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THE SOCIAL SCIENTIST IN COURT

MARVIN E. WOLFGANG*

Every profession has its own conflicts of interests, ethical issues and relativities. As a sociologist and, more particularly, as a criminologist, I have encountered a few. Although they were not excessively troublesome and may not even have bothered some of my colleagues, they nevertheless did cause me to be cautious. Among such encounters were those related to my role as a social scientist testifying as an "expert witness" for civil rights causes.

My experiences began in 1965 with the NAACP Legal Defense and Educational Fund, Inc. I gave my first testimony in Federal District Court in Little Rock, Arkansas, in connection with the famous case of *Maxwell v. Bishop*,¹ which was later pursued through the United States Supreme Court. Long and elaborate depositions in Louisiana, Florida, South Carolina, Alabama and Georgia followed, all dealing with blacks who, like Maxwell, had been convicted of rape and sentenced to death. My last major court experience was as a witness in *Gregory v. Lilton Systems, Inc.*² in Los Angeles in 1970, a case involving denial of a job because of a "substantial" arrest record. The case was handled through the Equal Employment Opportunity Commission.

I am a sociologist and criminologist, opposed to the death penalty, in favor of equality of opportunities and opposed to discrimination, whether on the street, in the factory, or in the courts. As a citizen and as a professor with a social conscience, I should, on the surface, experience no conflict serving as an expert witness on behalf of defendants or organizations representing such defendants. These individuals are, after all, in a posture of disadvantage. They are products of socially disgraceful ways of being treated as minority members of society.

Nevertheless, problems did arise from the very fact that these were worthy causes to which I had long been devoted and about which I did feel keenly. Had they not been issues that attracted my

social senses, the problems of personal versus professional perspectives, and of internal scientific data analysis, would not have arisen. For example, I was once requested by the National Rifle Association to undertake research on their behalf; I had no difficulty rejecting what amounted to a very lucrative offer. Being opposed to civilian gun ownership and in favor of very restrictive gun control legislation, I encountered no difficulty rejecting research with an organization that represented the most powerful lobby in favor of private possession of firearms.

The problems I faced as a social scientist working within the framework of social causes that I supported were connected with the following: (a) science versus advocacy, (b) research design, (c) display and suppression of empirical data, (d) style of testimony, (e) interpretation of findings, and (f) vulnerability of scientific inquiry. None of these was a new or esoteric issue, but when the social scientist steps into the arena of adversary games, confronts role conflicts, and subjects the presentation of research to the cross-examination of his mind, he faces problems in the drama that are different from those described in textbooks. He meets challenges different from those presented by his own colleagues and students in professional articles and university seminars. A description of the research issues, designs and analyses in which I participated will illustrate some of the problems to which I refer.

During the summer of 1965, I embarked upon research to examine in detail the relationship between race and sentencing for rape in eleven Southern and border states in which rape was a capital offense. The study was requested and sponsored by the NAACP Legal Defense Fund, and conducted by the Center for Studies in Criminology and Criminal Law at the University of Pennsylvania. Professor Anthony Amsterdam and I were co-directors of the study.

At each step in the development and implementation of the research design, from the selection of the sample to the analysis of the data, emphasis was on the use of research criteria that would increase the reliability and objectivity of the data

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¹ 257 F. Supp. 710 (E.D. Ark. 1966).

² 316 F. Supp. 401 (S.D. Cal. 1970).

while minimizing sources of bias and subjectivity. These are, after all, basic principles of scientific research methodology. The purpose of the research was to examine the extent to which race discrimination functions in the judicial system, at least with respect to sentencing decisions, and to provide source data for possible subsequent litigation.

The research findings were presented as evidence in six states to support petitioners' claims of racial discrimination in the administration of the death penalty. They were, in part, included in testimony in *Maxwell* before the Federal District Court in 1966, and later offered to the United States Supreme Court. They were also part of the testimony offered in 1972 before the Subcommittee of the United States House of Representatives, which was considering bills both to suspend the death penalty for two years, and to abolish it completely.

