
Compensating for Research Injuries

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The Ethical and
Legal Implications
of Programs to Redress
Injuries Caused by
Biomedical and Behavioral
Research

∞ Volume Two: Appendices

June 1982

President's Commission for the Study of
Ethical Problems in Medicine and
Biomedical and Behavioral Research

Perspectives on Compensating Accident Victims

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Introduction

In the United States accident victims are currently compensated for their losses in quite diverse ways. Broadly speaking four main sources of compensation are available: the torts system, private first-party insurance and other private sources (e.g., sick leave), general public income maintenance programs and tailored public accident compensation plans (e.g., auto no fault and workers' compensation).

Some victims draw from multiple sources, others from none. All of the sources have objectives in addition to compensating accident victims. For example, tort law also purports to deter socially undesirable behavior; private health insurance is also concerned with the allocation of health care resources; workers' compensation is also concerned with rehabilitation.

As a result, if one focuses on the compensation objective alone our patchwork of sources is not readily defensible. Why are some innocent victims treated differently from others? Why does victim culpability sometimes count and sometimes not? Why do some victims pay for their accident loss protection while others don't?

Some would defend the patchwork in terms of the other objectives served by the various compensation sources. Some would argue that our complex system is better viewed as in transition, not fairly judged at any one instant but rather over time as it inches toward an integrated coherent scheme. Some would defend the current inequalities in terms of careful judgments about whether the victim deserves each source. Others, of course, find the patchwork either merely bewildering, or else positively unjust.

These tensions within the current American solution cannot be ignored by those concerned about how victims of any particular class of accidents should be treated. In short, since it is important to have a context in which to place the Commission's

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December 1980

attention to victims of human experimentation, there is no avoiding the examination of the complex ways American accident victims generally are treated. The aim of this essay is to provide an overview and critique of our present system. We discuss in turn: tort liability for negligence (including defenses such as assumption of risk), strict liability in tort, tailored compensation plans and general compensation schemes. Our goal is not to tell the Commission members how to solve their accident compensation problem; but rather to help them to think about it.

Negligence

Prior to the modern industrial age the social problem of allocating losses caused by accident was not considered serious, and the jurisprudence of what we now call tort law was correspondingly underdeveloped. The machine age dramatically escalated the toll of human injury on the roads, rails and workplace. At the same time, legal scholars and judges began to turn their minds to an appropriate philosophy of tort law. As a result, by the middle of the Victorian era the fault principle became firmly established as the fundamental basis of legal responsibility for accidents.

The Fault Principle

In the 1880's Oliver Wendell Holmes gave an important series of lectures in the course of which he developed a theory of torts that offered both an interpretation of and a justification for fault-based liability for unintentional harms. Holmes first considered and rejected a contrasting theory—liability for any harm caused by voluntary conduct. His strongest criticism was that it would be unfair to hold a person liable for a harm he could not have anticipated. In short, moral values demanded liability based on fault. Recognizing that this would leave some innocent victims uncompensated, Holmes asserted that private or state accident insurance would far better serve that function. The expensive machinery of private litigation should be reserved, he argued, for cases in which more than mere misfortune has occurred.

Does this mean that personal (subjective) blameworthiness should be a precondition of tort liability? Holmes rejected that theory as well. Rather, liability for tort should rest upon *objectively unreasonable conduct*. Put simply, in unintentional injury cases, fault means negligence and negligence is to be defined in this objective manner.

Holmes gave two rather different justifications for the appropriateness of an objective test of negligence. First, ease of administration demanded that negligence law not be saddled with having to evaluate and take into account claims of awkwardness, foolishness, immaturity, inexperience and the like that might cause one to hurt another despite one's very best efforts. Second,

society (the community) fairly demands of its members that they control their conduct so as not to behave in an unreasonably dangerous manner—or else pay for the harm done.

Tort law in action captured the idea of objectively unreasonable conduct in the symbolic "reasonable man." The judicial process would find the defendant (or defendant's employer) negligent if the defendant failed to act as a reasonable person would have acted under the circumstances.

Plainly this formulation took care of the main category of injurers whom Holmes wanted to protect from liability: if an accident was not foreseeable, no reasonable person could be expected to avoid it. But if not obvious at the outset, it soon became clear that by limiting liability to negligence, defendants might also be relieved of paying for some injuries they knowingly cause. Railroad crossing accidents provide a good example. Although railroad officials knew well that their trains were injuring and killing people at crossings in large numbers, this alone did not suffice to impose liability. Rather the plaintiff had to show what specific action the defendant reasonably should have taken that would have avoided the harm. Railroads could, of course, build bridges over or tunnels under every road crossing; but the expense would obviously be so great that it was reasonable not to take such drastic prevention efforts—at least for every little rural crossing. Victims might have challenged railroading itself as unreasonably dangerous (a German statute imposed strict liability on railroads as early as 1838), but this would have failed as did similar attempts regarding automobiles.

In short, the judicial process was soon embroiled in deciding just how many safety precautions were necessary to escape liability. Put differently, the heart of the negligence system involves an evaluation of the utility of the conduct engaged in and of the accident prevention efforts proposed.

Later on Judge Learned Hand captured the meaning of fault in a formula now famous among torts students: Negligence is measured by whether the probability of a loss occurring (P) times the likely amount of the loss if one occurs (L) outweighs the burden of preventing the loss (B). Is PL greater than B ? In more modern language, this formula suggests that "unreasonableness" is determined by applying a cost-benefit analysis.

As juries are typically the deciders of whether conduct is negligent or not, tort law has largely turned over to the jury the task of applying the community standard of what due care demands. Since juries do not have to account for their decisions, some observers of tort law in practice have argued that juries often reject the reasonableness paradigm and, out of sympathy for the injured plaintiff and indifference to the presumably insured defendant, adopt strict liability in fact.

How then would victims of human experimentation broadly fare under this outline of negligence law? On the one hand,

individuals harmed through careless practices and those who receive inadequate warnings of the risks they face (and would have otherwise refused to participate) will be entitled to compensation for their injuries from the wrongdoing researcher. On the other hand, those adequately warned and those who receive careful treatment but who nonetheless suffer the misfortune of either recognized or totally unexpected side effects are supposed to bear their own losses.

Social Objectives of the Negligence System

During the years that negligence has dominated tort laws, scholars have elaborated upon the social objectives that the fault principle is supposed to serve. Just as Holmes' views drew on a philosophical perspective of the time concerned with individual action and responsibility, more recent writers have turned to psychology and economics. As a result, defenders of negligence now employ a variety of justifications in support of fault liability.

In capsule form, liability based upon fault is now variously claimed to serve the following functions:

- (1) Deterring socially undesirable conduct
- (2) Punishing wrongdoers
- (3) Satisfying the victim's desire for vengeance while at the same time preventing violent self-help
- (4) Allocating resources efficiently, by attributing social costs to the activities that "cause" them
- (5) Compensating deserving victims
- (6) Spreading widely the costs of accidents.

As applied to human experimentation victims, a negligence supporter might put it this way: this loss spreading regime will deter careless conduct by researchers, punish those who are not deterred if their carelessness causes harm, mollify the outrage felt by those human subjects who have been wronged, attribute to research those accident costs that should be avoided, and make whole those wronged victims who deserve compensation.

Of course, not everyone accepts as desirable all of the social goals that negligence is said to further; nor do people agree upon their relative importance. More important, however, many have charged that negligence law in action simply fails to advance these goals or that the administrative costs of running the fault system outweigh the social benefits achieved. Let us turn then to a critique of negligence.

