially roads, were not accident-free. To be sure, railroads probably could not capture in their rates the full social saving from railroading. But if we compare our estimate of unavoidable accident costs to strangers with total railroad operating revenues in 1890, we find that the former is only 1.7% of the latter. See *Historical Statistics of the United States*, *supra* note 41, at 434.

would barely compensate me, I am likely to be disbelieved; not so if I refuse a bona fide offer of \$100,000 for my little finger. Yet the variance in the values that people attach to avoiding pain and disfigurement is doubtless great. A market in accidents would recognize and reflect this diversity of tastes; the judicial surrogate for the market tends to suppress it.

*The Collectibility of Judgments.* Among other points at which a negligence system might operate less well in practice than in theory, there is the problem of injurers who, because they have no assets out of which to pay a tort judgment, will not be induced by the threat of liability to take cost-justified precautions. The defendants in most of the cases in the sample are substantial enterprises—railroads, street railways; other business establishments, public authorities. But there may have been other injurers who were not sued because a judgment would have been uncollectible. The obvious place to look for such injurers is in highway accidents; and it is a striking fact that only 2 per cent of the cases in the sample grow out of such accidents. Since automobiles were virtually unknown during our period, it may seem plausible to conjecture—I have found no statistics—that highway accidents, at least ones involving serious injury, were rare. But I am inclined to be skeptical. The fact that there were many suits against cities for highway accidents caused by defective roadways indicates that people did get seriously hurt in wagon and carriage accidents and many of these accidents must have been collisions.

*The Prosecution of Negligence Claims.* Injurers might avoid liability if victims of negligence were frequently unable or unwilling to press their claims. Most accidents in our period ranged a working man or a member of a working man's family against a railroad or other large enterprise. The level of education and income was lower than today and the proportion of recent, non-English-speaking immigrants higher. It is widely assumed, moreover, that the taste for litigation is unevenly distributed: some people or groups are supposed to be highly litigious and others reluctant to enforce even meritorious legal claims. Most important is the cost of legal services, perhaps prohibitive for poor people.

We are remitted once again to indirect evidence. Let us begin with cost. An accident victim will not spend more money on litigation than he can reasonably hope to obtain in damages. If, therefore, we find many cases being litigated where the amount of damages is small, we may be able to infer that the cost of litigation is also small. More than 25 per cent of all property cases in the sample involve judgments of less than \$100. There is some evidence that \$100 or so was the rock-bottom claim worth suing on. Many states in our period permitted recovery of double the actual damages in stock-killing cases. The average price of a horse at this time was

TABLE 6  
NATURE OF INJURY

Region	Date	Death cases	Amputation and other very serious injuries	Nonserious bodily injury	Property damage <sup>a</sup>	Death cases as a percentage of all bodily-injury cases in sample
New England	1875		1		1	0
	85	1			2	7
	95	6	1			18
	1905	9	4		11	16
	Total <sup>b</sup>	16	6		14	13
Mid-Atlantic	1875	2	3		3	20
	85	6	8	1	8	13
	95	20	15		7	20
	1905	34	15	1	11	24
	Total <sup>b</sup>	62	41	2	29	21
South	1875	1			3	20
	85	3	1		1	50
	95	5	1	1	16	20
	1905	21	10		18	26
	Total <sup>b</sup>	30	12	1	38	26
North Central	1875	10	4		8	40
	85	8	14	1	11	20
	95	22	15		17	22
	1905	34	31	3	13	20
	Total <sup>b</sup>	74	64	4	49	22
Border	1875	1				100
	85	2	1		1	33
	95	4	6		9	16
	1905	11	6		2	33
	Total <sup>b</sup>	18	13		12	27
West	1875	1	1		11	17
	85	4	6		11	17
	95	23	20	1	17	22
	1905	24	38		20	14
	Total <sup>b</sup>	52	65	1	59	17
Federal Courts	1895	8	5		9	29
	1905	5	7		11	19
	Total <sup>b</sup>	13	12		20	24
Grand total <sup>b</sup>		265	213	8	221	20
Total <sup>c</sup> —1875		15	10		35	26
Total <sup>c</sup> —1885		24	30	2	34	18
Total <sup>c</sup> —1895		80	58	2	66	21
Total <sup>c</sup> —1905		133	104	4	75	20

Source: Judicial reports.

<sup>a</sup> Note that the first four columns do not sum to the total cases in the sample, owing to lack of information about the gravity of many of the bodily-injury cases.

<sup>b</sup> Or average.

<sup>c</sup> Or average. Federal cases excluded.

