The war against the automobile

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A series of converging events make it likely that the United States is, at long last, going to come to terms with a gigantic domestic problem that has attracted enormous attention but almost no interest: traffic safety. It is not at all clear how much will be made of the present opportunity. But much more is at stake than is generally perceived. To grasp this, it is necessary to have some idea of the dimensions and the ramifications of the problem.

Automobile injuries and deaths began to cause concern before the First World War. In the 1920's, when the automobile became a standard family possession, it also created what is by now an endemic public health problem. The National Health Survey indicates some 4 or 5 million persons are injured each year, involving perhaps 100,000 permanent disabilities. Another 50,000 injuries are fatal. In Korea the Air Force found that automobile injuries were generally more serious and required longer hospitalization than battle casualties. One can be fairly certain the same is true in Viet Nam.

The economic costs are considerable, of course. A disproportionate number of the persons killed or permanently disabled represents an almost complete loss on a heavy investment: they are persons with twenty years of nurture behind them and presumedly forty years of productive work ahead. The cost estimates are surpassingly fuzzy, but something like 2 percent of the Gross National Product seems about right, if property damage accidents are included.

Little attention has been given to the indirect social costs of traffic accidents, although these are probably the more serious ones. American adults probably have more direct relationship to government through the management of the motor vehicle system than in any other way. There are some 90,000,000 persons who are are licensed to drive. Nothing like that number pay taxes, vote, engage in "participatory democracy," or know that the mainland of China is controlled by Communists. A driver's license is close to a necessity of life for many, perhaps most Americans, and the power of government to grant or deny it, or to suspend or withdraw it, is, of course, considerable. Oddly enough, it does not seem to have led to a very great deal of corruption – perhaps because it is so near to the indispensable. It may be that corruption arises in areas where something more like privileges are dispensed. On the other hand, because the traffic laws are not observed, the system has made lawbreakers of just about everyone, and has resulted in the arrest and trial of vast numbers of persons. I should not be surprised if, as a consequence of the management of the system, the incidence of police arrest in American society is the highest of any in history. I am not clear that it is good for a society that the persons in it become accustomed to being arrested. The dark aspect of this development is that we seem no longer to think much of it. George Orwell, of course, kept insisting that oppression comes on little cat's feet, and that once it has happened it no longer seems like oppression.

The most important impact of traffic law enforcement has been on the courts and the legal profession. It is probably true that the judicial and legal profession of the United States devotes almost one half its time to the ajudication and adjustment of automobile matters, and earns perhaps a third of its fees that way. An editorial in the *New York Times* reports that "automobile negligence suits make up from 50 to 90 percent of the case loads of civil courts throughout the country." This appears to be true in the appellate divisions as well as in the lower tribunals. It inevitably has led to a startling backlog of cases in American courts. In New York, for example, it takes over *four years* to get a jury trial convened. In measure that justice delayed is justice denied, it would seem there are clear implications of such delays for a society that wishes to be a just one. The advantages that the wealthy have over the poor in such a system are obvious. Whether or not this situation will bring about an eventual erosion of respect for the judicial process, is a related question.

Preventing accidents or injuries?

Now these are a familiar assortment of sorrows: life is expensive; justice, elusive; death, inevitable. There is little to be said for or against them unless it can be seriously argued that, in this particular

case, they are unnecessary – or at least meliorable. Not only can such an argument be made; increasingly, it is not even disputed. There is a considerable body of empirical evidence – of which the different accident experience of different road systems is the most striking – that automobile accidents can be reduced without substantially comprising the essential transportation system by which they are generated.

It should be noted on the other hand that there is not much evidence that the number of accidents can be substantially reduced simply by altering the behavior of drivers while maintaining a near universal driver population. It may be this can be done, but it has not been done. This leads to the basic strategy of crash injury protection: it is assumed that a great many automobile accidents will continue to occur. That being the case, the most efficient way to minimize the overall cost of accidents is to design the interior of the vehicles so that the *injuries* that follow the *accidents* are relatively mild. An attraction of this approach is that it could be put into effect by changing the behavior of a tiny population – the forty or fifty executives who run the automobile industry.

