This article presents and analyzes lawyers' and scientists' views of the advisability of using alternatives to the party witness format (e.g., scientific panels) in school desegregation cases. Scientists' and attorneys' desires to control the presentation of evidence and courtroom interaction is one factor explaining their preference for panels or party witness formats. In addition, control is seen as a means of influencing several other issues: selection of an appropriate form of dispute settlement in this litigation; management of potential bias in social science scholarship and testimony; and determination of the proper role of expert witnesses. These issues are investigated with a sample of lawyers and scholars who tried and testified in 17 school desegregation cases across the nation.

Methods of Presenting Scientific Evidence in Court

Panels Versus Party Witnessing in School Desegregation Cases

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The history of school desegregation litigation is in part a history of the use of social scientific evidence in the courts; but while the association of lawyers and social scientists is of long standing, it has never been easy. From its inception, several important debates have occurred regarding the relevance and appropriateness of such evidence.[1] Recent debates over social science evidence have shifted from a focus on *whether* it should be

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used to *how* it should be presented in court. Three key issues have arisen. First, what courtroom structure should be utilized to introduce such evidence; that is, should scientists serve as witnesses for one of the parties to the litigation (party witnesses) or as nonaligned advisors to the judge (consultants or panelists)? Second, what role or style should be adopted by scientists in court; that is, should they be advocates and debators on behalf of a party or policy or neutral teachers and presenters of scientific findings? Third, what is the source of expert bias in court and how is that bias best controlled?

GENERAL ISSUES IN APPLIED SOCIAL SCIENCE

These issues in the methods of presenting and utilizing social scientific research in an applied arena are not limited to the courtroom, nor to desegregation as a public policy question. Similar issues have been raised regarding a variety of policy questions, and in a variety of applied contexts. For instance, some scholars and public policy makers have become disheartened and concerned about the adversarial structures within which much scientific dissemination, consultation, or utilization takes place. They have argued recently for the creation of a "science court" to operate on matters of public and scientific controversy. This impartial body of senior scholars would hear various scientific arguments and make a determination of the best evidence available. Then they would inform policy makers of their distillation of scientific research on the matter in question (Kantrowitz, 1977; Nyhart, 1981; Weinberg, 1978).

Other observers have dealt with the issue of a proper scientific role in an applied context. Discussions of the scholar's method of self-presentation or role as "enlightener," "advocate," "engineer," "clinician," and "technician" all capture different elements of the distinction between a scientist using an advocacy method or a more neutral approach to presenting the results of research to policy makers or to public constituencies and interest groups (Gouldner, 1964; Janowitz, 1972; Street and Weinstein, 1975).

Finally, many scholars have expressed concern about the influence of bias on research and on its presentation or utilization in policy arenas. Attempts to control scientists' bias often have taken a narrow focus on proper technical methods of gathering and analyzing data. In other instances a broader focus has been on methods that help separate or control for the impact of the scholar's belief system or values on the outcomes of scholarly work and public policy-relevant research.

PRESENTATION OF SCIENTIFIC EVIDENCE IN COURT

Social science discussions of the methods of presenting testimony in court typically have focused on the third issue—methods of controlling expert bias. By bias, we mean the influence of researchers' values and beliefs on their findings. Social scientists generally are taught to avoid bias by using more adequate data-gathering and analysis techniques. Thus, for instance, the "scientific method" encourages objectivity, replication, and standardization as means to ensure that an individual scholar's personal values or political loyalties do not overly influence the findings and the public results of research. In this vein, many scholars have challenged bias among expert witnesses with methodological criticisms of the data they introduce in court (Longshore, 1982; McConaghy, 1978).[2] As a result, attempts have been made to instruct experts in what data to collect, what techniques to use in collection and analysis processes, and how to present scientific data in court (Brodsky and Robey, 1973; Loewen, 1982; von Euler, 1977). Scientific discussions often imply that bias can be controlled by presenting data that have been collected by appropriate methods. This way of framing the issue understates the role of the adversarial process of the courtroom in creating and intensifying expert bias. It also does not acknowledge that the concept of bias often has a different significance in academic and legal settings. In academic settings, bias is significant because it is viewed as an impediment to the generation of scientific knowledge. In legal settings, overt bias in witnesses is viewed as an impediment to expert credibility and, thus, to winning cases. In short, the stress on methods of gathering and presenting data that minimize

obvious bias is relevant for quite different reasons in legal and academic contexts.

Experts' methods of self-presentation or role in court also have received substantial attention (Kalmuss, 1981; Wolf 1977, 1976). The extreme options appear to include functioning as a neutral educator or as a debator and advocate. The use of scientific methods of data-gathering to generate relatively unbiased data can facilitate adoption of the more neutral teachers' role, but it in no way guarantees neutrality. Scholars still can present scientifically sound data in a partisan manner by omitting qualifications, complexities, and opposing data. Thus, the related issues of methods of gathering and analyzing data in unbiased ways and methods of self-presentation must be distinguished in discussions of methods of presenting scientific evidence in court.