Deterrence and Punishment. Emphasis on punishment rests primarily on a moral basis, while emphasis on deterrence looks more to efficiency. The first seeks to inflict pain in retribution for the wrong done to the victim; and since it is the victim, not the state, who calls for the punishment in torts cases, punishment and vengeance are closely related. In contrast, deter-

rence principally aims at the reduction of accidents by imposing a toll on unsafe conduct. Since unreasonable injury to person or property causes a reduction in society's wealth, any deterrent therefore serves the purpose of economic efficiency.

Although the twin purposes of punishment and deterrence have furnished the classical rationale of tort liability, their credibility has increasingly declined under the changing conditions of modern society. Perhaps the principal cause is that the admonitory effect of an adverse judgment is today largely diffused by liability insurance which protects the injurer from having to pay the accident cost and instead distributes it among a large pool of premium payers and thereby "socializes" the loss. Liability insurance is considered against public policy only in cases of intentional injury or other forms of truly heinous misconduct, for which punitive damages may also be awarded. In many countries the victim no longer even in form addresses his claim to the injurer but proceeds directly against the latter's insurance carrier or compensation fund, thereby even eliminating the symbolic tokens of individual blame.

Other realities of tort litigation may undermine the vengeance objective. Hence, although the victim's psychic satisfaction in making his adversary "pay" is claimed by some legal psychologists as a significant rationale of tort liability, the delays and aggravations of American tort law in action probably impose psychological hardship and anxiety on victims that more than make up for what little satisfaction some victims receive.

Nonetheless, some admonitory effect of a tort award is still retained. Insurance premiums are commonly adjusted in the light of the insured's accident record, and fear of substantial rises and possibly even policy cancellation arguably has some effect on individual conduct. The broad American consensus in favor of basing premiums for both liability and workmen's compensation insurance on the enterprise's accident record rests largely on this belief. Other countries, including Great Britain, however, are skeptical about the effectiveness and worthwhileness of such finesse.

The admonitory effect of liability probably varies with different classes of potential defendants. Some are peculiarly sensitive to the stigma of an adverse judgment wholly apart from any financial detriment. The most obvious example is the medical profession whose members dread liability for its adverse reflection on their professional competence or integrity. More immediate and quicker response to an adverse judgment is also likely to be forthcoming when the censure falls on a repetitive process in industry or business rather than on random failures in activities like driving automobiles. This for the reason that the former are susceptible to managerial correction and monitoring, while the latter are in practice rarely amenable to such controls. By the same token, large, stable and well managed enterprises

are far more likely to recognize and act on the potential variability in insurance costs they face than are small firms fighting for economic survival; indeed, because of premium setting practices, small enterprises might not even face the opportunity to lower insurance costs through safer conduct.

In any event, one must be skeptical about the effectiveness of tort law in promoting accident prevention as compared with other legal or social mechanisms. The three most important of these are government regulation, criminal sanctions and ordinary economic pressures.

Regulations can play an educative role in prescribing clear procedures designed to avoid accidents. Negligence law by contrast condemns people, after it is too late, for what they have done. That is especially unsatisfactory since successive juries can and do give different answers to the same problem, thereby encouraging investment in litigation rather than safety. Also, while regulatory standards are established by experts, tort law leaves to inexperienced juries the bewildering task of resolving disputes between partisan expert witnesses. While tort law has come to take advantage of statutory standards by treating their violation as fault without more (*per se*), it is unwilling to treat compliance with prescribed standards as conclusively exonerating. Thus even licensing of products after a rigorous official testing procedure, as in the case of drugs by the Food and Drug Administration, is not accepted as necessarily acquitting the manufacturer.

This attitude reflects the other side of the coin: regulation may be ineffective and out of date; and industry might "capture" the regulators with the result that regulatory standards may reflect a wholly inadequate concern for safety. Moreover, many human activities and enterprises altogether lack promulgated standards or regulations. Nor is it imaginable or desirable that a regulatory net would encompass the whole of human conduct. Perhaps, then, tort law does have at least an incremental role to play in promoting safety and punishing those who fail to respond.

Regulation is not the only alternative scheme of behavior control, however. What about criminal law? An important advantage of the criminal sanction is its concern with punishing the offender for engaging in prohibited conduct; it will fall on the culprit regardless of whether he happened to victimize anyone. By contrast misconduct, however reprehensible, remains outside the reach of civil process so long as it does not injure anybody. That is why motorists today fear criminal penalties more than civil sanctions.

Even if there were no public controls and no tort law, potential injurers would face substantial economic pressures favoring safety. Adverse publicity has repeatedly proved itself a potent sanction against accident-prone activities. For example, as already mentioned, physicians are peculiarly sensitive to publicity of adverse judgments in malpractice actions which are apt to cast

a stigma on their competence. Of greater effect yet is the impact of widely-publicized condemnations of particular products on their competitive appeal to the consumer public. In the same vein, drivers' concern for their own safety surely counts for more than the fear of having to pay damages.

Still, tort law may play a key signalling role in stimulating the market to work. An outstanding illustration is the Pinto litigation. Although the publicity must have cost Ford Motor Corp. far more in lost future sales than in the damages awarded in successive actions, the avenue of private (and later criminal) litigation may have done much to focus public attention on the car's dangers. Indeed, plaintiffs' personal injury lawyers often claim that their efforts bring to light dangerous business practices that would otherwise go unchecked. Whether a system of bounties paid to private whistleblowers would be as or more effective is as yet untried.

Internalization of Costs. Lawyer-economists have argued that all costs ought to be debited to the activity that causes them, so that they are reflected in the price of the resulting product or activity. The cost of accidents, in short, is properly a part of the overhead costs of a particular operation. In this way activities with higher accident rates will properly have lesser attraction in the market place and will thus be carried out to a more socially desired extent. By contrast, it is claimed, if activities do not bear their accident costs they are in effect subsidized and will thus be over-produced. This creates both an inefficient allocation of resources and excess accidents to boot.

There are many problems with this line of analysis, however. First, negligence law does not in fact attempt to assign all accident costs to activities that cause them. Rather, it only purports to assign the costs of accidents that reasonably should have been avoided. To some, this is an indictment of negligence. To others it reveals a fundamental ambiguity about the internalization argument. What is a cost of what?

In many situations policy makers have acted as if there were no problem in attributing particular types of accidents to a specific activity. For example, work injuries are, by general consensus, regarded as part of the cost of industrial operations; accordingly workmen's compensation is charged to the cost of the industrial product. Similar claims are made to justify products liability as well as automobile compensation plans. But on closer examination, the problem becomes very thorny indeed. Is an accident caused by failure of an industrial tool to be internalized to the maker or to the user of the tool? Is serum hepatitis a cost of blood, a cost of hospitalization, a cost of the ailment requiring the transfusion or what? If mother mink eat their young upon hearing sonic booms, is this a cost of national defense or mink farming?

Furthermore, given all the market imperfections otherwise existing in the American economy, even if the tort system did achieve acceptable cost-attribution there is no guarantee that this will have moved our economy closer to an efficient level of various accident-producing activities. For example, if a monopolist producer of a product otherwise underproduces a product (as economic theory suggests), then the *failure* to impose accident costs on that monopolist could be just the right subsidy needed to boost production to the socially desired level.

It must also be admitted that, in the real world, it is frequently impossible to internalize accident costs to the specific offending product or activity. For example, in the case of a dangerous drug, not only would the drug in all likelihood be totally withdrawn from the market after its risks have been discovered but the cost of compensation would in any event probably be spread among all or most other products of the particular manufacturer, with result that the consumers of the safe drugs would in effect be bearing the accident costs of the dangerous drug. In a theoretical free market, this "externalizing" of the cost might be blocked, but often—and prescription drugs is a good example—such a hypothesis is wholly unrealistic.