It would also seem obvious that the legal problems of ajudicating the consequences of traffic accidents could be considerably reduced. Most accidents are probably not worth ajudicating: a simple claims precedure as proposed by various judges, and most carefully by O'Connell and Keeton, would eliminate a large part of the case load (as would, of course, a reduction in accidents). Most significantly, a careful enquiry might well reach the conclusion that in many cases it is simply not possible to establish by testimony and similar evidence just how an accident occurs, much less who is to blame. The system failed, and that is about all that is to be learned with finality. With the best will in the world on the part of persons testifying, it is probable that for many high speed accidents the essentials events are beyond the threshold of perception of the persons involved. (Supposing murder trials were conducted on the basis of demanding to know of witnesses which way the bullet was travelling when the victim was hit!)

II

If the reduction of accidents and injuries – and of the social costs they give rise to – is possible, how is it that this has not been done? More to the point, why has it not been seriously attempted?

It is not that no one has noticed the problem. On the contrary, there are few public issues which have been so consistently the subject of comment by government officials, communications media, service organizations, and the like. There is every reason to suppose the public is highly sensitive to the subject, and that it can be a

rewarding political issue. (In a recent survey by *The Economist*, British voters were asked to name what they thought was the single most important issue in the then forthcoming British general election, "Without any prompting," more named "road safety" than taxes.) Why, then, so few results?

I am persuaded there are at least three clusters of reasons that explain this failure.

First, The Venality of the Automobile Industry.

The object of the automobile industry is to make money, but also to make automobiles. For a long period, perhaps because of the influence of corporate managers who were also engineers and took great interest in design as well as styling questions, the industry was highly innovative and, in the view of persons who should know, produced increasingly safe and well-engineered vehicles. For the past quarter century, however, financial management seems to have been dominant, and the industry has become technologically moribund. The "failure" rate of vehicles has been allowed to settle down at a level which in any comparable field would be regarded as absurd and unacceptable. Thus, in 1959, William Haddon, Jr. and I calculated that almost one out of every three automobiles manufactured in Detroit ends up with blood on it.

To a perhaps surprising degree, the profits of the industry are related to these accidents (although not of course to the injuries). Much attention has been paid to the concept of "planned obsolescence" (which itself may account for a fair number of vehicle failures) but almost no interest has been shown in the role of accident damage in creating a market for the products of the industry. There are anywhere from 15,000,000 to 40,000,000 accidents a year. While in the Department of Labor, I made some rough estimates that perhaps 20 percent of the total production of the automobile industry is required to replace or repair damaged vehicles.

I believe it can no longer be doubted that within the higher executive levels of the industry there has been a conviction that an excessive concern with safety is bad for business. Ford made a serious effort in 1956 to sell a safer car; this was accompanied by a bad sales experience that has apparently frightened off the entire industry ever since. Chrysler, at a time of management troubles, made some important statements on the subject, and has kept a highly competent man on as its safety engineer, but has not gone much beyond that. On balance, the impression anyone following the subject must have is that the sales managers have been consistently opposed to any systematic concern with safety design, and have had their way.

This is the hardest possible case to prove, of course, but there is evidence. One of the few glimpses inside the industry came from

testimony in the 1959 case of *Comstock v. General Motors Corporation,* heard in the Supreme Court of Michigan. Anyone concerned with the morality of American business organizations would have to be appalled by *Comstock.* The uncontested facts of the case are that the 1953 Buick Roadmaster had a defective power brake system (involving a ring sealer in the hydraulic brake master cylinder which allowed the brake fluid to escape from the cylinder.) Having manufactured this car, and having discovered that the brakes did not always work, the manufacturer's response was as follows, in the words of the Michigan Supreme Court:

"The matter was judged serious enough by General Motors to require the issuance of 2 separate kits for replacement of the defective parts.

"The agencies were instructed to make repairs on the power brake system at General Motors' expense whenever 1953 Buicks came into the shops. These repairs were made without notice to the owners and even if there was no complaints about the brakes. No warning to owners of 1953 Buicks equipped with these power brakes was given either by General Motors, or by the agency. . . .

