The Voir Dire Examination, Juror Challenges, and Adversary Advocacy

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Federal Judicial Center
November, 1978

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PREFACE

This report evolved from an earlier Center report, Conduct of the Voir Dire Examination: Practices and Opinions of Federal District Judges, which was published in 1977. The information and opinions contained in the 1977 report are summarized here, but are placed in a larger context: a general analysis of the adversary system's functions and effectiveness in the selection of jurors.

The major theme of this report is that the problems inherent in understanding the role and importance of the voir dire examination and challenges can be divided into categories and analyzed separately. Four categories of research problems are noted here: problems of interests, criteria, parameters, and methodology. In each of these categories, we attempt to clarify the problems involved and to suggest various solutions.

In some cases, we have generated new theory and information. For example, in the section on parameters, we present for the first time a mathematical model of jury selection. This model plots the changes in the average bias of a twelve-member jury as a function of the selection strategies of defense and prosecution attorneys. Using this model, we are able to better understand the relative superiority of the struck jury method to other, sequential, methods of jury selection.

Finally, we conclude that the major problem before policy makers in the courts is a problem of defining appropriate goals for jury selection. In particular, understanding the distinction between a representative jury and an unbiased jury is a problem of utmost importance that is far from resolved at present.

The views expressed here are those of the authors, not of the Federal Judicial Center. The assistance of Dr. Michael Leavitt, Mr. Robert Schwaneberg, and Dr. Nan Sussman, and the constructive criticism of Professor Shari Diamond, Dr. Allan Lind, and Professor Bruce D. Sales, are gratefully acknowledged.

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INTRODUCTION

Many trial lawyers believe that the voir dire examination and subsequent excuse of potential jurors are crucial components of their art. Following a recent, highly publicized Texas murder trial, for example, two of the five defense lawyers and one adviser to the prosecution credited the acquittal to the composition of the jury instead of the evidence presented at trial.[1] When Joann Little was acquitted of murder in 1975, her defense attorney said that he had "bought" the verdict with a large defense fund, used in particular to support an extensive, systematic jury selection exercise.[2] In articles and texts, trial lawyers have extensively discussed how to test jurors for bias and what kinds of jurors are likely to be unfavorable to a client's cause.[3]

Recently, behavioral and social scientists have added their prescriptions to the lessons provided by lawyers. Because of the small amount of data available, these scientists' early work tended toward qualitative analysis.[4] As they have gained more experience, their work has become more sophisticated.[5] Critiques of this work have proliferated in the literature;[6] the critics' major theme has been that all recommendations for jury selection practices, unless validated by careful evaluation, remain nostrums rather than genuine contributions to the discipline of adversary advocacy.

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1. Dallas Times Herald, Nov. 20, 1977, at 1. The lead defense attorney in the case, "Racehorse" Haynes of Houston, apparently demurred from his colleagues' assessments.

2. N.Y. Times, Oct. 20, 1975, at 23.

3. H. Bodin, Civil Litigation and Trial Techniques (1976 ed.); A. Ginger, Jury Selection in Criminal Trials (Supp. 1977).

4. Plutchik & Schwartz, Jury Selection: Folklore or Science?, 1 Crim. L. Bull. 3 (1965).

5. Berk, Social Science and Jury Selection: A Case Study of a Civil Suit, in Psychology and the Law 283 (G. Bermant, C. Nemeth, & N. Vidmar, eds. 1976); Christie, Probability vs. Precedence: The Social Psychology of Jury Selection, id. at 265; J. Tapp & A. Keniston, Wounded Knee--Advocate or Expert: Recipe for a Juror? (paper presented at the 89th Ann. Convention of the Am. Psych. Ass'n, Washington, D.C., 1976).

6. Berk, Hennessy, & Swan, The Vagaries and Vulgarities of "Scientific" Jury Selection, 1 Evaluation Q. 143 (1977); Berman & Sales, A Critical Evaluation of the Systematic Approach to Jury Selection, 4 Criminal Justice and Behavior 219 (1977); Etzioni, Creating an Imbalance, 10 Trial 28 (Nov./Dec. 1974); Saks, The Limits of Scientific Jury Selection: Ethical and Empirical, 17 Jurimetrics J. 3 (1976); Shapley, Jury Selection: Social

This report offers a broad review of the legal and psychological issues presented by the voir dire examination and subsequent challenges of prospective jurors. These issues are organized under four headings: interests, criteria, parameters, and methodology. Each of these may be considered a problem area deserving continued study.

Scientists Gamble in an Already Loaded Game, 185 Science 1033 (1974); Suggs & Sales, The Art and Science of Conducting the Voir Dire, 9 Professional Psych. 367 (1978).

PROBLEMS OF INTERESTS

The systematic investigation of voir dire and juror challenge practices is, and will continue to be, hindered by the trial advocate's understandable interests in emphasizing success and minimizing failure.

These interests have two sources. First and more important, an advocate's job is to win for the client, leaving no room on the advocate's agenda for an experiment that risks a client's cause for the sake of gaining scientifically reliable information. Because the client is entitled to the best representation the advocate can provide, the advocate is not free to vary trial practice in the disinterested fashion required for controlled observations or experiments. In this sense, the advocate wants to be a consumer, not a producer, of useful information about how to question the venire and locate the members unfavorable to the client's cause.[7]

Second, advocates have nothing to gain by exposing their ignorance or inability to scrutiny. One would be naive to expect advocates, who earn their living from trial work, to publicly reveal modesty or skepticism about their competence in selecting juries, a task they believe is vital for their success. It is an unfortunate expression of these interests that some lawyers tend to promote their skills with rhetoric so inflated that their claims lose credibility. Consider the following statement by a recent president of the Association of Trial Lawyers of America:

> Trial attorneys are acutely attuned to the nuances of human behavior, which enables them to detect the minutest traces of bias or inability to reach an appropriate decision. Their main interest, obviously, is to obtain a jury favorable to their clients. . . . The adversary nature of unfettered participation in voir dire, as in other phases of case resolution, assures balance.[8]

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7. In our experience, trial lawyers seem remarkably interested in suggestions from psychologists about voir dire and challenge tactics to apply in particular cases. Although this openness might be symptomatic of naivete, even gullibility, about the extent of psychological understanding in this area, it more likely reflects the good trial advocate's zeal for complete preparation. Perhaps considering various tactical possibilities before trial sensitizes the advocate and hones his or her voir dire practices to some degree, regardless of the validity of behavioral science advisers' suggestions. This speculation gains some support from reports that medicine men and mystics have made useful contributions to the voir dire and challenge decisions of defense counsel in well-known trials. See McConahay, Mullin, & Fredericks, The Uses of Social Science in Trials with Political and Racial Overtones: The Trial of Joann Little, 41 Law and Contemporary Problems 205 (1977).

8. Begam, Voir Dire: The Attorney's Job, 13 Trial 3 (Mar. 1977) (emphasis added).

This quotation will be important to our discussion more than once. At this point, we wish to call attention only to the underlined assertion about the sensitivities of fine-tuned trial lawyers. This claim, made without reservation, is preposterous. Moreover, as we shall see later, it is refutable by facts proven through experimentation, as well as by the prevailing opinion of 420 federal district judges. But the claim is also unfortunate because it tends to place the bar in a defensive and adversary position in relation to groups with a legitimate interest in how well lawyers do their jobs. After all, if it is the quasi-official position of the trial bar that all trial lawyers, with the sensitivity of Geiger counters, are equipped to detect "minutest traces" of bias, the bar will be forced to defend its position against counterclaims and adverse information. Because assertions such as the one quoted are in fact indefensible, the bar's untenable position will further discredit it in the eyes of the discerning public. By claiming too much, too much is lost.

Social and behavioral scientists joining lawyers as members of an advocacy team may suffer from similar problems. Whether working for free or for fee, the scientist will tend to identify with the process and develop a commitment that transcends disinterested concern to test the tactics rigorously. It may be particularly difficult to play the participant-observer role in the polarized atmosphere of adversary advocacy. This is not to say that social scientists cannot report objectively while participating in advocacy.[9] The point is, rather, that continued practice in the field tends to produce a commitment to, and a tendency to defend, the methods of scientific jury selection. Therefore, the most reliable evaluations of effectiveness require cooperation between advocacy teams and disinterested evaluators.

Advocates and participating scientists are not alone in bringing interests to matters of jury selection; the court system, represented by judges and court administrators, has its own interests as well. The interests of the courts and of advocates are largely overlapping but not entirely congruent. In jury selection, as in other aspects of trial practice, the court is likely to be more concerned with efficiency than advocates are, on the grounds that all parties are better served by speedy provision of justice. Lawyers, on the other hand, tend to favor procedures that increase their adversary scope and sway; they claim that speed or efficiency are never more important than securing a fair trial. Conflict between these interests cannot be resolved at an abstract level. The real question is whether the tension between the interests of court and advocate can be resolved by empirically investigating the points of contention.

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9. Berk, supra note 5; Christie, supra note 5; McConahay et al., supra note 7.

PROBLEMS OF CRITERIA

Viewed from constitutional or societal perspectives, the purpose of voir dire and juror challenge is the selection of an impartial jury. We will define an impartial jury as a group that makes its decision based only on the admissible evidence presented to it, according to the rules about burden of proof and other legal guidelines as conveyed by the judge.[10]

Whatever its limitations, this working definition can serve as a reference to establish an important point: trial advocates do not share society's view of the jury's purpose. Referring again to the quotation from the past president of the Association of Trial Lawyers of America, we find that "[t]heir main interest, obviously, is to obtain a jury favorable to their clients."[11]

But the truth is more complicated than this assertion suggests, for two reasons, which we will present as arguments. First, because venires are likely to be biased in favor of conviction, at least in some kinds of criminal cases, vigorous voir dire and skillful challenges by the defense are required simply to select an impartial jury. Second, the adversary system produces an impartial jury when both sides protect their clients' interests unreservedly in the selection process. We will consider these arguments separately.

Argument 1: The Venire Is Initially Biased for Conviction

Defense lawyers, and social scientists working with them, argue that venires from which juries are chosen are prejudiced against certain parties, e.g., members of ethnic minorities, or defendants in cases stemming from political acts against the government. In fact, the history of systematic jury selection is essentially the history of the major political trials of the late 1960s and early 1970s: Angela Davis, the Berrigan brothers, Daniel Ellsberg, Vietnam Veterans Against the War, the Black Panthers, Wounded Knee, and so on. The lawyers and scientists for the defense in those trials were concerned that a random selection of potential

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10. This definition was suggested by Justice White's description of the functions of peremptory challenges, in Swain v. Alabama, 380 U.S. 202, 219 (1964): "The function of the challenge is not only to eliminate the extremes of partiality on both sides, but to assure the parties that the jurors before whom they try the case will decide on the basis of the evidence placed before them, and not otherwise."

11. Begam, supra note 8.

jurors in, for instance, Harrisburg, Pennsylvania, would be partial to the prosecution in weighing evidence about an alleged plot against the government. The defense teams felt it was necessary to make every effort to avoid jurors whose tendencies to extreme authoritarianism or dogmatic patriotism would blind them to the facts and to the requirement that the prosecution carry the burden of proof. Such jurors would not accord the defendants the deserved presumption of innocence. Moreover, in these trials the defense teams perceived their jury selection task as an uphill battle against the modal views of the communities from which the juries were chosen. Thus, unsurprisingly, the first task of the social scientists in several of these cases was to accumulate data in support of a motion for change of venue.[12]

Defense teams take a similar position regarding prejudice against blacks in nonpolitical trials, particularly in capital cases involving alleged murder of whites.[13] In addition, Kairys, Kadane, and Lehoczky have argued that racial discrimination may enter the jury system through the lists of citizens that are used to compose the jury wheel.[14] Relying solely on voter registration lists, for example, may lead to systematic underrepresentation of blacks in some communities.

We should pause to consider the major assumption underlying our concern that juries be representative (contain an acceptable cross section) of the community from which they are drawn, which is that the degree of representativeness will influence the degree of the jury's bias. In certain rather extreme cases--for example, the degree of black representation on juries in trials involving civil rights or crimes of violence between blacks and whites--the assumption is almost certainly valid. In criminal cases particularly, we may reasonably assume that broad and balanced community representation on juries will tend to minimize the risk of unfair convictions motivated by inter-group hostilities.

What is true for extreme cases, however, may not be true in general. We have no strong reasons to believe that broad demographic representativeness in juries, by itself, facilitates unbiased finding of fact. It is an error of typological thinking, or stereotyping, to assume that all members of some recognizable group--for example, persons under 25 years of age--bring a unique perspective to courtroom evidence, a perspective that combines with five or eleven other unique perspectives to produce the clearest

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12. Ginger, supra note 3, at 193.