In another real world sense, internalization may also be bought at too high a price. Instead, it may be administratively far more sensible to "channel" liability exclusively to a defendant selected for his greater ability to absorb the cost. Thus an aircraft manufacturer may be a wiser target than the manufacturer of a defective component part, the manufacturer of radioactive isotopes rather than a negligent transporter of those isotopes.

Compensation of the Deserving. From a compensatory point of view, another serious flaw of the negligence system is that it discriminates between different accident victims not according to their own deserts but according to the culpability of the defendant: a plaintiff's recovery is dependent on his ability to pin responsibility for his injury on an identifiable agent whose fault he can prove. Put differently, negligence deems as deserving only those who can trace their harm to someone's wrongdoing. To critics, this causes unfair unequal treatment in several ways: between victims of the same kind of injury, one of whom can but another cannot point to a responsible cause, e.g. of a particular type of cancer; between one who does and one who does not succeed in proving fault in a defendant (a distinction exacerbated by the vagaries of jury trial long after the accident in question and the fine line that often divides minimally acceptable and culpable conduct); between those with especially effective lawyers and those without and between those who are personally attractive victims and those who are not—both of which are thought by critics to influence the jury unduly. Not least of all is the fortuitous exclusion of victims unable to collect from responsible defendants who turn out to be judgment-proof, i.e. lacking liability insurance or other financial resources to pay.

Even among those fortunate enough to obtain some damages, studies show a capricious relation between the total amount of compensation recovered from all sources and the gravity of the injury. While slight injuries tend to be overcompensated (because of medical insurance and other sources of compensation which do not set off each other or tort damages and because of the nuisance value of small claims), the graver the injury the smaller the share of compensation. Among the reasons for this parlous state of affairs are the low liability insurance coverages held by many motorists and the gaps in tort recovery. With some justification, the process has been called a "Forensic Lottery" in which a small minority obtain a pot of gold but the majority go empty-handed or obtain only tokens of solace.

Calculus of Negligence. At the level of principle, negligence is criticized on the ground that the reasonableness paradigm unfairly allows some injurers to pursue activities for their benefit and impose losses on others without paying for them. Therefore, if efficiency counselled against, say, increased quality control at the end of an assembly line, to some this would seem to argue for, rather than against, responsibility for consequential accidents as the calculated price for avoiding increased costs. In sum, social fairness rather than economic efficiency should be the criterion of legal liability.

On the other hand, if one accepts the reasonableness paradigm as proper, then a different sort of criticism can be made. To the extent that promoting the socially optimal amount of safety depends upon a careful balance of the risks and benefits in the negligence calculus, many claim that juries are often incapable and frequently unwilling to make the proper tradeoff, especially when confronted with difficult technological issues going to both fault and causation.

Costs of Administration. Perhaps the most serious criticism that can be levied against the tort system is its inordinate expense. Two recent studies of different areas of tort liability tell the story. One dealing with automobile accidents concluded that it cost \$1.07 in total system expenses to deliver \$1.00 in net benefits to victims, claimants' legal expenses being 23% and insurers' claims expenses (attorney's fees, etc.) 25% of total operating expenses. So also the Inter-Agency Task Force on Products Liability estimated 40% for underwriting expense and profit and an additional 20% for loss adjustment expenses, leaving 40¢ of the premium dollar for the victim's compensation. The combined legal expenses for plaintiff and defendant, as well as the underwriting expense and profit, each exceeded the claimant's compensation.

These very high transaction costs of the torts system compare very unfavorably with the costs of compensation plans, especially social security. In New Zealand, which abolished the tort system in 1974, compensation was introduced for *all* victims

of personal injury from accident without any additional cost—far more from saving the transaction costs of the tort system than from curtailing compensation for non-pecuniary injury.

The high transaction costs of the tort system are inherent in the system itself. Primary is the adversary relationship between claimant and the compensation source. Liability to compensate is dependent on issues of causation and fault, which require investigation and are frequently contested. The assessment of damages, tailored to each case, invites additional controversy. In sum, the system is geared to individualized processing and does not favor economies of scale.

Moreover, these costs are incurred in the processing of all claims, not only those that are eventually successful. The reluctance of the drug companies and their insurers to participate in the 1976 swine flu program stemmed less from their fear of successful claims than from their concern over the cost of handling claims, spurious as well as meritorious. In the upshot, the government agreed that rather than indemnify the manufacturers (for successful claims) it would handle (defend) all claims directly with a mere right of reimbursement from the manufacturers for negligence.

The high legal costs are themselves reflections of the law's complexity and delay. Claimants do not usually fare well at the hands of insurance adjusters unless they are represented by lawyers who work for a contingent fee and therefore have a personal incentive to secure the highest possible settlement or award. (Whether the contingent fee system otherwise tends to increase the cost of the system is, however, open to debate.) Finally, the substantial cost of underwriting expenses is in the last resort the price exacted by a free insurance market in which competitive coverages, rates and services are offered to the consumer through the agency of independent brokers (in contrast to some other countries where at least the rates of mandatory insurance, like automobile liability, are regulated and agencies excluded).

Another source of cost inefficiency is that tort damages are awarded in lump sums rather than as periodic payments. Juries must therefore guess as to the future duration and extent of injuries and, in the result, either over or undercompensate the victim; periodic benefits (as under social security) last only for the actual duration of the need, determined by hindsight, not foresight.

Defenses to Negligence

This critique of negligence has implicitly assumed that negligent parties can be made to pay for the harms they cause. But this is not the full story. Even negligent injurers are freed from liability (or have reduced liability) in certain circumstances.

When the victim's own carelessness contributed to his injury, the common law rule was to bar his recovery entirely. For

example, if in a railroad crossing accident, the engineer negligently failed to sound the whistle and the victim negligently failed to look out for an oncoming train, and reasonable conduct by either would have avoided the collision, the railroad was completely relieved of liability. Some defended the result by saying, in effect, that courts ought not to help those who ought to have helped themselves. Indeed, some imagined that this rule encouraged caution by would-be victims. Others emphasized the common law's general practice of assigning losses entirely to one party or another and argued that when both were at fault it was not fair to assign all the loss to the injurer; as a result it had to lie with the victim. Still others claimed that the rule's purpose was to subsidize railroads.

By the middle of this century it was commonly claimed that juries in fact often disregarded the judge's instructions on the issue of contributory negligence, and by 1980 a substantial majority of the states, through legislation or judicial decision, had overturned the all-or-nothing rule in favor of sharing the loss between victim and injurer (comparative negligence). Not that this is the only plausible alternative. In Swedish tort law and in American workers' compensation schemes, for example, mere contributory negligence, as distinct from much more heinous fault by the victim, is simply disregarded.

Another common law defense is voluntary assumption of the risk by the plaintiff. It once played a big role in shielding negligent employers from liability to their own employees who became aware of some danger on the job and yet "chose" to continue to work; indeed this defense furnished the central argument for replacing the employer's tort liability with workers' compensation. Because of its odious past, the defense is today viewed with suspicion and distaste. In the stock situations where the plaintiff unreasonably "assumed" the risk, like accepting a ride from a drunk or incompetent driver, the defense is nowadays merged in that of comparative negligence and therefore merely reduces, rather than bars, recovery. But what to do about reasonable assumption of risks?