"Wentworth, the Lawless Buick agency service representative, testified on this point:

"A. *Because I was not allowed a campaign to call these people or mail anything to them.*

"The Court: *They asked you to call them.*

"A. *They said to get these cars whenever you could get your hands on them. When a customer didn't come around I couldn't look up the thing. I thought it was Buick's responsibility. Most of the time on things like that owners were sent registered letters. I was not allowed to do that.*

"The Court: *Who said you couldn't send letters?*

"A. *The service department at Buick. It was a hush thing. They didn't want the public to know the brakes were bad and they were very alarmed.*

"Mr. Kraus, the general service manager of Buick, testified somewhat differently:

"Q. *Mr. Kraus, did the Buick Motor Division ever contact the owners of these cars?* A. *No, sir.*

"Q. *Didn't advertise what the conditions were?* A. *No, sir.*

"Q. *Were any parts ever sent to a dealer as replacement parts unless he asked for them?* A. *No, sir.*

"Q. *I take it nothing was done at all by the Buick Motor Company or Buick Division of General Motors unless and until the parts were asked for and then they were given, if possible?* A. *The parts were ordered by the dealer and shipped to the dealer by us.*

"Q. *That is all the Buick Company did?* A. *Well, other than put out the technical information such as the bulletin you just read there.*

"The Court. *You didn't call them up and say, get all these cars in and have them repaired?* A. *No, sir.*

"Q. *Why not?* A. *Well, in the first place that is the obligation of the dealer, and in the second place we don't know who all the owners are or where they are.*

"Q. *Did they ever do anything to find out?* A. *We have no right to tell the dealer how to run his business. He is an independent business man.*

Q. *But did you do anything to find out?*

"A. *No.*"

Just how general such conduct has been in the industry is an open question: but the attitude underlying it has been general and manifest. When the possibility first began to be raised that the impurities in automotive exhausts might cause cancer as well as smog, the response of the industry was one of utter unconcern and flat refusal to do, until forced by legislation, what would have been easy and cheap to do (install blow-by devices as standard equipment).

There is a resistance to reasonableness in this field that is at once baffling and revealing. It was soon enough evident that the executives and engineers in the industry simply would not comprehend the idea of designing their machines so that the injuries that result from accidents would be minimized. This at least could be explained: these were one-subject-at-a-time men who would not accept the inevitability of accidents, or in any event were trying to design machines that would not have them as a result of mechanical failures. If the damned fools driving them wished to collide with one another, that was not the engineer's look out. (Even so, recent congressional hearings have produced evidence that the incidence of design failure *known to the industry* is much greater than anyone suspected. Evidence of failure in the obsolescent stage is also mounting. Non whites have much higher fatality rates than whites, owing presumedly to being forced by economic pressures to drive older and hence more dangerous vehicles.)

But beyond the unwillingness to face up to the persistence of accidents, there is an obtuseness on the overall subject of traffic safety, that is bewildering, coming as it does from men of unquestioned probity and manifest rationality in the management of their affairs in general.

On April 5, 1966, for example, Mr. John Bugas, Vice President of Ford, speaking for the industry before the Senate Commerce Committee, asking that the industry be given a chance to police itself, said "Whatever happened in the past, this industry is now wide-awake." They had got, he said, the message. Yet 10 days later, on April 15, Mr. Henry Ford 2d made it just as clear that this was not so. In an

otherwise candid and positive statement of intention to make cars even safer than they are, Mr. Ford went on to criticize Mr. Ralph Nader, one of the most forceful critics of the industry, in terms that do no one any good: "He can read statistics and he can look up a lot of facts that are in the public domain, but I don't think he knows anything about engineering safety into automobiles," said Mr. Ford, "I think that, if these critics who don't really know anything about safety will get out of our way, we can go ahead with our job – and we have a job to do. We have to make our cars safer." This in itself is an understandable enough attitude for a manufacturer, and would not merit comment save for the remarks that preceeded it. Pointing out that "the driver is the most important factor [in safety] because if you drive safely accidents won't happen," Mr. Ford noted that laws passed by Senator Abraham Ribicoff when he was Governor "cut the deaths on Connecticut roads by about 50 percent" without any changes being made in automobiles.

If in truth there are laws which when enacted cut the number of highway deaths in half, it will surely be seen that this is an immensely important fact. And if the chairman of the Board of Ford Motor Company says it is a fact, we should have every reason to assume it is. What is then to be made of the discovery that it is not a fact? In the four years 1951-1954, the average number of highway deaths in Connecticut was 254 per year. In the four years of Governor Ribicoff's term, that followed, the average was 286. In the years since, the average has been 323. In the period since 1955 the number of accidents per year in Conecticut has more than doubled, the *rate* of accidents per hundred million vehicle miles has gone up 43 percent, and the rate of injuries up 29 percent.