13. McConahay et al., supra note 7.

14. Kairys, Kadane, & Lehoczky, Jury Representativeness: A Mandate for Multiple Source Lists, 65 Calif. L. Rev. 776 (1977).

picture of the facts, and the soundest decision about liability, appropriate damages, or guilt. Such an assumption ignores the obvious variability in cognitive abilities, emotional traits, and social attitudes to be found among members of all groups whose representation on juries we would like to increase. As ignorant as we may be about how to compose a jury without bias, we may nevertheless be certain that achieving criteria of demographic representativeness for any or all recognizable groups will not automatically, or even necessarily, move us closer to the major goal of eliminating bias.

Uncertainty about the relation between representativeness and bias has led different commentators to opposite policy positions regarding the appropriate scope of voir dire and number of peremptory challenges. Some authors place great confidence in the effect of sophisticated methods for insuring representativeness in jury wheels, and therefore they argue that voir dire and peremptory challenges should be curtailed.[15] Other authors, while mindful of the importance of fully representative wheels, believe that vigorous voir dire and ample numbers of peremptory challenges refine the random draw of potential jurors from the wheel into a less biased group.[16]

Given our ignorance in the area, it would be both unfair and unwise to demand too much self-justification and validation from social scientists whose practice of systematic jury selection is based on the premise that jury wheels are generally biased against certain classes of defendants. The evidence that the premise is correct is strong enough to warrant refraining from the ethical criticism that, as scientists, these individuals ought not to enter into the adversary process. Similarly, the objections that have been raised against their theories and techniques, although generally accurate, may not be completely justified. It is neither unrealistic nor unfair, however, to ask advocates and their scientific teammates to refrain from overstating their abilities.

In conclusion, we accept that, in certain circumstances, practitioners may have to employ the most vigorous voir dire and challenge practices simply to select a reasonable jury. If an entire community is generally prejudiced against certain classes of persons, the defense will have to be particularly skilled and aggressive in order to protect the client from an

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15. J. Van Dyke, Jury Selection Procedures (1977); Note, Limiting the Peremptory Challenge: Representation of Groups on Petit Juries, 86 Yale L.J. 1715 (1977).

16. Babcock, Voir Dire: Preserving "Its Wonderful Power," 27 Stan. L. Rev. 545 (1975); Zeisel & Diamond, The Jury Selection in the Mitchell-Stans Conspiracy Trial, 1976 A.B.F. Research J. 151 (1976).

automatic conviction. Perhaps social scientists who participate in what they believe are such cases should not have to prove to other social scientists that their efforts are worthwhile, for more is at stake than protecting the integrity of applied social psychology. However, no one should believe that the scientist's guesses and hunches in the service of a fair trial are genuine applications of a well-known and tested discipline. As long as they are not sold or advertised as such, there can be no serious objection.[17]

Argument 2: The Adversary System Produces an Impartial Jury

Trial advocates assert that because adversary advocacy works on the principle that fairness emerges from the confrontation of well-matched, highly skilled opponents, a lawyer helps to seat an impartial jury by trying to gain one biased in the client's favor. The assumption is that the system produces impartiality through the adversary efforts of the lawyer. The assumption is part of what may be called "the adversary myth," which frees each side to pursue its own cause with a relative lack of concern about the fairness of the outcome to the other side.

There has been little empirical examination of the truth of the assumptions in the adversary myth, although John Thibaut, Laurens Walker, and their colleagues have made a valuable beginning.[18] More to the immediate point, Zeisel and Diamond's recent study of peremptory challenges in federal criminal trials brought them to the conclusion that the "most significant" factor preventing formation of unbiased juries was

> the inconsistent performance of attorneys. Occasionally, one side performed well in a case in which the other side performed poorly, thereby frustrating the law's expectation that the adversary allocation of challenges will benefit both sides equally.[19]

Because this observation was based on only a dozen cases, we must not put too much weight on the generality of the word "occasionally" as it might apply to a larger population of trials. Nevertheless, the observation suggests several important questions. First, how often are the presumed benefits of the adversary system voided by the performances of

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17. For a review of legal and professional problems in this area, see Herbsleb, Sales & Berman, When Psychologists Aid in the Voir Dire: Legal and Ethical Considerations, in The Social Psychology of Discretionary Law (L. Abt & I. Stuart, eds. 1978).

18. J. Thibaut & L. Walker, Procedural Justice (1975).

19. Zeisel & Diamond, The Effect of Peremptory Challenges on Jury and Verdict: An Experiment in a Federal District Court, 30 Stan. L. Rev. 491, 529 (1978) [hereinafter cited as Zeisel & Diamond (1978)].

mismatched advocates? Second, how many times does this have to occur before we doubt the assumptions of the adversary myth? And third, if we doubt the assumptions, what alternative methods of jury selection would we recommend?

Two available sources of data indicate that, irrespective of absolute levels of skill, lawyers are equally matched in three-quarters of the cases in large samples of state and federal trials. The first data came from Kalven and Zeisel's survey of state trial judges sitting on criminal cases.[20] Reporting on the relative quality of opposing counsel in 3,576 cases, they found "balanced" representation in 76 percent of the cases.[21] The remaining cases were equally split between prosecution and defense superiority.

In 1978, Partridge and Bermant asked federal district judges to rate the quality of advocacy in all trials before them during a one-month period.[22] Judges made their evaluations using a seven-category scale ranging from "first rate--about as good a job as could be done" to "very poor." For purposes of this analysis, we consider representation balanced when the ratings given both sides were identical or immediately adjacent. In a sample of 619 civil and criminal cases in which there were only two advocates, 466 cases (75.3 percent) met the criterion of balance.

The identity of estimates provided by the two sets of data is very interesting; we need to consider what the data mean. To begin, the evaluations in both studies applied to overall performance during trial, not just to voir dire and challenge techniques. When asked to specify aspects of trial performance most likely to produce inequality, the judges surveyed by Kalven and Zeisel did not mention jury selection practices.[23] From this we conclude that judges believe lawyers differ little in these skills; or they

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20. H. Kalven & H. Zeisel, The American Jury (1966).

21. Id., table 82 at 354. "Balance" is a construct used by Kalven and Zeisel to summarize different questions used on two samples. In one sample, the judges were asked to state whether the lawyers on each side were "experienced"; "imbalance" was inferred when only one lawyer was called experienced. In the other sample, the judges were asked whether "the case was equally well tried on both sides." Their response options were "yes," "no, prosecution was better," or "no, defense lawyer was better." In a personal communication, Professor Diamond has suggested that judges may rely partially on the jury's verdict when forming their evaluation of counsel's skill. Thus, at least in part, the judge's evaluation of the lawyer's skill is influenced by the jury's decision about the facts of the case.

22. A. Partridge & G. Bermant, The Quality of Advocacy in the Federal Courts (Federal Judicial Center 1978).

23. Kalven & Zeisel, supra note 20, at 362-72.

believe that lawyers do differ, but that the differences do not significantly affect overall quality of advocacy and case outcome.

Neither the Kalven and Zeisel nor the Partridge and Bermant data help us to distinguish between these possibilities. But data from another survey of the federal trial bench[24] indicate that judges observe considerable variation among lawyers in jury selection skills: more than 80 percent of 420 judges in the sample agreed that "[t]here are great differences among lawyers in this skill. Some are very talented in the selection of jurors, and some are not."[25] Of course, this is a measure of generalized judicial opinion rather than a report on specific cases. Nevertheless, it supports the idea that lawyers differ substantially in voir dire skills. And this idea, in turn, supports the conclusion--which can be reached from the data of Kalven and Zeisel--that differences in jury selection skills are not a major cause of inequality of representation in state criminal cases. Put most simply, the judges surveyed by Kalven and Zeisel believed that differences in jury selection skills didn't matter much.

Conclusion

The two arguments show that facile assertions about the relation between lawyers' intentions and jury composition will likely be refuted by the facts. Nevertheless, it is the responsibility of adversary advocates to try to achieve the best possible juries for their clients; advocates who unilaterally forfeited the opportunity to benefit their clients during jury selection would be derelict.

Given the lawyers' intentions, researchers need to resolve a problem about the appropriate criteria to use for evaluating the effectiveness of voir dire and challenge practices. Society desires impartial juries, but advocates try to seat juries favorable to their clients. Empirical studies should take these conflicting purposes into account to separate the consequences of the adversary system per se from those of the advocates' skill levels. For example, there is a need to examine the interaction between absolute skill levels and relative equality of skill: When the lawyers on each side are equally inept, is it as likely that an impartial jury will be seated as when equally brilliant lawyers face each other? There is a clear need to be able to separate the skills of lawyers from the measurement of jury quality.

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24. G. Bermant, Conduct of the Voir Dire Examination: Practices and Opinions of Federal District Judges (Federal Judicial Center 1977).

25. Id., table 12 at 20.

At present we have no way to make this separation. The major challenge is to establish criteria of good jury functioning that do not depend on the jury's final finding of fact. In other words, the evaluation of jury functioning should be based on the quality of the process by which the decision is made, as well as on the appropriateness of the decision. Otherwise, it is very difficult, perhaps impossible, to distinguish a verdict made correctly by an impartial jury from a verdict made incorrectly by a biased jury. Juries, like other groups or individuals, may sometimes be right for the wrong reasons.[26]

Prohibitive legal and methodological problems confront any effort to monitor the processes of actual juries. However, an interesting new method shows promise for avoiding these problems and estimating lawyers' abilities to achieve adversary goals;[27] the method can and should be extended to include analyses of the decision-making process. Without such research, it is very difficult to determine the social desirability of any influences lawyers may have on jury composition and functioning.

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26. There is a very important prior issue here: When is it appropriate to call a jury's decision into question? Federal law provides the judge some discretion, upon petition by parties, to set aside jury verdicts in civil cases (Federal Rule of Civil Procedure 50(b)) and to set aside convictions in criminal cases (Federal Rule of Criminal Procedure 29(c)). Research in the relevant case law may pay dividends to the researcher who wants to understand judges' criteria for determining when a jury has made a mistake. Note also that the system protects the criminal defendant from having an acquittal set aside.

27. Zeisel & Diamond (1978), supra note 19; see text accompanying footnotes 86-111, infra, for a complete description of this method.

PROBLEMS OF PARAMETERS

The discussion of criteria problems was, in effect, a statement of concern about appropriate and useful dependent variables. We turn now to the other side of the research problem: how to specify the important independent or input variables that may influence the effectiveness of voir dire and challenge practices. In other words, what are the dimensions of the jury selection problem, and what problems are faced in their investigation?

The dimensions of the problem are partially related to the perspectives of different participants or interest groups. Some generalizations hold regardless of perspective; others depend on the interests of the participant and the criteria used in making the evaluation.

The relativity of the problem becomes greater the closer one gets to dealing with immediate policy questions affecting jury selection. For example, how many peremptory challenges should be allowed to each side in a felony trial with twelve jurors, or a civil trial with six? How should the challenges be exercised: one at a time, all at once, or something in between? Should the examination be conducted by the lawyers, the judge, or both? Should the members of the panel be questioned as a group or individually? In open court or in private? Should the questions be allowed to aid in making peremptory challenges or should they be limited to establishing grounds for challenge for cause? How much time should the examination take?

These are not idly chosen questions. Each reflects a matter of interest and concern to legislators, advocates, judges, and judicial administrators in federal and state courts. They are fundamental issues of procedure that determine what, in fact, lawyers and scientists can and cannot do in court as they impanel a jury. State laws and rules of court vary considerably on some of these issues; on some others the law is silent, leaving the practice to the discretion of each judge.

Independent of the dimensions specified by courtroom procedures are the social and psychological variables represented by the attributes of individual jurors and the dynamics of juries' decision making. For example, studies of mock juries have suggested that variations in juror decisions may be associated with variations in authoritarianism and beliefs about the locus of behavioral control and the existence of a just world.[28]

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28. Gerbasi, Zuckerman, & Reis, Justice Needs a New Blindfold: A Review of Mock Jury Research, 84 Psych. Bull. 323 (1977).

Predictions of authoritarianism have also figured largely in the juror profiles used by psychologists in political trials.[29] Dynamics of jury decision making have been modeled in terms of changes in jury size and decision rule;[30] laboratory studies covering the same ground have also been conducted.[31] In general, the hypotheses and speculations arising from the laboratory work are difficult to test in actual court settings, and several commentators have pointed out that the difference in trial outcomes attributable to psychological or group factors is likely to be small.[32] Fortunately, the facts of the case tend to be the predominant determinants of the jury's decision. Nevertheless, the experimental literature suggests that there may be strong interactions between personal and group characteristics and jury processes and outcomes.[33]

Cutting across procedural and juror variables are the various dimensions associated with the nature of the case at issue and the characteristics of the parties. Several laboratory studies have examined the influence of personal characteristics of criminal defendants and victims. Reviews of the literature have shown that the research has been subject to methodological problems and some lack of replicability.[34] There has also been a tendency to concentrate on the responses of individual mock jurors rather than on the activities and decisions of groups.

The importance of investigating group decision making was most recently emphasized in a study that demonstrated a shift between the decision-making tendencies of individuals and groups according to the sex of the attorney in a mock trial.[35] The sex of the attorney had no influence on the predeliberation verdicts of individuals. Following group discus-

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29. Christie, supra note 5.