Because most executions for rape during the past thirty years had occurred in twelve states, we decided that the study could be profitably confined to them, even though six other states allowed the imposition of the death penalty for rape. In order to provide an empirical basis for conclusions about the effect of racial and nonracial factors on capital sentencing for rape, it was necessary to gather data relating to a substantial number of rape cases in each state. Moreover, a sufficiently long period of time covered by the research was necessary in order to satisfy the notion of "custom," *i.e.*, an institutionalized, systematic, judicial norm of sentencing behavior. This is the reason that a twenty-year period, 1945 to 1965, was used.

It was nearly impossible to collect data on every case that occurred. The demands of proper statistical analysis required that cases be examined in a proper sampling procedure. Standard statistical sampling techniques were therefore employed. For each of the states, a random, stratified sample of counties was chosen to represent the urban-rural and black-white demographic distributions. The counties chosen comprised more than 50 per cent of the total population of the twelve states. Every case of conviction for rape, from January 1, 1945 to the summer of 1965, was recorded. Data were gathered for a twenty-year period for over 3000 rape convictions in 230 counties in eleven states. (Maryland was not covered because of time limits.) These states were those that most often executed persons for rape, and which also displayed an apparent racial disparity, in that blacks were more frequently executed than whites. In order to explore the meaning of this apparent racial disparity

in capital sentencing, only rape convictions were considered.

It might be asserted that blacks commit rape more frequently than whites, are more frequently arrested, or are more frequently prosecuted. Whether these or any combinations of these assertions are true was not questioned in this study, mainly because data were not readily available to test such assertions. Instead, the focus was on the reliable and objectively ascertainable fact that defendants had been convicted for the crime of rape. Using this focal point meant that the effect of racial factors on the criminal process prior to conviction could not be explored. Thus, even if blacks were disproportionately sentenced to death for rape, there was no way of knowing whether the pattern could be accounted for by a disproportionate frequency in the commission of rape by blacks, or by a disproportionate frequency in the conviction of blacks for rape. However, among convicted defendants, it was possible to determine whether black defendants were disproportionately frequently sentenced to death, and, if so, whether the disproportion could be explained by nonracial variables.

This research, therefore, concentrated on convictions rather than on an earlier stage in the processing of suspects or defendants, partly because of the need to conduct the research with dispatch for litigation purposes (after all, people were sitting in death rows all across the country awaiting execution), and partly because good empirical data prior to conviction were not readily available. We decided to refrain from trying to make assertions about discriminatory behavior of the police or prosecutors in arresting or prosecuting more blacks than whites. Feelings, sentiments, intuition and anecdotes are not the kernel of scientific research. They may stimulate research inquiry and produce heuristic insights to guide hypothesis formation, but they cannot provide empirical quantitative evidence that can boldly and rigorously withstand cross-examination. Hence, no effort was made to determine whether there was discrimination in the processing of suspects and defendants prior to the determination of guilt. To maintain the capacity to provide statistical material in the traditions of scientific inquiry, we accepted the adjudication of guilt for defendants who had been charged with forcible rape. In no way were we prepared to question the adjudication of guilt, however strong may have been our suspicions about the adjudication process. The base line, then, of data collection was

all convictions for rape in the eleven Southern states.

In order to explore the effect of racial as well as nonracial variables on the imposition of the death penalty, we sought to determine which variables could be obtained from the county records of rape convictions. In addition to collecting information on the race of both the defendant and the victim, and on the type of sentence, we gathered information about many nonracial variables that could be construed as mitigating or aggravating circumstances. If standards were sought for sentencing in capital cases, some nonracial variables might have had a telling effect. The following variables were included in the study: (1) offender characteristics: age, marital status, prior criminal record, previous employment and employment status; (2) victim characteristics: age, marital status, dependent children, prior criminal record and reputation for chastity; (3) nature of relations between the victim and the offender: whether the offender was known to victim and whether there had been prior sexual relations; (4) circumstances of the offense: whether it was a contemporaneous offense, the type of entry (authorized or unauthorized), the location of offense (indoor or outdoor), whether there was a display of a weapon, whether a weapon was carried, the amount of injury to the victim, whether there was a threat made to the victim, the degree of force employed, whether the victim was made pregnant by the offense, whether the offender was acting alone or in concert and the date of offense; (5) the circumstances of the trial: the plea, whether there was a defense of insanity, whether counsel was appointed or retained, the length of time of the trial, whether there was a defense of consent and whether the defendant testified.