The third issue related to the courtroom presentation of social science evidence—the courtoom structure—has been largely ignored by social scientists. However, this issue is critical, since it establishes the context in which the other two issues operate. Judges' exposure to scientists' data-gathering techniques and personal styles of testifying are filtered through the courtroom method for introducing social science evidence. The two key structures for presenting social science evidence in court are party witnessing and expert panels. Party witnessing, the form of presentation most consistent with the adversarial system of law, involves experts testifying for one of the parties to the litigation. Their testimony is solicited and directed by the attorney representing their side of the case, with the objective of presenting all facts and law supporting this side in the best possible light. At the same time, the attorney tries to utilize witnesses to challenge or counter evidence or arguments raised by the opposition. In this approach scientists are directly accountable to the attorney representing one party and are inextricably tied to the interests of that party. The judge occupies a relatively passive posture with regard to the generation or presentation of evidence. In contrast, panels involve experts chosen by the court to prepare a report on the state of social scientific knowledge regarding some set of issues defined by the judge (Sperlich, 1980). Here, witnesses' testimony is not controlled or guided by an attorney, and they are more directly accountable to the judge. As a result, they are somewhat

removed from the adversarial process and, in turn, may diminish the adversarial character of litigation. In this system the judge plays a much more active role in the generation of scientific evidence.

Advocates of panels imply that the structure of the courtroom strongly influences the method of self-presentation or courtroom roles adopted by experts. They argue that the adversarial pressures and partisan loyalties inherent in party witnessing encourage experts to be advocates rather than disinterested educators. Expert panels, on the other hand, make the role of neutral teacher more possible. By removing experts from the adversarial pressures of the courtroom, panels allow them to offer more balanced, in-depth, qualified presentations to the judge. Moreover, experts on panels are not bound by restrictive legal rules of evidence and thus can consider and report on a wider range of social scientific issues relevant to the case. Finally, evidence can be discussed openly among experts, perhaps leading to more integrated and less partisan conclusions.

Opponents of panels implicitly argue that the courtroom structure for presenting social science evidence does not necessarily determine scholars' style or role in court. For instance, Kalmuss (1981) found that, while experts perceived adversarial pressures when they acted as party witnesses, many of them felt they succeeded in adopting a relatively neutral stance in court. Conversely, while panel experts may be more removed from the adversar-ial pressures of the courtroom, they may still hold strong personal beliefs about the issues and parties involved in litigation, and thus may function as committed advocates on a panel. Thus, panels may not reduce expert bias that stems from the beliefs and values that scholars bring to the courtroom, and they cannot assure disinterested scientific presentations. In fact, they may allow bias to stand unchecked by opposing attorneys' challenges to and cross-examination of experts in open court. Scholars and lawyers who are concerned about such unchecked bias are especially concerned about any steps that might compromise the adversarial tradition in American jurisprudence. As one strong advocate of this tradition has argued regarding social science evidence, "Vigorous cross-examination serves the larger social interest (a) by exposing fallacies in the expert evidence, and (b) by

deterring experts from making assertions that will not hold water" (Cahn, 1956: 163).

In this article we explore the relationship between these three issues involving scientific methods in the courtroom: the structural method of presenting social science evidence, the role or method of self-presentation used by experts, and the method of controlling expert bias. We focus on lawyers' and social scientists' views of the expert panel as an alternative stucture to party witnessing. For both sets of actors, their views on panels versus party witnessing are influenced by (1) their commitment and comfort with the adversarial procedures of law (the greater their comfort the more likely they are to support party witnessing); (2) their view of whether the proper courtroom role for experts is closer to that of neutral educator or partisan advocate (those who endorse the advocate role are more likely to support party witnessing); and (3) their view of whether expert bias is rooted predominantly in data-gathering techniques, the adversarial pressures of the courtroom or the value-laden nature of the school desegregation controversy itself (bias rooted in methods of data-gathering and courtroom pressures can be diminished by expert panels, while bias rooted in the very nature of school desegregation controversy is not likely to be reduced by panels).

In the instance of desegregation litigation, there has been only one example of the formal use of an expert panel—the panel appointed by Judge Egly in Los Angeles. Notwithstanding, many lawyers and scholars have had experience with party witnessing methods. These actors, and other observers, also draw their views from other examples of the use of scientists to help resolve controversial debates in scholarship and public policy. Since social scientists attempting to apply their findings in various policy arenas must attend to similar issues, the examination of party witnessing and expert panels in the litigative process should illuminate related issues in the methods of applied social science more generally.