The variety of situations continuing to impose the entire loss on the victim is perhaps best explained, not on the ground of "assumption of risk," but rather because the defendant was not negligent. Often in these cases the injurer has offered to provide a benefit to the victim which can practically only come with a risk attached; and the well-warned victim has quite reasonably chosen to confront the risk. This applies to advanced skiers who reject the beginner slopes for more difficult runs, to sports fans who sit in the open bleachers exposed to the danger of a hard hit ball, and to patients who elect surgery despite the possibility of adverse side effects. While it is not always easy to sort out the cases, a crucial difference between these examples and that of choosing to ride with a drunk is that in the former, society endorses the parties' arrangement as reasonable, whereas in the

latter it does not. Thus, after the fact we allow the passenger victim to turn to his host and say that although he concededly took the physical risk that the driver might negligently crash, he should not be deemed to have agreed to hold the driver harmless.

The foregoing may help clarify why it is unnecessary to use the doctrine "assumption of risk" to explain why well warned research subjects whose misfortune it is to suffer from a carefully run experiment will fail to recover damages in a suit based on negligence. This analysis also makes clear that, by their conduct alone, human subjects do not waive their rights to sue if the experimenter is negligent.

In some circumstances, however, we can actually sign away all right to complain of negligence by accepting a service or benefit that is offered by another only on condition that we expressly assume the legal risk of loss. Some countries, including England, nowadays subject such waivers to a test of reasonableness. Although courts in the United States have been more willing to uphold these private arrangements, recent decisions have been less hospitable to defendants, like public hospitals and public housing landlords, where the public interest and unequal bargaining power are involved.

Let us assume for the present that American courts would uphold an agreement not to sue for negligence if properly executed by human research subjects. An issue for the Commission then becomes whether sponsored researchers should be permitted, or even encouraged, to obtain such waivers.

From the viewpoint of consent, although volunteers are prepared to face the physical risk, they may well entertain reservations about assuming also the legal risk in the sense of waiving all recourse for negligence. Nor are they in practice likely to be free agents—sufficiently free, that is to say, to eliminate concern over the fairness of the bargain. Certainly those undergoing therapeutic experiments are apt to view them as their last chance of regaining their health. As for volunteers of non-therapeutic experiments, their pay, if any, is not reasonably viewable as "danger money," like a monetary incentive for steeplejacks or bomb disposers; rather it is compensation for their time and trouble.

If, on the other hand, research subjects were guaranteed adequate compensation from non-tort sources in case of misfortune, a waiver of tort liability would have more appeal. It would be unwise, however, to assume that experimental participants would all provide for that financial contingency by themselves. There is an analogy to fire fighters here. If researchers, their employers or financial sponsors guaranteed victim compensation, then human subjects might seem like professional firemen injured in their work who are traditionally barred from suing those who negligently created the emergency. The rationale here is that firemen are hired specifically to cope with fire risks and that a special compensation fund is set up by the public to take

care of their injuries. Without the alternative compensation guarantee, the position of research volunteers is more akin to that of volunteer fire fighters who, far from being disqualified like professionals, are treated with exceptional favor in order to encourage publicly beneficial conduct (e.g., ordinary contributory negligence does not count against them).

Sometimes the policy considerations favoring non-liability of injurers (immunity) are so strong as to justify victim assumption of risk as a matter of law. Immunities are recognized, for example, in order to protect the integrity of governmental policy making. This concern imposes an important qualification on the entitlement of an injured citizen to obtain redress against governmental decisions on a policy, as distinct from an "operational," level. For example, community mental health policy itself cannot be challenged in a tort suit: although the risk to public safety in releasing psychiatric patients is substantial, public officials are supposed to weigh without fear of liability the competing value of the personal freedom of most state inmates who are not dangerous. In the same vein, the high risk of recidivism by parolees may have to be assumed by the public in order not to impede the parole system. While this means that the policy choice to engage in experimentation on human subjects will be insulated from tort suits, it does not follow that individually negligent researchers should be. Therapists who know their patients are about to harm another do, after all, have a legal obligation to warn of the danger.

Liability Without Fault

The Principle of Strict Liability

Many tort scholars have rejected the "reasonableness" paradigm on which negligence rests. Rather, they believe it proper for tort law to adopt a broader basis for liability—usually termed strict liability. Advocates of strict liability differ both as to its true basis and conceivable advantages, but share the common view that—at least under certain circumstances—it is enough that the defendant's conduct is *dangerous* though not necessarily unreasonably dangerous.

Indeed, the early common law was to all appearances long content to base liability on a mere causal test—"did the defendant injure the plaintiff directly?"—without reference to any additional requirement of blameworthiness. And strict liability for some accidents (e.g., from dangerous animals) has retained a vitality to the present. One distinction that eventually emerged was between activities that were deemed safe enough when conducted with reasonable care and those ultrahazardous or abnormally dangerous activities (dynamite blasting is a good example) which reasonable care could not render safe. Many such activities, linked to advancing technology, are generally beneficial

and therefore should not be enjoined. Thus, tort liability here is designed neither to condemn nor to deter. Rather, these activities are to be tolerated on condition that they "pay their way" by providing compensation even for "unavoidable" injuries. Included among such enterprises are those that pose either a greater than average risk of accidents or a risk of catastrophic accidents. Examples of the former are conventional utilities (gas, electricity, water); an example of the latter would be a nuclear power plant. This rule was firmly established in tort law at the very same time that Victorian age scholars were intoxicated with the potential of the fault principle to provide an overarching explanation of the law of accidental injury.

Judicial opinions seem to justify strict liability in such circumstances primarily on the ground that subjecting the public to an extraordinary risk for one's own benefit should entail a corresponding obligation to compensate those at whose cost in life and limb the enterprise was conducted. On this rationale, just why there is strict liability for dynamites and not, say, railroads is not very clear. What is an "extraordinary" risk, and why should that matter anyway? For example, in many other countries auto transport is an activity to which strict liability has been attached since its infancy; and so it has to aviation.

In the last twenty years the dichotomy between fault and strict liability has increased in importance as manufacturers of defective products have joined those who carry out abnormally dangerous activities as candidates of strict liability. Simply put, makers of products that go awry in the manufacturing process are liable for the harms the products cause, no matter how careful the manufacturing process (e.g., training of employees, inspections, machine maintenance).

However, since that liability is imposed on manufacturers and distributors of all manner of defective products, not only those posing extraordinary danger like, say, explosives or poison, the rationale is obviously different from that for extrahazardous activities. Plainly, the key is the general concern for consumer protection which gained remarkable impetus in the later 1950's and 1960's. The consumer and user of modern merchandise has fallen under increasing handicap with advancing technology as regards his ability to assess risks, detect flaws or prove specific negligence in the process of production or design. On the other hand, manufacturers are not only strategically placed to assure safety through quality control but exercise a dominant role in promoting consumer confidence through advertising and other forms of public relations. The oneness of the relationship alone is widely regarded as justification enough for strict liability.

Yet whatever its justification, the greatest challenge today is to provide a rationale that will contain the rule. If car makers are strictly liable, why not car drivers; if table saw manufacturers, why not their repairers? Yet, despite a few spillovers at the blurry

edges between, say, products and services (which is a blood transfusion?), the fault principle has so far fended off the challenge. In sum, in 1980 tort liability itself is an uneasy mixture of liability for objectively defined fault and liability without fault.

The way the tort system treats human experimentation victims nicely illustrates this point. We earlier explained the intended application of negligence to such accidents; and the fault principle would indeed apply to experimental medical procedures—e.g., new types of surgery, surgery rather than radiation, etc. If, however, the experiment involves new drugs, then the rules of strict liability take over. Later we will comment on the uncertainty with which the law is now treating new drugs with unexpected side effects. For now it is enough to say that it would make a great deal of difference for tort purposes if the human subject dies from a batch of a drug that happens to be contaminated as opposed to dying from being unable to tolerate some new surgical procedure.

