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Some Reflections on Legal Experimentation

Hans Zeisel

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HANS ZEISEL*


A legal innovation tentatively introduced on a limited scale is usually called an experiment. Yet even when such an experiment, in the colloquial sense of the word, is accompanied by systematic and skillful fact gathering, it will fail to reveal all the relevant effects. Only a scientifically designed, controlled experiment will do this. But the essence of a scientific experiment is to apply the experimental procedure to one group, and to withhold it from another one, called the control group. It would seem that the law, with its supreme notion of equality, cannot easily tolerate such discrimination.

It is the burden of this commentary that as we advance our notion of the law as a rational means of social control, we might reconsider this position.

These thoughts were stimulated by the recently published Report on the Medical Expert Testimony Project in the New York courts, an important milestone in the development of our civil procedures. The integration of a bold reform move and a simultaneous effort to provide data necessary for its evaluation makes the New York Project, guided by Judge Peck and Judge Botein, an exemplary undertaking. The Report therefore provides a suitable occasion for exploring the value and feasibility of even more rigorous legal experiments.

* Professor of Law and Sociology, Law School, University of Chicago.

1. The Association of the Bar of the City of New York, Impartial Medical Testimony (1956). The Association's special committee on the Project was chaired by David W. Peck, Presiding Justice of the First Department of the Appellate Division of the Supreme Court of the State of New York, who wrote a preface to the Report. The committee had the technical assistance of Professor Delmar Karlen of the Institute of Judicial Administration of the New York University Law Center, and of Dr. Irving S. Wright, Professor of Clinical Medicine at the Cornell Medical Center.
On December 1, 1952, by a special rule from the reform-conscious first department of the appellate division, and with the help of some outside funds, the Supreme Court for the County of New York became the testing ground for an innovation in personal injury trials. Judges in this court, if in their opinion such a procedure "would be of material aid to the just determination of the case," were empowered, after consultation with counsel, to have the plaintiff examined by a court appointed physician without cost to the parties. The physician is selected from a panel, jointly prepared for this purpose by the New York Academy of Medicine and the New York County Medical Society. The physician is then supplied with all the medical reports in the case, examines the patient and reports to the court, which in turn makes the report available to the parties. Either party or the judge may call the court expert as a witness and the parties retain their right to call their own physician.

The Report consists of three parts: the committee report itself, giving history and description of the plan, the experiences with it and the results of two years of its operation; an evaluation of the plan by the medical consultant, and miscellaneous exhibits of forms, statistics and thumbnail summaries by the judges of the cases disposed of after referral.

2. The Project was later extended to Bronx County.

3. The innovation, to be sure, consists primarily of putting a system of impartial experts into actual operation. Many jurisdictions have provisions for it on the books. Some state statutes provide for such impartial experts in civil suits. In some states it has been held that the court has the power to appoint impartial experts without a statute. And one state even adopted the Model Expert Testimony Act, 9 Uniform Laws Ann. 429 (1951), which ought to operate much like the New York experiment. See S.D. Code tit. 36, c. 3601 (Supp. 1952). Fed. R. Civ. P. 35 provides for such experts. "A party has no absolute right to the physician of his choosing... This is a matter for the court if the parties cannot agree..." 4 Moore, Federal Practice 2560 (2d ed. 1950). At least three states have written Federal Rule 35 into their procedures. The statutes, rules and cases are collected in 63 Yale L.J. 1023 (1954).

The Rules for the Supreme Court of Judicature of England provide: "In any case which is to be tried without a jury... the Court or a Judge may in his discretion... on the application of any party appoint an independent expert (to be called 'the Court expert')..." Order XXXVII A, rule 1, II S.R. & O. 593 (1934). But "applications under this Rule have been but very few in number..." The Annual Practice 674 (1955).

Likewise, in no American jurisdiction have impartial experts been used in any sizeable number in personal injury litigation. Without knowing more, one would venture to attribute the comparative success of the New York experiment to three factors: (1) the expert fees are not borne by the parties, (2) a panel of court experts is actually identified and available and (3) an appellate court rule which is part of a vigorous drive to clean up the court calendar has a better chance of changing a court's tradition than either statute or case law.

4. The ordinary rules of evidence apply, with apparently some doubt as to whether the rule that forbids a party to impeach his own witness should be applied to the court-appointed expert. No decision on this point has yet been necessary.
Three major accomplishments are claimed:

1. A marked increase in the number of settlements and thereby a reduction of the formidable case load of the court.

2. An improvement in the standards of justice through provision of a better process for finding the medical facts, which in turn leads to fairer settlements and verdicts.