It has been these frustrating, stubborn realities, among others, that have led Senator Ribicoff, for whom no praise could be too great in this area, to his present line of enquiry.

Mr. Ford's confusion is not an isolated event. It is in the pattern of events. Moreover, the message the critics of the industry have sought to deliver goes precisely to this point. If the companies will not respond fairly to information that *is* in the public domain, what can be the grounds for confidence that they are acting responsibly about information that until now has been entirely internal and private.

The practice of tire manufacturers, if not as extensively documented as those of the motor industry, is not more reassuring.

There is, of course, another major "industry" concerned with traffic safety: the insurance industry. With the exception of some mild experimentation carried out by Liberty Mutual and a few other groups, the insurance industry has done nothing of any consequence about traffic safety, so far as I am aware. I do not know why this is so, and have only the vaguest impressions. One impression is that the

insurance industry has not wished to get into a public row with the automobile industry: a kind of class solidarity that forbids washing dirty corporate linen in public. A second impression is that the executives of the insurance industry are not innovative men, and do not have the iniative to undertake any serious efforts to change a system that is working well enough from their limited vantage point. (This seems true of the industry as a whole. The automobile is a 19th century machine that has not been much changed for at least a generation now. General Motors does not seem to be a place where a genuinely creative engineer would want to spend much time – certainly not in the age of the Moon Shot. Similarly, who goes into the insurance business? Part of the task of the management of public affairs in the modern world must be to take into account the fact that large segments of life will be in the hands of men of modest endowment.) A third possibility would be that, despite denials, the insurance industry does in fact profit from automobile insurance to an extent that is satisfactory to them. The issue is not clear, nor have the companies sought to make it so.

As with the harassment of the driver in the first era of traffic safety, it seems we are now entering a period of indicting the businessmen involved. The need to impose guilt in this field is obviously deep seated, and we may very well be over-correcting. The more important question is: why have the very large number of persons in business, industry, and the law who have made large profits out of automobiles been imprevious to the pleas to be rational about automobile safety? Has it got to do with the nature of corporate organization, or is it simply that our society is – as Reinhold Niebuhr suggests – easily corrupted in areas where individuals are asked to assume a personal relation to a collective responsibility? Or, alternatively, is this simply more evidence of the trivialization of American business: the fact that the central concerns of American society are no longer in the hands of free enterprise, and that free enterprise is no longer in the hands of men who expect to lead society.

Second, The Psychological Role of the Automobile.

It is surely clear that the largest reason we have not done anything to tame the automobile is that we have not much wanted to. That the automobile has a powerful symbolic, emotional role in American life is a proposition few would doubt. It is a central symbol of potency and power: the equivalent of the sword, or the horse, or the spear of earlier ages. It is both a symbol of agression, and a vehicle thereof. It is a sanctioned form of violence. In American Society one can injure and kill another person with an automobile at virtually no risk of *physical* reprisal. It is also a prime agent of risk-taking in a society that still values risk-taking, but does not provide many outlets.

Anatol Rapoport has suggested that the most careful approach to accident prevention may in the end lead us nowhere if it turns out that "accidents are manifestations . . . of global cultural factors – that is, of social analogues of destructive drives."

> For example, if we should find that in spite of clear determination of the marginal effectiveness of certain measures and the actual implementation of these measures with the resulting reduction of accident mortality and morbidity in one area, the *over-all* accident incidence of morbidity or mortality remains unaffected – i.e. if stopping up one would we only help to open another, as sometimes happens in superficial cures of conversion hysterias– then we will know that something more basic is wrong with us.

Whatever the truth of this kind of speculation, at the very least it can be said that the attitude of the public is ambivalent on the question of traffic safety. Too much attention to safety must necessarily call attention to the dangers of driving – and this is not agreeable. At the same time, the dangers of driving *are* agreeable, and *are* sought. By the almost total emphasis on the responsibility of drivers to drive safely, it becomes possible for the individual driver to assume he is safe when he wishes to be, and to have the satisfaction of taking risks when he desires that experience. In this context, the otherwise absurd business of counting the death toll over the holiday weekends assums a certain cultural consistency: it is rather like keeping score on Russian roulette – those who have successfully avoided disaster are pleased to be reminded of it, those who have not are beyond all reminding.

Third, The Failure of Government.