THE STUDY PROCEDURES

As part of a larger study of the use of social science testimony in school desegregation litigation, we conducted in-depth interviews

with a number of lawyers, social scientists, and judges. We selected these actors by choosing 17 federal district court school desegregation cases that (1) involved pupil desegregation, (2) were active as of 1970, and (3) utilized social science testimony.[3] Within each case, we interviewed at least one attorney from each of the major parties to the litigation. This always included the school board and at least one plaintiff group. The response rate for attorneys we contacted was over 90%.

We also interviewed social scientists who testified for either plaintiff or defense parties in the 17 cases. In addition, we asked scientists and attorneys to name other scientists who had testified in other school desegregation cases. Through this snowball procedure, by examination of court records, and by responses to notices placed in professional journals, we expanded our sample of scientists to those testifying in other school desegregation cases. While this sample is not the complete universe of expert witnesses, it appears fairly complete, since after a while we stopped receiving names of previously unidentified experts. The response rate for scholars we contacted was over 95%.

This analysis is based on interviews with 83 scientific experts and 69 attorneys. Both experts and attorneys were asked to respond to the following general question.[4]

> Some people have argued that social scientific testimony can be most effective when presented as a part of a consultant panel to a judge, personally, rather than as open testimony in a courtroom. What do you think of this approach?

Although social scientists and lawyers were asked the same general question, lawyers made a key distinction in their answers that was disregarded by social scientists. Almost all school cases are conducted in two parts: first, a hearing on violation, to determine whether the school board unconstitutionally discriminated against minorities; and second, a remedy hearing, to decide upon a desegregation plan to remedy the violation. Social scientists rarely made a distinction between these two aspects of a trial. Even when we brought the distinction to their attention, their preference for panels or party witnessing methods was relatively unaffected by the stage of the trial. Lawyers, on the other hand, made this distinction clearly, and kept it in mind in

answering our questions. In all cases it was clear that lawyers rejected the panel method at violation, and were willing to consider it only at remedy. The unanimous rejection by lawyers of the panel method at the violation stage reflects a deep-seated belief that these suits fundamentally involve questions of constitutional rights of the participants, and that such rights should not be settled upon any basis other than legal principles within the traditional adversarial system. After violation questions have been settled, when remedy matters are involved, many attorneys feel that scientific evidence is more welcome.

METHODS AS THE COURT STRUCTURE FOR PRESENTING EVIDENCE

How do lawyers and social science experts respond to the panel as a method of presenting social science evidence at remedy? A consideration of their backgrounds would lead one to expect these two groups to differ in their preferencs. Lawyers are trained in an adversarial tradition and should be committed to the adversarial method of party witnessing. On the other hand, the training of most social scientists does not provide them a commitment to or experience with the adversarial procedures of the courtroom. They, therefore, should prefer the panel method.

As indicated, many social scientists have argued that the adversarial pressures of party witnessing interfere with their ability to function as disinterested experts (Orfield, 1978; Pettigrew, 1979; Wolf, 1976). They have contended that party witnessing ties scholars to one side of the litigation and, thus, structurally identifies them as partisans. Moreover, they feel that lawyers' interest in expert testimony that supports their case creates pressure for one-sided, simplistic, and unqualified presentations (Kalmuss, 1981). Finally, it is argued that attorneys' attacks on experts' credibility and testimony during cross-examination further challenge scholars' ability to maintain a calm and disinterested stance (Williams, 1957). Experts' discomfort with the adversarial nature of party witnessing is reflected in the following statements.

> I think a panel would be great. I would not have had any of the anguish that I went through on the stand.

TABLE 1
Scientists' and Attorneys' Preferences for an Expert Panel (at Remedy)

Preferences for an Expert Panel	Social Scientists (N=61)	Attorneys (N=45)
Approve	35	20
Disapprove	13	21
Undecided*	13	4

$X^2 = 8.51$, df =2, $p < .05$ (without Undecided, $X^2 = 5.35$, df = 1, $p < .05$)

*The Undecided category included informants who explicitly said they could not make up thier minds, as well as those who said they favored both or an equal combination. While some of these undecided were no doubt due to intellectual ambivalence, some are a reflection of the abstract and largely untested notion of a panel in these cases.

> You're not in a stressful situation on a panel . . . you can easily forget certain facts and details when you're sitting on the damn stand unless you're prodded. Whereas on a panel, you have time to collect your thoughts.

Table 1 confirms the expectation that a significantly greater percentage of social scientists than lawyers favors a panel method for presenting social science evidence in court. These data also are consistent with preferences regarding the pattern of attorney dominance over courtroom interactions that is characteristic of the adversarial legal system. In this tradition, judges hold ultimate decision-making power, but their courtroom role generally is relatively passive. They typically are not active "fact-finders," but leave that task to the parties, and the parties delegate it to their attorneys. Lawyers enact their control by marshalling arguments for a side and presenting evidence in court. They control the presentation of evidence in a party witness procedure through the selection, preparation, and questioning of witnesses. This system provides the attorney with a fair degree of certainty about the answers a witness will give during direct and cross-examination. As one expert noted,

> I think that the lawyers on both sides like to have somebody they can predict with very high certainty what they will say when asked

> a certain question by opposing lawyers. They work with them a couple of days before the trial and get all the ducks in a row.