3. Improvement of the standards of medical diagnosis in the field of traumatic legal medicine.

With the help of many persuasive data and inferences therefrom, the Report makes all these claims quite plausible. In fact, the appellate division was so well satisfied with the new procedure that it decided to incorporate it as a permanent feature into trials of personal injury cases.6

To one who, as this writer, grew up in a legal tradition which knew only impartial experts, this innovation recommends itself naturally.6 But common-law lawyers may react less favorably and may hold some or all of the views ascribed by the Report to "a few judges and lawyers [who] have been disturbed by the special status occupied by an impartial expert. They feel that... he may usurp the functions of judge and jury. Medicine... is not an exact science... The opinion of a famous doctor is not necessarily better than that of an obscure one."

And yet, with somewhat more rigor in the design of this experiment, data could have been provided which would prove (or disprove) these claims to the satisfaction of the most critical observer. It may be instructive to put together both the evidence cited for each of the major claims and the outline of a procedure which would provide more rigorous proof.

5. P. 38.

6. "If expert testimony is required, the court will appoint one or more such experts, immediately after both parties have been heard as to who should be appointed. Unless special circumstances require another procedure, members of the panel of appointed court experts deserve first consideration." AUSTRIAN CODE CIV. P. § 351.

If the Anglo-American tradition is pursued far enough back one will find that experts to the courts actually preceded adversary experts. "It would seem, therefore, that Sanders, J., in 1554, had good warrant for his opinion that, 'if matters arise in our law which concern other sciences or faculties, we commonly apply for the aid of that science or faculty which it concerns.' [quoting Buckley v. Rice Thomas, 1 Plowden 118, 124, 75 Eng. Rep. 182, 192 (C.B. 1554)]" These witnesses were regarded as expert witnesses to the court... But in the seventeenth century, when witnesses had begun to be commonly called to testify, these experts were naturally regarded merely as witnesses." 9

HOLDSWORTH, A HISTORY OF ENGLISH LAW 212 (1926).

The first claim concerns the increase in the number of settlements. The evidence for it is derived from one statistic and one assumption. The statistic is summarized from the descriptive text of the Report in the following table:

<table>
<thead>
<tr>
<th>Settlement Category</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Settled</td>
<td>120</td>
</tr>
<tr>
<td>in pre trial</td>
<td>66</td>
</tr>
<tr>
<td>before trial</td>
<td>36</td>
</tr>
<tr>
<td>during trial</td>
<td>18</td>
</tr>
<tr>
<td>Removed to Municipal Court (claim reduced below the Supreme Court minimum)</td>
<td>9</td>
</tr>
<tr>
<td>Tried</td>
<td>18</td>
</tr>
<tr>
<td>Neither settled nor yet tried</td>
<td>84</td>
</tr>
<tr>
<td>Examination pending</td>
<td>7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>238</strong></td>
</tr>
</tbody>
</table>

*Of the 36 (18 + 18) cases that reached trial, not less than 17 were bench trials. This is, compared with the normal run of cases, a high percentage and suggests (no more) that the appointment of a court expert might also be conducive to jury waiver.

The assumption is “that most of the cases disposed of through the assistance of the Medical Expert Testimony Project ... would have had to be tried ....” By relating the number of settled cases (120) to the annual number of personal injury trials in these courts (600), the Report concludes that the new procedure “would account for eliminating one-fifth of the number of trials which took place ... while the Project was in operation.” While this may indeed be true, these data hardly prove it because we cannot yet for any group of cases predict with certainty which will reach trial and which will be settled, if only at the last minute. Yet, a different method of selecting the cases for referral to the medical expert would provide data from which the accelerated elimination of cases could be estimated with great accuracy.

9. Ibid.
All personal injury claims filed would have to be randomly\textsuperscript{10} divided into three groups of equal size:

Group (a): The parties in this group would be notified that the court would under all circumstances appoint a neutral medical expert if a divergence between the adversary experts should appear, and the case should not be settled within a reasonable time.

Group (b): The parties in this group would be notified that under no circumstances would the court appoint a neutral expert.

Group (c): The parties in this group would be notified that the court might appoint such an expert if it thought thereby to further the cause of justice.

By comparing the progress of the settlement and jury waiver ratios in groups (a) and (b), the direct effect of the referral to impartial experts could be estimated.

By comparing these ratios in groups (c) and (b), the indirect effect of the referral procedure could be estimated, since the parties in group (c) might be expected to act under threat of such potential referral. This second comparison would either prove or disprove what now to the Report merely "seems highly probable," namely, "that the very existence of the Project ... tends to deter doctors and lawyers from making ... grossly exaggerated medical claims."\textsuperscript{11}

Yet even the figures given in the Report raise and half answer a puzzling question: Why was no impartial expert appointed in the 600 personal injury cases which were not settled and did reach trial? I am informed it was because the divergence of medical testimony was not sufficiently important as compared with the question of liability. But whatever the reason for the limited use of this new institution, one must expect from it at best limited court relief.