TABLE 7  
BODILY-INJURY CASES I

Region	Date	Mean verdict— death cases (\$)	Number of observations	Mean verdict— employee death cases only (\$)	Number of observations	Mean verdict— all bodily injury cases except death cases (\$)	Number of observations	Same—em- ployees only (\$)	Number of observations	Mean verdict— amputation or equivalent cases (\$)	Number of observations	Same—em- ployees only (\$)	Number of observations
New England	1875					6000	1	6000	1				
	85					2252	10	3077	4				
	95					2593	11	3662	5				
Total <sup>a</sup>	1875	8000	1	8000	1	5800	1			5800	1		
Mid-Atlantic	85	5000	1			2515	9	1275	2	7750	2		
	95	3667	6	4000	3	6268	20	8762	6	11,762	6	9787	2
Total <sup>a</sup>	1875	6190	10	6667	6	2928	21	7333	3	19,000	1	19,000	1
South	1875	5383	18	6000	10	4221	51	7011	11	11,087	10	12,859	3
	85	6430	2	6430	2	6750	2			2000	1		
	95	3200	2	3500	1	1050	6	1500	3	4167	3	6000	1
Total <sup>a</sup>	1875	5788	12	4486	4	2666	19	3183	9	3625	4	6000	1
North Central	85	5545	16	4900	7	2588	28	2762	12	5000	1	5000	1
	95	2047	3	2047	3	2850	5	3750	2	4333	1	7000	1
Total <sup>a</sup>	1875	2400	2	3500	1	2429	10	3568	11	8075	4	7433	3
	85	3656	8	4875	4	3822	23	5568	31	8724	12	8918	10
	95	3475	18	4338	9	3476	64	4582	31	7750	18	8232	15
Total <sup>a</sup>	1875	3314	31	4011	17	3421	102	4746	45				
Border	85					1500	1	4125	2	6876	2		
	95	3100	2	4500	2	1612	10	1250	1				
Total <sup>a</sup>	1875	3583	6	4500	2	2346	20	3167	3	6876	2		
West	85	4000	1	6833	3	9600	1	9600	1	15,917	3	12,000	1
	95	4739	9	4900	5	4017	39	4900	8	18,425	5		
Total <sup>a</sup>	1875	6661	14	5625	8	3807	54	6106	21	10,000	8	16,133	3
	95	5479	24	8000	1	4765	104	6357	33	10,617	16	15,100	4
Federal Courts	1875	4625	4			6644	9	6757	7				
	85	13,750	1	8000	1	5239	8	7400	5	12,500	2	12,500	2
Total <sup>a</sup>	1875	6450	5	8000	1	5983	17	7025	12	12,500	2	12,500	2
Grand total <sup>a</sup>	1875	4704	102	4920	44	3471	333	4640	121	9107	52	10,138	25
Total <sup>b</sup> —1875		3535	4	3535	4	4794	9	7300	2	5400	2	12,000	1
Total <sup>b</sup> —1885		4443	6	5453	3	3940	31	6114	7	9941	7	9500	2
Total <sup>b</sup> —1895		3944	27	5045	11	4227	98	5470	31	12,279	17	8375	5
Total <sup>b</sup> —1905		5004	60	5019	26	3252	178	4847	69	9008	24	10,839	15

Source: Judicial reports.

<sup>a</sup> Or average.<sup>b</sup> Or average. Federal cases excluded.

TABLE 8  
BODILY-INJURY CASES II

Region	Date	Frequency distribution—verdicts in death cases only						Frequency distribution—verdicts in all other bodily-injury cases						Number of observations	Above \$10,000	\$7501-10,000	\$5001-7500	\$2501-5000	\$500-2500	Below \$500
		Below \$500	\$500-2500	\$2501-5000	\$5001-7500	\$7501-10,000	Above \$10,000	Below \$500	\$500-2500	\$2501-5000	\$5001-7500	\$7501-10,000	Above \$10,000							
New England	1875																			
	85																			
	95																			
1905																				
Total <sup>a</sup>																				
Mid-Atlantic	1875																			
	85																			
	95																			
1905																				
Total <sup>a</sup>																				
South	1875																			
	85																			
	95																			
1905																				
Total <sup>a</sup>																				
North Central	1875																			
	85																			
	95																			
1905																				
Total <sup>a</sup>																				
Border	1875																			
	85																			
	95																			
1905																				
Total <sup>a</sup>																				
West	1875																			
	85																			
	95																			
1905																				
Total <sup>a</sup>																				
Federal Courts	1895																			
1905																				
Total <sup>a</sup>																				
Grand total <sup>a</sup>																				
Total <sup>b</sup> —1875																				
Total <sup>b</sup> —1885																				
Total <sup>b</sup> —1895																				
Total <sup>b</sup> —1905																				

Source: Judicial reports.

<sup>a</sup> Or average.<sup>b</sup> Or average. Federal cases excluded.

TABLE 9  
Property-Damage Cases

Frequency distribution—verdicts in property-damage cases									
Region	Date	Mean verdict (\$)	Below \$100	\$101-500	\$501-1000	\$1001-5000	Above \$5000	Number of observations	Number of cases in which appellate court ruled on damage issues (property or bodily injury)
New England	1875 85 95 1905	498 4000	1		1		1	2	
Total <sup>a</sup>									
Mid-Atlantic	1875 85 95 1905	1665	1		1		1	3	1
Total <sup>a</sup>									
South	1875 85 95 1905	1002 329 666 220		2 3 5 1		1		3	12 14 28 1
Total <sup>a</sup>									
North Central	1875 85 95 1905	145 953 557 518	2 2 2 1	2 5 3	2 2 1			4 5 10 2	4 17 23 2
Total <sup>a</sup>									
Border	1875 85 95 1905	124 2713 428 954	1 1 2 5	1 4 7		1	1	3 4 7 16	6 9 21 38
Total <sup>a</sup>									
West	1875 85 95 1905	1698 750 1461		1 1 1	1 1 1	2 2		3 1 4	1 3 8
Total <sup>a</sup>									
Federal Courts	1875 85 95 1905	2150 19,381 10,766	3 17 5	4 27 5	1 6 1	1 12 1		7 2 2	1 1 1
Total <sup>a</sup>									
Grand total <sup>a</sup>									
Total <sup>b</sup> —1875		1846	17	27	6		1	2	8
Total <sup>b</sup> —1885		273	5	5	1		1	64	176
Total <sup>b</sup> —1895		794	2	3	1		1	12	5
Total <sup>b</sup> —1905		1080	5	8	1		4	6	12
Total <sup>b</sup> —1905		716	5	11	3		6	19	53
Total <sup>b</sup> —1905								25	98

Source: Judicial reports.