30. Grofman, Not Necessarily Twelve and Not Necessarily Unanimous: Evaluating the Impact of Williams v. Florida and Johnson v. Louisiana, in Psychology and the Law 149, supra note 5.

31. Davis, Kerr, Atkin, Holt, & Meek, The Decision Processes of 6- and 12-Person Juries Assigned Unanimous and Two-Thirds Majority Rules, 32 J. of Personality and Soc. Psych. 1 (1975); Nemeth, Rules Governing Jury Deliberations: A Consideration of Recent Changes, in Psychology and the Law 169, supra note 5; Valenti & Downing, Differential Effects of Jury Size on Verdicts Following Deliberations As a Function of the Apparent Guilt of the Defendant, 32 J. of Personality and Soc. Psych. 655 (1975).

32. Lempert, Uncovering "Nondiscernible" Differences: Empirical Research and the Jury-Size Cases, 73 Mich. L. Rev. 643 (1975); Saks, supra note 7.

33. Gerbasi et al., supra note 28.

34. Id.

35. McGuire & Bermant, Individual and Group Decisions in Response to a Mock Trial: A Methodological Note, 7 J. of Applied Soc. Psych. 220 (1977).

sion, however, individuals (and consensus jury verdicts) were more likely to convict the defendant with a female defense attorney. The effect of group discussion on outcome is just one of a number of potential interactions between the method employed in the mock trial setting and the independent variables manipulated; for example, there is some evidence that jury size influences decision outcome more strongly when evidence is relatively weak than when it is strong.[36]

The analysis of parameters begins when we separate the voir dire examination from the challenging of potential jurors. Although the two parts of the selection process are practically unified, they present different legal, procedural, and research problems to the social scientist or policy analyst.

Functions of the Voir Dire Examination

The probative function

The most obvious function of the voir dire examination is to provide information about potential jurors that counsel may use to exercise challenges for cause and peremptory challenges. This purpose, which we will call the probative function of the examination, is the only legally recognized role of voir dire. Even so, there is no unanimity among courts concerning the extent to which the questioning of jurors may serve the advocate's desire to gain "deep" information about the potential juror's opinions, attitudes, and so forth. In the federal system, for example, the scope of questioning on voir dire is committed to the discretion of the trial judge, and his discretion is subject only to "the essential demands of fairness."[37] Potential jurors may be questioned to determine whether their "states of mind" are cause for disqualification,[38] but the judge determines what lines of questioning are, or are not, germane to that determination. Appellate courts have been very reluctant to reverse trial judges' decisions not to allow a particular line of questioning that was aimed at obtaining information for exercising peremptory challenges.[39]

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36. Gerbasi et al., supra note 28. Other sets of variables may influence the jury's decision; for example, the style and organization of the advocate's opening statement, examination of witnesses, and closing argument. The judge's instructions to the jury are also influential. But since these variables do not impinge on jury selection decisions, we will not consider them here.

37. Aldridge v. United States, 283 U.S. 308, 310 (1931).

38. United States v. Napoleone, 349 F.2d 350 (3d Cir. 1965).

39. For distinctions between reversal on grounds of failure to allow questions directed at obtaining information for challenges for cause, as opposed to peremptory challenges, see Kiernan v. Van Schaik, 347 F.2d 775, 778, 779, 781, 782 (3d Cir. 1965).

Many reported state cases contain statements to the effect that enabling counsel to exercise peremptory challenges intelligently is a "proper function" of voir dire.[40] In other reported state cases, although the law is explicit that voir dire is limited to exposing grounds for challenge for cause, and that questioning to facilitate peremptory challenges is not a proper purpose of voir dire,[41] the practice is to allow attorneys considerable scope in the examination.[42] The trial judge's decision to disallow a particular line of questioning will be reversed on appeal only if the appeals court is convinced that the judge rejected legitimate matters pertaining to challenges for cause.

Trial judges' limitations of the probative scope of voir dire have often led to appeals, particularly in the following areas: racial prejudice;[43] confidence in testimony given by officials, particularly policemen;[44] attitudes toward capital punishment;[45] effects of exposure to pre-

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40. Shelby County v. Baker 296 Ala. 111, 110 So. 2d 896 (1959); State v. Altergott, 57 Hawaii 492, 559 P.2d 728, 733 (1977); Hart v. State, 352 N.E.2d 712, 716 (Ind. 1976); People v. Harrell, 398 Mich. 384, 247 N.W.2d 829, 830 (1976); Wallis v State, 546 S.W.2d 244 (Tenn. Crim. App. 1976); State v. Pendry, 227 S.E.2d 210 (W. Va. 1976).

41. For distinctions between types of challenge, see text accompanying notes 66-72 infra.

42. In California, for example, the case law reads: "It is now well settled in this state that a juror may not be examined on voir dire solely for the purpose of laying the foundation for the exercise of a peremptory challenge." People v. Rigney, 55 Cal. 2d 236, 244, 359 P.2d 23, 27, 10 Cal. Rptr. 625, 629 (1961). Nevertheless, extensive lawyer-conducted examinations, in both civil and criminal trials, go routinely to juror attitudes and opinions germane to counsel's decision to exercise peremptories. (We thank Guy O. Kornblum, Esq., and Professor Gordon van Kessell for clarification of this point.)

43. Ristaino v. Ross, 424 U.S. 589 (1976); Ham v. South Carolina, 409 U.S. 524 (1973); Aldridge v. United States, 283 U.S. 308 (1931); United States v. McDowell, 539 F.2d 435 (5th Cir. 1976); United States v. Bowe, 360 F.2d 1 (2d Cir.), cert. denied, 385 U.S. 961 (1966); Holmes v. State, 342 So. 2d 28 (Ala. Crim. App. 1976); State v. Gibbs, 267 S.C. 365, 228 S.E.2d 104 (1976).

44. Brown v. United States, 338 F.2d 543 (D.C. Cir. 1964); Gorin v. United States, 313 F.2d 641 (1st Cir.), cert. denied, 374 U.S. 829 (1963); Sellers v. United States, 271 F.2d 475 (D.C. Cir. 1959); Chavez v. United States, 258 F.2d 816 (10th Cir. 1958), cert. denied sub nom. Tenorio v. United States, 359 U.S. 916 (1959). Contra, United States v. Golden, 532 F.2d 1244, 1247 (9th Cir. 1976); United States v. Gassaway, 456 F.2d 624 (5th Cir. 1972); Commonwealth v. Futch, 469 Pa. 422, 366 A.2d 246 (1976) (automatically believe prison guard or disbelieve inmate).

45. Witherspoon v. Illinois, 391 U.S. 510, rehearing denied, 393 U.S. 898 (1968); Robinson v. State, 260 Ind. 517, 297 N.E.2d 409 (1963); State v. Hunter, 340 So. 2d 226 (La. 1976); State v. Lockett, 49 Ohio St. 2d 48, 358 N.E.2d 1062 (1976).

trial publicity;[46] and attitudes about insurance and insurance companies.[47] As we have already emphasized, reversal of the trial court's decision is relatively rare in any of these cases. Reversal is even rarer for cases in which counsel was denied the opportunity to pose questions regarding a novel or generally unrecognized source of bias. From the defendant's perspective, of course, the need to provide data to the court in order to pursue a line of voir dire questions increases the time, and thus the cost, of preparing for trial. This may put the questions beyond the client's reach.

In summary, then, federal and state trial judges are generally granted wide discretion in determining the scope of the voir dire examination's probative function. Judicial control of the examination sometimes extends to denying lawyers direct oral participation.

The didactic function

Trial lawyers have long recognized that the voir dire examination is the lawyer's first opportunity to influence the jury.[48] Advocates are therefore advised to take full adversary advantage of the examination. For example, one jury selection manual for criminal defense lawyers lists the following twelve purposes of voir dire:

1. "To move the jury as a group.
2. "To discover prejudice.
3. "To eliminate extreme positions.
4. "To discover 'friendly' jurors.
5. "To exercise 'educated' peremptories.
6. "To cause jurors to face their own prejudices.
7. "To teach jurors important facts in the case.
8. "To expose jurors to damaging facts in the case.
9. "To teach jurors the law of the case.
10. "To develop personal relationships between lawyer and juror.

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46. United States v. Dansker, 537 F.2d 40, 51 (3d Cir. 1976); United States v. Dellinger, 472 F.2d 340 (7th Cir. 1972); Silverthorne v. United States, 400 F.2d 627, 638-39 (9th Cir. 1968); Gorin v. United States, 313 F.2d 641 (1st Cir.), cert. denied, 374 U.S. 829 (1963); State v. Pokini, 55 Hawaii 640, 526 P.2d 94, 100 (1974).

47. Labbee v. Roadway Express, Inc., 469 F.2d 169 (8th Cir. 1972); Langley v. Turner's Express, Inc., 375 F.2d 296 (4th Cir. 1967); Kiernan v. Van Schaik, 347 F.2d 775 (3d Cir. 1965); Hoffman v. Sterling Drug, Inc., 374 F. Supp. 850 (M.D. Pa. 1974).

48. For a review of advocacy literature on this point, see Levit, Nelson, Ball & Chernik, Expediting Voir Dire: An Empirical Study, 44 S. Calif. L. Rev. 916, 940 n. 106 (1971).

11. "To expose opposing counsel.

12. "To prepare for summation."[49]

Nine of the purposes have nothing to do with the probative function of the examination, but are intended to influence the behavior of the potential jurors who remain on the jury. Other manuals, although not so explicit in their prescriptions,[50] nevertheless emphasize the importance of influencing the potential jurors who remain, as well as developing grounds for challenge.

It is hardly surprising that lawyers should be concerned with creating a good impression during the voir dire and trying to lay the foundation for their cases as early as possible. One study of the extent to which lawyers dominate the examination found that potential jurors were given virtually no opportunity for open-ended or discursive answers to the questions put to them, and that more than 40 percent of the lawyers' communications to the jury were didactic rather than probative.[51] The authors emphasize the importance of the socializing influence of the examination, calling it "a rite of passage." The term may not be completely appropriate, but the idea is certainly correct and central to an understanding of what is really at issue in the conduct of the examination. Blunk and Sales examined the didactic function of the examination and concluded that lawyers could apply several lines of social psychological theory and data to increase their adversary effectiveness.[52]

Probative and didactic functions from a policy perspective: The issue of oral participation by lawyers

The distinction between probative and didactic functions is more than an expository or analytic device; it is important in considering practical policy as well. Policy questions arise, in part, from the tension between bench and bar produced by their partially incongruent interests. Advocates want to maintain a free hand in conducting the voir dire, not only to develop information that may allow them to exercise challenges astutely, but also to establish good impressions of themselves, their clients, and their causes in the eyes of the jury. Returning to the quotation from trial

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49. Ginger, supra note 3, at 280-87.

50. E.g., Bodin, supra note 3.

51. Balch, Griffiths, Hall, & Winfree, The Socialization of Jurors: The Voir Dire as a Right of Passage, 4 J. of Crim. Just. 271 (1976).

52. Blunk & Sales, Persuasion During the Voir Dire, in Psychology in the Legal Process (B. Sales, ed. 1977).

advocate Robert Begam: "The adversary nature of unfettered participation in voir dire, as in other phases of case resolution, assures balance."[53] We may justly doubt that most trial lawyers will voluntarily forfeit unfettered participation in voir dire if they believe their skills give them an advantage over their adversaries. Balance is nice, but winning is what counts, particularly for the private bar.

Only the probative function aids the lawyer in the exercise of challenges; therefore, only the probative function rises to the status of a legally protected interest of the client. This is clear from the history of examination and challenge practices.[54] Parties have a constitutional right to an impartial jury, and the law holds that the exercise of peremptory challenge is important in securing that right. But there is no right to or legal recognition of the examination's didactic function. Indeed, a major objection to lawyers' voir dire practices, as voiced by judges' decisions and dicta as well as the general legal literature, is that lawyers abuse the "proper" purpose of the examination in order to gain adversary advantage. The other objection typically alleged against lawyer-conducted voir dire--related but not identical to the first--is that lawyers prolong the examination unnecessarily, delaying the progress of the trial and denying speedy delivery of justice to other parties awaiting trial.

Federal judges voiced concern about the duration and possible abuse of voir dire as early as 1924, when the Judicial Conference of Senior Circuit Judges (the predecessor of the current Judicial Conference of the United States) suggested, "for dispatch of business," that judges conduct the voir dire examination themselves, guided by suggestions from counsel.[55] It was up to the judge to determine whether a suggested line of questioning was "proper." The major declaration of federal policy came in 1938, with the final form of rule 47(a) of the Federal Rules of Civil Procedure:

> Examination of Jurors. The court may permit the parties or their attorneys to conduct the examination of prospective jurors or may itself conduct the examination. In the latter event, the court shall permit the parties or their attorneys to supplement the examination by such further inquiry as it deems proper or shall itself submit to the prospective jurors such additional questions of the parties or their attorneys as it deems proper.

