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THE ADVERSARY PROCEEDING 
IN THE YEAR 2000

Maurice Rosenberg*

The object of this series is to explore the sciences that relate to law for the light that they may shed on the judicial function in time to come. To assess the impact of science and technology on law is at least a full day's work. It requires us to ask in what ways the power and knowledge of science threaten or challenge society now and in years ahead. It also requires us to ask how we can harness scientific knowledge and power for the law's needs today, and for needs as yet unknown.

To tackle these questions we must look backward for major trends that may be useful to project into the future. Our crystal ball must therefore have a rearview mirror. Looking backward at the two-thirds of this century now past, we can see some obvious impacts of technology on the law, and we can also perceive some subtle influences. For an example of obvious impact, take something as undramatic as the automobile. As we all are aware, the auto has changed our way of moving, of loving, of living and of dying. It has polluted the air, scarred the lands, clobbered the courts and helped make us the richest society in man's history. It kills five times as many Americans in a year as the Vietnam War. Nobody knows for sure how many people it injures in a year, but the best estimates are that one in every two of us in this room will in his lifetime or hers be hurt in an automobile crash. We can't live without it.

For a more subtle example of technology's impact we need not turn to the Laser beam or mind-expanding chemicals. A mind-contracting box called TV will illustrate amply. Last August in Honolulu, Vice President Humphrey offered the view that TV may be one of the largest factors of all in accounting for the ghetto explosions that have shaken this country. He pointed out that day after day TV brings into the central cities' squalid apartments a thousand visions of the material meaning of an affluent society for the great majority of white Americans; but for millions of Negro Americans, unemployed or living at the edge of subsistence, it dangles the promise of better things just out of reach in their own living room. The law assures them that they are equal, but the TV screen tells them differently. They are equal to look, but not to touch.

It is certainly possible that the Vice President's theory is right; this

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constant exposure to the rich life on the other side of their TV screens inflames the frustrations of poverty to the point where they boil over. Some of the poor—the white as well as the black—succumb to their fury, and they reach through the broken shop windows to grab what they cannot walk through the door to buy. That is not offered as justification for the criminal acts of looting and rioting we have tragically witnessed, but to illustrate the subtle ways in which technology may help spark violent social upheaval and threaten the rule of law.

As if it weren't hard enough to have to sort out the complex effects of known scientific developments on law and society, and to pour that muddy mixture over our crystal ball, we now come to an even more difficult matter. The scientists are not finished with inventing and discovering. There are unknown surprises bubbling in their test tubes and glimmering on their drawing boards. One may be as benign as oral contraceptives. Another may be as cataclysmic as a cobalt bomb. Furthermore, whether we lawyers like it or not, our lives in the waning years of this century will be shaped more importantly by scientific developments that we cannot now foresee than by legal doctrines that we can now state, and that includes the Bill of Rights.

We must come face to face with a sobering paradox: advances in technology have been tearing down one of the main values that law has been trying to build up. Law has emphasized, especially in the last twenty years, the worth and the dignity of the individual; it has insisted on his autonomy, his free will, his right of choice. This emphasis extends so far as to demand individual treatment for the proven criminal, for when he stands before the bench to be sentenced he must even then be handled as an individual, not alone on the basis of what he has done. Yet all the while the law talks of man's individuality and autonomy, we surround him with an environment that gives him no more choice than the laws of gravity. He is submerged in pollution, radiation, noise, neon lights and creeping megalopolises. He may not care for them at all, but as a practical matter he can do nothing about them. For more than seventy percent of the American people who live in cities, they are as inevitable as death and far too implacable for even the Bill of Rights to contend with. That is one dismal aspect of the effects of science and technology on law. It creates environmental conditions that dilute and nearly destroy one of the law's most cherished values. We can be sure that we have not seen the last of such effects, but having no idea of what science will invent, we are at a loss to know what countermeasures to take.

If you conclude from that long preamble that a man would have to be a fool to try to forecast what science may do to and for the law, courts and judges, by 1984 or, given inflation, 2000, or for that matter, by next Groundhog Day—if you think, I repeat, that a man would be a fool to try a forecast, you will come out exactly where I do. Still, that is the task that I have undertaken, so let me walk right in while the angels wait outside and tremble.
The Functions of Law

Broadly viewed, as I see it, the law has three functions: it performs social engineering, it prescribes conduct and it resolves disputes. In engineering the law creates and legitimatizes structures to cope with problems of society; the public school system and the fire department, for example.

In its second function law lays down the rules or norms of behavior that citizens must live by in their daily relations with each other and with their government. These prescriptions are what we usually think of when we refer to law. In the criminal field they range from such rules as: Don’t peddle pot, to: Kindly pay your income taxes. In the civil field, from: Don’t run over pedestrians, to: Kindly pay your alimony.

However, my focus here is not on either the normative or the engineering functions of law, but primarily on its dispute-resolving function. More particularly it is on trials — trials to come and trial courts to come.

What will the trial process be like in the courts of 2000? A friend of mine, Jack Bronston, who happens to be a politician and something of a wag, knew that this question was perplexing me a good deal, and so he volunteered an answer not too long ago. It is a picture, a photo, of a very impressive computer. It’s black-painted, and it’s white-spooled, and sitting at the console keyboard before it is a very efficient-looking young lady; under the picture the following caption appears: “The trial judge in 2000”; and under that, in parentheses, “with the little woman who made it all possible”. Beneath the computer he has written a series of questions and comments, which are a little bit sly and needling. He knows that I believe in the merit selection plan for appointing judges, while he believes in the elective system:

Would you believe that this judge (the computer) was an election district captain who never lost his district in a primary in thirty-two years?
Would you believe that he never disagreed with his district leader?
And would you believe that he has never been reversed on appeal except during the power failure of 1995?