A twenty-eight page research schedule was constructed to obtain uniform data from records of widely varying quality and geographically dispersed locations. To reduce the amount of subjective or judgmental variation recorded by field investigators, each variable was described in a manner that focused the investigator's attention on objective facts or quantities that could be recorded on a check list.

Some information, including that about race and type of plea, was unambiguous and offered little difficulty in establishing accuracy. More difficulty occurred in trying to obtain reliable, objective data for items such as "injuries sustained by victim." To make reliable comparisons from case to case, a check-list of categories of pre-

described injuries was developed, using brief phrases that focused the recorder's attention on specific, significant, objective details, and upon the consequences of injuries. For example, categories for the latter item included recording whether the victim suffered "minor injury requiring no medical treatment;" suffered "physical injuries requiring medical treatment, but not requiring hospitalization;" or suffered "physical injuries requiring hospitalization."

Thirty law students were recruited from across the country to serve as field investigators. This is a critical point. The social science researcher has a fear of his being captured subtly and, perhaps even unconsciously, by the desire to prove his case, to show the kinds of evidence he believes and wants to believe exist. Therefore, it was extremely important that the field investigators be carefully prepared to recognize their own potential biases. As a supervisor, my task was to exercise as much quality control over the collection and recording of data as was possible. Before going into the field, the students were given a two-day orientation by Professor Amsterdam and myself. The instruction process outlined in detail the research design and the legal components of the task. Emphasis was placed on the importance of providing reliable data, founded upon uniformity in observing and recording data. We emphasized particularly that the investigators should not let their personal assumptions about the probable results of the study influence the manner in which they recorded the data. The field investigators were instructed to call central personnel for advice if instances arose in which they had trouble classifying their observations while in the field. After completion of the field work, schedules were forwarded to the Center for Studies in Criminology and Criminal Law for coding and statistical analysis.

To determine whether the death penalty was given with disproportionate frequency to blacks, we employed the null hypothesis and the chi-square (X^2) statistical test, for which P less than 0.05 was chosen as the level of significance. Two major null hypotheses were proposed. The first was as follows: Among all defendants convicted of rape, there is no significant association between the race of the defendant and the type of sentence. The second was stated thusly: Among all defendants convicted of rape, there are no significant differences between the proportions of black defendants with white victims, and all other classes of rape defendants

sentenced to death. Both of these hypotheses were rejected in each state analyzed.

The data were compiled from seven states—Alabama, Arkansas, Florida, Georgia, Louisiana, South Carolina and Tennessee—in order to prepare testimony for use in litigation being conducted by the Legal Defense Fund. Each state was separately reviewed. However, the findings and conclusions were uniform in all states. No attempt will be made here to review the statistical data. Such analyses have been presented elsewhere.³ Suffice it to say that black defendants whose victims were white were sentenced to death approximately eighteen times more frequently than defendants in any other racial combination of defendant and victim. The probability of such a relationship between the sentence of death and black defendants with white victims was, by chance alone, less than one out of a thousand. The statistical probabilities were not as high in Arkansas, but nonetheless were compelling and significant in the language of the statisticians. As Michael Meltsner reported in his recent book, *Cruel and Unusual*,⁴ about my testimony in the *Maxwell* case in Arkansas:

[... the disparity between the number of death sentences imposed on Negroes with white victims and all other racial combinations of convicted defendants and victims was such that it could have occurred less than twice in 100 times by chance.] Put another way, if race were not related to capital sentencing in Arkansas, the results observed in the twenty-year period study could have occurred fortuitously in two (or less) twenty-year periods since the birth of Christ. He believed that the study documented racial discrimination that previously available data—not collected systematically or in a form permitting rigorous analysis—could only suggest. With a qualification that “information is always limited,” Wolfgang concluded that the study had made definite what before had been merely suspected.⁵

My scientific orientation and training confronted my social consciousness as I performed the research and offered testimony in Little Rock. I had to be cautious in my choice of language in order to imbue my conclusions with precision, accuracy and validity. I drew particular attention to the distinction between “differential” sentencing, “dis-

proportionate” sentencing and “discriminatory” sentencing. My friends at the Legal Defense Fund who are attorneys, and who schooled me in the process of direct and cross-examination, had to be schooled themselves in the reluctance of a researcher to leap too quickly to a conclusion of discrimination, which was the conclusion desired by the adversaries in seeking to obtain a judicial decision favorable to their cause. Meltsner described this process:

[H]e had no experience in testifying about sociological matters in court. Indeed, this was one of the many reasons that the lawyers thought that he would be an extremely effective witness—here was no “expert” witness for hire. . . . Although his testimony should not appear canned, Wolfgang did have to know precisely how the lawyer questioning him intended to bring out the purpose and results of the rape study. He also had to learn what he might expect on cross-examination. . . . Long before Maxwell’s second habeas petition was filed, Wolfgang’s schooling as a witness had been attended to, for [Norman] Amaker and I had travelled to Philadelphia to help him prepare. We wrote out long lists of questions, and posed them to Wolfgang. After he responded, we discussed his answer—had a word of jargon crept in? would the judge understand a particular scientific concept?—and then moved on. It was tedious work for all concerned, but we knew that the best stories told in court had generally been told in lawyers’ offices first.⁶

One of these stories had to do with the distinctions between “differential,” “disproportionate” and “discriminatory.” I vividly remember the long discussions that Amaker, Meltsner, Amsterdam and I had on several occasions as we were preparing my testimony. Amaker, a black lawyer working full-time with the Legal Defense Fund, and one of the brilliant minds that engineered the entrance of my testimony, was particularly intent on using, as early as possible, the word “discrimination” in the testimony. Amsterdam, who was a bit more patient, a patience perhaps partly borne from his deep involvement in construction of the twenty-eight page schedule for interview purposes and in research design, appreciated my reluctance to leap from a priori intuitive assumption of discrimination to the conclusion of discrimination. As I laboriously indicated to all of the lawyers, despite the elaborate nature of the information we had concerning the victim, the offender, the character of

³ See Wolfgang & Riedel, *Race, Judicial Discretion, and the Death Penalty*, in *BLACKS AND THE LAW* (J. Greenberg ed. 1973).

⁴ M. MELTSNER, *CRUEL AND UNUSUAL, THE SUPREME COURT AND CAPITAL PUNISHMENT* (1973).

⁵ *Id.* at 100-01.

⁶ *Id.* at 98.

the offense and the judicial proceedings, we had no direct evidence of discrimination.

"Discrimination" refers to behavior that resides in the mind of the actor which is expressed overtly for observation by others. I tried to impress upon the lawyers that I was uncomfortable using the term "discrimination" until all of the evidence was documented, that even if the findings were in accord with their adversary position, I could not use the term in the null hypothesis, nor in the description of the research, until the final statement. The final statement asserted that there was a disproportionate sentencing of blacks to the death penalty in comparison with whites. This meant a differential sentencing pattern over the twenty-year period. "Differential" meant a degree of statistical difference that was significant according to traditional probability statistics. Professor John de Cani has carefully and clearly described what those probability statistics mean in the language of statisticians.⁷ Differential sentencing, *i.e.*, disproportionate frequency of blacks sentenced to death in comparison to whites, could mean only inferentially that there was a pattern of discrimination. I felt secure as a social scientist in asserting in court and in depositions that so clearly differential and disproportionate had been the sentencing that there was historically a pattern of discrimination in the imposition of the death penalty.