The attorney control implicit in the party witness method poses problems for some experts, who maintain that scholars and lawyers have very different notions about the goals and roles of expert testimony. Such experts often favor a panel because they feel it would reduce attorneys' control over the presentation of evidence to the judge and would increase expert control.

> The panel is a good idea because it makes social scientists responsible to the court (judge) rather than the parties (lawyers). That is how it should be.
>
> I think there are a lot of factual points that witnesses from both sides of these cases could agree on if they were in a panel setting. They don't come out in court since the incentive of both groups of lawyers is to push the testimony as far as they can to support their case.

In a similar vein, many lawyers express concern about panels precisely because they may reduce their ability to present their case to the judge in the way they wish.

> Sure if the guy (expert) doesn't come down right I can fire him, but the court's panel, I don't know. Hell, they might go in any direction.
>
> When the expert is on the witness stand you can confine him much more than when he is on the panel of experts in which he is free to bring his own personal predilections to bear on the problem.

If they cannot control the presentation of their case, including at least their own witnesses' testimony, how can attorneys fulfill their obligations to their clients?

Freed from some aspects of the adversarial process, scientists serving on panels may not be limited to the narrow definition of issues required by legal rules of evidence. For instance, several experts on the Los Angeles panel filed reports to the court discussing the desirability of a metropolitan plan for school desegregation. The basic argument was that the demographic composition of the city prohibited meaningful racial mixing of

students unless the pool of predominantly white children living in the suburbs was involved. However, the legal issues in the case did not include metropolitan desegregation, attorneys for neither party had advocated it, and under prevailing modes of party witnessing such a discussion could not have surfaced. As one of the lawyers in this case noted:

> I guess if you are talking about the ascertainment of truth, there is a definite and distinct advantage in this case by having those experts. They pointed to something that no one else would have pointed to, and that was that you should have a metropolitan plan and you shouldn't implement any of these other plans because that is what you need. And if these witnesses had testified for a party it is likely they would not have come out with that.

Thus, one of the primary arguments for panels is that they may be more successful in overcoming the evidentiary limitations imposed by the structure of the adversarial system. Several social scientists recognized this possibility.

> My first impression would be to agree (with the notion of a panel) . . . to sit around in a relaxed fashion and each present his point of view without the rules of evidence. I think the rules of evidence are too tough for social scientists. I really think that some kind of less formal presentation of differing points of view would be better, perhaps around a table with the judge sitting there and maybe all the attorneys.
>
> The panel is superior because adversarial encounters in court do not avail themselves to a full discussion of the issues or the implications of the issues.

While issues related to the structure of the adversarial system and, therefore, methods of controlling the presentation of evidence help explain the major trend in Table 1, they do not fully explain this table. The data indicate that preferences for either method of presenting evidence are far from unanimous within the two professional groups. Attorneys are split evenly on the use of panels at remedy, and over 20% of the experts oppose panels (and another 20% have mixed or undecided opinions). Thus, the choice between panels and party witnessing methods does not rest purely on one's professional identity.

TABLE 2
Plaintiff and Defense Attorneys' Preferences for an Expert Panel (at Remedy)

Preferences for an Expert Panel	Party Represented: Plaintiff (N=21)	Defense (N=24)
Approve	13	7
Disapprove	6	15
Undecided	2	2

$X^2 = 5.92$, df = 2, $p < .10$ (without Undecided, $X^2 = 5.37$, $p < .05$)

Table 2 identifies one source of within group variation in lawyers' attitudes toward panels. Plaintiff attorneys tend to favor panels at the remedy stage of desegregation litigation more than do defense attorneys. This may occur because plaintiff lawyers more often expect scholarly panels to work in their favor. After all, more scholars have testified for plaintiffs than defendants in these cases, and their association with plaintiff attorneys in these cases has a longer history (Sanders et al., 1981-1982). Moreover, plaintiff lawyers may have a greater motivation to use the panel procedure to help them establish a viable remedy during the trial. Defense attorneys, after all, represent the school board and its professional staff, who have been operating and managing the school system. Judges usually consider these educators to have the expertise and experience to create or to manage a desegregation plan, once ordered. If the plaintiffs wish to have much control over the plan, to introduce expertise of their own, they stand a better chance of doing it during the trial, before the school board takes over again. To the extent that an expert panel helps take the remedy out of the hands of educators and places it in the hands of the court and experts representing the court, it may be more attractive to plaintiff than defense attorneys.