If that is what the trial judge in 2000 looks like, can you imagine what an appellate court will look like?

Senator Bronston’s trial judge, Model 2000, moves me to climb out on a long limb to build a model of my own, and to make a flat prediction, namely, that in the year 2000 the judges will still come in black robes and not in black boxes. My crystal ball also tells me that most of the rest of the cast of characters we know today will still be in the courtroom at that time: the jury, lawyers, the parties and the witnesses, except perhaps for doctors and other partisan experts. There is a growing tendency for lawyers in personal injury cases to resent the kind of surgery that doctors perform on a damage recovery; they take a very substantial cut for
their court attendance. There is a growing tendency to excuse the doctor from the court appearance, in order to avoid that surgery.

A final assumption on my part is that the main objective of the trial in 2000 will continue to be fact finding under certain rules of proof, though not necessarily the same ones we have today.

Apart from preserving those few features I have mentioned, I don’t take for granted that the trial process then will survive unchanged in any other major respect. Science and technology are bound to bring about large alterations, and these will affect both your adjudicative and your administrative duties.

**Kinds of Cases in 2000**

The first issue, then, is what kinds of cases you will be called upon to decide in the year 2000. To make any forecast of where we are headed in terms of allocation of disputes to courts requires at least a brief glimpse of where we are now. Last year this country achieved a population of 200 million. In 2000, barring horrors too awful to contemplate, we will be approaching 300 million. There will be more of everybody and more of the kinds of problems the former Secretary of Health, Education and Welfare, John Gardner, spoke of to the Americian Law Institute last May. This is what he said:

> We are caught in a maelstrom of social change. We are living through a series of concurrent and interacting revolutions in science, transportation, agriculture, communications, biomedical research, education, demography and civil rights. Each of these revolutions has brought spectacular changes and a train of tumultuous social consequences. The results are everywhere apparent. Our cities swell to the bursting point, our highways clog, our air is befouled, people live twenty-five years beyond retirement and run out of money, victims of race discrimination rebel, powerful new behavior-affecting drugs come into easy circulation.

And so on and on. By 2000 we will have liquidated some of these problems that Mr. Gardner called attention to; or they will have liquidated us. But fresh ones will be upon us and probably upon your courts. Let me suggest one for purposes of illustration. In 2000 the swollen population will contain many more old people than it now does, and they will be much older than old people now are. We haven’t yet felt the impact of science’s rapidly growing capacity to prolong life by transplantation of vital organs or implantation of ersatz organ substitutes, but the next generation will see a marked advance in that direction, and with the potential conquest of major killer diseases, such as cancer and circulatory ailments, we can expect in a few decades to have to color our population much, much grayer. Old people produce less, they require more care and
sustaining services. Question: Will the non-aged people of 2000 balk at providing all the care and services; and, if they do, will your courts be the forum in which these unhappy squabbles are litigated?

Coming back to today, our major state trial courts divide their energies roughly fifty-fifty between criminal and civil cases. I make no effort here to predict what sort of changes will overtake the criminal work you do, beyond venturing that we can expect that some behavior now tagged criminal will be reclassified—perhaps made pathological in some different sense. Candidates for reclassification and decriminalization, so to say, "uncriminalizing" include the so-called crimes without victims, or, as I prefer to call them, crimes without complainants, such as: gambling, alcoholism, exotic private sex behavior, and so on. On the other hand, we shall probably witness new forms of deviant behavior that legislatures will see fit to make criminal. Mercifully, I can't think of what these will be.

Another thing we quite clearly can expect is that some presently non-criminal matters will have to be processed under criminal procedural safeguards. The recent *Gault* case, as you know, goes far to criminalize proceedings against juveniles by assuring them counsel and Fifth Amendment protections.

And the end is not yet here. There are some who are pressing to extend to juvenile offenders such things as the guarantee of a jury trial, proceedings on indictment, public trials, no double jeopardy, and the rest of the array of safeguards for adult offenders.

Certain aspects of this pain me, but I spare you the elaboration. The big point about criminal business of the courts in the future is that as long as the behavior in question is made a crime there is no alternative tribunal for its adjudication.

In civil cases there are alternative tribunals: the administrative agencies and arbitration; and that fact permits interesting speculation. Civil cases have some place else to go. As of now the bulk of the work of major state courts on the civil side is personal injury litigation, with domestic relations a poor second. The year 2000 should see a considerable reshuffling of civil business, mainly by displacing the negligence cases and especially the traffic-accident suits. Many lawyers will do a great deal of kicking and screaming about this, and not all legislatures will arrive at the same antidote, but I have little doubt that there will be a wholesale eviction of these cases from the courts. The main reason, in my opinion, will be the pressure of the public for the recognition by courts and lawmakers of great globs of new legal rights, some of which I will mention in a moment.

In theory the legislatures could expand the courts to accommodate both the old auto business and the new rights, but that is not what history teaches is likely to happen. For some reason that has never been clear to me legislatures apparently believe that if they spend as much as one percent of the State budget on public justice through the courts they will turn into pillars of salt, or, even worse, will not be re-elected.
This is my testimony on the point a few months ago before the United States Senate subcommittee considering a bill to assist state courts financially:

The resources we make available for the men and machinery of the state judicial systems are pitifully insufficient. Three years ago a state trial judge who was receiving a salary of $11,000 a year told me that he had just rendered a decision in a case involving interests in a uranium mine worth over half a billion dollars.

Since then the State judges have gained a little bit on the uranium rights, but not much. I have the strong impression that every State in this country spends more money for peanut butter than it does for public justice.