It was my belief then, and it is my continued belief, that by exercising scientific caution in the style of expressing research findings, the social scientist retains his integrity as a scientist, and, at the same time, can produce compelling, persuasive, convincing and rigorous testimony as an expert witness.

I often wondered what would have been my stance if the research data over a twenty-year period of sentencing in the eleven Southern states had yielded results opposite those that we found. That is, suppose most of the nonracial factors we had examined in the conviction of rape and the imposition of the death penalty had shown that blacks had committed more aggravated rape; had, in greater frequency than whites, prior criminal records; had inflicted greater injury; had committed more corollary offenses such as burglary and robbery; had more frequently impregnated the victim, etc. As I indicated earlier, none of these non-racial variables was in any way related to race, and

the differential sentencing pattern we observed, with more blacks sentenced to death than whites, occurred only when the defendant was black and the victim was white. If the nonracial factors had been related to black defendants, I suppose the lawyers from the Legal Defense Fund would have used some other tactic and not presented our studies. Under those circumstances, I probably would not have been an expert witness.

I was aware of this situation before the data had been collected and analyzed, and was prepared for the possibility that I might not testify. However, had I not testified, I would still have published the results of these studies in social science journals, even though the findings, had they been the reverse of those we found, could have been used by prosecutors in the Southern states as evidence contrary to the proposition advocated by the Legal Defense Fund lawyers.

The basic question was this: Does the social scientist have an obligation to publish or to refrain from publishing material which might be damaging to the political-social position he feels as a citizen? I was fortunate in not having to face this dilemma because all of the evidence we collected fell within the domain of our social sentiments. The question of suppression of evidence, therefore, never arose. The dilemma would have been further compounded by the fact that the NAACP Legal Defense Fund provided funds for the research. But the social scientist should never feel subjugated to the source of funds when engaging in scientific research. The right to release, to publish, and to display results is a basic academic freedom and a research freedom that should not be relinquished.

Vulnerability and the limitations of scientific research are features well-recognized within the scientific community. There are no scientific laws in social science. The best and most rigorous empirical research rests upon statements of probability. Other scholars who examine the results, the findings, descriptions, interpretations and explanations of a body of research respond to these limitations and vulnerabilities in ways that may be muted by their own understanding of them. They are faced with similar limitations in their own research. However, under the conditions of testifying in court, these vulnerabilities and limitations may be subject to hypothetical questioning and the sometimes abrasive interrogation of a lawyer whose primary task is not to appreciate the problems of science and treat them gently, but to deny the

⁷ See, de Cani, *The Role of the Statistician in Jury Discrimination Cases*, 65 J. CRIM. L. & C. 234 (1974).

strength of the assertions and to destroy the assumption of scientificity.

After years of experience presenting evidence before various courts, I am now prepared for cross-examination which does not address itself specifically to the same issues that I, as a scientist, examined in my research. In my first exposure in the Federal District Court in Little Rock, I was not fully prepared for the style in which the Assistant Attorney General of Arkansas examined me. I had been prepared for the possibility of another statistician being placed on the witness stand by the Attorney General, but as John de Cani has indicated, no statistical expert witness was ever offered to contradict this evidence. Nor has any statistician, social scientist, or criminologist ever been offered by opposing advocates to contradict or reinterpret my research data. Thus, instead of being asked questions directly related to the scientific limitations of the research, I was asked a series of questions that, from my scientific perspective, had no relationship to the thrust of the inquiry, or to the reliability or validity of the findings.