The second major claim is that the impartial experts provide the court with superior medical diagnoses. On this point the

\textsuperscript{10} The random division into three groups would have to be made immediately after the case is filed, by arranging for some kind of lot-drawing procedure (to avoid tricky filing maneuvers) for every multiple of three cases filed.

\textsuperscript{11} P. 27. We might note here in passing that a more exact estimate of the number of avoided trials could then be expressed not only in delay-time saved, but also in dollars saved. Since delay-time has its money equivalent (e.g., in additional judges and court facilities), such an accounting effort would complete the picture. The direction of balance is, of course, quite clear. The average expert fee per case was about $90, as against the cost of jurors (which by itself is a multiple of this amount), a share of the judge's salary and court overhead, not to mention the parties' expenses—all told, a manifold multiple of the expert fee.
Report simply presumes that the very method of selecting these court experts ("senior men, who have attained the rank of professor or associate professor in a medical school or an equivalent rank in approved hospitals") should automatically insure higher medical standards. In addition, the medical consultant on the Report staff cites a variety of cases in which only the court expert introduced the most modern test procedures and thus more reliable findings.

These arguments again sound reasonable enough; but some questions persist in spite of the obvious shortcomings of the traditional system of medical experts.

It seems to be a fact that the two opposing medical experts quite often disagree sharply in their testimony concerning cause and consequences of the injury. Such disagreement could, theoretically, derive from two sources: some bias on the part of the examining physician or the inherent difficulties of accurate medical diagnosis. This latter possibility, though, must be less important, since the divergence occurs invariably in the same direction—the defendant's physician never sees as serious a liability as his counterpart.

In order to understand this situation better, one would have to know the exact reasons for this one-sided pattern of divergence. Conceivably, each party could have the injured person examined by several doctors and then produce in court the one who found most favorably for its particular side. At the other extreme are the professional plaintiff-experts and defendant-experts. The bulk of cases probably falls in between, where the testimony is provided by a doctor known to the plaintiff (or defendant) prior to the accident. It might be his general practitioner, or a physician known to his lawyer from earlier cases. On the side of the defendant, if I am not mistaken, it is the custom of the insurance companies to employ for their litigation the same set of doctors again and again.

Any of these prior attachments might produce bias. However, it is quite possible that these physicians consider it their implied duty not only to testify as to the facts but—since they rightly expect the opposing doctor to minimize (or maximize) the damage—also to present the extreme case for their side so as to insure

12. P. 46.
13. "That medical opinion can be bought with a price, no one can satisfactorily deny . . ." Dr. Roy W. Fouts, former President of the Nebraska State Medical Association, in The Medical Expert Witness, 19 Neb. L. Bull. 213 (1940).
a "balanced" presentation. Thereby, in addition to providing medical expert testimony, they perform also a piece of medical advocacy at which legal counsel might be less adept.

Whatever the reason for this divergence, the present situation, in which the divergence tends always in the direction of the party who pays the witness, is deplorable and patently not intended by the law. But since the impartial court expert does impinge on the adversary tradition of our courts, we should try to document that he truly is what he must appear to a jury, the unbiased and reasonably infallible super-expert. This is especially necessary since the present system is not quite without merit. Everything, after all, is clear and above board, and although the jury may be confused by contradictory expert testimony, it knows at least that these are partisan experts within the limitations of a tolerant legal procedure.

Nobody would think, of course, of imputing bad faith to the court expert. Moreover, the very fact of expertness should tend to minimize bias. The clearer the perception of facts, the less room there should be for irrelevant influences. And yet to deny completely the possibility of unconscious bias would be to deny that the court experts are people with human and social sympathies or aversions.

Some need to testify to the impartiality of these experts is obvious in the Report, but it is hampered by the paucity of the data. "The fact that the Medical Expert Testimony Project has provided truly disinterested and impartial medical analysis is illustrated by instances where an impartial expert in a single examination has found some of plaintiff's claims to be justified and some to be without foundation."\textsuperscript{14} This is, of course, no proof of the expert's impartiality, unless one starts with the assumption that both the plaintiff and the defendant experts are always wrong. But suppose one of them was completely in the right—then the impartial expert, compromising in the middle, would himself be wrong.