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53. Begam, supra note 8 (emphasis added).

54. E.g., Moore, Voir Dire Examination of Jurors: I. The English Practice, 16 Geo. L.J. 438 (1928); Moore, Voir Dire Examination of Jurors: II. The Federal Practice, 17 Geo. L.J. 13 (1928); Swain v. Alabama, 380 U.S. 202 (1964).

55. Recommendations of Judicial Conference of Senior Circuit Judges, 10 A.B.A.J. 875 (1924).

Five years later, when the Federal Rules of Criminal Procedure were promulgated, rule 24(a) contained virtually identical language.

The important point to note about the rule is the complete discretion it gives the trial judge to decide how the voir dire examination will be conducted. Although the judge-conducted examination is often called "the federal method" and the lawyer-conducted examination "the state method," both labels are misnomers. There is no requirement that the judge conduct the examination in federal court, and some states do require the judge to conduct the examination.

As could be expected, the organized bar has not been totally pleased with the federal rules that take decision making about voir dire questions away from the lawyer. However, the bar has not spoken unequivocally. Different sentiments have been expressed within different portions of the American Bar Association. In 1976, for example, the ABA Commission on Standards of Judicial Administration recommended that

> [i]nterrogation of jurors should be conducted initially and primarily by the judge, but counsel for each side should have the right, subject to reasonable time limits, to question jurors individually and as a panel. When there is reason to believe the prospective jurors have been previously exposed to information about the case, or for other reasons are likely to have preconceptions concerning it, counsel should be given liberal opportunity to question jurors individually about the existence and extent of their preconceptions.[56]

Also in 1976, however, the ABA House of Delegates, acting on a recommendation from the Section on Litigation, resolved that rule 47(a) of the Federal Rules of Civil Procedure be amended to read:

> Examination of Jurors. The court shall permit the parties or their attorneys to conduct oral examination of prospective jurors. The court may inquire of prospective jurors as a supplement to the examination by the parties.[57]

This resolution is clearly a more extreme recommendation than that adopted by the commission. At the date of this writing, the ABA has not forwarded the House of Delegates' recommendation to the Supreme Court, the act required to begin an official plea for change.

Here, then, is an example of conflict between the organized bar and established court practices that can be understood on the basis of the two institutions' different perspectives on the concept of the jury trial.

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56. ABA Comm'n on Standards of Judicial Administration, Standards Relating to Trial Courts, 1976, at 29.

57. Summary of Action Taken by the House of Delegates of the ABA, Annual Meeting, August 9-11, 1976, at 32.

However, in order to gain further insight into the extent of disagreement and the depth of commitment to the reasoning that separates the two views, it is necessary to move from the language of rules and recommendations to the practices and opinions of federal judges operating under the discretionary rules. In 1977, the Federal Judicial Center collected information about the current voir dire practices and opinions of federal district judges.[58]

First, a brief description of method and response rate: On January 10, 1977, questionnaires were mailed to 387 active, and 96 senior, federal district judges. Returns were accepted until March 4, 1977. By that date, the Center had received 365 completed questionnaires from active judges and 55 from senior judges. Thus, the overall return rate was 87 percent; 94 percent of the active judges and 57 percent of the senior judges responded. This return rate is high enough to ensure that the reported results are an accurate reflection of the trends and diversity of practice on the federal trial bench.

Table 1 presents the distribution of judges' responses to the questionnaire item describing forms of voir dire practice. In both civil and criminal trials, approximately 50 percent of the judges conduct the examination themselves, but accept and edit additional questions suggested by counsel. About 20 percent of the judges disallow oral questioning by counsel, but accept questions from them and ask the questions in the form requested. Between 1 and 2 percent of the judges reported placing the most severe restrictions on input from counsel. Finally, 5 percent of the judges reported being absent during voir dire--all were from the three districts in Pennsylvania, where, by local court rule, counsel or a deputy court clerk conduct the examination out of the judge's presence.

Comparing these data with earlier reports of the extent of lawyer participation in federal voir dire suggests that judges are increasing the extent of their participation. Our best estimates of the trend indicate that the number of judges conducting voir dire without oral participation by lawyers has increased by roughly 20 percent in the last eight years.[59]

The geographic distribution of federal voir dire practices indicates regional differences that may be influenced by the history of voir dire practice in the various state courts. A graphic representation of the relation between federal practice and state voir dire rule is presented in figure 1. The state voir dire rules[60] were separated into four categories:

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58. Bermant, supra note 24.

59. Id. at 10.

60. "Rule" here refers to statutes, rules of procedure, or case law.

1. Emphasis on conduct of the examination by the judge
2. Relatively equal emphasis on conduct by either judge or counsel
3. Emphasis on lawyer participation in the examination
4. A discretionary rule in the form of Federal Rule of Civil Procedure 47(a).

Each of these categories is represented by a different shade of gray in figure 1. The figure also shows the percentage of federal judges in each state who conduct voir dire with oral participation by lawyers.

TABLE 1

PERCENTAGE OF JUDGES ALLOWING VARIOUS DEGREES OF LAWYER PARTICIPATION IN THE VOIR DIRE EXAMINATION

	Civil	Criminal
I conduct the entire examination. I rarely, if ever, seek or accept additional questions from counsel.	1%	2%
I conduct the entire examination. I accept additional questions from counsel, but I often edit or restate the questions before using them.	49%	52%
I conduct the entire examination. I accept questions from counsel and usually ask them in the form requested.	19%	21%
I conduct an initial examination. I then allow counsel to complete the examination, subject to prior agreement concerning the scope and duration of the questions.	5%	5%
I conduct an initial examination. I then give counsel a generally free hand in the subsequent questioning of panel members, though I may intervene if the questioning becomes irrelevant or takes too long.	11%	12%
I permit counsel to conduct the examination following my own introductory remarks to the panel.	5%	5%
I am not present during voir dire examination.	5%	1%
None of these.	1%	2%
No answer.	4%	1%

There is substantial variation in the number of federal judges residing within each state. Reported percentages for states with only one or

STATE VOIR DIRE RULES AND PERCENTAGES OF FEDERAL JUDGES IN EACH STATE CONDUCTING THE EXAMINATION WITHOUT ORAL LAWYER PARTICIPATION.

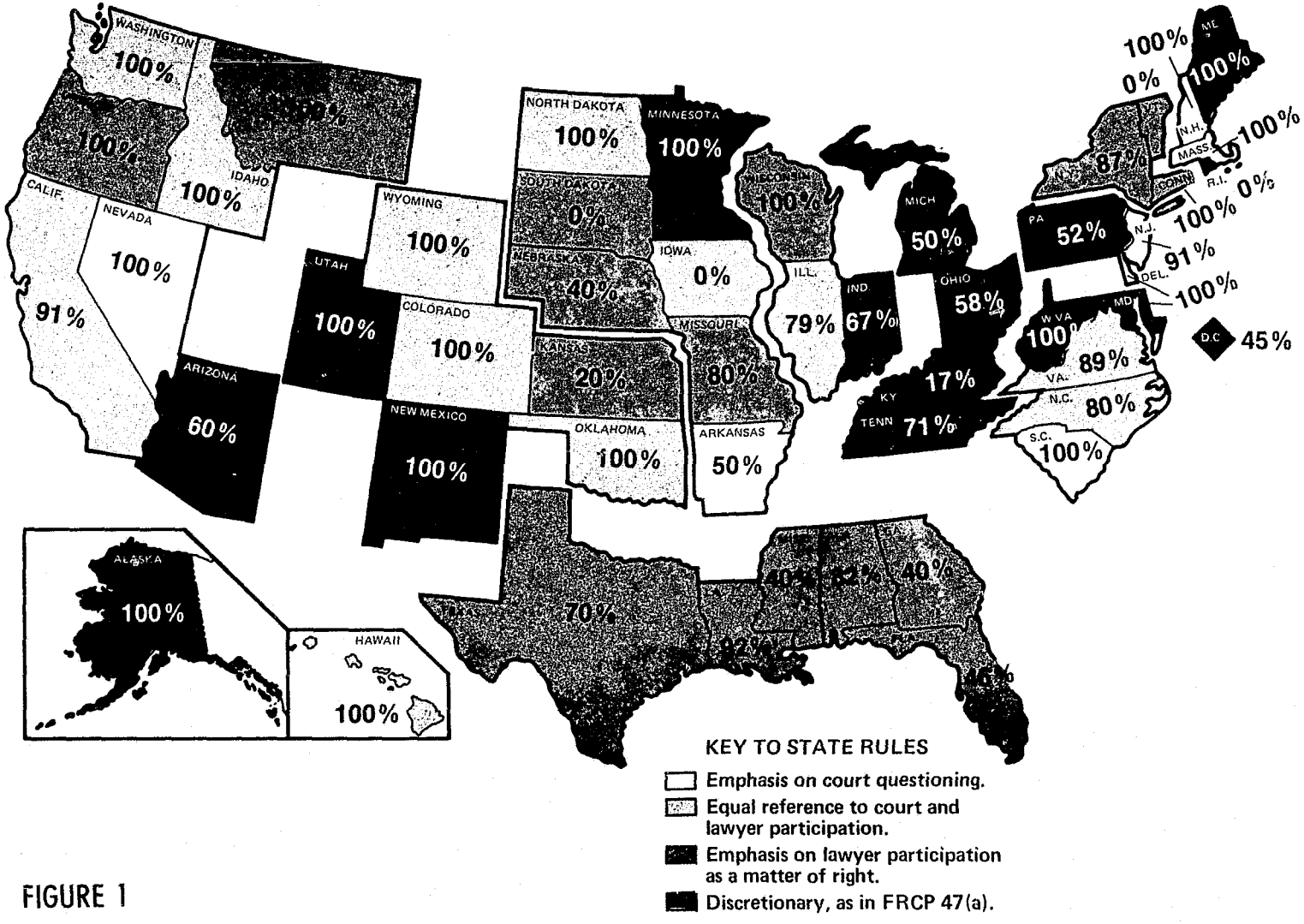

FIGURE 1

two federal judges are not particularly meaningful. Therefore, table 2 displays data on all federal judges grouped by the appropriate state rule categories. The influence of state rule on federal practice is shown for both civil and criminal trials. The percentage of federal judges allowing oral participation by lawyers is greatest in states in which state court rules either emphasize lawyer participation or are discretionary, as in Federal Rule of Civil Procedure 47(a).[61]

TABLE 2

RELATIONSHIP BETWEEN STATE VOIR DIRE RULE AND FEDERAL JUDGE PRACTICE

	Percentage of Federal Judges Conducting the Examination Without Oral Participation by Lawyers	
State Rule	Civil	Criminal
Judge emphasis	89%	90%
Equal emphasis	88%	86%
Lawyer emphasis	67%	68%
Judge discretion	57%	70%

Although complete interpretation of the table is made difficult by our inability to determine the trend or diversity of state court practice in states with discretionary rules, we can still confidently conclude that federal judges tend to tailor their voir dire practices to the traditions and expectations of the local bar.

Another influence on voir dire practices was revealed when judges were asked to indicate which of four statements "most accurately represents your view on the relationship between the examination and adversary advocacy."[62] The text of the statements and the percentage of judges affirming each statement are shown in table 3.

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61. The chi-square values associated with the frequency tables on which these percentages are based are as follows: for civil trials, chi-square = 37.4, df=3, p less than .001; for criminal trials, chi-square = 20.9, df=3, p less than .001. In the original report, the percentage of judge-only examinations in states with discretionary state rules was mistakenly reported as 43 percent. The figure shown in table 2 (57%) is correct.

62. The 1977 Bermant report, supra note 24, contains a grammatical mistake: the use of "adversarial" where "adversary" is correct. There being no need to compound the earlier error, we have taken the liberty of altering the word here, even when quoting the earlier document.