However, not all plaintiff lawyers support panels. The numbers within each group of plaintiff attorneys are not sufficient to support firm conclusions, but plaintiff lawyers who are *least* accepting of panels appear to be those representing national plaintiff groups such as the NAACP, ACLU, or MALDEF

(Mexican-American Legal Defense and Education Fund). These attorneys and their groups often are involved in several desegregation cases in different cities. Their primary commitment may be to win at the national level and to establish legal principles supporting national advocacy efforts for desegregation, rather than to viable compromises regarding race relations and the quality of the educational system in a particular city. Since the outcome of any single case may affect ongoing and future litigation of which they are a part, they often may be reluctant to create compromise settlements in individual cases (Galanter, 1974). They may support party witnessing for its compatibility with the adversarial, winner-take-all system of legal proceedings.

Local plaintiff counsel, on the other hand, are embedded in the ongoing structure and working relationship of their community. They may be more cognizant of the limitations of a winner-take-all remedy when both parties to the litigation have to continue to work together after the dispute is settled. In fact, several researchers have found that the success of court-ordered desegregation plans is dependent to a certain extent on cooperative relations among parents, students, educators, and court officials (Crowfoot and Chesler, 1981; Millter, 1980; Nakamura and Smallwood, 1980; Yudof, 1981). Moreover, their local clients may have concrete and specific goals that do not focus on the total desegregation of schools.[5] As such, local plaintiff attorneys may be more open to compromise settlements and to panels as nonadversarial methods of presenting evidence that encourage such settlements.

In summary, commitment to and comfort with adversarial courtroom procedures help explain why lawyers tend to favor party witnessing as the method of presenting social science evidence in court more than experts do. However, there is considerable variance within each professional group. At the remedy stage of litigation, plaintiff lawyers support panels more than do defense lawyers, partly because they think they can win their case that way. Moreover, they may be able to participate more heavily in that way in the design of a remedy. Among plaintiff attorneys, local counsel may support panels more than national counsel, perhaps because of their commitment to winning workable remedies, which are more easily generated within a panel than a party-witnessing context.

EXPERTS' METHODS OF SELF-PRESENTATION IN COURT

As expert witnesses, social scientists can adopt various roles or styles of self-presentation in court. One role is that of teacher or neutral communicator and enlightener of the judge; we call that "social scientific." A second role is that of advocate or partisan debator and persuader of the judge; we call that "legal adversarial" (Kalmuss, 1981).[6] A social scientific style is reflected in including opposing data, qualifications, and complexities in one's testimony and in grounding conclusions clearly in existing data. A legal adversarial style is reflected in omitting opposing evidence, qualifications, and complexities that might weaken one's argument, and in drawing conclusions that extend beyond existing data.

Some of the differences between these two courtroom styles are juxtaposed in the following pair of quotes:

> I think that the responsibility of social scientists in the role of expert witness, the basis of their expertise, is the application of scientific techniques to understand social phenomena . . . you can only speak where there's clear support in your data for it.

> More and more I feel that I am presenting a perspective on how to interpret reality rather than a set of hard and fast proofs . . . and the other side knows that it is coming. They have a chance to challenge this perspective.

For some, like the first informant, the heart of the expert role lies in a particular fact or knowledge base and the willingness to share that base with public decision makers. Such experts are likely to feel undermined or challenged by the adversarial structures of the courtroom; thus they tend to support a panel.

For others, like the second informant above, one's general viewpoint and experience, informed and shaped by scientific research, is the key to being a good expert. As experts, they adopt a style of interpreting a situation and persuading the judge to a point of view regarding certain facts. They endorse and adopt a partisan role in court.

> I understand the partisan nature of the courtroom and I realize that I would be on the stand arguing for a position without also

> presenting evidence that might be contrary to my case or side. But you see, that didn't bother me, because I knew that the other side was also doing that.

Since they do not see themselves as neutral presenters of facts in court, these scientists are not distressed by the adversarial nature of party witnessing or by pressures that deter experts' objectivity.

> I don't think there is a substitute for advocacy law. Let ours be presented and let theirs be presented and let the attorneys do the cross-examination under the rules of law and evidence.

These experts contend that while panels may remove scholars from the adversarial pressures of the courtroom, they will not necessarily yield scholarly consensus. The controversies between scholars in the area of desegregation are intense and will not disappear when they work together on a panel. While panels may facilitate agreement on factual issues that is obscured by the adversarial context of party witnessing, the fundamental value conflicts remain.

> I think it is unrealistic that you are going to get unanimity of opinion with a panel. We do not have consensus in our field. Somehow when it comes to policy implications, we want to present a united front. Why? There isn't a united front, why should there be one in court?

This comment suggests that while panels cannot create actual consensus among scholars, they may be used to create the veneer of such consensus. This in turn may buttress particular policy decisions with the stamp of scientific approval. One price of such apparent consensus is the simplification and misrepresentation of the full range of views within the scientific community.