<sup>a</sup> Or average.<sup>b</sup> Or average. Federal cases excluded.

about \$100 and of a cow or sheep considerably less, so the effect of these laws was to raise the minimum stake in most cases to somewhere between \$100 and \$200. There were also statutes providing for simplified proceedings before justices of the peace in stock cases, much like our small claims procedures today. But the party who lost in such proceedings had a right to a trial *de novo* before a jury in a regular court and the sample contains many cases in which that right was exercised. The average recovery is higher in bodily-injury cases but small damage awards remain common. Table 7 indicates that damages of less than \$500 were recovered in 7 per cent of bodily-injury (excluding death) cases and of \$2500 or less in 55 per cent of such cases. Our trial-court sample provides additional evidence. The average award in cases of property loss is an astonishingly low \$78 (however, the sample contains only six cases of property damage). In more than a third of the bodily-injury (including death) cases the award was \$500 or less. The frequency of small awards in bodily-injury cases is corroborated by a study of industrial-accident litigation in Michigan in 1910.<sup>43</sup>

In most small-award cases, perhaps, the plaintiff and his attorney had expected to do much better and would never have instituted suit for the amount actually recovered; they might nonetheless defend, and the other side attack, the award on appeal because the cost of an appeal is only a small part of the total cost of a lawsuit. But this does not explain the frequency of stock-killing cases, a type of case where the maximum damages are known in advance to be small.

If we can assume that the cost of litigating the small claim was not large, we have every reason to think that the cost of litigating the large claim was, relatively, even smaller. The cost of litigation does not increase at the same rate as the size of the stakes. A defendant will expend greater resources in defending against a larger claim, which will compel the plaintiff to expend greater resources in prosecuting it, but one would be surprised to find a lawyer spending three times as much time on a \$3000 as on a \$1000 claim. If victims of \$100 property losses or \$500 personal injuries were able to retain counsel we have all the more reason to expect that the victim of a \$3471 bodily injury or \$1846 property loss, or the estate with a death claim worth \$4704, was able to defray the expenses of prosecuting the claim: these are the average recoveries in the cases in the (appellate) sample. It is important to note, furthermore, that the claimant could borrow against his claim by hiring a lawyer on a contingent-fee basis. Apparently then as now the contingent fee was the typical mode of compensating the plaintiff's lawyer in a

<sup>43</sup> See Report of the Michigan Employers' Liability and Workmen's Compensation Commission 16-22 (1911).

negligence case.<sup>44</sup> The lawyer's fee is not the only cost of litigation, and lawyers are supposed not to advance witness fees and other litigation expenses to clients. However, such expenses were probably not large in our period.<sup>45</sup> Judging from the cases in the sample, expert witnesses were rarely used, probably because the rules of evidence severely limited their utility in cases not involving complex technical processes. Elaborate physical evidence was also rare. And most claims never went to trial anyway.

The expenses of litigation reduce the accident victim's net recovery. But from the standpoint of a system concerned with bringing about an efficient level of accidents it is not crucial whether a small or large portion of the ultimate recovery ends up in lawyers' or witnesses' or court clerks' pockets so long as the plaintiff retains a sufficiently large portion of the award that victims have an incentive to assert meritorious claims.

The sample contains other evidence that bears on the question of disposition to prosecute negligence claims. A glance at Table 7 reveals that the average judgment in death and bodily-injury cases, but particularly the latter, is substantially higher in cases where the victim is an employee. This relationship holds pretty consistently for different periods and regions. To some extent it can be explained by the fact that employees are by definition able-bodied while many of the other accident victims are children and old people where the loss-of-earnings component in the damage award is normally small. It is unlikely, however, that this is a complete explanation. If it were, we would expect a greater disparity in death than in other bodily-injury cases, because nondeath cases are more likely to involve medical expenses and pain and suffering, which are independent of earning power; in fact the disparity is greater in nondeath cases. Perhaps, then, employees did not often sue their employers unless a quite serious injury was involved.

We get a glimpse of a possible explanation in the cases in the sample where the defendant pleads a release from liability in defense to an action. Evidently it was the practice of large employers, such as railroads, to provide medical treatment to injured employees free of charge and to compensate them, during a limited period of disability, for lost wages; in exchange the employee would agree not to bring a tort action. Defendants could and doubtless to some extent did make similar arrangements with other accident victims but on what little evidence we have these were less common. Thus, 11 out of the 19 cases in the sample in which it appears that a release was

<sup>44</sup> See New York State Employers' Liability Commission, *supra* note 5, at 31; Ohio Employers' Liability Commission, *supra* note 16, at 28. The limitations of these sources are discussed in note 16, *supra*.