TABLE 3

JUDGES' ATTITUDES ABOUT VOIR DIRE AND ADVERSARY ADVOCACY

	Percentage of Judges Affirming Each Statement
The selection of a jury should precede the beginning of adversary advocacy. The selection of the jury for a case should be as independent of the adversary process as is the selection of the judge for that case.	56%
Ideally, perhaps, the selection of a jury should precede the beginning of adversary advocacy. For reasons of tradition and to insure a sense of full participation in the trial, however, it is wise for the judge to grant counsel the opportunity to examine potential jurors, either directly or indirectly.	28%
The selection of the jury falls properly within the scope of adversary advocacy. Lawyers deserve the right to question each potential juror, either directly or indirectly.	8%
Adversary advocacy is the most effective means of choosing an impartial jury. Just as the adversary process is a good method for arriving at the truth of testimony, so is it a good method for the selection of impartial jurors.	5%
No answer.	3%

Eighty-four percent of the judges believe that, at least ideally if not practically, jury selection should be removed from the adversary process. Indeed, few judges believed that jury selection falls within the proper scope of adversary advocacy, or that lawyers should have the right to question each juror before exercising challenges. However, a third of those judges believe that jury selection should include some degree of adversary activity, in part to promote a sense of lawyers' participation.[63]

The judges' voir dire practices were significantly related to their attitudes about adversary advocacy. Table 4 displays the percentages of

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63. Major court decisions regarding the examination and challenges have also insisted on the importance of the appearance of justice and the satisfaction of litigants as a key rationale for maintaining the examination and challenges in trial practice. Justice White, writing for the majority in Swain v. Alabama, said of peremptory challenges: "The function of the challenge is not only to eliminate extremes of partiality on both sides, but to assure the parties that the jurors before whom they try the case will decide on the basis of the evidence placed before them, and not otherwise." 380 U.S. 202, 219 (emphasis added).

judges conducting the examination without oral participation by lawyers, in terms of the judges' responses to the question about adversary advocacy.[64]

TABLE 4

RELATIONSHIP BETWEEN JUDGES' OPINIONS AND VOIR DIRE PRACTICES

	Percentage of Judges in Each Opinion Category Who Disallow Oral Participation by Lawyers	
	Civil	Criminal
The selection of a jury should precede the beginning of adversary advocacy. The selection of the jury for a case should be as independent of the adversary process as is the selection of the judge for that case.	88%	92%
Ideally, perhaps, the selection of a jury should precede the beginning of adversary advocacy. For reasons of tradition and to insure a sense of full participation in the trial, however, it is wise for the judge to grant counsel the opportunity to examine potential jurors, either directly or indirectly.	56%	61%
The selection of the jury falls properly within the scope of adversary advocacy. Lawyers deserve the right to question each potential juror, either directly or indirectly.	29%	28%
Adversary advocacy is the most effective means of choosing an impartial jury. Just as the adversary process is a good method for arriving at the truth of testimony, so is it a good method for the selection of impartial jurors.	30%	32%

Two open-ended questionnaire items asked for judges' opinions about the primary responsibilities of judges and lawyers in the examination. The distribution of responses on these items was consistent with the results already reported. Almost three-fourths of the judges said that insuring an impartial jury was their primary responsibility in the examination. The second most frequent answer specified obtaining information from jurors that lawyers could use to make informed decisions on challenges. There was no consensus among judges, however, on the primary responsibility of law-

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64. The chi-square values associated with the frequency tables on which these percentages are based are as follows: for civil trials, chi-square = 99.6, df=3, p less than .001; for criminal trials, chi-square = 123.0, df=3, p less than .001.

yers: 27 percent of the judges said it is to insure impartiality; 29 percent said it is to protect the client's interests; 25 percent said it is to extend the lines of inquiry taken by the judge.

This brief presentation of judicial practices and attitudes establishes the background against which we will discuss changes in federal policy.

Most federal district judges do not believe that trial lawyers, as a class, are voir dire experts. Regardless of a judge's position on this issue, however, he or she might still hold the view that lawyers ought not to participate orally in the examination. On the one hand, if the judge believes that lawyers are generally skilled in this area and also believes that lawyers abuse the process to work for biased juries, then the judge will have grounds to minimize the lawyers' participation. On the other hand, if the judge believes lawyers are not generally skilled, he or she can restrict the lawyers' participation on other, more mundane grounds, namely, that the lawyers are wasting time better spent in getting on with the trial. The current rules give the judge sufficient discretion to tailor the voir dire to these variables.

The key to proper analysis of this issue is maintaining conceptual separation between the probative and didactic functions of the examination. It is beyond argument that lawyers have a right to the intelligent exercise of peremptory challenges; the probative function of the examination is, by definition, to provide lawyers with information that will increase the wisdom of their choices. It is equally clear that lawyers have no right to use the examination for didactic purposes. Therefore, in considering the wisdom of the current rule 47(a) and proposed changes in it, the only important issue is whether disallowing oral participation per se hinders the lawyer's pursuit of legitimate probative purposes. The point at issue is only whether, when the judge asks the same questions the lawyer would, the potential jurors' answers are less useful to the lawyer's challenge decisions. This issue may be separated from questions about the content and duration of the examination as conducted by the judge.

Put this way, it would seem that--in principle at least--empirical investigation could resolve this issue. But this research is bound to pose a number of problems. For example, a judge's decision to disallow oral participation may be associated with a general skepticism about voir dire and challenges, and this attitude may influence the judge's own conduct of voir dire to the disadvantage of the lawyer. We have little systematic data on this point. However, we do know that federal judges report typical voir dire durations of less than thirty minutes.[65] It is difficult to discern

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65. Bermant, supra note 24, table 4 at 13.

how more than the most superficial juror characteristics can be ascertained during the very brief time allotted to examine each juror.

Dimensions of the Challenge Process

The current categories of juror challenge have evolved as part of the history of Anglo-American law.[66] The primary distinction in this report is between challenges for cause and peremptory challenges. The judge accepts challenges for cause after a showing that a prospective juror does not meet established requirements.[67] These requirements vary among jurisdictions; typically they include relatively objective criteria[68] as well as others that depend entirely on judicial interpretation.[69]

Requirements of the first type, which in addition to blood relationship may include ties through marriage or linked economic interests, are sometimes called examples of "specific" bias, that is, directed toward or against a defendant or other party. "Nonspecific" bias, on the other hand, refers to bias in regard to a class of which the party is a member, e.g., a racial group. It may be that challenges directed at nonspecific bias against a party will be easier to sustain than such charges directed at nonspecific bias in favor of a party, particularly where questions of racial prejudice are involved.

The scope of challenges for cause varies between jurisdictions and, probably, among judges within a jurisdiction. Advocates must determine a

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66. See articles cited supra note 54; Van Dyke, supra note 15.

67. In principle, challenges for cause are not limited in number.

68. E.g., "That the juror served on a jury formerly sworn to try the defendant on the same charge," or "That the juror is related by blood or marriage within the fourth degree to the defendant or to the person alleged to be injured by the offense charged or on whose complaint the prosecution was instituted." ALI Code of Criminal Procedure 277, reprinted in ABA Project on Minimum Standards for Criminal Justice, Standards Relating to Trial by Jury 68-69 (approved draft 1968).

69. E.g.,

> That the juror has a state of mind in reference to the cause or to the defendant or to the person alleged to have been injured by the offense charged, or to the person on whose complaint the prosecution was instituted, which will prevent him from acting with impartiality; but the formation of an opinion or impression regarding the guilt or innocence of the defendant shall not of itself be sufficient ground of challenge to a juror, if he declares, and the court is satisfied, that he can render an impartial verdict according to the evidence.

Id.

judge's willingness to rule on challenges demanding exercise of judicial discretion. When a challenge for cause would most likely be denied, the advocate may nevertheless reject the potential juror by exercising a peremptory challenge. As the name suggests, peremptory challenges are honored without regard to reasons or explanations. Justice White expressed the traditional view of peremptory challenges in Swain v. Alabama:

> The essential nature of the peremptory challenge is that it is one exercised without a reason stated, without inquiry and without being subject to the court's control. . . . While challenges for cause permit rejection of jurors on a narrowly specified, provable and legally cognizable basis of partiality, the peremptory permits rejection for a real or imagined practicality that is less easily designated or demonstrable. . . . It is often exercised on the 'sudden impressions and unaccountable prejudices we are apt to conceive upon the bare looks and gestures of another,'. . . upon a juror's 'habits and associations,'. . . or upon the feeling that 'the bare questioning [a juror's] indifference may sometimes provoke a resentment'. . . . It is no less frequently exercised on grounds normally thought irrelevant to legal proceedings or official action, namely, the race, religion, nationality, occupation, or affiliations of people summoned for jury duty. For the question a prosecutor or defense counsel must decide is not whether a juror of a particular race or nationality is in fact partial, but whether one from a different group is less likely to be. . . . Hence veniremen are not always judged solely as individuals for the purpose of exercising peremptory challenges. Rather they are challenged in light of the limited knowledge counsel has of them, which may include their group affiliations, in the context of the case to be tried.[70]

Commentators who support the continuation or expansion of current peremptory challenge practices have offered justifications for each of the uses listed by Justice White. Babcock, for example, argues that the peremptory

> made without giving any reason, avoids trafficking in the core of truth in most common stereotypes. It makes unnecessary explicit entertainment of the idea that there are cases that, for example, most middle-aged civil servants would be unable to decide on the evidence or that most blacks would not rule on impartially. . . . But to allow this knowledge to be expressed in the evaluative terms necessary for challenges for cause would undercut our desire for a society in which all people are judged as individuals and in which each is held reasonable and open to compromise.[71]

This is a curious opinion, for it recommends subterfuge in order to maintain a misleading facade of fairness. Other commentators object to this position; they recommend that the exclusion of potential jurors because of class membership should be investigated by the judge during jury selection

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70. 380 U.S. 202, 220-21.

71. Babcock, supra note 16, at 553.

and proscribed where it can be demonstrated that class membership underlies the advocate's objection.[72] These differences of opinion will not be easily resolved, for they reflect different sets of empirical assumptions and normative priorities in the common search for an impartial jury. As we have already discussed, the difference, if any, between an unbiased jury and a representative jury is the distinction that lies, largely unanalyzed, at the base of this and related disagreements.

We need not wrestle with just this difficult problem in order to foster understanding of juror challenge practices. There are other, simpler problems to solve. Recently, for example, several investigators have developed mathematical models of methods for exercising peremptory challenges. Extensions of this work should increase our ability to make reasonable policy recommendations in this area of trial practice.

Methods of Juror Challenge: How Superior Is the Struck Jury Method?

As old as the peremptory challenge itself is the struck jury method of exercising challenges. The defining feature of the method is that the judge rules on all challenges for cause before the parties claim any peremptories. Enough potential jurors are examined to allow for the size of the jury plus the number of peremptory challenges allotted to both sides. In a federal felony trial, for example, the jury size is twelve; the prosecution has six peremptories, and the defense has ten. Under the struck jury method, therefore, twenty-eight potential jurors are cleared through challenges for cause before the exercise of peremptories. In a federal civil trial, the jury size is six and each side has three peremptories; twelve potential jurors are selected before any peremptories are made.

There are several variations of the struck jury method. For example, the two sides may exercise their peremptories either simultaneously or sequentially. But these are relatively small, perhaps inconsequential distinctions that do not affect the defining feature of the method.

In contrast to all the varieties of the struck jury method, there are several methods in which challenges for cause and peremptory challenges are exercised sequentially. In all of these sequential methods, to one degree or another, counsel exercise their challenges without knowing the characteristics of the next potential juror to be interviewed. There is always some risk, therefore, that a challenged juror will be replaced by someone even more objectionable. This risk is eliminated in the struck jury method.

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72. Note, supra note 15.

The sequential methods may be structured so that a certain number of potential jurors are examined, and cleared through challenge for cause, before any peremptories are exercised. The individual method entails examining potential jurors one at a time; immediately after the examination, counsel for both sides decide whether to accept the juror or to issue either a challenge for cause or a peremptory challenge. Then there are a number of group methods, which differ only in the number of potential jurors seated before the first peremptory is exercised. The most typical number is the jury size, sometimes including alternates. By contrast, in the struck jury method enough potential jurors are examined and cleared through challenges for cause to insure that no more will need to be called when the peremptories have been exercised.

Brams and Davis,[73] and Roth, Kadane, and DeGroot[74] have developed mathematical models for optimal exercise of peremptory challenges. The Brams and Davis model is based on game theory; the model devised by Roth, Kadane, and DeGroot is a "bilateral sequential process" which, in the view of its inventors, is preferable to a game-theory model (in which both players make their moves simultaneously). However, for our purposes, the similarities between the models are more important than their differences. First, both models use predeliberation probability of conviction as the defining characteristic of each potential juror. Second, both models use optimal outcomes on the last available challenge to determine the best decision on each prior challenge opportunity. Third, both models are based on the individual method of challenge; that is, parties must decide on peremptories for each potential juror in turn, without knowing the characteristics of the subsequent potential jurors.[75]

The results derived from each model are relatively sophisticated mathematically, and, with one exception, are not intended as direct evaluations of policy. The exception, emphasized by Brams and Davis, is that the optimization procedures they have developed are required by the uncertainty inherent in the individual or group selection methods. The struck jury

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73. Brams & Davis, A Game-Theory Approach to Jury Selection, 12 Trial 47 (Dec. 1976); Brams & Davis, Optimal Jury Selection: A Game-Theoretic Model for the Exercise of Peremptory Challenges, Operations Research (in press, 1978) [hereinafter cited as Brams & Davis (1978)].

74. Roth, Kadane & DeGroot, Optimal Peremptory Challenges in Trials by Juries: A Bilateral Sequential Process, Technical Report No. 122, ONR Report No. 7 (Dep't of Statistics, Carnegie-Mellon Univ. 1976).

75. Brams & Davis (1978), supra note 73, also report briefly on an extention of their model to the group method. Their major finding is that the complicated calculations of this "mixed-strategy" game required for the group method would make the lawyers' choices much harder.

system, by avoiding uncertainty, always gives advocates more information on which to base their challenges, and, therefore, it is always to be preferred. Indeed, Brams and Davis go so far as to suggest that the struck jury system might rise to the level of a constitutional requirement.