Table 3 verifies the expectation that experts who adopt a social scientific style or method of self-presentation in court will support a panel more than experts who adopt a legal-adversarial style. Over 85% of the experts with a social science style in court favor the panel, compared to less than 50% of those with a legal-adversarial style. Experts with a legal-adversarial style more often reject a panel, or prefer party witnessing, because they accept the

TABLE 3
Scientists' Roles and Their Preferences for an Expert Panel (at Remedy)

Preferences for an Expert Panel	Conception of Expert Role*		
	Social Scientific (N=26)	Mixed (N=6)	Legal-Adversarial (N=18)
Approve	20	4	6
Disapprove	3	2	7
Undecided	3	0	5

$X^2 = 8.53$, df = 4, $p < .10$ (without Undecided and Mixed, $X^2 = 6.95$, df = 1, $p < .01$)

*This table is limited to those scholars who actually testified or were deposed and, thus, had to adopt a role or style.

idea that their function in court is precisely to provide *a* perspective and evidence supporting *one* side of the case.

Just how scholars select which style to adopt often is unclear. It may be related to their general view of applied roles (e.g., as enlighteners or advocates) or to their particular experience with these issues in court. For instance, one of the consequences of 30 years of expert testimony in school desegregation litigation has been the creation of a relatively stable set of experts who have testified in many cases. Whether by initial inclination, or later socialization and commitment, the "inner circle" experts are more likely to be committed to a party, and more comfortable with the adversarial structure of courtroom interactions, than are more peripheral witnesses. Indeed, our interviews indicate that those scholars with more experience tend to operate in the legal-adversarial role, and are more likely to prefer the party-witnessing method of presenting evidence. Only 40% of the experts who testified three or more times in school desegregation cases favored the panel method, while 84% of the experts with less testifying experience did so. Among scholars who never did testify, either because they refused an invitation or merely gave a deposition and did not appear in court, support for the panel method was almost unanimous.

In summary, it appears that the method of self-presentation that individual experts adopt in court is related to their preferences for panels or party witnessing. Some of the experts who favor panels see themselves as neutral teachers operating within traditional social scientific roles of factual dissemination in court. Others, primarily those who oppose panels, reject the neutral-teacher ideal and accept the model of advocate-debator. Scholars with more experience, and presumably comfort in providing testimony, tend more often to adopt the advocate role and to prefer party witness methods.

METHODS OF CONTROLLING EXPERT BIAS

Fundamental to the choice between panels and party witnessing as methods of presenting evidence in court is one's conception of the sources of bias for desegregation experts. Does bias originate in scientifically unsound data-gathering and analysis techniques? In the adversarial pressures of party witnessing? Or is the issue of school desegregation so controversial and value laden that scholarly detachment or neutrality is well-nigh impossible? If bias is rooted in the nature of the school desegregation controversy itself, then neither better data-gathering techniques nor panels would necessarily minimize it.

It is important to remember that bias may mean different things and raise different concerns for lawyers as opposed to scholars. For instance for some attorneys, deeply committed to the adversarial tradition, it may be most important to avoid an *appearance* of bias, regardless of bias itself. As they reported, "A witness will hurt the credibility of his testimony if he never budges from his stance in court." "The expert should not appear to be the adversary." Scholars who perceive these and other pressures, and who locate the source of expert bias in the adversarial structure of litigation and the party-witnessing method, do support the panel method.

> I would say that [the panel] seems to be a much better way to get at the facts and the truth than open testimony and cross-examination.

> I would strongly support a return to some sort of neutral presentation to simply provide the judge with whatever the available information on the point is.

Other scholars contend that expert bias in inevitable, and especially so in politically and emotionally heated controversies relating to race relations and education.[7] It may have little to do with the court structure.

> I think there are fundamental political perspectives on the nature of current reality, and the issues have become so entwined with strong feelings about current policies that only some of the issues can be resolved by genuine scholarly debate. Some of it is just differences of opinion and perspective.

Some lawyers perceive the problem in much the same terms:

> We seek to imbue any professional with the idea that they are non-human philosopher kings who have made an intuitive leap to the knowledge of the good. That itself contains a fallacy. When you get into subjects like race, obscenity, things that have an emotional overload in this society, the perception of either side of expertise does tend to get skewed. What the reality is, is a very difficult thing to say.

Not surprisingly, those scientists and lawyers who believe that the desegregation controversy invokes strong feelings and bias among social scientists do not expect the panel method to alleviate the problem.

> The panel sounds a little odd to me because it sounds like an effort at dispassionate social science. But I know those people and I know that they are not dispassionate.

> [A panel] always struck me as a simple response to the Eleanor Wolf et al. criticism of the adversarial pattern being inappropriate. I don't know what you would accomplish by putting Armor, Coleman, Orfield and Taeuber in the same room and saying you guys come up with a [desegregation] plan. They don't start from the same premise. It basically is an adversarial process where there are different views.