I was asked under cross-examination if I had ever been in Arkansas before my appearance as an expert witness for the Legal Defense Fund. I responded in the negative. The Assistant Attorney General used this response to imply that I did not fully understand the social conditions or the litigation processes in Arkansas. It was further brought out under cross-examination that Garland County, in which Maxwell had been tried, was not included in the survey sampling of Arkansas counties. The state argued that failure to include Garland County was a fatal error, that the generalized conclusions drawn from the Arkansas rape-death penalty study could not apply to the *Maxwell* case.

Based upon my own research, this conclusion was absurd. We had taken a carefully drawn random sample of counties in Arkansas, as well as in the other ten Southern states, without attention to the counties in which specific cases for litigation may finally occur. Our primary interest had been to determine whether there had been a customary, institutionalized, systematic process of differential sentencing to the death penalty based on race; hence, the specific litigated cases were of no consequence to our random selection. If we had drawn our sample counties purposefully to pick counties in which cases like *Maxwell* had occurred, we would have destroyed the statistical randomness of the selection of counties and would have also distorted the character of the scientific inquiry. Yet, this

fact and this kind of reasoning had little impact on either Assistant Attorney General Fletcher Jackson or Judge J. Smith Henley.

The social scientist who becomes involved in testifying and displaying research evidence must also be prepared for opinions that contravene the traditional scientific canons of response. For example, Judge Henley accepted my conclusion that sentencing patterns of Arkansas Negroes convicted of raping white victims "could not be due to the operation of the laws of chance." He accepted the conclusion that a black convicted of raping a white woman had about a 50 per cent chance of receiving a death sentence, and that any man convicted of raping a woman of his own race stood only a 14 per cent chance. But Judge Henley thought the difference could be explained on grounds other than race, and contended that the imposition of the death sentence might be due to some factor for which statistical analysis had not been possible or presentable. He announced in his decision that the "variables which Dr. Wolfgang considered are objective . . . broad in instances . . . imprecise. . . Discrimination moreover is a highly subjective matter [and might not] be detected by a statistical analysis. . . Statistics are elusive things at best, and it is a truism that almost anything can be proven by them."⁸ These are common assertions made by persons who are not social scientists trained in statistics. Yet, the social scientist who becomes involved in testifying in this area must be prepared for arguments and decisions that are political or that reside in legal vicissitudes outside the framework of social science inquiry and evidence.⁹

With respect to my experience on the witness stand in the *Maxwell* trial, I can honestly say that I never felt frustrated. I was well directed under direct examination, and well prepared beforehand by the very capable lawyers of the Legal Defense Fund. Nor have I ever felt abused or treated offensively in court by unfriendly cross-examiners. Unlike psychiatrists who testify as expert witnesses in insanity cases, I have always felt that both the opposing lawyers and the judges were civil, and afforded me appropriate opportunities for expansion of my answers. I never had to respond in a simple yes-or-no style. Moreover, because of the appreciation and understanding of

⁸ 257 F. Supp. 710 (E. D. Ark. 1966), cited by MELTSNER, *supra* note 4, at 322.

⁹ For a history of the use of the research data, see MELTSNER, *supra* note 4, at 73-105.

the role of the social scientist by the Legal Defense Fund lawyers, I never felt that I had to suppress, mute, or otherwise distort any of my findings or any of the scientific inquiry that led to the evidence I ultimately presented. In short, the role conflicts that I felt initially and the dilemmas that I anticipated were all smoothly resolved because the legal staff accepted the caution of language and the style of the scientist. This fact is perhaps one of the most important historical lessons that can be of utility both to social scientists and to their companion lawyers with whom they work in future civil rights litigation.

The research design of social scientists who are involved in litigation and as expert witnesses should conform, as always, to the rules of scientific methodology, without being prejudiced by the underlying litigation purpose. That purpose may be the original or basic reason for becoming involved, and in that sense clearly reveals a value judgment. Failure to abide by the known rules of scientific inquiry can only damage the evidence, as well as the presenter. The statistical techniques of analysis, the methods of research, and the emphasis upon the traditional canons of reliability, validity and objectivity should be observed if the thrust of the scientificity of the testimony is to be maintained with integrity. The null hypothesis or other theoretical guides for the selection of variables and data analysis are equally important for maintaining a posture of a scientist and not of an advocate. The acuity of the companion lawyers should be sufficient for the social scientist as a linguistic and institutionalized vehicle for the transportation of his findings.