Barring a radical change in those priorities, we have to expect that some present types of civil business will have to be displaced to make room for new claims of legal right that are already knocking on our courthouse doors. Among the candidates for admission are some that we might call by such names as: scholars' rights, renovation rights, retirement rights, mortality rights, genetic rights and advancement rights. Can you guess what these are?

Let's start with the scholars' claims. Not many years back if a student botched my civil procedure or my conflict of laws exam, and he complained to me afterward that question 3 was very murky and would have baffled Oliver W. Holmes, I would have told him that Holmes was only a so-so lawyer, or some other tommyrot of that kind — in a nice way, of course — and I wouldn't have been afraid of having to face him in court.

But in 1966 a court out here in the West entertained a suit by two college coeds who had turned in identical term papers and had both been expelled when each refused to tell which one had written it.

Then last July came a case involving a high-school girl in New York who had been found cheating on a State Regents exam and had been disqualified from taking any other Regents' test, so that she was ineligible for admission to college. The New York Supreme Court sustained her claim that she was entitled to have a lawyer represent her and to a due process hearing before she was cast into scholastic outer darkness.

Recently, when I received an unhappy communique from a student who had been awarded a C-plus in a recent civil procedure examination, and who complained in the letter that several of his classmates agreed with him that four of my questions were opaque, I didn't snap off one of those Oliver W. Holmes old-style replies, but composed a carefully worded lawyer letter, or as close as I can come to one; and I am wondering now if, when I get back to New York, I will find a summons tacked to my door and whether I will wind up in court trying to answer some of those impossible exam questions on which I would be lucky to get a C-plus.

You can expect more and more cases involving disciplinary suspensions
by educational institutions, and by 2000 — maybe sooner — you can expect to be reading law-school examinations to determine whether the questions were any good and whether they were graded properly. For any of you who haven't read law-school examinations, I predict that when that happens there are going to be a lot of appellate court prohibition decrees issuing to prevent trial judges from jumping into the nearest swamp, which is where law professors go about that time of year.

By renovation rights I mean claims by persons with diseased vital organs who want to be renovated, with kidneys, with heart valves, and so on, and who complain that the hospital boards who today make the decision to award the use of the scarce life-saving machinery or organ have acted capriciously and unlawfully in awarding it to A instead of B.

How would you like to decide whether a thirty-five-year-old father of four children is entitled to priority in the use of a life-saving machine as against a fifty-eight-year-old bachelor who happens to be a nationally renowned concert pianist, when you are informed that the one who doesn't get the machine will die? Or what if a father who is a terminal cancer victim petitions for his mortality rights, his right to die, when he knows that he is going to die presently, and you are informed that the prolongation of his life by the most heroic medical means serves only to prolong his pain and to bankrupt his family?

Is it out of the question that some day litigants will claim advancement rights in non-union employment? Take the man who is passed over as president of the bank; will he come to your court and claim that he is entitled under any fair rules to appointment to the presidency instead of that joker who got it? Or to a partnership in a law firm? Will men like that be able to enlist the judicial process to get relief? And what of the claims for impairment of leisure time as the work week shrinks for everybody but judges and lawyers? Is the problem posed by Judge Bernard Botein a fantasy? This is what he said:

We have not yet attained the full status of a so-called leisure society, but even now large portions of our population are for the first time enjoying and setting great store by their leisure hours. It is not too early to begin to contemplate seriously the upcoming need for the judicial process to deal with hitherto unrecognized leisure values of privacy, beauty and fun.

As the explosion in legal entitlements continues, something will have to give. If the public clamors for and insists on a legal right to stay in school, to live by means of artificial organs, to die, to get damages for intrusions on leisure, and so on and on, there will have to be rules and the courts will probably have to administer them. The trial judge in 2000 who faces the sticky question of who is entitled to live and who is entitled to die, may yearn for a good old intersection case — say the corner of Mars and the Moon.
Obviously, not all the rising legal expectations mentioned here can be blamed on science. Part of the story is that people are simply becoming more rights conscious and more insistent on airing their claims in court, even in activities that science scarcely touches. Yet new technology adds enormously to the volume of emerging legal rights and ought to help the legal process to cope with them, if it can. Let me suggest that science may be able to help in two ways with the problems of allocating certain types of claims to the courts. One would be to aid the legislatures and the judges in determining how to assign priorities among the new rights clamoring for recognition. To the extent that trends and predictions might influence these judgments as to priorities, science can draw on its great experience and its advanced techniques.

As a far-out example, Dr. Donald Michael of Michigan has written that in the Moon program space scientists used the computer to extrapolate trends to predict the odds on the program’s eventually succeeding, and that the ability to do this was an important factor in the program’s going ahead. The ability to predict the success of the program ultimately became a factor in whether the program went ahead. Is it too much to suppose that sophisticated projections of that general type can somehow help lawmakers in formulating plans of action for the courts?

A second boost that science might give would be to expand the capacities of courts to deal rationally and efficiently with their work. If the courts could be made more efficient in dealing with the work they now have, obviously they could take on more work and there wouldn’t have to be as much displacement of the old business by the new. This is an approach that has great promise, and I plan to come back to it in detail later.