In a somewhat different vein, social scientists and attorneys who argue that the panel method cannot overcome potential bias feel that the very nature of its special relation to the judge and protection from attorney supervision could exacerbate the problem. They contend that the party-witnessing method, because it assures attorney participation in the selection and cross-examination of witnesses, provides the best "protection" against expert bias.

> And in the case of the L.A. panel, there's no question that the judge did not make an attempt to get a representative cross section of opinion. In fact, not only that. He got a panel from among the most activist pro-desegregation people in the field.
>
> I am most concerned about personal opinions and personal desires creeping into the situation and somehow being presented in a panel situation where they can't be pulled out or rebutted. One of the things about the adversary situation in a courtroom is that it permits careful examination of information through cross-examination.

The problem of bias (apparent or real) is of especially great concern for those who believe that it goes beyond individual experts, and it is embedded in the structure or ideology of the social sciences. For instance, defense attorneys' rejection of the panel method frequently was based on the belief that the academic community as a whole has a "liberal" or prodesegregation bias. As one lawyer noted, "the panel will be biased and therefore offer a polemic for one side—most likely the plaintiff."

The fact that defense attorneys fear such bias more than do plaintiff attorneys also helps to explain the data presented in Table 2. Defense attorneys can be expected to oppose a panel method if that method is seen as freeing scholars to act out their liberal biases without accountability to them. Some scholars we interviewed expressed a similar concern about bias within their profession and about the potential sanctions other professionals levied on scholars who testified for the defendants (Kalmuss et al., 1982). They are not alone in this assessment. Ladd and Lipset (1975), among others, have presented survey results indicating social scientists have a generally liberal posture on racial matters.

No one who supports a panel argues that social scientists are capable of conducting research and rendering opinions within a totally objective or dispassionate method. However, a number of scholars who believe a more neutral and objective method is possible support the notion of a panel. They also suggest mechanisms that could produce less biased panels (e.g., selecting from lists presented by both parties, permitting vetoes, permitting parties to call additional experts to rebut panels, and allowing the parties to cross-examine panel members).[8] While none of these mechanisms can overcome these problems, together they may provide some protection against individual and collective bias.

CONCLUSIONS

These explorations of the views and experiences of social scientists and attorneys involved in school desegregation cases indicate that the presentation of social scientific evidence in court involves three critical issues of (applied) social scientific methods. First, actors' views of the adversarial structure of the courtroom and its press for certain methods for presenting and utilizing scientific evidence, affect their courtroom attitudes and behaviors. Attorneys and scientists who are comfortable and committed to the adversarial tradition in American litigation, and to playing out their roles in ways consistent with this tradition, are more likely to prefer party witnessing to panels as the method of presenting evidence. Second, actors' (especially scientists') views of the most appropriate methods of self-presentation or role performance in court affect their attitudes and behaviors. Scholars who are comfortable or committed to an advocacy role or style for presenting evidence, as opposed to scholars more comfortable or committed to a neutral and nonpartisan style, are more likely to prefer party witnessing to panels as the method of testifying. Third, actors' views of the source of bias in social scientific testimony affect their views of the most appropriate methods to control such bias in court. Scholars who perceive the source of bias as due substantially to value differences within the society and the profession generally do not think peer interaction

can reduce this; they more often prefer party witnessing as a means of maintaining control and legal accountability of their colleagues. On the other hand, scholars who perceive the source of bias as inadequate care in gathering and analyzing data suggest that the peer interaction in a panel can best control such bias. Finally, scholars perceiving the dominant source of bias to be in the adversarial pressures of the courtroom argue that an alternative courtroom structure, such as the panel method, might improve control of that bias.

Most discussions of methodological issues in applied social science, in the courtroom or elsewhere, usually stress the importance of the scientific method as a means of controlling bias. Thus, most discussions focus upon technically sound means of gathering data, of analyzing data, and of preparing findings for dissemination in even-handed and objective ways. However, even the most neutral and careful scientific methods cannot guarantee a neutral style of presentation in the courtroom; scholars' values and party loyalties affect their role performance in court, regardless of their fairness in gathering and analyzing data. Moreover, even attempts at the most neutral presentation method do not necessarily guarantee neutral utilization of those data and findings within the highly adversarial structure of courtroom litigation. Even scholars trying to behave in a neutral, social scientific style, find themselves challenged, reinterpreted, cut off and otherwise pressed by attorneys committed to the adversarial tradition of litigation.

Thus, attention to technical data-gathering and analysis methods as the solution to these issues in presenting and utilizing data is a far too limited approach to the realistic pressures that scholars and scholarly evidence face in court. The adversarial nature of the courtroom proceedings, options about the ways applied scientific roles are played, reasonable technical and ideological differences and conflicts within the profession, and the heated nature of race and education as public policy questions all operate to broaden and deepen the real problems involved.