Some respond to this inconsistency by proposing that tort law generally shift to strict liability. This has been justified not only with principled claims about justice, but also on the ground that strict liability has these instrumentalist advantages over negligence. First, its net of compensation is cast more broadly: more victims are compensated and their losses widely distributed. Second, strict liability, far from condoning indifference to risks (*arguendo*, because it does not offer a reward for observing care) in reality provides a stronger incentive to invest in desirable safety measures in order to avoid accidents than to invest in settlement and adversarial strategies afterwards. Third, strict liability is seen as better promoting cost internalization by including as a charge against activities the costs of those injuries that are both reasonably and unreasonably caused. Finally, strict liability is supposed to streamline the litigation process.

Yet our experience with strict liability in the products and extrahazardous activities field has also generated criticism and doubt about its vaunted advantages.

Strict Liability Criticized

With regard to promoting safety, it has been argued once more that in reality managerial decisions relating to safety are more likely to be influenced by criminal and competitive pressures, by the effect of accidents on workers' morale, and by dislocation and public relations concerns than by calculations about compensation costs.

Nor has the switch from negligence to strict liability resulted in a reduction of transaction costs or an otherwise demonstrably more efficient allocation of resources. Under strict liability the price of a product in effect includes an insurance policy to cover any injury to the purchaser and other users resulting from a product defect. But as already pointed out, the cost of this form

of compulsory insurance is exceedingly high, with less than half the premium dollar reaching the victim. One major reason for this is that compensation is payable only on proof that the product was defective, an issue that becomes controvertible the more one moves from manufacturing to design defects or requirements of warning. Those who initially commended the move from negligence to strict liability because it would substantially reduce litigation were to be sadly disappointed; for precisely the opposite occurred as the result of the growing claims-consciousness of the public, stirred by sensational media publicity, combined with a corresponding resistance to claims by defendants concerned alike over costs and adverse publicity.

Again disappointing many of its early advocates, strict liability developed into a "sorcerer's apprentice" as it came to be extended to design defects. Manufacturing or production defects (like failures of the assembly line) pose a problem merely of quality control: they are therefore mostly avoidable (though sometimes perhaps only at excessive cost in terms of efficient resource allocation) and raise no serious difficulty in deciding whether a product is "defective" since it actually deviates from the manufacturer's own standard. Design defects, on the other hand, lie in a different dimension. For here we typically lack any easily available standard of minimum safety by which to measure the accused product, and in any event *conscious* design choices are often made on the basis of relative cost so as to accommodate consumer preferences or even the public interest (e.g., light automobiles offer less collision protection but are cheaper and save gas). To commit such issues to the litigation process probably overtaxes the capacity of judge and jury. While most courts have more or less reintroduced the negligence standard for judging design defects, others are striking out more boldly in favor of victims; indeed current litigation involving drugs like DES may even make manufacturers answerable for so-called "development risks" that were unknowable at the time of marketing.*

Views are bound to differ on the desirability of so expanding tort liability. The affirmative case rests not only on the need to compensate victims but also on the incentive provided for victims to blow the whistle and caution manufacturers against subordinating safety to costs and profits. The negative side makes two arguments. First, the potential burden on industry receives inadequate weight by judicial decision makers. In some industries it turns out that insurance is practically unavailable against design defects, and very costly (especially for smaller producers) even for production defects, contrary to the facile belief by many courts that risks can be pooled and the cost easily absorbed.

*One of the authors of this paper, John G. Fleming, is of counsel to Eli Lilly in the DES litigation.

Besides, the enormity of the risk when one can be held for initially unknowable side effects of drugs is apt to discourage the marketing of new products, especially by the pharmaceutical industry, with the resulting possibility of more long-range detrimental effects on the potential consumer than on the industry itself.

Secondly, opponents of expanded liability argue that the excesses of products-liability zealots limit the individual's legitimate and desirable consumer choice. Risk takers might prefer to take their chance with lower quality products obtainable for a lesser price or make their own arrangements against contingent injury. Under the torts system, as already pointed out, victims are often over-protected (e.g., by virtue of the collateral source rule); why, one might ask, should I have to pay for the cost of strict liability when I am already entitled to Medicare and social security? Or why should I be charged for the extra cost of absolute liability for accidents on international flights under the Warsaw Convention when I already carry accident insurance of my own? On domestic flights, by contrast, the traveller still enjoys an open choice between buying flight insurance and assuming the risk of a non-negligent accident. Such freedom of choice, however, may exact too high a price. Flight insurance purchased over the counter is exceedingly expensive because of the high marketing costs compared with group insurance procurable by the airline. More important, the consumer rarely has access to information for assessing the true cost (including the risks) between competing alternatives. Given these sorts of disputes, it is not easy to predict for the next decade what direction product liability doctrine will take.

Tailored Compensation Plans

Whereas advocates of strict liability have sought to secure greater protection for accident victims by expanding the individual responsibility of defendants within the tort system, other negligence critics have turned to the alternative paradigm of "compensation plans." Workers' compensation was the first such major inroad into tort liability—and remains so today.* For workers injured on the job misfortune rather than individual responsibility became the organizing principle for financial recovery, by the state in effect taking up Holmes' challenge of creating a state insurance scheme. Thus for nearly seventy years now in the United States and longer elsewhere, tort law has not only been two-tracked (negligence and strict liability) but has had to share the field with an important external competitor.

Tailored compensations can be rather broad—covering, say, all work injuries—or rather narrow—covering, say, only sonic

*In the 1970's auto no-fault promised (or threatened) to become the second but now its progress seems stalled.

boom injuries. Their common characteristic, however, is a focus on a subset of accidents generally. Moreover, nearly always tailored plans envision the costs of compensation being paid by those carrying out the activity in question (plans for victims of violent crimes, for obvious reasons, are an exception).

Advantages of Compensation Plans

For some plan advocates, compensation schemes are little more than a legislatively enacted analogue to strict liability in tort. And the same justifications for such plans are advanced as in support of strict liability—a wide net of compensation, internalization of costs, safety promotion and the like. Indeed, some like England's Pearson Commission seem unclear, if not indifferent, to the choice between strict liability and a compensation plan.*

Yet for most plan advocates there are important differences that do matter. Perhaps most significant, plans covering personal injury contain or contemplate compensation awards that are markedly lower than American tort law is now willing to provide; not only is pain and suffering usually ignored, but there are also typically limits on earnings replacement. Moreover, many plans only supplement, rather than duplicate, collateral sources available to the victims. To some critics each of these limits represents a breach in the initial "internalization" justification for a tailored plan. In the face of this criticism some defenders of compensation schemes have converted the internalization argument from an efficiency one into a moral one; financing arrangements are defended on the basis that the "injurer should pay." Yet for compensation plans just as in the tort system, the "what ought to be a cost of what" issue is frequently perplexing. For example, is a traffic accident by an employee on the way to work or during working hours properly attributable to the cost of motoring or of the employer's business? Is a pedestrian's injury in a collision with a non-negligent motorist a cost of walking or of driving? Notwithstanding provocative challenges such as these, tailored plan promoters usually have little patience for them; in the auto no-fault debate this issue is simply resolved by the practical expediency of the ease of charging motorists and the difficulty of charging pedestrians combined with the desire to compensate pedestrian victims.