The power of the automobile industry and the ambivalence of the public have combined to prevent effective governmental action. We have opted for an arrangement which is, I suspect, not unusual in such circumstances: working at the problem in ways fairly certain not to succeed. One of the most effective ways in which a government does not do something is by assigning the task to the kinds of people who never get anything done.

Since the 1950's there has existed in Washington an organization known as the President's Committee for Traffic Safety, which uses the Presidential seal with abandon. I served as a departmental representative on the body for a year before learning that the executive director was neither chosen nor paid by the Federal government, but rather by the industry! This man presided over the expenditure of public funds allocated to the Department of Commerce, and generally disported himself as the head traffic safety man in government, although he was in fact a paid agent of the interests he ought at least to have been keeping an eye on. In 1963 I attended a meeting in the White House called by the Secretary to the Cabinet to consider

whether the integrity of the Presidential seal was not being abused: it was, and it was so agreed; but what to do about it remained a puzzle.

Similarly, the public will has largely been paralyzed by the seeming incompatibility of safety driving and mass driving. In the course of the past half century we have designed our cities and generally arranged our lives so as to make the use of the automobile indispensable to most persons. This makes it politically impossible to withdraw the right to drive from anything but a small fraction of adults, and then for only short periods. Hence any strategy based upon punishment of the driver for inadequate performance must tend to fail. Even drinking drivers, who are unquestionably dangerous persons who are mainly responsible for their dangerous condition, will nonetheless by and large continue to drive: the social life of the American middle classes now primarily takes the form of getting into an automobile, and driving to a place where alcohol is consumed – a friend's home, a tavern, or whatever. This is too deep a social pattern to be broken. Hence, at the very least, massive ambiguity.

There is, however, another source of the failure of government: it is the striking absence of any of those conditions of self-generating reform which would enable government to take initiatives on its own – such conditions as money to carry out programs, social statistics and related data on which to base programs, and professional persons to devise them. To a surprising degree, none of these exist in the world of traffic safety.

The amount of money allocated to research in traffic safety has been miniscule. (The one exception – a major one – to this rule concerns highway construction. The nation has constructed a fabulously elaborate highway system designed with steadily improving safety features. In this instance, however, the interests of the industry and the public were harmonious with those of safety.) The automobile companies spend money designing their products so that they operate properly in traditional terms; but so far as is known, they do almost no research in crash injury prevention, nor do they seem to have done any work in the larger area of developing scientific data about the man-machine relationship in the highway complex. Recently a number of universities have begun to study the problem, but in general it is fair to estimate that at no one time over the past half century have there been as many as a dozen senior scientists working in this field.

It is not to be supposed that there has been a deliberate strategy on the part of the automobile industry behind all this, but the outcome could not have been more effective if there were. Because there has been so little money devoted to safety research, there are almost no facts. There being no facts, there is very little in the way of argu-

ment. Amateur efforts to produce "crash proof" cars have by and large been more ludicrous than not.

Dividing miles by cadavers

Directly related to the absence of facts about safety design is the absence of facts about the whole subject. This is central. Despite the inundations of putative data about death rates and such like, there are in fact no standard national statistics about traffic safety. The United States government does not collect them.

The only moderately reliable statistic that exists is the number of persons killed. We have this information in consequence of the established practice of coroners of reporting the probable cause of death of bodies found on public highways. Combining death and taxes, the death-rate is obtained by a simple formula that derives total miles driven from gasoline taxes paid, and then divides miles by the number of cadavers. The results of this not very complex calculation is the death rate, a dependable but meaningless number, in the sense that it provides no guide to action of any sort – and, more seriously is probably misleading. (One would think the number of persons who actually die in motor vehicle accidents responds more to advances in medical practice than anything else.)

It is hardly a complicated matter to conceive what basic national data ought to be collected: rates for deaths, injuries, and accidents; geographical and temporal distribution of such; types of vehicles involved; types of driver failure; types of vehicle failure; types of drivers involved; types of roadway and environmental failures. That would be a beginning. Most of the data could be gathered by standard sampling techniques.

To repeat: *none* of this data now exists, save the death rate. (A few states also gather injury and accident rates.) Thus, so far as is known, the automobile manufacturers do not keep any systematic records of the injuries that occur to automobile occupants when they are thrown against the vehicle's interior in the course of the accident. There are, of course, millions of such events each year, and it may be said that it would be a rare layman whose self composure would survive fifteen minutes of color photographs of the results.