Stimulated by this work, we surveyed federal district judges to determine which methods of challenge practice they use.[76] Survey results indicate that approximately 55 percent of federal district judges use some form of struck jury method. Between 20 and 25 percent use a group selection method in which the jury size is cleared for cause before peremptories are exercised. After an initial round of challenges, replacement jurors are examined and cleared through challenges for cause. Additional peremptories are then exercised, replacements are examined, and so on, until the parties are satisfied with the jury or all peremptories have been used.

We have also obtained preliminary results from a rather simple computer model of jury selection that allows us to compare juries selected by the struck jury method with those using the most popular group method of selection. Our model was designed to ascertain how much difference, on the average, these methods produce in the composition of juries.

The model we have used to date differs in important ways from those developed by Brams and Davis, and Roth, Kadane, and DeGroot. First, in contrast to their models, we do not use predeliberation probability of conviction as a dependent variable. Rather, we posit a seventeen-point scale of juror bias, with a midpoint defining an "impartial juror." This approach allows us to talk about jurors from the perspectives of three important parties: the prosecution, the defense, and the disinterested third party. Second, our strategies of selection for the group method are intuitively clear and mathematically much simpler than the approaches used by other investigators. And third, we have not investigated the effects of the individual method of selection at all. Rather, we have limited our attention to methods that are widely used in federal courts. (No more than 1 percent of federal district judges reported using the individual method of selection.)

The basic specifications of our model are presented in table 5. The model is based on a federal felony trial, in which the jury size is twelve, the prosecution has six peremptories, and the defense has ten. Each potential juror is assigned a value represented by one of the seventeen integers from -8 to +8. A -8 juror is most favored by the defense, a 0 juror is impartial, and a +8 juror is most favored by the prosecution. The distribu-

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76. The results of this survey will be described more fully in a forthcoming Federal Judicial Center report.

TABLE 5

SPECIFICATIONS OF THE FEDERAL JUDICIAL CENTER
JURY SELECTION MODEL
(Current Version)

Juror values:	Integers from -8(D) to +8(P)	
Wheel distribution:	Rectangular	
Jury size:	12	Federal felony trial
Prosecution peremptories:	6	
Defense peremptories:	10	

Group Method

Group size:	12
Replacement rate:	After each challenge
Strategies:	Remove juror with abs. value $\geq$ V, $1 \leq V \leq 8$
Juries per game:	1,000

tion of potential jurors is rectangular;[77] that is, all values are equally likely to appear on the panel.

Juries are selected either by the struck jury method or the group method. In the struck jury method, twenty-eight jurors are chosen at random from the wheel. The extreme values are eliminated--six from the pro-defense side and ten from the pro-prosecution side. The twelve remaining values represent the biases of the chosen jury.

In the group method, twelve randomly selected potential jurors are seated at one time. The defense either exercises a peremptory or passes, depending on its strategy. If it challenges, the challenged juror is immediately replaced by another chosen at random, and the prosecution either exercises a peremptory or passes, depending on its strategy. Striking and replacement continues until the criteria established by the strategies are met or the sides run out of peremptories. The decision strategies are set in terms of the smallest score associated with an unacceptable juror. For example, the prosecution may decide to challenge potential jurors with pro-defense scores of five or greater (i.e., -5, -6, -7, -8), while the defense chooses to challenge potential jurors with pro-prosecution scores of three or greater (i.e., +3 through +8). Each challenge is exercised against the most extreme unacceptable values. The cutoff point of acceptability for each side is fixed throughout the selection of a single jury. This feature

77. The model can easily be extended to deal with other input distributions. The 17-point scale might be considered to exclude the most extreme jurors, who, presumably, are excused through challenges for cause.

distinguishes our model from the more sophisticated models of Brams and Davis, and Roth, Kadane, and DeGroot. However, for different juries, the values chosen by the two sides (the strategy) can vary independently. In any case, we assume that lawyers are completely accurate in their estimates of juror bias. The effects on jury composition of varying the strategies are the major results of interest.

Regardless of the method chosen or the strategies used in the group method, the result is a string of twelve integers--ranging at most from -8 to +8--on which we make a number of calculations, including the mean and range. The mean represents the average juror bias, and the range is an index of the jury's extremes of partiality. For each strategy, we select 1,000 juries and calculate the mean and standard deviation of the resulting distributions of the average juror bias and range of partiality. These summary statistics of 1,000-jury samples are the data on which we base our comparisons and conclusions.

Figure 2 displays results based on the selection of 37,000 juries. The ordinate on the graph, mean juror bias, is the mean of the 1,000 average juror bias numbers for each test of the model. Thus, when the struck jury system was tested 1,000 times, the mean of the 1,000 average juror biases calculated was -1.17, i.e., 1.17 units on the defense side.[78] This value is shown as a line, because it is independent of any of the strategies used in the various group-method strategies. This is the value with which the results of the group method are to be compared.

Average juror biases generated by the group method are organized on the graph as points determined by combinations of defense and prosecution strategies. For each of eight prosecution strategies (corresponding to cutoff values of -1 through -8), we display the effects of defense strategies 1, 4, and 8. The points at the far right of the figure represent outcomes when, for each prosecution strategy, the defense sets its cutoff point beyond the range of the population, a move equivalent to giving up its peremptory right. Similarly, the bottom dotted line displays the results of selection when the prosecution elects not to challenge any potential jurors.

The distance between the struck jury line and the line of impartiality represents the advantage given the defense, in the struck jury system, by the four additional peremptories. It is a measure of the extra "burden" on the prosecutor, or the margin supplied to insure that a decision to convict

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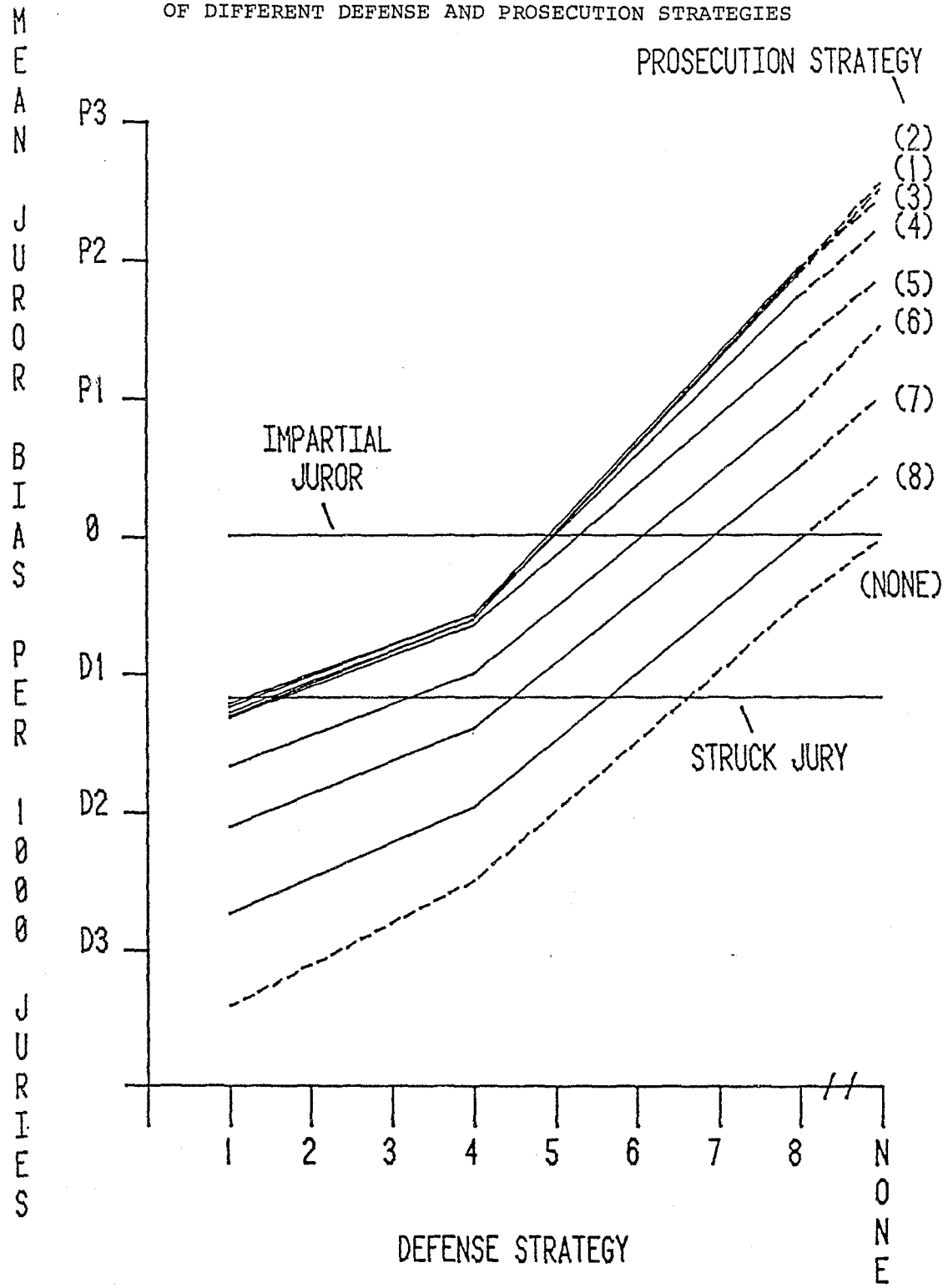
78. We do not plan to make any assertions at this time that would depend on the juror-value scale having equal-interval properties. However, should the issue arise, we might consider that there is an underlying ratio scale of juror value, even though we actually have no way to define it empirically.

FIGURE 2

AVERAGE BIAS OF A TWELVE-MEMBER JURY AS A FUNCTION OF DIFFERENT DEFENSE AND PROSECUTION STRATEGIES



will be reached on criteria "beyond a reasonable doubt." On the basis of this interpretation, we conclude that, although the group method is capable of protecting the defendant to the same extent as the struck jury method, the result is somewhat sensitive to the pair of strategies the lawyers choose.

If the defense sets its cutoff point reasonably close to the level of the impartial juror (i.e., within the first two units of pro-prosecution bias), then, according to the rules used here, and with a rectangular distribution of potential jurors, the group method will provide average juror biases approximately equal to those provided by the struck jury method. If, however, the defense sets its cutoff to accept moderately pro-prosecution jurors, a smart prosecutor can select a jury with a smaller pro-defense bias or, in the extreme, a pro-prosecution average juror. Obviously, bias is built into the system whenever unequal numbers of peremptories are given to the two sides. It should be noted that in federal misdemeanor and civil cases, and in some state courts, prosecution and defense share equal numbers of peremptories. In these cases the pro-defense bias of the struck jury method and the asymmetry shown in the group-method curves would both disappear.

Figure 2 makes it obvious that the risks inherent in group method jury selection may be great, whether viewed from the perspective of the defendant, the prosecutor, or the disinterested third party whose goal is to achieve an impartial average juror and, it is hoped, an impartial jury.

We are not too concerned, at this early stage in our work, that the simplistic strategies we have used may give misleading results. As we have already mentioned, Brams and Davis concluded that the application of more sophisticated strategies becomes extremely difficult for the group method. Moreover, we have no reason to believe that either lawyers or social scientists involved in jury selection use methods that are functionally more sophisticated than those we have employed. Nor does our assumption of a distribution symmetrical around impartiality concern us at this point, because the effect of asymmetry can be ascertained by translation of values up or down the ordinate.

We are concerned, however, about the consequences of assuming a rectangular distribution. Presumably, this has accentuated the differences between group and struck jury methods that would be observed if we assumed a normal or near-normal distribution. On the other hand, the differences between the two methods might very well be greater using an input distribution corresponding to the "polarized community" that might exist in certain cases of sensational interest. If such distribution were used, the community would be distributed bimodally at the extremes; therefore, the risks that a challenged juror will be replaced with someone less suitable become

relatively severe under the group method. All of these potential problems can be suitably studied by making the appropriate modifications in our model.

When we turn our attention to measurement of jury extremes, the difference between struck jury and group selection methods becomes clear. The mean range of 1,000 juries selected by the struck jury method was 6.42, with a standard deviation of 1.53. Of the thirty-six sets of 1,000 juries selected under various group strategies, none had a mean range of less than 7.71, with a standard deviation of 1.84. The largest range among these samples, 14.30 with a standard deviation of 1.52, was observed when both sides used cutoff points beyond the range of the population, and thus were at the mercy of the input distribution and the luck of the draw.

We have already seen that, in the words of Justice White, a primary purpose of peremptory challenges is to "eliminate extremes of partiality on both sides."[79] The struck jury method's superiority in accomplishing this purpose is manifest. On this basis, therefore, subject to verification with other input distributions, modifications of method, and uncertainty about our scale of measurement, we agree with Brams and Davis that the struck jury method of peremptory challenge should be used. This is not equivalent, however, to agreeing with their claim that the issue rises to constitutional proportions.