The Report is surprisingly vague as to where the expert testimony cut, on the average, between the two extreme positions. It speaks of "two or three reports in which the panel experts discovered . . . injuries which had been overlooked by the plaintiff's doctor."\textsuperscript{15} Elsewhere, it speaks of a "significant number of cases,\

\textsuperscript{14} P. 24.
\textsuperscript{15} Ibid. [Emphasis added.]
[in which] impartial experts have found the medical claims of plaintiffs to be thoroughly justified, and in a few cases, even understated. But even the presently available data permit a somewhat more precise evaluation than was made.

The following statistics are derived from the various appendices of the Report and are based on the 74 cases (out of a total of 138 which had been either settled or tried) for which all three data—claim, defendant’s offer and final settlement—are given. They permit the following summarizing statements:

1. On the average, the final settlement was 63 percent below the plaintiff’s claim. (Example: claim, $10,000; settlement, $3,700.)

2. If the interval between claim and offer in each case is called 100 percent, this interval is reduced, on the average, by 72 percent downward toward the defendant’s offer, or by 28 percent upwards toward the plaintiff’s claim. (Example: claim, $15,000; offer, $5,000; interval, $10,000; settlement, $7,800, i.e., $5,000 plus 28 percent of the interval, or $2,800.) Following is the detailed tabulation from which this statement is derived.

<table>
<thead>
<tr>
<th>Size of Interval Reduction (in %) toward the Defendant’s Offer</th>
<th>Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>1-9</td>
<td>1</td>
</tr>
<tr>
<td>10-19</td>
<td></td>
</tr>
<tr>
<td>20-29</td>
<td>1</td>
</tr>
<tr>
<td>30-39</td>
<td>2</td>
</tr>
<tr>
<td>40-49</td>
<td>2</td>
</tr>
<tr>
<td>50-59</td>
<td>8</td>
</tr>
<tr>
<td>60-69</td>
<td>7</td>
</tr>
<tr>
<td>70-79</td>
<td>10</td>
</tr>
<tr>
<td>80-89</td>
<td>13</td>
</tr>
<tr>
<td>90-99</td>
<td>5</td>
</tr>
<tr>
<td>100%</td>
<td>5</td>
</tr>
<tr>
<td>Over 100% (settlement less than offer)</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>56*</td>
</tr>
</tbody>
</table>

* This table is based on 56 instead of 74 cases because the 18 cases in which the defendant had made no offer (offer equals zero) were excluded from it.

16. P. 23. [Emphasis added.]
These figures do not, of course, permit any inference as to the impartiality or partiality of the experts. We would have to know, first of all, the extent to which liability was disputed. But most important, we do not really know whether the plaintiffs' claims were not, on the average, more exaggerated than the defendants' efforts to minimize their liability, or vice versa. Even if these statistics could be developed both for the experimental cases and a control group without the court expert, it would not indicate whether these court experts were unbiased. But it would at least permit an evaluation of the effect of these experts on the level of settlement. In this context, one would also like to know in how many, if any, of the thirty-six cases that came to trial one party was satisfied with the impartial expert and forwent the use of its own expert.

Here again the rigorous maintenance of experimental control groups would have proved its value. We could compare the settlement values in relation to claims and offers in both the experimental and the control group.

But there is the possibility that the court experts, taken as they were from the higher ranks of the medical profession and usually associated with major medical institutions, could have in common a bias in favor of large institutions; and the insurance companies, which as a rule are the actual defendants in personal injury trials, are such institutions. On the other hand, the experts might be found to be as close to the individual plaintiff as any general practitioner. In the New York experiment an effort has been made to avoid such bias. "[N]one of . . . [the doctors] has been prominently identified with either plaintiffs or defendants in personal injury litigation."

There remains the second major question: How much less fallible are these court experts than ordinary doctors? To determine the measure of their reliability, to borrow a term from the statisticians, it would be essential, for the duration of the experiment, to appoint for every case at least two experts who would examine the injured person independently.

17. P. 14.

18. The members of the Vienna Bar still remember the case in which the chief anatomy expert of the criminal court, Professor Haberda—this was at a time when Vienna's medical schools led the world—declared with assurance that some dismembered limbs came from the body of a young girl, when they later were quite definitely proved to have belonged to an old man.

19. In at least one case the court apparently appointed two experts who were special-
To be fair, the Report admits this possibility of disagreement. "Sometimes the case is one which involves an honest difference of opinion among qualified medical experts."20 In one bench trial cited in the Report, the judge himself in making his award seemed to have disregarded the court expert's testimony.21 But how near impossible must it be for counsel to combat successfully the court's one impartial expert before a jury?