**Proof Process and Science**

I go on now to the second intriguing issue that concerns trials of the future: How science will be used to improve the fact-finding process. That depends in the first place on whether the jury continues to be the chief fact finder. I am convinced that it will, and my main reason for that belief is something that I learned here at the National College of Trial Judges in 1965. At that time I made a questionnaire survey of the one hundred trial judges in attendance to find out how they felt about the retention or the abolition of the civil jury. I was amazed at their responses, which were quite unambiguous. Eighty-seven out of one hundred of them favored the retention of the civil jury with no or minor changes; only thirteen wanted it scrapped; and less than one-third of them were willing to vote yes for the proposition that whether there is a jury trial in an auto case ought to be left to the discretion of the trial judge. If judges, the men who know the jury best — because they see it in its native habitat, they know its foibles and its mistakes, its strengths and what it contributes — if they believe in such preponderant majority that the civil jury ought to be retained, my guess is that the civil jury will be retained.
In forecasting retention of the jury I am not suggesting that it will be allowed to function exactly as it does now. Without going into details, here are just a few improvements we can make on the jury. Number one, I see no excuse for a twelve-man jury in all civil cases. We ought to cut the jury down to nine or eight or even down to six, as some States have done. Secondly, instructions to the jury could be markedly improved. How do you go about finding out whether the juries understand the instructions the way the law means that they be understood? How do you go about finding out whether particular instructions give the jury more trouble than others?

The very simple way now being pursued on a systematic basis in New York—I'd hardly call it science—is to keep track of all of the questions that jurors send back to the judge, requesting clarification. By maintaining a constant audit of the jury's questions, the New York Judicial Conference will learn which instructions are most troublesome and will learn something about how best to clarify them; and that is a course that I heartily commend to all States.

A second way of improving instructions I would call scientific. Communications experts could develop new forms of instructions that mean to the jury what the law intends them to mean. We don't in fact know what these words that mean so much to us—proximate cause, etc.—mean to the jury, but we have scientific means of finding out more than we now know. The rules of evidence can be improved by scientific surveys and investigations that will test some of their basic assumptions about human behavior. We can also expect changes in the types of evidence that will be offered. Surveys by scientific sampling will be used in many cases where we now rely still on hunch and intuition instead of available better evidence. Examples are the unfair competition cases where we are starting to use survey samples to test public confusion about similar products; and I would think that defamation and other dignitary tort actions might be in that same category eventually.

Finally, we come to the most alluring possibility of all in regard to the fact-finding process in court: more sophisticated, scientific ways of getting at the so-called truth. Judge Botein points out that science may in the future perfect electronic, psychoanalytic and narcoanalytic techniques to dredge a man's conscious knowledge and to eavesdrop on his unconscious. We already have drugs, such as sodium pentothal and scopolamine, that are touted today as truth serums.

I propose to you that science by 2000 will develop the ultimate in extracting from a man his honest recollections: the truth ray. Suppose we were able to set up at one end of the courtroom a powerful machine that points a beam at the witness stand. Only the judge can switch it on. When he does, the witness, for as long as the beam is on, tells all he knows and a few things he doesn't know he knows. No longer do we need oaths and affirmations, cross-examination, demeanor evidence and such other crude truth-getting instruments. The truth ray will tell all.
Would you use the truth ray if you had it in 2000 in your courtroom? I hope you would not. Getting at the truth, the objective perceptions that an all-seeing, all-hearing, all-sensing camera would record, getting at that objective truth is important, but it is only one element in securing what we seek through legal processes. There are other values involved besides accuracy in fact-finding, and one of them is the preservation of human dignity. That value will surely be destroyed if a man is put under a light, whether chemically or electronically, that strips him naked of self-control and free will and exposes his innermost thoughts to public gaze. We might get truth; we wouldn't get justice. I grant you that witnesses sometimes lie and conceal and distort the truth, and it would be pleasing to prevent their doing so to avoid the risk of wrong decisions, but it is far better to run the risk of occasional error than to guarantee the inhuman consequences the truth ray or its ilk would surely produce. Psychic vivisection may give us a sharper form of fact-finding than our crude unscientific present methods, but I deny that it will produce justice, and I assert that it will produce inhumanity.

Yes, we have to use the shiny, chrome-plated tools of science when they serve our purposes, and they often will; but we must be on our guard against subverting justice and dignity and the other great values of a civilized society in the process.

Implicit in my remarks so far is that there is no sense in debating whether science is good or bad for the law. It is good if it is used discriminatively for good ends; it is bad if used promiscuously, stupidly, self-destructively.

Now I want to consider what the adversary system is and where it is headed, what lies ahead for you in your tasks as administrators of the judicial process, your new function that has grown up alongside the old one of deciding cases, and how behavioral science may be useful in coping with court problems of the future.

The Adversary System

We lawyers like to think we are cool about our professional beliefs, rational and unemotional; but the fact is that here and there we keep a sacred cow, or, as some might say, a sacred bull. One of these is the concept of the adversary system, which some of us worship like motherhood. Not for a moment would I disparage motherhood, not even when the young lady is unmarried. Still, I can't resist asking: What do we mean by the adversarial philosophy? How would you define it? Suppose you find yourself presiding over a breach-of-contract suit in which young lawyer George Bumble is adroitly fumbling his case and failing to make a point that is right there in the contract. Would you think you would be improperly putting your thumb on the scales of justice if you called that point to his notice? Would that be faithless to the adversary philosophy?
And what about asking a witness a question you think will help George's side?

Is it fair to say that the adversary system is a process of resolving legal conflicts wherein the parties are given the initiative in presenting their proofs and arguments according to established rules of contention and that a litigant usually does this through his legal representative, an advocate who is professionally bound to give full fidelity to his client's cause; and that the lawyer's duty to his client is total except for a vague obligation not to flimflam the court, to lie, destroy evidence or otherwise act like a scoundrel? Or, to put it more simply, it is a process of contention in which the lawyer's role is to initiate the dispute, raise the issue and propel the controversy; and the judge's role is to decide the questions when and as the lawyers present them.