<sup>45</sup> See *id.* at 28-29 for some data on court costs.



pleaded—58 per cent—involve injuries to employees, although employee accident cases are only 30 per cent of the cases in the sample. The existence of a close and continuing relationship between the parties, predating the accident, explains why extrajudicial redress for minor accidents was more common in employee than in nonemployee accidents.<sup>46</sup>

One can compute from Table 7 that the average recovery in a bodily-injury case not involving death was 74 per cent of the average recovery in a death case—which seems high. To be sure, one would expect (and finds) that very serious, disabling injuries—amputation or the equivalent—involve on average a larger loss than the typical death case (\$9107 versus \$4704). There tend to be greater pain and suffering (many deaths are instantaneous) and higher medical expenses; also, the victim is no longer able to produce but his consumption needs are unaffected. But most accidents—even excluding minor accidents—are much less serious than fatal accidents; yet, if we exclude the cases where the opinion discloses that the accident caused the loss of a limb or an injury of equivalent gravity, the average recovery in a nondeath case is still 52 per cent of the average recovery in a death case. Furthermore, although accidents to railroad passengers were much more frequent than railroad crossing accidents, we find more cases in the sample involving the latter than the former, perhaps because crossing accidents are so much more serious. Deaths at crossings exceeded passenger deaths although the total number of passengers killed and injured exceeded the total number of persons killed and injured in crossing accidents by about 4 to 1.<sup>47</sup> Finally, the ratio of cases in the sample in which the opinion discloses a not very serious bodily injury to cases where the opinion discloses a death, amputation or other serious injury is only one to 60.

Although these data suggest that there may have been cost barriers to prosecuting claims for redress of minor injuries, there is evidence the other way. The ratio of railroad nonemployee death cases to all railroad nonemployee bodily-injury cases in the sample (26 per cent) is roughly the same as the ratio of nonemployee deaths to total nonemployee bodily injuries in

<sup>46</sup> There is some corroboration in statistics showing that employers frequently paid compensation to injured employees in cases where the employer had no legal liability. See New York State Employers' Liability Commission, *supra* note 5, at 97-98; cf. Michigan Employers' Liability and Workmen's Compensation Commission, *supra* note 43, at 10.

<sup>47</sup> Interstate Commerce Commission, Statistics of Railways in the United States, Fifth Annual Report 69 (1893), Fifteenth Annual Report 99 (1903). Here is a good place to mention that whenever cases in the sample are compared to statistics of accidents or of population or of other factors that might influence the bringing of the cases, those statistics are lagged in recognition of the fact that a case decided in 1875 (or 1885 or 1895 or 1905) involves an accident that occurred several years earlier. The length of the lag is determined, as nearly as possible, by the average elapsed time between accident and decision for the relevant region and period as shown in Table 1.

railroad accidents of the period<sup>48</sup> (however, nonfatal accidents may be under-reported). The ratio of railroad employee death cases to all railroad employee injury cases—35 per cent—is several times the ratio of railroad employee deaths to railroad employee injuries (5–6 per cent) during the period,<sup>49</sup> which is consistent with our previous conjecture that employees were more likely to settle out of court with regard to the less serious accidents.

A phenomenon with possible if ambiguous relevance to the question of ability or disposition to prosecute negligence claims is the enormous increase in the volume of appellate negligence litigation during our period, reported in Table 10. It is doubtful whether the increase can be ascribed to a change in

TABLE 10  
INCREASE IN APPELLATE ACCIDENT CASES<sup>a</sup>

Period	Number of Cases	Percentage Increase Over Previous Period
1875	92	88
1885	170	85
1895	455	168
1905	736	62

Source: Judicial Reports.

<sup>a</sup> Excluding federal cases.

the rules of law, a rise in the number of accidents, a general expansion of economic activity that might be a proxy for the number of accidents (since accident statistics for the period are incomplete), or any combination of these. The first explanation can be rejected. Any change in law that tended to make rights less certain, either by creating a right of action where formerly the defendant's nonliability had been clear or by qualifying what formerly had been a certain right, would have tended to increase the amount of litigation; but the sample discloses no important development of this kind during our period. As to the second, the railroad cases in the sample increased more than eight times between 1875 and 1905 and more than trebled between 1885 and 1895 alone,<sup>50</sup> and although we lack adequate statistics it seems unlikely that there was a corresponding increase in railroad accidents.<sup>51</sup> In

<sup>48</sup> See Historical Statistics of the United States, *supra* note 41, at 437.

<sup>49</sup> See *ibid.*

<sup>50</sup> Computed from Table 2, *supra*; bodily-injury cases only.

<sup>51</sup> See Table 11. In interpreting Table 11, which does show some sharp increases over time in number injured (not killed), it should be borne in mind that the completeness with which non-fatal accidents were reported probably increased substantially throughout our entire period. See, e.g., Interstate Commerce Commission, Fifteenth Annual Report, *supra* note 47, at 97. Also, prior to 1888 the statistics on railroad accidents are fragmentary. We know that the number of persons killed or injured in railroad accidents rose from 31,170 in 1888 to 43,799 in 1892 (*ibid.*), although it is probable that some of



the only other industry where statistics of accidents are available, coal mining, we similarly find the cases increasing at a much faster rate than the accidents.<sup>52</sup> The gross national product (in constant dollars) approximately quadrupled during our period,<sup>53</sup> but this does not explain the eightfold increase in the number of accident cases. The advent of dangerous new activities such as the electric street railway may explain some of the increase—but not the increase in railroad accidents.