Doctors on the highest level of learning have been known to disagree honestly on diagnostic questions. And we must not forget that one of the standard duties of a medical expert witness is one which is difficult under any circumstance, the prediction of the injured's future disability. Significantly enough, this is a task which is not within the ordinary duties of a physician; his normal concern is healing, not predicting. As long as our legal system requires than an injury claim be settled once and for all, such long-term predictions must involve some range of error. The appointment of two experts would help to determine this range.22

Finally, the impartial physician's performance should be carefully compared with those of the traditional adversary experts. For this purpose, we need more systematic knowledge of the latters' background and attitudes: What are their medical qualifications? What is the method of and reason for their selection by the litigants? How big indeed are the apparent differences? Do they center more around the question of causation (liability) or disability (damages)? How did they reconcile the differences? Did they agree or did they persist in disagreement? What is their reaction to the court appointed expert? Such data could be supplemented by statistics from the court cases on the frequency with which professional plaintiff-experts and defendant-experts reappear in the files.

My conversations with physicians indicate that much would

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22. The uncertainty of predictions suggests an interesting aspect of the expert controversy. Suppose the court expert testified that the injured person would certainly remain disabled for five years, and that there was an even chance that then he would be completely recovered or remain disabled for another five years. Allowing for the burden of proof, the court would have to base its award on the five-year limit. With two adversary experts making the case for both extremes, the court would be permitted to take a figure between five and ten as its basis and arrive at an award which would come closer to the most probable duration of the disability.
be gained by talking to them. Some, for instance, will frankly reveal the pressure for favorable testimony which long time patients and friends try to exert on them.23 Many a doctor might welcome the possibility—offered to him by a panel of court experts—of not being called on to testify. But whatever their views are, before a final conclusion is reached these views should be obtained in a properly representative survey, and not merely from a few members of the profession.

These explorations would seem all the more necessary since one must reckon with the possibility that the court expert may in due course supersede, not just supplement, the adversary ones. If he is indeed more reliable, or even only appears so to jury or court, it must be wasteful in the long run to have in addition two more experts who add little to the case.24

III

As to the third major claim of the Project, that it has improved the standards of diagnosis, it stands to reason that leaders in their profession would employ the best diagnostic methods. And if that is so, it is also likely that the adversary experts, who must count on the possibility of confrontation with the court expert, will be more careful in the preparation of their diagnoses. Yet again, a quantitative evaluation of this effect could only come from a comparison of the diagnostic methods and findings in an experimental group with court experts, and those in a control group without them, as outlined above.

As one of the incidental achievements of the court-appointed expert, the Report mentions an improvement in court manners, i.e., the attitudes of counsel on cross-examination. This should not be surprising in a situation where this expert is presented in an almost judicial role, arbitrating, as it must seem to the jury, the conflicting claims of the two adversary physicians. But experience

23. "It requires the greatest integrity to resist the lawyer's plea to 'give my client, your patient, the benefit of the doubt and make his case out as strong as possible.'" Mock, Medical Testimony, 1 Am. J. Med. Jur. 119, 119-20 (1938).

24. In the current English debate on the reform of the High Court, where costs and not delay are the problem, it has been suggested that the trial judge's present right to call a court expert, see note 2 supra, be expanded so that after his testimony the court may "refuse to hear any further expert evidence on this point." Gower, The Cost of Litigation, 17 Modern L. Rev. 1, 20 (1954). See also Jackson, The Machinery of Justice in England 248 (2d ed. 1953): "For medical questions we are getting nearer to a sensible technique, for judges now try to ensure that an agreed medical report is put before the court."
with systems which know only the court-appointed expert indicates that in the long run counsel's aggressiveness on cross-examination will be restrained only by his fear of meeting this expert again in another trial.

One omission of the Report is hard to understand. Aside from the already mentioned passage referring to "a few lawyers and judges," the lawyers' attitudes are mentioned only once, in a statement that "to date no lawyer has registered any sharp objection" to the new system. More systematic exploration of their experiences and attitudes, with appreciation of their partisan position, would seem indispensable to a full evaluation of the Project. It would seem that a legal system which relies as a matter of principle on the initiative of counsel should take his reaction more seriously into account.

The Report does mention at one point that it would be interesting to have jurors' opinions on this innovation. This should indeed be valuable, but again, only if intelligence were secured for both procedures, the old and the new one. There is little doubt that the jurors will feel more comfortable with an expert who is introduced to them under circumstances suggesting that he knows more, is more honest and more impartial than the two party-experts. How could they feel otherwise? But since the jury's comfort is not the decisive issue here, one should explore also whether the jury is really bewildered by the spectacle of two contradicting party-experts or whether it is quite able, with the help of counsel's cross-examination and its own judgment, to arrive at a reasonable and fair solution.