The underlying hope is that if the law permits the lawyer-gladiators to make the fight, out of the clash and clang of their legal or factual battling, the right of the case will appear and justice will be done. Multitudes of lawyers in this country champion this system. They scorn what they call "the other way", the inquisitorial system, which they ascribe to European countries and other underdeveloped legal societies. They conceive of the alien system as one in which lawyers function approximately like office boys with court attendance privileges and act before the all-powerful judges as if they were bound and gagged during the proceedings.

They imagine that the sound effects in this alien system are not the healthy clash and clang of the lawyer-gladiators, but the shrill whir of the judge's drill as he bores like a dentist for truth and justice. They ask: Who in his right mind would ever choose so absurd and unreliable a truth-finding process as the inquisitorial one? Who could think that the truth could ever emerge without lawyers who cross-examine, who sum up, who object as active adversaries? Who in America would ever use such a silly system to get at the truth? The answer is: Everybody! Remember Pearl Harbor? When the country demanded that the truth be learned about why our defenders were asleep, President Roosevelt appointed an investigating tribunal, not lawyer-gladiators. I don't remember any clamor then or afterward for an adversarial-type process to settle the facts and the fault of Pearl Harbor. The same was true when John F. Kennedy was assassinated. The Warren Commission was set up to determine as definitively as it could for this country, for the world and for history the facts of the tragedy, and it did not use an adversary model.

If R. H. Macy bought $10 million worth of widgets from supplier X and supplier Y, mixed them together and some of them after being sold turned out to be bad, and if both X and Y disowned the bad widgets and it was hard to know who was right, would you expect that Macy's would investigate for the truth by appointing lawyers to take sides and engage in an adversarial battle? The fact is that in your daily affairs and in mine when differences and disputes arise about fact or fault or respon-
sibility in nonlegal contexts, we don't try to get at truth by choosing up sides and playing the adversary game. There is nothing in the Ten Commandments, in nature or in human experience that insists that the adversary way is the only or the best way to resolve human conflict.

If that is so, then in order to make a sound forecast as to what is likely to happen to the adversary way in court processes in 2000, you can't take for granted that it is here to stay. We have to look at it from three perspectives: First, what are its strengths and failings? Second, what has been the trend if we look back through this century in the rearview mirror? Third, what new conditions are likely to make a difference for it in the next generation?

Beneath lawyers' fondness for the adversary system and a restricted role for the judge are a few ideas such as these: First, courts don't exist as self-propelled vehicles of justice like King Arthur's Knights or a Good Humor truck. They don't go around looking for lawsuits, they don't make a person sue if he doesn't want to, and they don't insist that he sue for every grievance he has if he does decide to bring an action. Second, if the parties want to dispute over issue Number One but not over issue Number Two, or raise argument A but not B, why make them broaden the controversy just to reflect the judge's ideas? If an injured passenger doesn't want to charge the driver with being drunk, as the evidence strongly suggests he was, isn't the judge wrong to lean over the bench and say to plaintiff's counsel, "I am amending your claim to include a charge of negligence by reason of intoxication"? Third, putting the case in the charge of the lawyer saves the court from extra work, assures a motive for thorough preparation and spares the court from the embarrassment of errors or omissions it may make in its investigation or direction of the case.

The chief argument against the adversary system is that the very idea of justice under law is that the party with the better case on the factual and legal merits deserves to prevail, and he ought to. Any system that says to the judge: "Never mind who really has the merits on his side, let the lawyers run things, on with the show, and let the better case lose if that is the way it is presented", any philosophy like that seems to make a game out of the legal contest, and it leads to charges that the law favors the sporting theory of justice. It seems to me that listing the pros and cons of the argument about the adversary system shows that each side has powerful ammunition on its side. How then has the battle gone? What has been the trend?

I would say that in this century a powerful tide has been running against the adversary philosophy; at any rate, in civil cases. The formal rules, the actual practice and most procedural innovations show that judges are gaining more power and becoming more active at the expense of the lawyers' role as the mover and director of the litigation.

Before trial the judge used to have little to do with the case unless one side or the other brought on a motion. If one did, the judge ruled on
the application and that was all. Today in most courts he has discretion to call a pretrial conference to shape up the case for trial or to try to get it settled, and his discretion in this matter is almost absolute. At the conference he can exclude some issues, include others, limit the questions for trial, the number of expert witnesses, compel evidence to be disgorge, and make a great variety of orders that occur to him as useful. He can be very spontaneous, and he needn't wait for the lawyers to raise problems for him to pass upon. Some judges use these new powers very actively—a growing number do—and with growing forcefulness.

During trial the practice of permitting easy amendment of claims and defenses, subject again only to the loosest kinds of restraint on the judge, means that a lawsuit need not go to its end in the way that the lawyers planned it from the beginning. Here again the judge can be highly spontaneous if he sees fit. There seems to be a greater tendency for judges these days to call witnesses on their own motion whom the litigants for their own reasons have not called; and the tendency to set up panels of neutral expert witnesses, court witnesses, is also an unmistakable sign of greater judicial activism in the proof stage of the trial. Then, too, the distinct new accent on active administrative management of the court's work instead of the \textit{laissez-faire} attitude of older days is further evidence of the growing ascendancy of the judicial activist view.

In my opinion if present trends continue the trial judge in 2000 will look more like his European counterpart than he does today—to be sure, with large, large differences—and the adversary way will be somewhat less vital than it is today.