To be sure, even these findings are open to multiple interpretations, partly because the interaction of the three issues is so complex. For instance, we have argued that one reason many

attorneys favor the party witness procedure is because it is consistent with their adversarial training and with their commitment to this structure for establishing truth and advancing their clients' interests. Moreover, it permits them to maintain control over the presentation of their clients' case, including control over the evidence offered by themselves and others. However, some attorneys favor a panel method of presenting scientific evidence because it may work to their benefit in certain circumstances (e.g., when experts friendly to their side dominate a panel, or when a panel permits compromises they favor). Even so, as one plaintiff attorney noted, "By making the judge appoint the panels there's the danger of one person appointing a panel that's very one-sided."

Although the current direction of potential bias supports this attorney's interests, the possibility that it could go the other way is of great concern to him. Here we have an example of the juncture between two of the issues underlying preferences for the panel method: The problem of scholarly bias and the problem of loss of control may work in different directions. For defense attorneys, the problems of loss of control and liberal bias in social science lead in the same direction; both convene to oppose panels and support the party witness method. For plaintiff attorneys, loss of control and bias may lead in opposite directions, perhaps canceling each other out. There are other conditions under which violation of a purely adversarial procedure might be acceptable to lawyers. For some attorneys, a key issue is that school desegregation questions often cannot be dealt with effectively via the adversarial system, and the need to generate a compromise policy leads them to seek less adversarial procedures for resolving these disputes. The panel meets this need by introducing expert testimony in ways that permit direct exchange among witnesses, buffering witnesses from counsel, promoting accountability to a nonaligned party (the judge), introducing a broader range of evidence, and encouraging potentially new compromises as remedies.

Scholars generally favor panels, especially if they feel that other scholars are or can be neutral and objective—both in general and in the courtroom. However, scholars who feel there is and will be considerable disagreement within the academy on

controversial policy questions, or who themselves feel committed to an advocacy stance, are more likely to prefer the party witness method. For them, an unbiased and representative panel would be hard to recruit. If it is not representative, and if biased scholars are removed from attorneys' checks and challenges, the results could be dangerous. Social scientists who think agreement can be reached among scholars, or who themselves profess noncommitment to any particular policy position, prefer the panel method.

In terms of the relevance of social scientific methods, these data emphasize the importance of the adversarial context and structure of litigation in defining and limiting (or broadening) concerns about method. It also emphasizes the many roots of conflict and bias affecting social scientists, and their impact on the possibilities of neutral scholarly roles in court. For lawyers, and for scholars committed to the adversarial system, scientists' methods of presenting evidence in court may be more important than their methods of gathering data. The primary methodological concerns may be less with techniques for gathering and analyzing data than with procedures that diminish the adversarial pressures on scholars and that control for the courtroom bias of some social scientists in particular and social science in general. Attention to these issues as they are experienced by courtroom actors might help broaden typical scientific discussions about scientific methods in applied arenas.

NOTES

1. Some of the early debates focused on *whether* such evidence should be introduced into court at all (Cahn, 1955, 1956), as well as the particular evidence in the Brown et al. cases (Clark, 1953, 1959-1960; Van den Haag, 1960).

2. See also critiques and rejoinders between Rossell, Taeuber, Farley, Pettigrew, Green, Armor, and Coleman on issues such as white flight, and student outcomes from desegregation.

3. One exception to the Federal District Court requirement was made for the Los Angeles case, which was tried in the state courts. We included it because it employed this nontraditional use of experts.

4. This was not necessarily the exact question in all cases. Depending upon the informant's experience with alternative modes of litigation, we clarified what a panel

might look like (see Sperlich, 1980), drew people's attention to the Los Angeles example, and otherwise attempted to provide concrete cues to which informants could react. Nevertheless, not all informants answered this question, and the following tables are corrected for this response pattern.

5. Bell (1980, 1976) and Edmunds (1974) have articulated some of the divisions within minority communities in the desegregation cases and have drawn specific attention to conflicts between national and local counsel, as well as the different interests of their constituencies.

6. This distinction is similar to one discussed by Wolf (1977).

7. It is probably not worthwhile to engage in a debate about whether anyone can be totally value free; most scholars since Weber would say no (Weber, 1946). There are, however, matters of degree. The study of race relations in schools is an area in which there appear to be few precise answers, and where neutrality and disengagement is particularly difficult. See, for example, published debates about I.Q. testing, and achievement gains as a function of desegregation, and white flight. Representing more than intellectual disagreement, some of these heated debates include charges of being "misleading," "distorting," "immoral," and so on. Thus, it is reasonable to assume that desegregation is one area of academic inquiry in which scholars may hold strong opinions that might influence or even bias their performance as experts—as party witnesses or panelists. Whether or not scientists are free of bias, many lawyers and some scholars *believe* they are not.

8. Some of these mechanisms once again place experts into the more adversarial arena, in the position of being the witness of one side or the other.

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