In 1963, testifying before the Subcommittee on Public Health and Safety of the House Committee on Interstate and Foreign Commerce, I dwelt at some length on this subject. In the course of my remarks I made the following statement:

> "In an effort to keep with the problem [of traffic safety] for little more than a generation agencies of local, State, and Federal Governments have been compiling statistics about accidents, injuries, and deaths with a diligence and industry seems to grow as the years go by.

> "But that has been an almost wholly uncritical effort. As a result, it has been almost wholly useless. It is my impression, and it is the firm opinion of research workers for whom I have the greatest regard, that with perhaps one or two exceptions all the vast accumulation of data about automobile accidents over the past half century has contributed almost nothing to our understanding of the cause and prevention of accidents."

The hearing room in which I made this statement was filled with persons representing the major institutions concerned with traffic safety. I appeared, not as an interested amateur, but as a member of the subcabinet, supporting a bill to establish a National Accident Prevention Center which had been introduced by the chairman of the subcommittee. This was a serious level of government. Thus the reaction to the statement is a good illustration of the atmosphere that has pervaded this subject. There was no reaction. So far as I am aware, the statement never appeared in any of the myriad traffic safety publications. No one commented on it. No one attempted to refute it. No one attempted to do anything about it.

What is true of accident statistics is similarly true of accident investigations: there are none. Save for an aborted experiment at the Harvard Medical School, there has been no effort over the past half century to unravel the etiology of actual automobile accidents in the way that is routine for airplane accidents. The concept of "grounding" a particular model of vehicle that appears to have safety problems does not exist with respect to automobiles.

The state trooper

A final aspect of the failure of government, and the crucial one, has come from the fact that, despite its long history, the problem of traffic safety has never yet associated itself with a professional group that would apply to it standards of evidence, evaluation, and self-criticism that the solution of problems of this kind requires.

Government regulation of the automobile began as a form of tax collection, upon which a layer of law enforcement was superimposed. In time the automobile helped create a new institution of law enforcement: the State Police. Probably because they are characteristically not corrupt, very little attention has been paid to them. However, they have been the dominant institution in traffic law enforcement (and, by a feed-back process, probably to traffic law enactment as well) and little notice has been taken of what a very poor job they have made of it, despite their high standards of personal conduct.

The entire pattern of State Police management of the automobile complex is derived directly from the model of the prevention, detection, and punishment of – crime. From the cowboy hats to the six gun to the chase scene, the entire phenomenon is a paradigm of the

imposition of Law on an unruly and rebellious population. This involves intense concentration on the guilt of individuals, as measured by conformance to statutes, and of the efficacy of punishment, either threatened or carried out, as a means of social regulation. There is not much evidence that this works. More to the point, the police have almost no tradition of controlled enquiry that would discover whether it works. Thus, in 1955 the Connecticut State Police began a crackdown on speeders that soon brought nationwide attention. In a curious way the efficacy of such an effort is somehow presumed. Yet by any measurable standards the Connecticut program has been a distinct failure. Yet it is clear that the Connecticut State Police do not, in any meaningful sense, know this, and do not intend to find it out. Their response to the gentlest criticism is simply wholesome Hibernian apoplexy. (It happens there is a Bureau of Public Roads study which shows the rate of accidents decreases as speed increases between 35 and about 68 miles per hour. Most probably this is because both speed and accidents are functions of density. But it could be hoped that even the most dense Police Commissioner might wonder if there were not some relation between this study and results that seem to bear it out, even if on further reflection they might not.)

Similarly, there is no evidence that drivers who are arrested for speeding, or similar offenses, are in fact any different from other drivers, or that they act differently thereafter. Since more drivers, according to Bureau of Public Roads studies, exceed posted speed limits much of the time, it is likely that to be arrested for speeding is in the nature of a random event. Again it must be emphasized that such drivers may in fact be different – and worse, or whatever – but the management of traffic safety has largely been in the hands of institutions and groups that do not routinely ask such questions, much less tease out the answers.

The highway engineers, whose research I have cited, are the major and the most revealing exception. They are a profession; they have standards; they pursue them. When a bridge falls down, they try to find out why. When a new road is to be designed, they try to calculate how many cars will be using it and at what speeds, and design accordingly. By and large they have been predictably, sometimes brilliantly successful.