Is there anything in the picture to slacken or reverse this trend? One recent development on the nonscience front impresses me as likely to encourage still more judicial activism at the expense of the adversary way in a great many cases; that is the strong movement to provide free legal services for the poor, both in criminal and in civil cases. When a client has not selected his lawyer in the open market, when he is not paying him out of his own pocket, when he did not entrust his fate to the lawyer with full voluntariness, I think the court will show less reluctance about second-guessing the lawyer and will act more spontaneously. The point is made nicely in the story about the young lawyer who was nervously trying his case, and the judge was getting more and more aggressive about taking it over. Finally the judge took over the questioning and the cross-examination of witnesses, and the point came when the young lawyer said to him, "Your Honor, this case is very important to my client and me, and if you are going to try it, you better make sure that you don't lose it."

It seems to me that if you judges get in the habit of taking a more active part in the indigency cases, you may find the role congenial enough to carry it over into the moneyed cases.

Next, the developments of science appear to me to push in this same direction. When the question was merely whether Tommy Tucker stuck in his thumb and pulled out a plum, or whether, as Tommy said, he bit
into a stray stone in the pie, a jury could easily be expected to decide on its own which was right; but when the question is whether Tommy contracted bone cancer because he has been drinking milk from cows allegedly irradiated by the defendant’s nuclear reactor seventy-five miles away, the answer may be too hard for a layman to reach without expert help. The more sophisticated the technology, the more subtle the invasions of personal rights, the more likely we shall need scientific experts. However, by reasons of expense and because of growing disenchantment with the way partisan experts behave, I expect there will be a sharp increase in the use of court-appointed, neutral experts. This will dilute even further the influence of the adversary motif in cases relying heavily on expert testimony.

In that connection I might mention to you that an imminent proposal for change of the Federal Rules of Civil Procedure will expose trial experts to wide-open discovery by the other side. This, too, should significantly depreciate the value of experts as hole cards in the poker game, even when court-designated neutral experts are not available.

In leaving the topic of the adversary system in the year 2000, I don’t want to convey the impression that I expect our trial lawyers will become toothless pussycats and judges fierce tigers by that date. There is a clear trend, however, to water down the adversarial motif in favor of a more active role for judges, and there is nothing that I can see in the pros and cons of the arguments about the subject or in the pressures of society or science to arrest or reverse that trend; so I think it will continue.

If my crystal ball and I have our way, then, those of us who crawl out of the time tunnel at the 2000 A. D. marker will gaze upon this sort of courtroom landscape: The judge will be engaged in deciding issues we would not recognize in a large variety of new kinds of cases. He will face smaller juries and he will be giving them instructions that have been tested and improved by communications experts to step up their clarity and their meaning for laymen. He will administer revamped rules of evidence and will function more actively in directing the lawsuit instead of leaving it to the lawyers.

**Administrative Changes**

Now, what about your new duties in administering the courts—in managing them very actively? On these functions science and technology will have an even greater effect than they will upon your adjudicative duties. The years since World War II have seen widespread recognition of the view that it is as much a part of the judge’s responsibility to administer the judicial process well as it is to decide the cases wisely. Everything indicates that time will only solidify that concept of the judge’s duty.

Last May Chief Justice Warren reiterated what he called his firm belief
that the greatest weakness of our judicial system lies in its administration. He said:

We have learned by sad experience that merely adding judgeships will not solve the problem of judicial administration. Indeed, adding more judges to courts using outmoded methods of administration is more likely to retard production than it is to stimulate it. The trouble is the legal fraternity is still living in the past, in a century of science.

He urged study of the feasibility of the computer in judicial administration as an approach to improvement.

I yield to no one in my reverence for the computer. Regularly I recite the revised pledge of allegiance written by Russell Baker of the New York Times, as I know all of you do: "I pledge allegiance to the computer and to the machine for which it stands, one organization under IBM, inescapable, with punch cards and dossiers for all."

Nevertheless, as wondrous and powerful a piece of hardware as a computer is, as yet it is only a blitz-speed calculator, not a full-speed thought machine. I say, as yet, despite the report about the two computer experts who got a little tired and bored with the smug way in which the computer answered every question they gave it, so they decided to teach it a lesson, and they programmed in the question: Is there a God?

The machine sputtered, the lights blinked, and presently the answer came out: "Yes, now!"

But thinking is still in the soft-ware or head-ware department, not in the hardware section. When we understand our problem and what we are trying to accomplish, the computer will be immensely helpful.

As I see it, judicial administration involves both general functions and particularized ones. General administration involves making and carrying out rules of procedure and practice which assure that the courts will run as efficiently as they can, having regard for their obligation to see justice done. The particularized aspect of administration of courts deals with proper performance of specific individual tasks, such as recording information or retrieving it from the file.

Plentiful efforts are now being expended to upgrade both types of administration. Courts all across the country are trying out novel techniques to eliminate wasted time and effort of lawyers, of litigants, of jurors and of court personnel. Their efforts include experiments with central jury pools, increased use of the telephone instead of personal appearance, revised calendaring procedures, readiness rules, and a host of other administrative regulations.

How effective have these methods been? Unhappily, no one can say. Basic and vital questions of fact about court operations are unanswerable, for the simple reason that usable, accurate statistics are lacking. The need
to know is the greatest unfilled need in judicial administration. That was
the conclusion of the President's Crime Commission in its report last
spring on criminal justice, and it is equally true on the civil side.

Some states that know the precise number of cases of bourbon or of
measles within their border last year could not tell you how many cases of
burglary or personal injury they had in their courts last year.