But these are marginal criticisms. In the absence of a controlled experiment, the Report on the New York Project has done extremely well, even if at points, lacking conclusive data, it had to be satisfied with more or less persuasive inferences.

IV

The basic question raised again by the New York Project is: Could the courts permit a legislative innovation to be introduced in the form of a scientifically controlled experiment?

Recall the essence of a scientific experiment. A rule of law is applied to one group of cases and withheld from another. The two groups are as alike as possible in every respect, because the
separation was made at random. At first glance it would seem
that the courts, mindful of the equal protection clause of the four-
teenth amendment, would shrink from permitting such purpose-
ful discrimination. Nowhere in the law is there a direct precedent
for such a step. Moreover, the notion of legal experiments may
evoke the unpleasant association of humans being used as guinea
pigs. And yet, there is no more powerful tool for assessing all
relevant effects of a legal innovation, and hence no better way
of keeping trial and error in the growth of the law to its mini-
mum. The argument for the scientific legal experiment is, there-
fore, worth careful consideration.

One observation narrows our problem at the outset. There are
clearly some substantive limits to experimentation. The law can-
not permit experiments that involve elimination of a right which
the due process clause guarantees under all circumstances. If a
right cannot be taken away at all, it cannot be taken away in the
course of an experiment.

Hence, our narrower question is this: Would experimentation
be permissible, if done for the purpose of testing the merits of a
legal innovation, provided that nobody be deprived of such a
guaranteed right?

Traditionally, the doctrine of the reasonableness of classifica-
tion exempts certain differential treatments from the provisions
of the fourteenth amendment. As a rule this test will require a
reason for permitting the law to treat a particular class of subjects
differently, e.g., to supervise public utilities or to sterilize heredi-
tary imbeciles.

In weighing reasonableness, the courts are guided both by the
type of classification and the nature of the differential treatment.
Certain classifications, such as classifications by ancestry or reli-
gion, are treated severely. "[A]ll legal restrictions which curtail
the civil rights of a single racial group are immediately suspect.
... [The] courts must subject them to the most rigid scrutiny."26
The suspicion clings, of course, to the motive, the animus discri-
minandi, which in turn would taint the alleged purpose of the
differential treatment.

At the other end of the spectrum, the courts have been con-
cerned with classifications that were completely removed from

any suspicion of impropriety, because they fastened on such neutral dividing lines as geographic location or date.

Thus, in *Chappell Chemical and Fertilizer Co. v. Sulphur Mines Co.*, the Supreme Court held that equal protection is not denied by a state statute abridging the right of trial by jury in the courts of a city without making a similar provision for other parts of the state. In *Missouri v. Lewis*, it was held that equal protection is not violated by a state law establishing a separate appellate court with exclusive final jurisdiction for certain cases which, if they arose in the courts of other counties, could be appealed to the highest state court. “Each State . . . may establish one system of courts . . . for one portion of its territory and another system for another portion.”

Nor is an arbitrary temporal dividing line necessarily objectionable. In *Sperry and Hutchinson Co. v. Rhodes*, the Court, speaking through Mr. Justice Holmes, held that “the Fourteenth Amendment does not forbid statutes and statutory changes to have a beginning and thus to discriminate between the rights of an earlier and later time.”

What is important from our point of view is that in all of these cases the criterion for differentiation was not a substantive characteristic of the case, but a legally neutral circumstance, such as the parties’ residence or the date at which the claims arose. The cases themselves are, for the law, indistinguishable. And the Court did not even deem it necessary to find a sufficient reason for this classification. It merely acknowledged the state’s right to set up such dividing lines for purposes of its own. In *Missouri, K. & T. Ry. v. May*, the Court, again speaking through Mr. Justice Holmes, said:

> When a state legislature has declared that in its opinion policy requires a certain measure, its action should not be disturbed by the courts under the Fourteenth Amendment, unless they can see clearly that there is no fair reason for the law that would not require with equal force its extension to others whom it leaves untouched.
And later, "Great constitutional provisions must be administered with caution. Some play must be allowed for the joints of the machine...." 34

It would appear that the separation of groups for a controlled experiment would have at least this in common with the above cited cases. Here too the cases themselves are indistinguishable and divided only by some accidental circumstance that is unrelated to the case itself. If the courts accept residence in different counties as a legitimate dividing line for differential treatment, then a dividing line drawn by impartial lot should not ipso facto be objectionable.

To be sure, the law will always require a reason, although, barring contrary evidence, it tends to assume that such a reason exists. 35 But if it suffices that a certain measure be required by some “policy,” then the exalted purpose of experimenting for the improvement of the law should not be an unacceptable “policy.”