III

By the mid 1950's it was becoming evident that this over-all situation could not persist. A matter of considerable public interest was in the hands of incompetents or worse. *Some* protest was inevitable, and it arose, in a natural course of events, among a small group of professional persons – lawyers, doctors, engineers, and public officials. Articles began to appear. Intellectuals were doing their work.

Up to this point the automobile industry had options. There were two courses open. The industry could recognize that the automobile system was working badly from the point of view of safety and could have sought to organize a mixed public and private effort to introduce rational and effective measures, including much greater attention to automobile design but by no means limited to that. This would have involved considerable shaking up of staffs, the disestablishment of flunky organizations such as the National Safety Council, and the creation of a federal automobile agency modelled on the F.A.A., which has presided over a highly creative relationship between the Federal government and the aviation industry. Alternately, they could go the route of the railroads in the 19th Century which also sought to brazen out a safety problem, and ended up with a particularly dreary form of Federal statutory regulation. *There was no third way.*

The sequence of events is important. The medical doctors were the first on the scene. The enormous medical problems created by accident trauma led in a quite natural way to the question of whether these could not somehow be reduced. The American Medical Association and the American College of Surgeons set up committees on the subject. By this point, techniques of crash-injury protection (padded dash boards, seat belts, etc.), had become quite sophisticated in aviation. The orderly instinct of the doctors was to transfer them to automobile design. In the 1950's the Public Health Service began making small grants with these possibilities in mind. Inevitably there arose a body of opinion, to which some information was attached, to the effect that the automobiles were not safe as they might be. *This was the crucial moment for the industry;* had they joined in this enquiry with a modicum of zeal, they would be a free enterprise to this day. Instead, they chose to resist.

Students of American business ought really to try to learn what decision-making processes went on at this point. The largest and most profitable industry in the world faced the relatively simple problem of responding to criticism couched in terms of the public interest; and it could not do so. The industry gave almost no sign that it was aware of criticism: it was not so much a matter of responding badly, as of not responding at all. Presumedly this has mostly to do with the nature of the organizations involved, and of the men who were running them. The physical isolation of Detroit is probably another significant factor. It is also true that the business schools and their various journals, which might have given some guidance, gave none (as far as I am aware). Some of these journals are notable for their interest in the Christian Responsibilities of the American Business Executive, but somehow the question of the responsibilities of the nation's largest industry for the safety of its products never came to

mind. Nor, when others drew attention to the subject, did the business schools and journals comment.

In 1961, in a paper given at one of the very few meetings at which the manufacturers and their critics came together, I wrote: "It would not appear that the industry is particularly conscious of the fact, but the belief is well established among intellectually influential circles in the United States that the automotive manufacturers are essentially indifferent, and sometimes even opposed, to traffic safety measures. This is a scandalous position, but it is nonetheless held, and before long it will begin to damage the manufacturers more than they may imagine." There was no response to this conciliatory gesture, any more than to the defiant ones. The industry became more and more a caricature of an over-muscled, under-brained organism heading for disaster.

The trial lawyers intervene

Disaster came (or at least appears to be coming) from an unlooked-for source: the legal profession. Not from the Bar Association, or the Wall Street firms, or the great law schools, which are said to maintain a watching brief of sorts on such matters, but rather from the *declassé* claimants' attorneys, organized as the American Trail Lawyers Association. Out of a combination of self interest and genuine, hot indignation at the indifference of the manufacturers, this professional association decided the time had come to stop "Murder by Motor" by the direct and lethal process of suing the manufacturers in whose automobiles their clients are killed and injured in such wholesale numbers.

This process has begun, aided by judicial rulings concerning the nature of the automobile manufacturers' warranty. Just as importantly, the reactions of the industry to criticism have steadily eroded the presumptions of good faith and diligence on its part: juries are more and more disposed to find the manufacturers guilty. A certain political edge has also appeared. The ATA is known as the Democratic Bar Association; its members are instinctual Democrats, much as the ABA members are Republicans. At recent meetings of the Trial lawyers, elected and appointed officials have competed with one another in denouncing Detroit.

It may also be noted that the failure of the executive branch of the government has given an unusual opening to legislators, which by and large they have exploited. At the Federal level, for example, it has been men such as former Congressman Kenneth Roberts and Senator Abraham Ribicoff who have prodded the government departments into action. Somehow there were legislators who retained their freedom of action when all else was paralysis.