The increase in cases is a phenomenon of all regions. It cannot be explained by reference to better reporting of decisions. And it appears to be a matter of cases and not merely of appeals.<sup>54</sup> Our period witnessed the creation of new intermediate appellate courts and a striking increase in the number of lawyers<sup>55</sup> but these are more likely to have reflected the same

this rise is due simply to more accurate reporting of accidents. If we assume that they had been growing at the same rate since 1882, then we would be led to estimate the number of accidents in that year as 19,562 and this would indicate a 124 per cent growth in the number of accidents between 1882 and 1892, the average dates when accidents decided in 1885 and 1895 occurred; this is substantially less than the growth in railroad accident cases in the sample. Charles Francis Adams, Jr., *supra* note 29, at 262-63, estimates that railroad accidents killed and injured 10,000 people a year in the United States during the 1870's. By 1902 the yearly toll had risen to about 73,000. Interstate Commerce Commission, Fifteenth Annual Report, *supra* note 47, at 97. The number of railroad accident cases in the sample increased  $8\frac{1}{2}$  times between 1875 and 1905, which isn't too disproportionate, but unfortunately the accuracy of Adams' estimate is highly questionable. He assumed the per capita rate of railroad accidents in the United States was the same as in Massachusetts, the only area for which he had statistics, yet as Table 12, *infra*, indicates this is an unwarranted assumption.

<sup>52</sup> Compare Table 5 with Albert H. Fay, Coal-Mine Fatalities in the United States 1870-1914, 10-11 (Dep't of Interior, Bur. of Mines, Bull. 15, 1916), bearing in mind that his accident statistics for the earlier years cover less than half the industry.

<sup>53</sup> Computed from Historical Statistics of the United States, *supra* note 41, at 139.

<sup>54</sup> See Francis W. Laurent, The Business of a Trial Court—100 Years of Cases 163, 275 (1959); also compare the statistics on federal appellate cases in Table 2, *supra*, with American Law Institute, A Study of the Business of the Federal Courts, Part II, Civil Cases 34-35, 111 (1934).

A count was made of all cases filed in the Circuit Court of Cook County in 1872, 1882, 1892, and 1902 in which the plaintiff was an individual and the defendant either a railroad or a street railway; a spot check had indicated that most such cases are negligence cases. The figures show a tenfold increase, concentrated between 1882 and 1892—much like the increase in the railroad cases in our appellate sample.

Date	Number of Cases
1872	78
1882	69
1892	322
1902	755

<sup>55</sup> The number of lawyers (including judges, abstracters, and notaries) increased as follows:

increase in the demand for litigation that produced the rise in the number of appeals than to have been independent causal agents. That is especially clear with respect to the new courts. Had they been created in advance of the flood of new appeals one would expect the duration of the average case to have increased during the period; it decreased.<sup>56</sup> This suggests that the flood of litigation came first and the new courts were created to cope with it.

Perhaps the increase in negligence litigation is related to the rising hostility to big business that marked the period.<sup>57</sup> Railroads were a focus of radical political hostility and one effect could have been to make accident victims more eager to press their claims and less willing to settle out of court: distrust complicates bargaining. This hypothesis has some support in the regional analysis presented in Tables 12 and 13. The reader will recall that the regions are drawn on political lines. New England, Mid-Atlantic, and North Central are the conservative regions and South-Border<sup>58</sup> and West the radical ones. Litigation per capita is substantially higher in one of the radical regions, the West, than in any of the conservative regions. Although it is low in the other radical region, South-Border, this may simply reflect the generally lower level of economic activity in that region during the relevant period. If we look at a class of accidents for which regional statistics are available (railroad accidents involving death or bodily injury) we find a consistently higher rate of litigation in the radical regions. The contrast is brought out sharply in the detailed comparison between the Mid-Atlantic and Western regions in Table 13; the evidence for South-Border is less striking. The political hypothesis is not supported by a regional comparison

Period	Number of Lawyers	Percentage Increase Over Previous Period
1870	41,791	
1880	64,137	53
1890	89,630	40
1900	114,460	28

Source: United States Department of Commerce, Bureau of the Census, Sixteenth Census of the United States: 1940, Population, Comparative Occupation Statistics of the United States, 1870-1940, 111 (1943).

Judges, abstracters, and notaries were apparently only a very small percentage of the total. See *ibid.*

<sup>56</sup> See Table 1, *supra*.

<sup>57</sup> As evidenced by the passage of the Sherman Act in 1890. On the temper of the times see John D. Hicks, *The Populist Revolt, A History of the Farmers' Alliance and the People's Party* (1931).

<sup>58</sup> The Southern and Border regions were merged for the sake of comparability with the ICC's regional accident statistics.

TABLE 12  
REGIONAL VARIATIONS IN FREQUENCY OF APPEALS I

Region	Date	Total cases	As percentage of all cases during period	Percentage of national population <sup>a</sup>	Percentage of railroad cases during period <sup>b</sup>	Percentage of railroad accidents <sup>c</sup>
New England	1895	34	7.5	7.5	4.5	5.8
	1905	68	9.2	7.4	3.5	3.4
Mid-Atlantic	1895	105	23.1	23.3	18.5	29.2
	1905	153	20.8	23.4	13.0	26.7
South-Border	1895	75	16.5	24.4	19.0	17.9
	1905	135	18.3	23.8	26.1	17.8
North Central	1895	119	26.2	26.5	28.0	31.7
	1905	186	25.3	26.2	23.5	31.8
West	1895	122	26.8	18.0	30.0	15.4
	1905	194	26.4	18.8	33.9	20.7

Sources: Table 2; Historical Statistics of the United States, *supra* note 41, at 7, 12; ICC, Fifth Ann. Rep., *supra* note 47, at 69-77; Fifteenth Ann. Rep., *supra* note 47, at 98-115.