Finally, we should note that the approach in our model is consistent with some of the ideas proposed by Zeisel and Diamond in their discussion of the effectiveness of peremptory challenges.[80] Although their concern was not with differences between struck jury and group selection methods, they do plot the effect of different combinations of attorney competence during challenges on predeliberation guilty votes. They conclude, as we have, that the importance of peremptories generally, and of different allotments of peremptories to prosecution and defense, varies with underlying distributions of bias in the venire.

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79. 380 U.S. at 219.

80. Zeisel and Diamond (1978), supra note 19.

PROBLEMS OF METHODOLOGY

It is now almost a quarter of a century since the University of Chicago Jury Project was prevented from continuing to record the proceedings of jury deliberations, without jurors' knowledge or consent, in civil cases in federal court in Wichita, Kansas.[81] One result of the controversy surrounding the Wichita case was federal legislation prohibiting any nonjuror from "[r]ecording, listening to, or observing proceedings of grand or petit juries while deliberating or voting."[82] At one point during subsequent debates on revision of the federal criminal code, legislation was proposed to allow "recognized scholars" to observe or record jury proceedings as part of a "legal or social science study approved in advance by the chief judge of the court." This provision was eliminated in the final Senate version of the revised code because, according to the report,

> it is more vital to protect the traditional wall of secrecy surrounding jury deliberations and the integrity of the judicial process that such secrecy is designed to foster than to permit such studies. Moreover, serious problems with construing such terms as "recognized scholar" and "legal or social science study" were anticipated.[83]

Thus, maintaining secrecy about the dynamics of jury deliberations--the cornerstone of American trial procedures--is official government policy. Many of the methodological problems facing researchers stem from the inability to directly investigate the dynamics of the jury process. The development of valid alternative research strategies is a major challenge to the researcher's ingenuity.[84]

Our intention in this section is to supplement available reviews of empirical methods in jury research[85] with a detailed analysis of just one

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81. For a history of the project's politics, see J. Katz, Experimentation with Human Beings 67 (1972).

82. 18 U.S.C. §1508 (1976).

83. Senate Comm. on the Judiciary, 95th Cong., 1st Sess., S. Rep. No. 605 at 334 (1977) (to accompany S. 1437).

84. For a cogent exposition of the role of the jury in civil cases, see Higginbotham, Continuing the Dialogue: Civil Juries and Allocation of Judicial Power, 56 Tex. L. Rev. 47 (1977).

85. Davis, Bray, & Holt, The Empirical Study of Decision Processes in Juries: A Critical Review, in Law, Justice, and the Individual in Society 326 (J. Tapp & F. Levine, eds. 1977); P. Lermack, Materials on Juries and Jury Research (Stock No. 268, American Judicature Society, Dec. 1977).

study, Zeisel and Diamond's assessment of lawyers' skills in exercising peremptory challenges.[86] We chose this work because of its innovations and because it exemplifies the sorts of problems discussed in the previous sections.

The experiment, which was conducted in the federal district court in Chicago, was designed to determine how skillfully lawyers exercise peremptory challenges, and what difference the challenges make to trial outcome. Through the cooperation of three federal district judges and participating counsel, the investigators provided for the selection of two mock juries, in addition to the real jury, in twelve federal criminal trials. One mock jury contained only jurors who had been peremptorily challenged during selection of the real jury. The other was a random selection of the available unexamined venire; the investigators dubbed it "the English jury" because in England, juries are usually seated without the exercise of challenges. Both mock juries were afforded excellent seating in the courtroom and treated like real juries to the extent possible.

At the conclusion of each trial, the mock jurors were given secret ballots on which to record their individual, predeliberation verdicts. Each mock jury then deliberated to a final verdict. The investigators also gained access to some information about the deliberations of the actual juries. They knew the proportion of guilty votes on the first ballot in ten of the twelve cases.[87] Of course, they always knew the final verdict of the real juries.

Combining information available from actual juries and peremptorily challenged jurors, Zeisel and Diamond made calculations estimating the first ballot and final verdicts of an interesting hypothetical jury: the jury that would have deliberated if no peremptory challenges had been exercised. If peremptory challenges make a difference in trial outcome, real juries should reach different verdicts from those the hypothetical juries would have rendered.

Here is an example of how the investigators calculated the behavior of the hypothetical "jury without challenges" (JWC) and compared it to the behavior of the actual jury. Assume that, of the first twelve persons examined in voir dire and not challenged for cause, eight were accepted onto the jury and four were rejected peremptorily. These first twelve form the JWC; the actual jury is the eight accepted in the first round plus four

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86. Zeisel & Diamond (1978), supra note 19.

87. The investigators did not know the time between the beginning of the actual juries' deliberations and the taking of first-ballot votes. Therefore, the comparability of first-ballot results between actual and mock juries is somewhat ambiguous.

others accepted in further rounds of voir dire. The behavior of the JWC is described by combining what can be learned about the behavior of the actual jury with information obtained from the peremptorily challenged venire members who agreed to participate in the study. The primary datum is the first-ballot, individual verdict. If the investigators knew how every actual juror voted on the first ballot, and if all challenged venire members participated in the study, the difference between the actual and hypothetical juries' first-ballot votes would be a reliable index of the effect of peremptory challenges on first-ballot individual verdicts.

The next step in the analysis is to move from first-ballot results to final verdicts. The actual jury's final verdict is always known; the more difficult question is how to determine the consensus verdict of the JWC. Zeisel and Diamond suggest a solution based on the finding of Kalven and Zeisel that there is a specifiable relationship between the percentage of first-ballot guilty votes and the probability of a final guilty verdict. The curve showing the relation between first and final votes is roughly S-shaped: when the percentage of first-ballot guilty votes is low, the probability of a final guilty verdict is low. That probability is also relatively slow to change with the addition of one more first-ballot guilty vote. At the other extreme, a final guilty verdict becomes very likely (0.9) if 75 percent or more of the jurors vote guilty on the first ballot. In the middle range, however, when the number of first-ballot guilty votes is between four and eight, the probability of a final guilty verdict grows rapidly, from roughly 0.1 at 4/12 to 0.8 at 8/12.[88] Zeisel and Diamond use this relationship to transform the actual and hypothetical juries' percentages of guilty votes on the first ballot into probabilities of final guilty verdicts. The difference between the transformed scores of the two juries is the change in the probability of a guilty verdict (expressed in percentage points from -100 to +100), produced by the exercise of peremptory challenges. Because Zeisel and Diamond subtract the score of the JWC from the score of the actual jury, a negative score reflects a lower probability of conviction in the real jury, i.e., a relative advantage to the defense.

The differences between the real juries and their corresponding JWCs ranged between +8 and -72 in the twelve cases. In seven cases, the shift was eight points or less; the remaining five shifts, all negative, were from -13 to -72. In one of these cases, the JWC probability was so low (17) that the apparent additional reduction of the challenges was unlikely

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88. Zeisel & Diamond (1978), supra note 19, graph 1 at 505, 505-06 n. 24. Kalven and Zeisel's original data are the basis for a freehand extrapolation to a graph used to transform the first-ballot percentages.

to have been instrumental in determining the final real verdict of not guilty. The shifts in the other four cases, however, suggested to Zeisel and Diamond that "peremptory challenges had a substantial role in altering the likelihood of guilty verdicts."[89]

We need to evaluate this conclusion in light of the problems encountered in the research. The first problem is that critical information was made inaccessible in order to protect personal and public interests. This forced Zeisel and Diamond into a series of assumptions that weakened the reliability of their calculations. The problem affected the calculations for both real juries and JWCs.

Zeisel and Diamond never knew how individual jurors on real juries voted on the first ballot. In ten cases, they knew how many guilty votes the jury cast on the first ballot, but access to even that information was denied them by attorneys in the other two cases. When they knew how the first ballot had split, they assumed that those real jurors who also were members of the JWC cast the same proportion of guilty votes as the entire jury had done. For example, if the real jury split six guilty to six not guilty on the first ballot, and eight of the real jurors were part of the JWC, Zeisel and Diamond assumed that those eight split four guilty to four not guilty, and used this figure in the JWC calculations.

The riskiness of this assumption varies with two factors: the evenness of the first-ballot split and the number of real jurors who were also on the JWC. The assumption becomes safer as the split becomes more extreme and the overlap between the real jury and its JWC increases (i.e., when there are fewer challenges). But when the split is down the middle and there is little overlap between the real jury and the JWC, the assumption can produce a serious misrepresentation of what actually happened.[90]

Four of the ten cases in question had splits within the middle third, and two of these were at one-half.[91] The number of real jurors also on the JWC in these ten cases ranged from one to nine.[92] When the two factors are combined, we find that the four cases with fairly even first-ballot splits[93] happened to have relatively low overlaps between the real jury and

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89. Id. at 508.

90. There are two reasons for this. First, relatively many combinations of jurors render the assumption wrong. Second, the steep slope of the curve transforming first-ballot splits to final verdict probabilities, in the middle range of first-ballot splits, will amplify the final effect of errors made in estimating the split.

91. Zeisel & Diamond (1978), supra note 19, table 4 at 507.

92. Id., table 2 at 501.

93. Zeisel and Diamond referred to these as cases 4, 6, 9, and 12.

the JWC: for the two cases split at one-half, the overlaps were only 6/12 and 7/12; for the other two (which were split at 33 percent guilty, 67 percent not guilty), the overlaps were 9/12 and 6/12. In these four cases particularly, we should be skeptical about assuming equal ratios of guilty to not guilty for the entire real jury and those members of it who are also included in the JWC calculations.

Unfortunately, three of these four cases also presented Zeisel and Diamond with another important informational deficit: refusal by some of the peremptorily excused members of the venire to participate in the experiment. The problem was most severe in case 6, in which three out of six persons challenged did not participate. In case 12, two of the six refused. Zeisel and Diamond's solution to the problem was to assume that the votes of the unavailable persons would have demonstrated the same ratio of guilty to not guilty as those of the challenged members of the venire, excused by the same lawyer, who did participate in the experiment.

Given the large effect of a small error in this assumption on the assigned proportion (e.g., a difference of one vote could be a difference of 33 or even 50 percent), and the influence this amplified error could have on the already risky calculations that were based on the real-juror component of the JWC, our confidence in the meaning of the guilty-verdict index of the JWC is lowered still further. The problems are most severe in two of the cases (cases 6 and 12) with large final differences between the real jury and the JWC, which are offered as evidence that the challenge practice affected trial outcome. This is unsurprising, because the lack of overlap in composition between real juries and JWC is an inevitable consequence of the exercise of peremptory challenges. Given the vulnerability of the JWC calculations to unavoidable error, the evidence offered is unpersuasive.

The ten cases just discussed were rich in information compared with the two remaining cases, in which Zeisel and Diamond were prevented from learning the first-ballot splits in the real juries. To overcome this problem, they relied on the assumption that the first-ballot split could be estimated from the real jury's total deliberation time.[94] Because the juries in these two cases "deliberated for a considerable length of time before ultimately acquitting the defendant,"[95] they were assigned first-ballot votes of five guilty and seven not guilty. Five peremptories were exercised in each of these cases, with all excused members of the venire participating in the JWC. Zeisel and Diamond included one of these two

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94. Zeisel & Diamond (1978), supra note 19, at 503.

95. Id.

cases in the list of cases used to suggest the substantial role of peremptories in changing trial outcome.

At this point, we need to step back from the calculations and ask a broader question: If we were to accept, at face value, the calculations relating real juries to their JWCs, would the results support the conclusion that peremptory challenges are, at least occasionally, effective in determining trial outcome? The appropriate answer is "perhaps, but not necessarily." Whether these twelve sets of differences--derived as a data set from a single experiment--prove the influence of peremptories, depends on a very precise specification of the null and alternative hypotheses.

The underlying problem here is one of criteria: these differences do not distinguish between the effect of peremptory challenges and the "intelligent exercise" of peremptories by counsel. This point may be spelled out in several steps. First, notice that it is the defense who gains the advantage of exercising peremptories: all five of the major shifts following challenges were reductions in the likelihood of a guilty verdict. This direction might be at least partially predictable from the fact that in ten cases the defense had four more peremptories to exercise than the prosecution (ten versus six); in the other two cases each side had three peremptories. But in fact, in the "ten versus six" cases, neither side used its full complement of peremptories; therefore, the explanation is not so simple. However, the prosecution was more in danger than the defense of exercising peremptories on potential jurors who were replaced by even less desirable jurors. The defense lawyer could be less skilled than the prosecutor but not seem so, as a result of distribution of the bias of the venire. And if both lawyers were doing little more than spraying their peremptories at random, the defense would tend to produce better results in these calculations.[96]

Thus, a large change in the probability of a guilty verdict produced through the exclusion of certain jurors is not, per se, conclusive evidence that peremptories are exercised intelligently. Random exercise will occasionally produce results that are indistinguishable from the product of intelligent application of valid theory.