The social scientist should not try to convert his design, his data, or his conclusions to conform to the litigation process. There is no reason for him to use statistical measures of significance and techniques different from those used in any other level of scientific inquiry. The language employed to present evidence should be as precise and clear and as devoid of jargon as the scientist is capable of providing. The inductive process, including serendipity, of obtaining insights from a review of data should be described in testimony in the same way it is communicated to the scientific community. Conditional clauses should be employed despite the fact that they are more vulnerable to cross-examination. Such words and phrases as "may," "probable," "other things being equal," "holding constant certain variables," and "associated" rather than "cause" are important verbal

accouterments of the probabilistic language of science, and should not be neglected when presenting evidence in court.

There may be some apprehension associated with the fact that a court stenographer is recording every word. There is a considerable difference between speaking under those circumstances and expounding sometimes unsure evidence before a group of students in a seminar where cross-examination is not employed. Speculations, interpretations beyond secure data, and attempts to get reactions to a new idea can be exciting features of a seminar, but such forays are not meant for a record upon which cross-examination is based. Nevertheless, the scientist who does testify, and who is confident of his own research and the integrity of his findings, need not fear the attack. Like the candidate in defense of his doctoral thesis, the expert witness should be more fully informed and more erudite about his material than an attorney who is questioning him critically.

The lawyer is informed about his case and the legal issues at stake. He is not particularly interested in being in command of the scientific material. The expert and the lawyer use different skills and languages. Their dialogue has oblique contact, with the one using verbal assaults in an effort to pierce the linguistic mail of the other. Unless the social scientist is prepared to understand these perspectives and to be assured of his own rule, unperturbed by the drama of the court and the critical capacities of his cross-examiner, he should not participate in this kind of episode. Lawyers should beware of those social scientists who are only too willing to be expert witnesses on the basis of their fervent feelings for the cause at issue. Unless such scientists have empirical evidentiary material to buttress an argument, they will be more of a burden than a blessing.

Gregory v. Litton Systems, Inc. represented other kinds of problems. Gregory was a black sheetmetal worker who sought a job with Litton Systems, Inc. in Los Angeles in 1968. He filled out the usual application forms. When he returned a week later to begin work, he was informed that he should fill out another form. The new form demanded information about whether the applicant had ever been arrested, how often, and for what reasons. Gregory filled out the form frankly, indicating that he had been arrested fourteen times. There had been no convictions, and most of the arrests had been for trivial offenses, including failure to carry his registration for selective service. Yet, because

his record reflected fourteen arrests, Gregory was deemed ineligible for hire. He contacted the Equal Employment Opportunity Commission, which turned the case over to the law firm of Simon, Sheridan, Murphy, Thornton and Medvene for litigation.

I was asked by Edward Medvene to testify in July, 1970, as a criminologist on behalf of Gregory's claim. After learning the particulars of the case, I agreed. I contended that, as a black, Gregory had a higher probability of being inappropriately arrested than a white, and that therefore the notion of "substantial" arrest record as a basis for deciding to employ or not employ was discriminatory. In this case, I did not collect new empirical research. Time permitted only co-ordination of existing material, some of which was anecdotal, but most of which was previously collected empirical and statistical data. This was the basis for my testimony that the use of arrest records was improper because of the discriminatory character of official arrest records. I argued that blacks are more likely to be entrapped in the network of the criminal justice system than are whites, this despite the sufficiency of evidence in individual cases. I referred to what is known as "self-reporting" studies of "hidden delinquency and crime." These studies, from the United States, England and Scandinavia, show that in anonymous questionnaires or interviews there are no statistically significant social class differences among persons who admit having committed a variety of criminal offenses. Ethnic and racial differences that are traditionally recorded in official police arrest records, showing that blacks in America are disproportionately represented four times beyond their "share" in the general population, are reduced to insignificance in the hidden delinquency, self-reported studies. Fortified by these findings, I testified, with various documentation, that whites admit having committed about as many offenses as blacks, and that variations by social class, recognizing that blacks are mostly represented in the lower social class in the official police statistics, virtually disappear in the self-reported studies. The study by Chambliss and Nagasawa¹⁰ was particularly useful because it referred to whites, blacks, and Japanese and offered these same conclusions.