This practical bent pervades the approach of compensation planners. Benefits are usually to be paid periodically rather than in a lump sum as in tort. The need for costly lawyers is to be done away with whenever possible. (This aim does not always succeed as the experience with workers' compensation has shown.) If

*The Pearson Commission recommended strict liability for human research experimenters (Report I §§ 1340-41) and for vaccine damage (ch. 25) but a compensation plan for auto victims—without explaining the reason for these choices.

private settlements are not reached, the claimant is often directed to take his case to a specialized (and, it is hoped, cheaper) administrative body rather than to court.

The firm rejection of individual responsibility as a relevant principle is illustrated in at least two important ways. First, victim fault (short of intentional self-injury) is usually of no consequence in compensation plans, whereas courts are now coming around to the view that in tort cases plaintiff's negligence calls for reduced recovery in strict liability as in negligence. Second, strict liability, as we have seen, is often justified on the ground that the injurer is morally responsible for the victim's loss; by contrast, when it is convenient, compensation schemes such as auto no-fault are quite content to impose the loss on the compulsorily insured victim. In short, the choice between first-party and third-party insurance is seen largely as a matter of expediency.

We next wish to explore from a slightly different angle our general submission that compensation plans are typically justified by one or more complaints about why the tort law peculiarly fails to handle well the class of accidents in question. We do this at the risk of repeating some of our negligence critique in order to show that the problem of victims of human experiments is in important ways different from many of the problems that have led to proposed compensation schemes.

The literature is rich with the writings of law reformers who studied a particular type of accident and became convinced that a compensation scheme was needed because of the shortcomings of tort law. Auto accidents, nuclear accidents, adverse consequences of drugs, injuries from toxic chemicals or violent crimes, sonic booms, railway and street care accidents, injuries incurred during medical treatment, and workplace accidents are examples.

However, the complaints about tort law vary from one plan to another. One claim is that the tort treatment is peculiarly unjust. For example, workers' compensation arose in response to the harsh application of assumption of risk and other defenses.

A second claim is that the tort system's way of dealing with the problem is not only administratively too costly but also beset with fraud. Such has been emphasized in the debate over auto no-fault.

A third claim is that the tort solution requires unusually difficult determinations of causation (as in toxic chemical and nuclear accidents) or of negligence (sometimes alleged for both auto and drug accidents).

A fourth and related claim is that tort law in action takes on a lottery aspect as exactly situated victims are treated unequally by juries—a claim often made about auto and medical accident victims.

A fifth justification rests on the claim that the compensation plan will better deter socially undesirable conduct; and a sixth and related claim is that the compensation plan will better promote the efficient allocation of resources. With the rise in popularity of law-and-economics, these justifications are heard with increasing frequency.

A seventh argument focuses on the insolvent wrongdoer: for example, in plans for victims of violent crimes.

An eighth justification is the desirability of compensation itself. Sometimes it is linked with the claim that tort damages over-compensate—e.g., in auto nuisance claims and, for some, in all awards for pain and suffering. Usually, however, the driving concern is the failure of tort law to compensate victims adequately—in particular, its failure to compensate some victims at all. This justification—but only this one—is nearly universally invoked by compensation supporters.

In considering the desirability of a compensation scheme for a new area, it may advance analysis to consider which of these justifications is applicable. In the problem area under consideration by the Commission, for example, it seems that only the last is apt. Tort law does not treat victims of human experimentation abnormally harshly. To the contrary the main feature of such accidents, it appears, is that they almost always occur through no one's fault, with the result there are at present virtually no lawsuits filed. Because of this, tort law is not now wasting transaction costs on this problem nor treating victims in this class unevenly, nor imposing liability on judgment-proof defendants, nor struggling with imponderable cause or fault issues. On the contrary, the introduction of a compensation plan for such victims would create difficult cause and other boundary problems such as have plagued proposed medical accident compensation schemes.

Nor finally does there appear to be any real consensus that a compensation plan would either promote safer conduct by researchers in carrying out the experiments or engineer a more desirable allocation of resources. The argument has been made that researchers are the best "cost avoiders" and therefore in order to create desirable economic incentives they, rather than the government, should support a compensation plan for victims.* Because of the way research is funded and the way research institutions are likely to distribute compensation costs, we are doubtful whether this targeting will work as intended. Moreover, we think there is much to be said for the view that regulatory review, peer pressure, moral and professional feelings, and even perhaps the tort law, together already achieve an appropriate level of caution in carrying out human experi-

* Havighurst, following Calabresi's theories, so recommended to the HEW task force in 1977. It may be that the Pearson Commission's choice of the same solution was similarly motivated.

mentation. Furthermore, since research is not a market activity and since government funding is such a dominant source there is simply no reason to suppose that adding this cost to research will move society to finance a more socially optimal amount of it. To be sure, in theory as a result of such a plan human experimentation might suffer at the expense of non-human experimentation; yet in practice we doubt this will occur—even assuming it were thought that the failure of human experimenters to bear the full costs of their experiments now result in relatively too many human, as opposed to non-human, experiments.

In sum, of the justifications here canvassed, the case for human experimentation victims rests primarily on compensation *per se*. In this respect accidents occurring in the course of human experimentation are perhaps analogous to home accidents or routine recreational accidents in that at present most such victims simply have little prospect of tort recovery. A compensation plan for such harms would largely be just that—an assured source of compensation. This alone, of course, does not make it a bad idea; and a scheme that would, say, provide medical and income protection along with ski lift tickets, campground permits and the like is readily imaginable. On the other hand, it is not irrelevant that many who have considered these sorts of injuries have concluded that if a compensation plan is to cover them at all, it should be a broad accident scheme such as that now in place in New Zealand and to be discussed below in our section on general compensation plans.

Horizontal Equity

In America tailored compensation plans have been adopted or seriously considered for only some classes of accidents. One hypothesis, explored above, is that special shortcomings of tort law are a precondition of reform. A different hypothesis is that tailored compensation plans are prompted by a sense that the victims in question are peculiarly deserving of compensation. Inasmuch as desert is a highly elusive concept, it is tempting to test it by analogy to victims who already benefit from tailored plans.

The problem the Commission is considering nicely illustrates the point. Aren't accidental victims of human experimentation doing a job for the government? If so, aren't they entitled to compensation provided for other workers who are injured on the job? Alternatively, aren't they patriots volunteering their bodies for the public good? If so, shouldn't we provide them with benefits like those awarded to injured members of the armed services? These arguments evidently appealed to the Pearson Commission in England (1978).

However, the problem with this horizontal equity approach is that there are also analogies pointing the other way. For exam-

ple, not all victims of programs carried out under government sponsorship for the benefit of the general public fare so well. As already noted, the Federal Tort Claims Act specifically exempts the government from liability for high level discretionary activities and also from any strict liability that would have applied to private parties. Why then are human experimentation victims any more entitled to compensation than are victims of military jet sonic booms or exploding weapons transported through inhabited areas?

The postures adopted by Congress with respect to the swine flu program and the risk of nuclear accidents are also instructive. In the former, the Congressional objective was to take responsibility for obtaining "informed consent" from those who took the shots and then fending off what were assumed would be baseless lawsuits. In short, assuming the government revealed all the risks it knew and reasonably should have known about, unexpected consequences were to be shouldered by the victims. Thus Congress never meant to embrace full financial responsibility for all unfortunate victims of the vaccine despite the broad public health reasons claimed for the program. But if these victims are not assured compensation why should human experimentation victims be? Surely, at least therapeutic experiment participants are seeking personal benefit in the same way flu shot takers are.

Even stronger, conceivably, is the analogy to potential victims of a large nuclear accident. The Price-Anderson Act not only set a dollar limit on the total liability for an accident, but left the applicable standard of liability (negligence or strict) to the varying perceptions of individual states. If Congress thinks that innocent, involuntary victims of this grand experiment in harnessing the atom need not necessarily be assured compensation in case of a disaster, why should it offer better treatment to volunteers in other experiments?