Although no court has yet ruled on the legality of the Medical Expert Testimony Project, it affords a good example of what is involved. In the New York experiment, actually only a fraction of the pending personal injury cases were referred to the impartial experts. Nor was the new rule applied to the neighboring courts or to cases disposed of before the try-out period. The question of scientific experimental design involves, therefore, not the basic issue of differential treatment, but merely the shift of an existing and tolerated line of differentiation into a position where it is of some use in the evaluation of the procedure. In other words, since any experimental innovation involves some kind of discrimination, the law might as well plan it in a way which will maximize our potential knowledge of its effects.

In addition, the differentiation in the course of an experiment is, again by definition, only temporary. This is another reason why the law should not treat experiments by harsher standards than other dividing lines which are equally unrelated to reasonable classifications of the cases themselves.

From one point of view, the separation by lot is indeed superior to any other dividing line. The courts are constantly worried lest a seemingly innocuous differentiation merely hides objectionable arbitrariness or prejudice. In Missouri v. Lewis, the

34. Id. at 270.
Court said a "territorial . . . jurisdiction might be intended as, or might have the effect of, a discrimination against a particular race or class, where such race or class should happen to be the principal occupants of the disfavored district."36

A separation of cases by lot is the only grouping which can never, by intent or otherwise, cover a grouping not discernible on the surface. The groups are, by definition, as alike as the laws of probability can assure. Moreover, there is at least this much equality for all concerned: each case, before the lot is drawn, has an initial, equal chance to become a member of either group. Random separation is, therefore, in several respects less arbitrary than any other conceivable dividing line.

There remains the question of the substance of the differential treatment in an experiment. We have already noted its outer limits. Within these limits, the courts have repeatedly decided that not every difference in the law by necessity constitutes discriminatory treatment.

In upholding the statutory provision for two different lines of appellate courts in Missouri v. Lewis, the Court stated: "It is not for us, nor for any other tribunal, to say that these courts do not afford equal security . . . of the laws . . . ."37

In a similar spirit, the special juries in New York have been upheld mainly on the ground that the complainant failed to show that special juries do in fact decide cases differently from petit juries, although it was proved to the satisfaction of the Court that the panel of special jurors differed in many significant ways from the panel of petit jurors.38

The fact that the complainant has the burden of proving that he was effectively discriminated against raises in respect to experiments an interesting issue.

It is the very purpose of the controlled experiment to learn what, if any, effect a particular legal rule would have. Except for the case where the experiment involves a purpose that is in itself forbidden, the complainant is in no position to prove that he was in fact discriminated against, unless he waits until the end of this very experiment and its final evaluation. The technical procedure of evaluating an experiment makes explicit the uncertainty of any discriminating effect. The result is confronted with what the

[36. 101 U.S. at 32.]
[37. Id. at 33.]
statisticians call the null-hypothesis, *i.e.*, the assumption that the experiment had no differentiating effect. Only if the result is found to be incompatible with this null-hypothesis is an effect acknowledged.

Paradoxically, also, if the purpose of the experiment is properly pursued, any discrimination that it might have brought about during its operation would be eliminated after the experiment is ended. Whichever treatment emerged as superior from the experiment would become the general rule, thus not only ending discrimination but also improving the law for all. If, on the other hand, the experiment should not reveal any difference in the two treatments, any claim of discrimination is authoritatively disproved.

However, if there be any presumption of effect, it would be almost inevitably in the direction of improving the law because this would be the purpose of the experiment. Hence, the reproach of unequal treatment would amount only to protesting that the improvement is limited. But the courts have shown understanding toward a piecemeal advance of the law.9

But since the latent possibility of temporary discrimination is undeniable, the courts will have to assess its consequences. In setting the limits within which they may permit legal experimentation, the courts will, as always, weigh the good which it attempts against the evil which, if only temporarily, it may bring about.40 In this the courts are supported by public sentiment, as experience with another recent public experiment, the Salk vaccine test, indicated. Here, the expectation of a positive result meant higher mortality in the control group from which the vaccine was withheld. Yet, though the test implied the possibility of sacrificing human lives, public sentiment did not object. It was guided by a sound sense of balance between the ultimate gains to be expected from the experiment and the sacrifices it may require.41


40. Even such a drastic discrimination as curfew and expulsion from one's home was upheld, when the purpose seemed to warrant it. *Korematsu v. United States*, 323 U.S. 214 (1944). "Nothing short of apprehension . . . of the gravest imminent danger . . . can constitutionally justify either." *Id.* at 218.

41. Ironically, the widely heralded Salk vaccine test was far from the perfect scientific experiment which the public believed it to be. See the careful appraisal by Professor K. Alexander Brownlee, *Statistics of the 1954 Polio Vaccine Trials*, 50 J. AM. STAT. ASS'N 1005 (1955).
In the end, of course, as we have pointed out, the entire legal issue will depend on whether experimentation for the purpose of improving the law is an aim which could justify temporary differentiation.  