<sup>a</sup> Lagged; see note 47 *supra*. Population of Continental U.S. only.

<sup>b</sup> Bodily injury or death only.

<sup>c</sup> Bodily injury or death only. Lagged; see note 47 *supra*.

TABLE 13

<sup>a</sup> Lagged; see note 47 *supra*.

of cases and accidents in the coal-mining industry,<sup>59</sup> but the number of cases is too small to be particularly significant.<sup>60</sup>

The litigiousness of the West may reflect the youth of its legal institutions compared to those elsewhere in the country. Rules and procedures may have been relatively unsettled, and uncertainty fosters litigation and appeals. The growth of the West was very rapid during our period, and this would help explain the overall rise in litigation. But litigation in the other regions grew very rapidly also.

The explanation for the overall increase may lie in a combination of factors—greater economic activity, growing hostility to big business, the population movement to the West—including some that we have not discussed, such as the rising level of education,<sup>61</sup> which may have made individuals more aware of their legal rights.<sup>62</sup> What we cannot begin to assess with existing data is whether the relative paucity of negligence litigation at the outset of our period indicates that the practical access of accident victims to the courts was inadequate then.

*The Prospects at Trial for the Negligence Claimant.* If the victim got into court, his prospects were reasonably good. Competence of counsel cannot generally be determined from judicial reports, but occasionally we find the court remarking that counsel for one of the parties is disabled from urging a perfectly good ground because he failed to present it in the prescribed manner in the court below. It is a remarkable fact that in 40 of the 50 cases in the sample in which the court found such a default it was defendant's, not plaintiff's, counsel who had committed it. At the least, it seems unlikely that plain-

<sup>59</sup> Compare Table 5, *supra*, with Albert H. Fay, *supra* note 52, at 47.

<sup>60</sup> The litigation rate may be affected by the percentage of foreign-born in a region, immigrants tending perhaps to be docile and unassertive with respect to their legal rights. In fact, the percentage of foreign-born was highest in the West—the most “radical” region—throughout our period. Computed from Historical Statistics of the United States, *supra* note 41, at 11-12. But they may have been the more venturesome immigrants. I should mention here that a spot check of state statutes fixing filing fees and other court costs indicates no basis there for explaining regional or temporal variations in the litigation rate during our period.

<sup>61</sup> As documented in Historical Statistics of the United States, *supra* note 41, at 207.

<sup>62</sup> Another possible explanation for the rise in litigation during our period is rising militancy of workers as evidenced by the growth of trade unions. However, while total union membership grew from 175,000 in 1882 to almost 2 million in 1903, and while membership in railway workers' unions grew from 7,000 to more than 200,000 during this period, neither employee cases in general nor railway employee cases in particular grow faster during this period than the sample as a whole. (See Tables 2 and 5, *supra*; the figures on union membership are estimated from Leo Wolman, *The Growth of American Trade Unions—1880-1923*, 32-33 (1924).) And while employee cases in the West and South rise faster than cases as a whole in these regions, it is not at all clear that unions in these areas (especially in the South) were on average more militant than North Central and North Eastern unions. Cf. 2 John R. Commons, *et al.*, *History of Labour in the United States*, pts. 5-6 (1936).



tiffs' lawyers in accident cases were systematically overmatched by defendants'.

The trial process in accident cases favored the plaintiff. He could get to the jury on his own testimony of what had happened unless contradicted by indisputable physical evidence. The hardest case for the plaintiff was a death case, especially when there had been no eyewitnesses to the accident. The plaintiff's problems in such a case were alleviated to some extent, however, by a presumption (in jurisdictions where the plaintiff had the burden of proving freedom from contributory negligence) that in the absence of evidence to the contrary the victim had been exercising due care for his safety, and by permitting evidence (inadmissible otherwise) that the victim had had the habits of a prudent and careful man. Also, we find considerable use of the doctrine of *res ipsa loquitur*, which permits the plaintiff to get to the jury on the question of the defendant's liability with little more evidence than that the accident occurred when it is the kind of accident that is unlikely to occur in the absence of negligence. On the question of damages, the rather primitive state of medical knowledge seems to have made the victim's self-serving testimony as to his pain and the extent of his disability difficult to refute. There is one case in the sample where, on motion to set aside the judgment for the plaintiff on the ground of newly discovered evidence, it was proved that the plaintiff, a lady who had convinced her doctor and the jury that she was totally paralyzed, had been seen walking about completely recovered the day after the conclusion of the trial; and there are other cases where, to a modern eye, the injury seems wholly or partly feigned but the plaintiff succeeded.

Juries appear to have been disposed to favor accident plaintiffs. The sample contains 945 jury verdicts for plaintiffs and only 98 for defendants.<sup>63</sup> But an appellate sample may be misleading in this respect. In the sample of trial cases from Cook and Du Page Counties, Illinois, plaintiff prevailed in 19 jury cases and defendant in 13. Perhaps a plaintiff who failed to convince the jury of the merits of his case was discouraged from appealing, knowing that even if he prevailed on appeal he would have to convince another jury of the merits of his claim before he could obtain a judgment.