There is also a possibility that, in general, the didactic effects of voir dire may interact with the more obvious probative consequences of challenges.[97] A particularly ingratiating, persuasive advocate may

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96. The defense excused 54 jurors to the prosecution's 31. Zeisel & Diamond (1978), supra note 19, at 513.

97. This point does not apply to Zeisel and Diamond's cases, however, because the judges conducted the examinations.

favorably impress the jurors he or she rejects, particularly when jurors do not know who has excused them. The opposite effect is also plausible. These general effects of the lawyer on the jurors and the excused members of the venire complicate the meaning of the JWC calculations.

A third problem of interpretation is a problem of parameters: trial advocates may object that the judge-conducted voir dire deprives them of the fairest test of their abilities to locate and challenge unfavorable jurors.[98] This problem can be surmounted only by repeating the research within a more permissive voir dire context.

A fourth problem of interpretation is that the comparison of real juries and JWCs does not permit separate estimates of the skills of the two lawyers. To deal directly with this problem, Zeisel and Diamond created an Attorney Performance Index, which is discussed below.

Zeisel and Diamond did not limit their attention to the comparison of real juries and JWCs. Several of their other findings were particularly interesting. In three of the cases, for example, the judge commented that the jury's not-guilty verdict was "without merit"--all three juries had relatively large percentage shifts toward acquittal. Another useful finding was that the "English jurors" were significantly more likely to vote for conviction than were jurors in either of the other groups, which were indistinguishable from each other in this respect.[99] At least three factors may have influenced this finding. First, the English juries almost certainly included some persons who would have been excused for cause during voir dire. Because the judges issued all the cause challenges themselves, the observed changes are not attributable to either prosecution or defense counsel.[100]

The second factor is the didactic effect of the voir dire. Zeisel and Diamond emphasize that the influence of direct, personalized questions about biases, ability to be fair, and so on, may have produced, in both the jurors and challenged members of the venire, a stricter measure for "proof beyond a reasonable doubt."

Zeisel and Diamond also describe the third factor--which is partially related to the second--as a sense of responsibility for the actual verdict that may have made the real jurors relatively more cautious about convicting someone of a serious crime. However, this factor cannot explain

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98. Id. at 528.

99. Id., table 6 at 511, table 7 at 513.

100. Id. at 501-02 n. 16.

the behavior of the challenged jurors, who were not burdened by actual responsibility.[101]

Finally, using the data from jurors and challenged venire members, Zeisel and Diamond computed an Attorney Performance Index (API) for each lawyer in each case. The construction of the API represents a theoretical tour de force--a number of major assumptions were employed, some of which were frankly and explicitly at odds with the facts the model had to fit.[102] In themselves, these discrepancies are not too disturbing, for the model might be used in other settings where its assumptions would be met more closely. But the model has other, subtler characteristics that will need explication and perhaps correction before its real usefulness can be ascertained.

First, the model assumes that the lawyers are using a struck jury method of challenges, with the prosecution exercising all of its peremptories before the defense exercises any. Under the rules of federal felony trials, therefore, the prosecution faces twenty-eight potential jurors, of whom six must be challenged. Thereafter, the defense challenges ten more; the twelve remaining jurors are the final jury.

In fact, the struck jury method was not used in the twelve cases under consideration, and lawyers never exercised all of their six or ten peremptory challenges.

Second, for each case, the hypothetical twenty-eight-member venire is assigned an initial percentage of first-ballot guilty votes that is an extrapolation from the first-ballot data available for the real jury and those excused through challenge in that case. The fact that the researchers were unable to identify the votes cast by individual real jurors, a troublesome deficit for the JWC calculations, was not as important in the API computation. But the use of deliberation time as a predictor of first-ballot votes in two cases, the absence of information for some challenged venire members in several cases, and the necessary extrapolation of the guilty/not-guilty ratio from an empirical base of between eleven and nineteen to the hypothetical twenty-eight-member venire--all cast doubt on the validity of the API.

The next step is the calculation of the prosecutor's (hypothetical) best and worst challenge performances. For example, if the twenty-eight-member venire contained twenty-two persons who would vote guilty on the first ballot and six who would vote not guilty, then the prosecutor's best performance would eliminate all six not-guilty votes (resulting in 100 per-

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101. Id. at 512-13.

102. Id., text and notes at 514-18.

cent of the jury voting guilty on the first ballot), and the worst performance would eliminate none of them (73 percent of the jury would vote guilty on the first ballot). By definition, the hypothetical best performance is given a score of +100, and the worst performance a score of -100. If the prosecution were to make no difference in the jury's first-ballot vote, he or she would be assigned a score of zero.

Fourth, what is known about the prosecutor's actual performance is transformed into terms meaningful for the model. For example, assume that the prosecutor exercised four peremptories, and the four challenged venire members split 2 guilty/2 not guilty on the predeliberation ballots. Then, two members would be removed from each side of the hypothetical venire, and the percentage of guilty votes on the first ballot would be calculated from the remaining number. In the example above, the original proportion of 22/28 (79 percent voting guilty) removing two from each side leaves a 20/24 (83 percent) proportion, a slight improvement for the prosecutor.

The prosecutor's API is then calculated; it shows the ratio of the apparent improvement to the maximum possible improvement. For this example, the apparent improvement is

$$83\%-79\% = 4\%$$

and the maximum improvement is

$$100\%-79\% = 21\%.$$

The prosecutor's API is, therefore

$$\frac{4}{21} \times 100 = +19.$$

If, on the other hand, the four venire members challenged by the prosecutor had all voted guilty on their mock jury first ballots, the resulting hypothetical venire would show an 18/24 proportion (75% voting guilty), a slight worsening of the initial condition. In this case, the API would contain the worst-performance percentage as a term in the denominator, and the sign would be negative:

$$\frac{75\% - 79\%}{79\% - 73\%} \times 100 = -67.$$

The principles for calculating the defense attorney's API are the same, but the venire is assumed to start at twenty-two (the prosecutor having exercised all allotted challenges), and the defense has ten peremptories.

Zeisel and Diamond computed APIs for the attorneys in each of their twelve cases.[103] The prosecutors had a mean API of -0.5 $\pm$ 38 average deviation, and the defense lawyers' mean API was +17.0 $\pm$ 25 average devia-

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103. Id., table 9 at 516.

tion. On the basis of these numbers, Zeisel and Diamond's immediate conclusion is that "the collective performance of the attorneys is not impressive."[104] The relatively large average deviations suggest "highly erratic"[105] performances, which lead occasionally to unfortunate mismatches, i.e., unequal representation.[106] They conclude their treatment of the API by pointing out that the largest shifts in guilty verdicts from JWCs to actual juries were associated with large differences in API, favoring the defense.[107]

Zeisel and Diamond's Attorney Performance Index, like their jury without challenges (JWC), is an admirable attempt to solve a difficult problem. But, like the JWC, the API is rendered somewhat untrustworthy because strong assumptions must be made in order to compensate for inadequate information. The API is also based on a method of challenge different from that used in the experiment to which the API was applied. These difficulties are relatively plain to see; Zeisel and Diamond allude to them and others not mentioned here as well. But there is one additional methodological problem in the API that Zeisel and Diamond do not discuss. It is not readily apparent, yet it renders interpretation of the API problematic.

The problem rests in the proper interpretation of the expected value of the API, for any proportion of first-ballot guilty votes in the initial twenty-eight-member venire, on the assumption that lawyers exercise peremptories randomly. Our intuition tells us that, when peremptories are made at random, the expected proportion of guilty votes after the challenges is equal to the proportion observed beforehand. In other words, the exercise of random challenges should not, on the average, change the proportion of guilty votes in the venire. Therefore, if the API, as now defined, is to be interpretable, its behavior under the assumption of randomly exercised peremptories should conform to our intuition. A first set of calculations suggests that this is not the case, and that, therefore, what the API means is unclear.

Consider the case of the prosecutor (P) first. P faces a twenty-eight-member venire and is to exercise six peremptories. For an initial first-ballot proportion of guilty votes, we choose 22/28 (79%).[108] There-

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104. Id. at 517.

105. Id.

106. See text accompanying note 19.

107. Zeisel & Diamond (1978), supra note 19, at 517.

108. We choose this figure for its similarity to the case described by Zeisel and Diamond (id., table 8 at 514), as well as its fit with the guilty-vote percentages of the English jurors.

fore, after P exercises all six challenges, the remaining twenty-two jurors will be arranged in one of seven proportions: from 16/22 (73% voting guilty) to 22/22 (100%). The API may be calculated for each possible outcome, with the best and worst outcomes automatically given scores of +100 and -100, respectively. Moreover, the probability of each outcome may be calculated on the basis of random challenge.[109] The sum of the products of each outcome's API with its probability is the expected value of P's API for this condition, E(P). The results of these calculations are listed in table 6.

TABLE 6

PROSECUTOR'S PERFORMANCE WITH SIX RANDOM CHALLENGES

	(1) Proportion of Venire Voting Guilty	(2) P(proportion)	(3) API	(2)•(3)
Worst	16/22	.198	-100	-19.8
	17/22	.419	- 22	- 9.2
	18/22	.291	+ 15	+ 4.4
	19/22	.082	+ 36	+ 3.0
	20/22	.009	+ 54	+ 0.5
	21/22	.0004	+ 79	0.0
Best	22/22	.000003	+100	0
				E(P) = - 21.1

The table shows that the expected API for the prosecutor working at random is not zero, but -21.1. The reason for this is clear enough: operating at random, with a heavily pro-prosecution venire to start with, the prosecutor has more ways to make mistakes than to do things right. The loading of best and worst cases with +100 and -100, when their distances from the initial proportion are so different (6 percent down versus 21 percent up), produces asymmetry in the index. This asymmetry will vary

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109. P will succeed in eliminating 0-6 defense jurors. The probability that P will eliminate r of them is

$$\binom{6}{r} \cdot \binom{22}{6-r} \div \binom{28}{6}$$

with the initial proportion of guilty votes, and its differential effect on the prosecutor (P) and the defense attorney (D) will vary with the allotted numbers of peremptories. An example of this effect is seen in table 7, which shows the expected API for D with ten peremptories, who is facing the same 22/28 venire as P in table 6.[110]

TABLE 7

DEFENSE ATTORNEY'S PERFORMANCE WITH TEN RANDOM CHALLENGES

	(1) Proportion of Venire Voting Guilty	(2) P(proportion)	(3) API	(2)•(3)
Worst	18/18	.001	-100	- 0.1
	17/18	.012	- 74	- 0.9
	16/18	.085	- 48	- 4.1
	15/18	.260	- 22	- 5.7
	14/18	.366	+ 7	+ 2.6
	13/18	.227	+ 54	+12.3
Best	12/18	.049	+100	+ 4.9
				E(D) = + 9.0

Under these conditions, D has a positive expected value, i.e., on the average, the defense attorney's API will be substantially greater than zero. The values in tables 6 and 7 show why this is true: with the venire stacked in favor of P, D is unlikely to do much harm relative to the opening condition.

How are these calculations to be squared with Zeisel and Diamond's claim, based on an average API close to zero, that P's challenges in their twelve trials studied were bad about as often as they were good?[111] The answer is not completely clear. First, we should not compare our expected

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110. D will succeed in eliminating 4-10 prosecution jurors, but can do no better than keep 6 defense jurors. The probability that D will eliminate r of the 22 P-disposed jurors is

$$\binom{22}{r} \cdot \binom{6}{10-r} \div \binom{28}{10}$$

111. Zeisel & Diamond (1978), supra note 19, at 517.

API of -21.1 directly with their mean API of -0.5, because the latter figure arises out of twelve APIs that were calculated with various estimated proportions of first-ballot guilty votes. But as we can see, the expected value of the API will vary with this proportion. Therefore, how are we to interpret averages of the two sets of APIs, or differences between members of the sets, when the bases of the calculations are so variable? At this point, we do not know. Nevertheless, it is reasonably clear that the API might benefit from some restructuring to make its behavior under various initial conditions more transparent.

CONCLUSION: PROBLEMS OF GOALS

Throughout this report, we have drawn conclusions about various problems in the assessment of voir dire and juror challenge practices. The prospect is bright for advances in our understanding of these aspects of trial practice. Whatever the inadequacies or ambiguities of current theories or methods, they are fewer than they were only a few years ago. Even without gaining privileged access to jury deliberations as a "recognized scholar," an investigator may use mock juries for meaningful experiments. Continued efforts of this sort, combined with rigorous laboratory studies and computer modeling, will surely maintain and perhaps increase the rate of growth of our cumulative understanding.

Problems of interests, criteria, parameters, and methodology will not go away; neither will they halt research progress. But a major problem still faces the researcher: the establishment of research goals encompassing a broad range of the legitimate interests of society in juries and their verdicts. In our opinion, this includes specifying the appropriate scope of adversary advocacy, describing the relation between representativeness and bias in juries, and exploring the relation between process and outcome in jury deliberation. And bipolar dependent variables should be replaced, whenever possible, by variables that allow a desirable outcome to be specified, without reference to the immediate interests of the litigant parties.

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