Fortunately, on this point, the courts have shown a generous attitude; they are inclined, within limits, to look with favor on experimentation. To be sure, when they use the term, they do not think of the controlled scientific experiment, but of its colloquial namesake, the try-out. But the purpose of the try-out is in no way different from that of the scientific experiment: to learn whether one legal solution is better than another.

No one has ever stated the case for the legal experiment better than Mr. Justice Brandeis in his dissent in New State Ice Co. v. Liebmann.

The discoveries in physical science, the triumphs in invention, attest the value of the process of trial and error. In large measure, these advances have been due to experimentation. . . . Some people assert that our present plight is due, in part, to the limitations set by the courts upon experimentation in the fields of social and economic science . . . . There must be power in the States and the Nation to remould, through ex-

42. On August 1, 1953, the state of California started an experiment designed to assess the effects of two measures: advance release of prisoners three months before their normal time, and intensive parole supervision for ninety days after release. The design comprises four sample groups, representing the four combinations of these 2x2 treatments: earlier release with and without supervision, and normal release with and without supervision. The results of each treatment will be measured primarily in terms of the differential rate of recidivism of the four groups. The prospects and need for successful legal experimentation are perhaps nowhere greater than in the field of criminal law, whose major purpose is relatively simple, namely, to reduce crime.

In recent hearings on Illicit Narcotics Traffic, New York State Attorney General Javits, in discussing the possible merits of a certain drug dispensing plan, suggested: "Now, perhaps as a palliative, as a transitory step, a controlled experiment is justified to see if this could do any good." Hearings Before the Subcommittee on Improvements in the Federal Criminal Code of the Senate Committee on the Judiciary, 84th Cong., 1st Sess., pt. 5, at 1446 (1955).

See also Judge Gerald F. Flood's moving plea for more exact knowledge in this field. "It is hard to believe that at this late day there are no reliable statistics to tell us of the relative efficacy of probation and imprisonment. . . . Our procedure strikes me as similar to a doctor who would use a drug when there was as yet no record as to how it had affected others." Flood, Sentencing Function of the Judge, 45 J. CRIM. L., C. & P.S. 520, 532 (1955).

An area crying for scientific co-ordination of experimental procedures is highway accident prevention. A great number of states are now engaged in a variety of "experiments" in law enforcement and higher penalties, aimed at a reduction, first of driving violations and then of accidents. Few of these efforts are designed to learn precisely what is being achieved—that is, "If you do such-and-such, the number of moving violations by the punished driver will decrease by ——." Or "the number of accidents will decrease by ——." And yet, a co-ordinated effort to design scientifically these experiments in law enforcement would yield exactly this knowledge.


44. 285 U.S. 262 (1932).
per veniam, our economic practices and institutions .... Denial of
the right to experiment may be fraught with serious consequences to the
Nation. It is one of the happy incidents of the federal system that a
single courageous State may ... serve as a laboratory; and try novel
social and economic experiments without risk to the rest of the country.
This Court has the power to prevent an experiment .... But in the
exercise of this high power, we must be ever on our guard, lest we erect
our prejudices into legal principles.\textsuperscript{45}

But of even greater significance for the temper of the courts
vis-à-vis the legislative experiment is the majority opinion in this
same case, written by Mr. Justice Sutherland. While disagreeing
with Brandeis on the limits of experimentation, the reverence
implied for the principle is unmistakable.

[I]t is plain that unreasonable or arbitrary interference or restrictions
cannot be saved from the condemnation of that Amendment merely by
calling them experimental. It is not necessary to challenge the authority
of the states to indulge in experimental legislation; but it would be
strange and unwarranted doctrine to hold that they may do so by enact-
ments which transcend the limitations imposed upon them by the
federal Constitution. ... [T]here are certain essentials of liberty with
which the state is not entitled to dispense in the interest of experiments.\textsuperscript{46}

Thus, the courts have often approved the spirit and general
purpose of legal experimentation. They have, on occasion, con-
sidered it a sufficient reason for tolerating some differential treat-
ment.

There are, as we have seen, good reasons why the courts might
go one step further and approve, within limits, the scientifically
controlled experiment, which alone would permit us to evaluate
rigorously all the consequences of a new rule. As our approach
to law and legal procedure becomes ever more rational, as we
come to consider more their future effects than their past history,
such a step is not entirely inconceivable.

\textsuperscript{45} Id. at 310–11.
\textsuperscript{46} Id. at 279–80.