*Adequacy of Damages.* For the negligence system to bring about an efficient level of accidents and safety the damage awards must be equal to the costs of accidents resulting from negligent conduct. Were they? Only a rough answer is possible from the available data. The average award disclosed in cases in the sample where an employee lost a limb or suffered an injury of equivalent severity is \$10,138.<sup>64</sup> Railroad workers, the commonest accident

<sup>63</sup> Excluding 14 jury verdicts for plaintiffs that were set aside by the trial judge and 11 jury verdicts for defendants set aside by the trial judge.

<sup>64</sup> See Table 7, *supra*. This is after any reduction of the award by either trial or ap-

victims in the sample, earned on average a little more than \$11 weekly during the last half of our period where the cases are concentrated;<sup>65</sup> allowing for some time sick or laid off, this is equal to \$500 per year. Most injured workers were apparently young. Child labor was common and the young worker, like the young driver today, is apt to lack prudence and experience and hence to have more accidents. The average age in the 43 cases in the sample where the age of the injured employee is given is in fact only 25. Assume that at the time of the accident the average injured employee had a working-life expectancy of 30 years. The present value of an income of \$500 per year for 30 years, figured at 4½ per cent interest, is \$8100. An award of \$10,138 would thus compensate the injured employee for lost earnings and for the cost of medical treatment (which was very low by modern standards), with some money left over for pain and suffering. Although the residue allocable to pain and suffering seems small, it must be remembered that the disabled employee, in losing a limb and receiving compensation for lost future earnings, gained a surcease from long, hard, and dangerous labor.

There are two omissions. Awards for damages in most jurisdictions included interest only from the date of the judgment entered at the conclusion of trial. The exclusion of interest from the date of accident may be justifiable as a method of spurring the plaintiff to prosecute his claim promptly, while the memories of witnesses are fresh, but the omitted interest represents a real cost of the accident. However, since the average elapsed time from accident to appellate decision is only 40 months, some of that consumed of course by the appellate proceedings which follow the trial judgment, the lost interest would not be a very large amount in most cases. And most cases are never tried at all.

The other omitted item is the plaintiff's litigation expenses. These are real costs of the accident but it is doubtful whether their exclusion from the award of damages has serious economic consequences. The important point, viewing the negligence system as a system for bringing about an efficient quantum of safety and accidents, is that the total costs of the accidents in which the defendant is negligent be made costs to the defendant. Those costs include not only the injury to the victim but the expenses of both plaintiff and defendant in processing the claim. However, while the defendant avoids having to pay an element of those costs—the plaintiff's litigation expenses—neither can he recoup his expenses in defending against unmeritorious claims. The total cost to him, therefore, is not necessarily

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pellate court, and excludes cases where the court concluded that the damages had been incorrectly assessed.

<sup>65</sup> Historical Statistics of the United States, *supra* note 41, at 91.

smaller than under a system where the winning party recovers his litigation expenses from the losing.

The average award in employee death cases, \$4920, is smaller than the price of the annuity. But in reckoning the cost to survivors, the amount that the victim was accustomed to retain for his personal expenses must be subtracted from his earnings.

It might be argued that the awards reported in appellate cases are likely to exceed those in equally meritorious cases that are not appealed or that are settled without any litigation. It is not obvious why this should be so. The cost of an appeal is small relative to the total expenses of litigation, so it is doubtful that nontrivial cases would be abandoned because of the expense of appealing from an adverse judgment at trial. Nor does it appear that the cost of trying a serious accident case could have been prohibitive during our period. Nonetheless there is some evidence from which it might be inferred that our appellate sample exaggerates the size of awards. The average award in the 45 bodily-injury (including death) cases in the trial-court sample in which the amount of the award is disclosed is only \$1939, considerably less than that for the cases in the appellate sample from the North Central region.<sup>66</sup> And studies of industrial-accident cases, albeit they relate to a slightly later period (1905-1910), show average awards, for example, of \$958 (death cases, Ohio), \$948 (bodily-injury cases excluding death, settled out of court, Michigan), and \$923 (death cases, New York).<sup>67</sup> However, all of these figures are misleading, because they must include numerous settlements of dubious claims drastically discounted to reflect the unlikelihood that the plaintiff can prove his case. If we limit our attention to cases actually decided at trial, the average award in the bodily-injury cases in our trial-court sample rises to \$2731, which is about 80 per cent of the comparable figure for North Central cases in the appellate sample. New York statistics indicate that the average recovery in death cases that went to trial in that state was \$5029,<sup>68</sup> which is more than 80 per cent of the corresponding figure in Table 7.

*Outcome on Appeal.* Plaintiffs appear to do less well at the appellate level than they did at the trial level. From Table 14 we see that plaintiffs in the cases in the sample had won better than 70 per cent of the time at trial<sup>69</sup> but at the appellate level they prevail only a little better than 50 per cent of the time. The disparity may indicate only that accident

<sup>66</sup> See Table 7, *supra*.

<sup>67</sup> Ohio Employers' Liability Commission, *supra* note 16, pt. 3, p. 26; Michigan Employers' Liability and Workmen's Compensation Commission *supra* note 43, at 18; New York State Employers' Liability Commission, *supra* note 5, at 97.