The industry has now announced that it will not only accept, but

actually requests government regulation. This is a normal, predictable outcome. *For its own protection the industry has to get itself regulated by the Federal government.* What only a decade ago was unthinkable, has now become all but inevitable. The companies must get their products formally certified as safe in order to protect themselves from massive litigation. If everything continues to form, the next step will be for the industry to seek to dominate the government agency charged with regulating it, and so we begin another chapter of exposure leading to legislation imposing regulation that ends up more like collusion than anything else. This process has begun. The Federal government now specifies safety features that must be incorporated in vehicles it purchases. The Administration proposes to extend this technique to all vehicles sold in interstate commerce. Federal tire safety specifications are on their way. State regulations of this or that feature of vehicle design are starting up again (there was an earlier period when such items as windshield wipers were ordained) and may be expected to multiply. A federal law controlling automobile exhausts was signed in October, 1965, and Federal standards will take effect in the fall of 1967.

Because of the failure of leadership in the automobile industry, the issue is coming more and more to be defined as one of regulating the conduct of that one industry. But this would deal at best with only part of the problem. From the outset, the principle question of traffic safety has been: *what kind of problem is it?* It is not fundamentally a problem of law breaking or of profit making, although it involves both those things. The closest one can some to an adequate conception is reflected in the statement issued by John F. Kennedy during the presidential campaign of 1960: "Traffic accidents constitute one of the greatest, perhaps the greatest, of the nation's public health problems." I wrote the statement; I rather doubt the President ever saw it; certainly nothing much was done about it in his administration. But Senator Robert F. Kennedy, for one, clearly grasps the concept and frequently cites his brother's statement.

The point is that traffic accidents are part of the general phenomen of accidents, which have become the largest single cause of death between ages one and thirty five for most of the industrial nations of the world. Accidents have until this moment been thought of as somehow "wild" occurrences which do not conform to the sequential chain of causal events that define the way things in general occur. This happens not to be so. In a series of *aperçus* that began hardly two decades ago, a tiny number of American and British researchers, primarily medical men, have unravelled the etiology of the accident to show that it is, in fact, fundamentally similar to disease – "to the initiation of infectious and other insults to the body, which have long been the concern of preventative medicine." This began with the per-

ception that accidents do in fact fit the classic public health pattern of host-agent-environment. Perhaps the most important refinement came with the conception that the agent – e.g. the bacillus – was not all the various instruments by which one can get knocked on the head, but rather the abnormal energy-exchange produced thereby. (In an instance of scientific serendipity, this occurred almost simultaneously to two men: William Haddon, Jr., and James J. Gibson working unawares within miles of one another in upstate New York.) As the forms of energy-exchange can for practical purposes be reduced to five categories: mechanical, thermal, electrical, ionizing, and chemical, the conception of accidents as disease suddenly emerges in a manageable form.

The issue, then, is whether the national commitment to the problem of traffic safety will occur at this level of understanding, or whether it will proceed in the honorable but outdated tradition of muckraking, exposure, legislation, and regulation by bureaucracy. Traffic safety is a problem for scientists, including social scientists. The object should be not merely to produce adequately designed vehicles, but to produce a traffic system that is as efficient as can be attained given competing values, and which as much as possible will put an end to the present idiocies of armed police arresting and often imprisoning hordes of citizens who are then hauled before courts incompetent to judge a problem that in any event is almost impossible to define in legal terms. Federal concern with automobile transportation, *properly conceived*, could in the end produce less bureaucracy, less harassment, less regulation, less intimidation, insult, and coercion. That should be the national object, rather than simply the punishment of motor magnates. The Highway Safety Act of 1966, which President Johnson has sent to Congress, having announced it in his State of the Union Message, has this potential; but not as it is now drawn, nor as it is likely to be administered.

The nation's largest industry is about to come under Federal regulation. The reaction of the automobile industry has been to try to discredit the character of one of its most responsible critics. The nation's largest, or near to largest, public health problem is about to receive massive research support. The reaction of the Bureau of the Budget (or whoever made the decision) is to give the management of the problem to the Commerce Department, which presided over the development of the present crisis. The professors of business administration are silent. The regulatory economists are elsewhere engaged. The press is mostly interested in the humbling of General Motors.

Somewhere in all this there must be persons who will try to sort out the public interest. In the meantime, the failure of the business and government bureaucracies is a fact to be noted with little pleasure.