These various analogies suggest an uncertainty about the import of the public benefit of an activity. On the one hand we are heir to a cultural predisposition that commonweal activities justify sacrifices (war casualties) and subventions (immunity of governmental activities) by individuals. On the other hand, there is now increasing acceptance of the idea that losses caused by publicly beneficial activities should be borne by the public. This perhaps explains the erosion of governmental immunity and widespread support of no-fault compensation for victims of public immunization programs, not only for the sake of encouraging participation but also because of the incremental health benefit for the rest of the community.*

*The Pearson Report recommended strict liability (ch. 25). Our own case law, and the Swine Flu episode, strain toward the same conclusion.

Public conduct analogies are not the only relevant ones, however. In the ordinary context of medical treatment, doctors who properly warn patients of potential side effects are not responsible for those effects assuming the treatment was not negligently administered. In case of untoward consequences, such victims and their families must rely upon whatever private health insurance and income protection they have previously obtained or else turn to general public sources such as Social Security and Medicare or Supplemental Security Income and Medicaid. Why, it may be asked, are victims of medical experiments either any more deserving or needy?

Victims of drug side effects are, formally at least, in the same boat. Despite the adoption by most courts of strict liability in drug injury cases, victims must still show that the drug was "defective." And the general rule is that absent a manufacturing failure (e.g., this batch is sub-standard), adverse consequences alone do not demonstrate a defect. Rather, in the usual case we are really thrown back to negligence; did the manufacturer test sufficiently and did he effectively warn of dangers he should have known about? Put simply, those who unluckily suffer the bad consequence of rabies vaccine cannot complain to its maker. The argument by analogy, then, is quite clear. So long as experimental participants know well that they face a clear or potential risk, why is their situation more compelling than that of ordinary drug victims? Indeed, in the unexpected side effect drug cases are not the victims, at least in retrospect, unwilling participants in an experiment since often, it appears, only by mass application to humans do the side effects become detectable?

Analogies, in short, do not readily point the way to any one solution. To the contrary, they suggest a potentially serious problem of injustice. If the current treatment of a given class of victims is altered so that it better conforms to that afforded some other similarly situated victims, the change will at the same time place the altered class out of harmony with yet another class of similar victims.

One way out of this dilemma is to argue that the change proposed is a politically ripe part of an evolving pattern that over the long haul is headed toward consistency. In short, when public and official attention is focused on a specific class of injuries, the opportunity should be grasped for reform even if it is only part of the package eventually desired. This argument apparently assumes that the ultimate objective is a series of tailored compensation schemes (perhaps somehow linked together) that together cover most or all accident victims.* Alternatively, the in-

*For example, in Sweden some measure of horizontal equity was achieved by procuring insurance for human subjects of non-therapeutic research in the same way as for beneficiaries of medical and general

cremental accumulation of tailored plans might be seen as a halfway station on the way to a single comprehensive plan.*

Whether an incremental reform strategy of either sort is politically sensible is not for us to judge. We will say, however, that some have objected to national auto no-fault proposals on the very ground that putting in place this enormous new system and its accompanying bureaucracy would diminish the chance for any truly sweeping reform proposal covering accidents generally.

Politics aside for the moment, we think that at base a series of tailored compensation plans and a general compensation strategy stem from differing philosophies. Moreover, it is important to understand that even general plans could have rather differing scopes. We take up these points in the next section.

General Compensation Plans

Social Security

Many see the accident compensation problem as essentially concerned with providing people with income and paying for their medical bills. From this broadest of vantage points not only do accident victims present the same social concern as do the disabled generally but also their need is much the same as that felt by the retired, the unemployed and perhaps even the poor. In other words, an adequate and comprehensive social security program might take care of the needs of accident victims incidentally to providing income security and health insurance generally. For this set of critics, therefore, the basic reform strategy in America lies in changing the Social Security Act.

At present the act provides, among other things, for wage-related income payments for retired workers and their dependents, totally disabled workers and their dependents and dependent survivors of deceased workers. Today nearly all American workers with substantial employment histories are covered by "social security"—with the exception of most Federal and many state and local government employees who typically have comparable or even more generous plans of their own. Thus, if a human research subject with a substantial work history is killed or totally disabled as a result of the experiment, he or his family can typically count on a public pension in the same way as if he had died or become disabled from other causes. Indeed,

drug insurance. This insurance is publicly-funded and roughly covers the difference between general social security benefits and tort damages. See Boström's Commission paper, *On the Compensation for Injured Research Subjects in Sweden* at Appendix K.

* As was the declared strategy of the Pearson Commission in England: see esp. Report I, ch. 11 (1978). But its failure to properly confront the issue of horizontal equity has been sharply criticized.

some critically ill subjects of therapeutic experimentation might well be receiving social security disability (or retirement) benefits even before the experiment. Even if the experimental victim is not covered by "social security" (e.g., a student not yet in the labor force), a fully disabling accident would generate an entitlement to a Federal needs-tested cash payment.

Does this mean that we already have an adequate scheme of public income support benefits? Many think not, and could point to what is implied or unsaid by the preceding paragraph. First, there is a question of adequacy. Social security will replace about 55% of the earnings of a low earner, with the percentage dropping to about 35% of covered wages for someone who was earning as much or more than the maximum of covered wages (about \$25,000 in 1980). Workers' compensation by contrast tends to replace about 2/3 of the worker's prior wage—at least in the more progressive states; and auto no-fault plans tend to replace about 85% of wages, mostly subject however to rather low ceilings. From this it may be argued that social security is rather less generous toward the disabled than are tailored compensation plans aimed specifically at accident victims. There are two counters here, however: one goes to the accuracy of the argument; the other to the fairness of the pattern, assuming the argument is correct. On the facts it must be remembered that, because of payments to dependents, social security often replaces 85% or more of the worker's wages; that social security has a cost-of-living escalator which is better than that provided, if at all, by other compensation plans; that over the long haul many tailored plans actually fail to deliver benefits of anything like 2/3 of indexed past wages; and that social security benefits for dependents of deceased workers are frequently rather better than those offered by tailored plans. In short, as compared with real world alternatives, social security does not seem to us to fare badly on adequacy grounds. Even if it did, and now we turn to the fairness aspect, we are by no means convinced that accident victims ought to be better treated than, say, those disabled by illness or from degenerative or congenital conditions.

More serious is the failure of social security to cover either temporary disability (expected to last less than a year) or partial permanent disability. Even so, in a handful of states, including both California and New York, a state temporary disability scheme provides wage-related income protection for about six months. Moreover, a large fraction of workers is covered by formal or informal sick leave plans which are the private counterparts to the New York and California statutes. Even more important is the failure of social security, in contrast to workers' compensation, to cover partial permanent disabilities. Like the preceding, this again contrasts strongly with other nations—the Netherlands has an especially liberal plan, but Congress' recent tightening up on social security disability benefits offers little prospect of any reform of this sort in the short term future.

In sum, whether or not the existing American social security system adequately provides for the income loss of victims of any particular class of accidents probably depends upon the sorts of injuries that predominantly occur. Turning to the Commission's problem again: if, for example, victims of human experiments typically suffer either trivial injuries (requiring no lost work) or else fatal injuries, then our social security scheme is probably far more satisfactory than if many such victims miss a few months of work and are left with some partial and permanent harm.