<sup>68</sup> *Ibid.*

<sup>69</sup> The percentage is the same in our trial-court sample.

TABLE 14  
OUTCOMES

Region	Date	Jury verdicts for plaintiffs	Jury verdicts for defendants	Total judgments for plaintiffs in trial court	Total judgments for defendants in trial court	Plaintiff affirmed	Plaintiff reversed	Defendant affirmed	Defendant reversed	Total affirmances	Total reversals	Percentage of affirmances	Plaintiff prevailed in appellate court	Defendant prevailed	Total cases
New England	1875	5	4	6	10	4	2	6	4	10	6	63	12	8	20
	85	10	2	11	6	9	3	5	5	14	3	82	8	9	17
	95	10	7	10	24	7	3	19	5	19	8	70	12	22	34
	1905	35	2	43	25	28	17	22	4	50	21	70	32	39	68
Total <sup>a</sup>		60	15	70	65	48	25	52	13	93	38	71	64	78	139
Mid-Atlantic	1875	6		9	4	6	3	1	3	7	6	54	9	4	13
	85	29	2	32	21	15	17	12	9	27	26	51	24	29	53
	95	63	2	73	32	43	30	18	14	61	44	58	57	48	105
	1905	94	5	112	45	49	55	26	27	71	82	46	76	77	153
Total <sup>a</sup>		192	9	226	102	113	105	53	53	166	158	51	166	158	324
South	1875	2		4	4		4	3	1	3	5	38	1	7	8
	85	6	1	6	1	2	3	1	1	3	4	43	3	4	7
	95	17	2	24	15	10	15	8	7	18	22	45	17	23	41
	1905	62	11	73	27	47	26	17	9	64	35	64	58	41	99
Total <sup>a</sup>		87	14	107	47	59	48	29	18	88	66	57	79	75	155
North Central	1875	20	2	23	10	12	11	7	3	19	14	58	15	18	33
	85	36	3	40	12	20	20	5	6	25	26	50	26	25	51
	95	67	13	80	38	45	35	25	13	70	48	59	58	60	119
	1905	144	6	147	39	88	60	20	19	108	79	58	107	80	186
Total <sup>a</sup>		267	24	290	99	185	126	57	41	222	167	57	206	183	389
Border	1875			1			1				1	0		1	1
	85	2	2	3	4	1	2	3	1	4	3	57	2	5	7
	95	20	4	22	12	11	11	8	4	19	15	56	15	19	34
	1905	20	3	22	15	14	7	8	7	22	14	61	21	15	36
Total <sup>a</sup>		42	9	48	31	26	21	19	12	45	33	58	38	40	78
West	1875	13	1	16	2	7	8	2		9	8	53	7	10	17
	85	23		32	1	18	14	1		19	14	58	18	17	35
	95	85	9	95	25	58	39	17	7	75	46	62	66	56	122
	1905	141	16	155	39	90	64	22	18	112	82	55	107	87	194
Total <sup>a</sup>		262	26	298	67	173	125	42	25	215	150	59	198	170	368
Federal Courts	1895	22		30	8	25	5	5	2	30	7	81	27	10	37
	1905	13	1	24	14	17	7	8	6	25	13	66	23	15	38
Total <sup>a</sup>		35	1	54	22	42	12	13	8	55	20	73	50	25	75
Grand total <sup>a</sup>		945	98	1093	433	626	462	265	170	884	632	58	801	729	1528
Total <sup>b</sup> —1875		46	7	59	30	29	29	19	11	48	40	55	44	48	92
Total <sup>b</sup> —1885		106	10	124	45	65	59	27	17	92	76	55	81	89	170
Total <sup>b</sup> —1895		262	37	304	146	184	133	95	50	272	183	59	225	228	455
Total <sup>b</sup> —1905		496	43	552	190	316	229	111	84	417	313	55	401	378	736

Source: Judicial reports.

<sup>a</sup> Or average.<sup>b</sup> Or average. Federal cases excluded.

defendants as a class are more selective in deciding which cases to contest at the appellate level. Most accident defendants in our period were enterprises with recurrent accident litigation. They had, accordingly, an interest in the development of doctrine that transcended the individual case and they could afford to bide their time for a better case—a strategy that for a plaintiff unlikely to have a second accident case in his lifetime would make no sense.

An interesting result in Table 14 is the consistent preponderance, in virtually all regions and periods, of affirmances over reversals. One might expect the number of affirmances and reversals to tend toward equality, on the ground that the only time a case is likely to be appealed rather than settled is when the parties estimate the probabilities of a favorable decision differently or have different attitudes toward risk and that in a reasonably large sample, with appellants drawn from the ranks of both plaintiffs and defendants (and note further that the percentage of affirmances is roughly the same whether plaintiff or defendant won below), such factors are likely to be distributed randomly. Is it that appellants either are consistently overoptimistic or consistently prefer to gamble on further litigation? There is a simpler explanation. It is not obvious that once the major costs of litigation have been incurred in trying a case, an appeal is a more costly method of final resolution than settlement negotiations. It may sometimes be less costly. If so that would explain why a lawyer who has lost in the trial court may prefer pressing an appeal that he is unlikely to win to hammering out with opposing counsel a settlement appropriately discounted to reflect the unlikelihood of an appeal's succeeding.