Without the basic facts that well-designed records might supply, courts
and legislatures must grapple in the dark with stubborn problems such as
trial delay. The antidotes are clear. At the lowest level we need system-
atic data. At the next level we need reliable analyses by objective
agencies to test the credibility of some of the fairytale success stories about
this remedy or that remedy that local pride often generates for local pro-
cedures. Time and again it turns out that a miracle-cure delay killer
devised and widely advertised in State X results in nothing but a hang-
over when tried in State Y; and then when some outsider takes the trouble
to look closely at how it works in State X, the home state, he finds out
that the cure doesn't even work there.

When dependable data on court operations become available in state
after state, well-conceived remedies become possible, provided the data
are in usable form. Some agency will have to devise statistical norms
that will produce meaningful data. By this I mean data that will allow
us to translate experience in one state into useful lessons for others.

At the highest level we need more knowledge about the larger dynamics
of court processes. There are vast theoretical break-throughs just around
the corner. The use of predictive techniques and model simulations to
manage trial court calendars and to rationalize court processes is almost
within our grasp. At the grubbiest and most mundane level many courts
are bogged down because they have not done what they can to organize
the work procedures of clerks and other auxiliary court personnel to take
advantage of modern techniques. Wonders could be done for these quill-
pen and green-eye-shade operations by hiring professional advisors on
workspace layout, job planning and integration, and equipment for rapid
recordation and retrieval of information. Recordkeeping and time-and-
motion considerations may seem picayune matters to be discussing in a
time tunnel that leads to 2000, but they are vital. Tomorrow's court work
loads will not be properly handled by yesterday's management methods.
We know from today's experience that it can't be done.

**Uses of Science**

Now, finally we arrive at the pay-off point. The problem is assembling
the pieces: What confident statements can be made about the uses of
science and technology for the improvement of the judicial process in the
generations ahead? We can start with a brief inventory of resources. The
hard sciences and the soft sciences both have relevance to our problem,
but the social sciences are so much more deeply involved that it will be
enough to look at them. There are a dozen or more that relate to court functions. Some of them — economics, political science, psychiatry, psychology, sociology and social statistics — do so more than others. Each one has its own body of theory, but they tend to share a common methodology of inquiry, what we might loosely call the scientific method. Their main workshop is the world outside rather than the library. They have systematic principles and practices that they follow in conducting inquiry in the field, or empirical research as we call it. In my experience their techniques of research have been much more useful for courts than the findings or the theories they have produced.

My net impression of what the social sciences will contribute to improving the judicial process is in the long term optimistic. I am not so sanguine about their contribution to improving law's capacity for social engineering and for normalizing human conduct, at least not for the near term, and I should explain why. The most pressing domestic problem of our times, as we know, is the relations between the races. Going back to the Watts explosion of two summers ago, we have been looking to the experts on human behavior and society to give us some guidance to avoid further explosions. The sum of what the social scientists told us in those two years marked Detroit as one of the cities least vulnerable to an upheaval. After the fact, I must conclude that the science of human behavior is in an infant state. Despite that, I am utterly clear that it is a vital resource — "vital" meaning life or death.

Right after Faraday made one of his basic electrical discoveries a friend who heard of it asked him what use it was. "No use," he said, "it's like a baby."

The behavioral sciences, now that they are teamed up with the computer, are babies that will do a lot of growing up by 2000. The prospects, according to Donald Michael of Michigan, whom I have quoted before are awesome. He says that with larger research funds and the computer the social scientist can now do two things he has never been able to do, and that he needs to do if he is to understand how to manipulate the social processes. (Presumably, he would include manipulations through law.)

On the one hand the computer provides the means for combining in complex models as many variables as the social scientists want in order to simulate the behavior of man and institutions. In the past the behavioral scientist simply could not deal with all the many important variables that would help him understand and predict human behavior. Now he can, and then the social scientist can test these models against conditions representing real life, for, on the other hand, the computer has a unique capacity for collecting and processing enormous amounts of data about the state of individuals and of society today, not ten years ago. Thus the behavioral scientist not only can know the state of society now as represented by these data, but he can use them to test and refine his theoretical models.
If Michael is correct, the social scientist will soon be able to play variations on a theme called the future, at least with some of society's problems. Some of these variations he plays will have high probability, some lower. As science refines the odds to higher levels of reliability, the prospects of social manipulation come nearer and nearer with all that this portends for good and evil.

That may be the potential, but it has little to do with what has actually been achieved by social science research up to now, either to help solve legal problems or to increase our understanding of legal institutions. Again I caution that this is a function of the infancy of the effort, and assure you that it is growing up very quickly.

Some of the scientific research on law in action has been done by or with lawyers, the rest by social scientists alone. When lawyers are in the picture, the work tends to be directed to problem-solving; when they are not, it is usually concerned with theory-building. So far the major objects of the research have been in these fields: court delay and congestion, the functioning of the auto reparations system, criminal procedure, including the working of the bail system, and, recently, the effect on law enforcement of restricting police interrogation and confessions.

In the group of nonproblem-oriented studies are the massive work of the Chicago jury researchers, the studies of lawyers' ethics and the writings on judicial decision theory. Of these the decision theory studies have been for me the least helpful and the most hurtful. They seem to me to be unrealistic in assuming that future decisions can be accurately predicted by factor-analyzing past opinions, without any concern for the underlying records in the cases studied. The decision theorists seem to be assuming that a judicial opinion is simply a response to a bunch of stimulating facts, like the saliva from Pavlov's dogs, and they fail to appreciate that judges put things into opinions and leave things out of them for deliberate reasons having nothing to do with the predictive value of those facts or the stimuli that those facts represent.

The area in which we are most eagerly awaiting the results of scientific inquiry is, of course, the criminal justice field. There are complex problems to overcome in producing valid findings on even such simple-sounding issues as whether, and if so, how, the disposition of criminal prosecutions has been affected in late years by recent constitutional decisions limiting police interrogation.