Besides income losses, medical expenses are probably the most serious. Here a comprehensive national health insurance scheme would go a long way toward defusing the need for either tort law or tailored compensation plans—as it has in many countries, including Canada. Yet in the U.S. a national health scheme is hardly imminent. All the same, between private health insurance, Medicare (for the elderly and the totally disabled) and Medicaid (for the poor) most American do have health insurance already. The problem, of course, is that there are some serious gaps (for example, the unemployed often are without coverage) and many private policies are wholly inadequate in amount or duration of benefits. Of course, the targets of the Commission's investigation might well have special characteristics: for example, if most were already either over 65, or in public hospitals and on Medicaid, or students with college-provided health care, the medical expense gap might not be very serious. Indeed, it may turn out that research institutions by and large already provide free medical care for accidentally injured human subjects.

General Accident Plans

Pessimism about the political prospects for making our existing social security system more complete has caused some reformers to narrow their focus. A first line of retreat would be to limit compensation to the disabled, to the exclusion of the unemployed, retired, etc. but including victims of accident and disease, as recommended in 1974 by the Woodhouse Commission for Australia. More practical, however, is to retreat one more step and focus on accidents alone. Thus in New Zealand, following the celebrated Woodhouse Report (1968), tort liability for personal injury or death by accident has since 1974 been entirely replaced by a compensation scheme, administered by a national agency, which provides periodical benefits for income loss, reimbursement for medical expenses other than those covered by the free hospital scheme, and modest awards in serious cases for pain and suffering. The scheme is funded by contributions from employers (replacing workers' compensation) and motorists (replacing liability insurance) and while providing 24-hour coverage for the whole population, costs no more than the system it replaced.

The principal attractions of the latter approach include: (1) a sense by its supporters that accident victims (or perhaps the dis-

abled generally) are specially deserving as compared with others, (2) a political judgment that this package is more salable, and (3) a conviction that the most urgent need and most practical first step is to replace the tort system and, essentially, extend workers' compensation coverage around the clock. Rather than get into the deeper waters of national medical care and income maintenance for all, the New Zealand approach stays within the general scope of experience with accidents.

Tailored and General Accident Compensation Plans Compared

What then are the comparative merits of broad and narrow compensation schemes? General plans like New Zealand's offer the advantage of horizontal equity among accident victims; tailored plans by contrast invite the complaint "why these victims?" General plans promise relatively few what we call "boundary" issues; either you are an accident victim or you are not, and the conceptual and technical difficulties of attaching your injury to a particular accidental cause are avoided. For example, is someone who slips and falls into a parked car covered by an auto injury scheme? Narrow compensation plans require such decisions which general plans avoid. This saves administrative costs as well as frustrations and felt injustice if the network of tailored plans has gaps in coverage. On the other hand, even in general accident plans there sometimes arises the difficult issue of whether a person is suffering from illness or accident. A classic example, from the workers' compensation field, is a worker who suffers a heart attack on the job. Was this an "accident in the course of employment" (e.g., from over-exertion) or the culmination of a continuing disease? As the New Zealand experience confirms, this sort of problem is particularly acute in the area of medical treatment and therefore in the area being considered by the Commission. Is the victim's condition the result of his original illness or the treatment given? Would the victim have been any better off had traditional rather than experimental treatment been tried? To many, both questions would have to be resolved favorably toward the victim before accident compensation would be properly payable. Yet these can be difficult determinations to make. Nor can they be avoided by a tailored plan for human subjects. Not only are these issues still alive, but also on occasion one will probably have to decide further whether the harm is from the experiment as opposed to other injurious causes to which the victim was simultaneously exposed. Only a plan covering all disabilities escapes these conundrums. Yet, of course, new boundary problems then arise; is the victim unable to work because there are no job openings?

Another administrative issue is the efficient size of the plan's bureaucracy. Plans that are too narrow run the risk of having a corps of administration spread over too few benefits. On the other hand, plans that are truly modest just might get away with

very simple management that could plausibly piggyback on another related scheme. The Commission's subject just might have this advantage. General plans, in short, have the potential of both economies and diseconomies of scale.

Both tailored and general compensation plans are presented with the problem of potential double recovery by victims. Because of public and private insurance and other arrangements any new scheme is apt to duplicate existing benefits. There are really three separate issues. The first is whether double recovery is desired; and while we think it fair to assume that the general answer is no, this is probably not meant to apply to all collateral sources. For example few would think that accident compensation benefits on the death of a victim should be reduced by his life insurance. Even if life insurance policies (as well as savings, private pension benefits and the like) are to be disregarded, the same does not necessarily go for, say, social security benefits and even private health insurance benefits. This brings us to the second issue: in principle, which benefits should be primary? That is, in order to avoid double recovery which source ought eventually to bear the loss? We say "eventually" because it is quite imaginable that the victim might be free to collect from either of two sources which, in turn, would settle up later. Alternatively, the victim might collect from both, with one having a right of reimbursement; or finally the plans could be dovetailed so that their payment terms resolved the double recovery issue at the outset. These options lead naturally to the third issue: to what extent, if any, do practical administrative concerns point to a solution at variance from that which might be desirable in principle. We will not seriously address this third issue here; we do, however, wish to return to the second one—which source ought to be primary.

It is here that tailored plan advocates often claim the superiority of their approach. The argument, put simply, is that tailored plans—assuming they are primary—concentrate the cost of accidents on the sources that ought to bear them. This cost internalization is then said to promote social values we have already canvassed: stimulating safety; achieving the optimum amount of the accident-causing activity; serving justice by making those pay who benefit from the activity.

As in our discussion of the tort system, it is not clear that tailored plans actually effectively further these goals. Without replotting the same ground too much, we register again our skepticism about the marginal impact of both safety and general allocative efficiency of any compensation plan in a world such as ours where various regulatory regimes, market pressures and market imperfections already exist. Moreover, as to the fairness of cost allocations, we continue to wonder just what is fair about assigning bicyclist injuries to motorists. These puzzles are largely responsible for common law judges falling back on the concept

of defect—a complication we assume plan advocates would hope to avoid.

Another way into this issue is to ask just what is the problem of which this accident is a part. Again illustrating from human subject injuries, is the problem really a problem of human experimentation, or is it rather simply an aspect of the problem of drug injuries or of medical accidents, etc.? But these are not questions that can be resolved in neutral ways. Even if you thought you knew the answers to these questions, it is not clear that private behavior would not defeat the cost assignment strategy of the drafters. For example, a scheme intending to impose accident costs on cars that prove to be especially dangerous may turn out to be borne in part not just by other cars of the same auto makers, but also by their other vehicles and even other products. This all depends on the mechanisms available to them to distribute the costs. If, for example, the compensation scheme involves private insurance, the way risk classifications and prices are set can be crucial. Even if targeted governmental taxes are employed (say on vehicle maximum speed), the true incidence of those taxes then matter.

Moreover, to the extent that tailored plans do promote fairness and efficiency goals after all, the financing mechanisms of general accident compensation plans could be used to further the same objectives. Some plans envisage that charges be levied on accident causing activities, and over time the agency in charge presumably could refine its targeting in both sensible and fair ways.* Such a general plan would then begin to look very much like a fully integrated and complete series of separate plans, in genuine contrast to one that simply looked to payroll tax for its financing. The lesson here is that financing arrangements are a vital aspect of this debate.

In the end, it is hard to deny that the political reality of capturing public and governmental attention to a problem counts importantly in determining just what social changes are made. Witness the government's riot insurance, flood insurance, bank deposit insurance, mortgage insurance, and pension insurance programs. In short policy analysis can carry us only so far.

* New Zealand's legislation contemplates adjustments of just this sort, although so far the government has made little use of this power.