The area of most direct familiarity for me is, as it happens, the field of judicial process. For eight years as Director of the Columbia Project for Effective Justice, and for several years since, I have engaged in a series of research ventures aimed mainly at the problem of excessive delay in the trial courts. These have left a number of impressions and conclusions that I hope the judicial process of the future will be more attentive to than courts and legislatures have been in the past.

First, it has become apparent that many of the devices installed by courts or by legislatures to fight delay by making the trial process more
efficient, not only fail to do that, but have unsuspected side effects of a substantive kind. I would like to refer now to two of them, one in Massachusetts and one in Pennsylvania. Massachusetts has a system called the auditor system, under which cases are referred to auditors who are half-time state functionaries, to hear and determine the issues. If the auditor makes an award, the losing side has a right to go to court and get a trial de novo; and in that trial the auditor's findings are read into evidence against the party who "appeals".

In Pennsylvania, trial by lawyer has been developed in a different mode. In Philadelphia and in many counties in Pennsylvania it is done in smallish cases before three arbitrators, who are just volunteer lawyers. After the compulsory arbitration of the case the disgruntled party, on paying a certain amount as costs to cover the expense of the arbitration, can have a trial de novo in court. In that trial de novo nothing is said about the arbitration.

We studied each of the systems to find out whether they did in fact, as their authors hoped, step up the efficiency of the courts. If I can put the question colloquially: Did the procedure give those courts a bigger judicial bang for a buck? And the answer is: Maybe it did a little bit, but not very much, either in Massachusetts or in Pennsylvania, except that in Pennsylvania it did seem to prevent an awful lot of cases from reaching court that otherwise would have gone there; but that may very well be a function of the cost penalty on going back to court.

As we studied these devices to learn whether they really were saving judge time, we uncovered an unexpected fact. One device appeared to be working in favor of plaintiffs and the other in favor of defendants. This appeared when we analyzed how the cases were decided by the court after they had been determined by the auditor or the three arbitrators.

In the Pennsylvania system, when courts reversed the arbitrators' awards, they did not reverse half the time for plaintiffs and the other half the time for defendants. There was a marked tendency for the reversals to favor defendants—on the order of about one-third of the time more frequently than the reversals favored plaintiffs. In Massachusetts the pattern of reversals was the opposite: Plaintiffs exceeded their expected share of reversals by about one-third.

What that means is that in installing so-called efficiency devices, there is at least some evidence that both Massachusetts and Pennsylvania have changed the winners. I shall have something to say in a moment about whether that makes any sense.

I will say right now that in a small way many of the delay killers and these other efficiency devices that have lately been installed have behaved like inefficient truth rays. Some legislatures have embraced the device in an effort to achieve one value without being alert to the possibility that it may work to destroy another and more important value. By disturbing and distorting the outcome in large groups of cases, whether in favor of the plaintiffs or defendants, some so-called efficiency devices cause the
justice machine to register "tilt". At least that is my impression. That doesn't mean that a state should never install an efficiency procedure because it will affect the outcome in many cases. It does mean that the state should be aware of the possibility of affecting who wins, and should make careful audits and be willing to live with the possible substantive changes before it installs the efficiency procedures.

A second impression from these studies is that our preoccupation with speed and efficiency has led us to neglect the matter of the quality of judicial process. An official controlled experiment conducted by the Columbia Project in New Jersey in 1960 to 1962 made me particularly sensitive to that neglect. With the court's cooperation we set up a controlled experiment. The court changed the rule and provided that instead of a mandatory pretrial in every personal injury case, there would be a pretrial only in each alternate case, unless one lawyer or the other in the alternate case should ask for a pretrial; and we then set out to measure whether the group in which all the cases were pretried required trial more often and used up more judge energies than the other group in which half were non-pretried cases.

But in addition to trying to find out whether the mandatory pretrial conference was efficient, we attempted to learn whether the trials that followed pretrial conferences were "better" trials — better in quality — than those where no conference had preceded. This made it necessary for us to decide how to test for quality. We found very little on this in the books, to my surprise, and ultimately we had to devise our own standards. We did that, deciding that the criteria of quality include these elements: How clearly do the theory and the issues at trial emerge for the jury, or the judge if he is the fact trier? What about the evidence? Are there gaps or redundancies? What about tactical surprise? Is one lawyer or the other or are both surprised by any legal or factual matters that appear at the trial? What about the general level of the lawyers' preparedness? Is that high or low? Finally, what about mutual knowledge by each side of all of the evidence and information that it ought to have in order to try the case effectively and fairly?

Using those criteria and scoring the responses in the three thousand test cases — these were responses by the judges and the lawyers involved — we did find evidence that the pretrial conference has a favorable effect on trial quality.

For me, more important than the specific findings of these field research projects on court processes has been the discovery of neglected values and neglected possibilities for improving the judicial process. I am convinced that long before the year 2000 our courts will be more effective instruments of justice, precisely because they will have trained their gazes on their processes with the object of making them not only quick but humane, dignified and of good quality, however you define that term. Science and technology, as I said before, can help us, but we must do our own thinking about how.
That concludes these lectures. In parting I want you to know how grateful I am to you for being so attentive and forbearing as listeners. I am sorry to have given you so much chaff and such sparse substance about this frontier of knowledge, but I have a suggestion that I hope will atone in part.

My proposal is that the College, its Dean and its faculty consider adding to the curriculum a course on the interaction of science and the judicial process. With the wealth of experience, talent and dedication that you bring to bear, the frontier can be pushed forward in a way that Robert H. Jackson would applaud, and that the world of the year 2000 will surely appreciate.