¹⁰ See Chambliss and Nagasawa, *On the Validity of Official Statistics—A Comparative Study of White, Black, and Japanese High School Boys*, 6 J. RES. CRIME & DELINQUENCY 111 (1969).

The major dilemma I faced as a social scientist in *Gregory* arose from my request for special computer runs in Philadelphia and in St. Louis on the attrition of cases, by race, from police arrest to the preliminary hearing and presentation for trial. My student assistants at the Center for Studies in Criminology and Criminal Law quickly undertook a special study of the Philadelphia cases to determine whether a greater number of blacks than whites were arrested, and whether a greater number of blacks had their cases dismissed by the magistrate at the preliminary hearing. I also asked Nelson Heller, who was a researcher in the St. Louis Police Department, where quick computer analysis was available, to do a special run of the same kinds of analysis.

The conclusion in both cities was that proportionately no more blacks than whites had cases dismissed at the preliminary hearing, and that there was no statistical evidence to show that the grounds of probable cause for arrest were different for blacks and whites.

Not being able to present clear evidence of disproportion from which inferences of discrimination could be made, I tried to determine whether these materials could be used in testimony. It was clear to the lawyers that this small and inconclusive research effort was of no benefit to them and should not be presented. Evidence unresponsive of one's case, however complete or segmental it may be, has no function in the adversary game. Such evidence may be useful in a scientific article, but if one piece of evidence is contravened by other evidence, it has no proper place in argument before a court. Evidence from a scientific perspective may be neutral or negative, and should be presented in an essay that examines a given phenomenon, even if that evidence is relatively weak, in order to show the contrary position of more firm evidence. But in court, evidence negative to one's position is omitted. There is selectivity unlike that which exists in science. If history were written with such selectivity, if psychological, sociological and other kinds of research were performed in an adversary style, science would rush too quickly to conclusions or be aborted in its efforts.

These differences must be recognized by scientists who coalesce with trial and appellate lawyers. This recognition should not be viewed as a capitulation by the rules of science, but instead as a filtering of the scientific rules through a set of values that may be different, but which are equally

powerful, useful and absolutely necessary in the defense or prosecution of a position. The litigation process has a different set of operating procedures than does scientific inquiry. Scientific evidence is judged within the context of legal rules of evidence, especially doctrines of constitutionality, that do not always coincide with the rubrics of science in the manner in which they order knowledge of empiric reality. Moreover, there is as wide a range from soft to hard data, and of rigor and sophistication of analysis in science as well as in law. The preceptors of science must be alerted to their own fallibilities and be prepared to accept challenges outside their disciplines by others trained in the parameters of law, the adequacy of logic and the rigors of reasoning. It is in these attributes that the scientist and the lawyer can find firm meeting ground for their minds, and for the exciting display of their separate talents and training.

As the findings from social and behavioral science become increasingly relevant to the resolution of critical legal issues,¹¹ as trial and constitu-

¹¹ See *Furman v. Georgia*, 408 U.S. 238 (1972); G. MYRDAL, *THE NEGRO PROBLEM AND MODERN DEMOCRACY* (1962). Myrdal's *An American Dilemma* (1944) is one of the important sociological studies re-

tional lawyers recognize the relevance of behavioral science, and as statements of probability and inferential statistics become more acceptable to judicial decision making processes, the number of cases employing this disciplinary mix should increase. Legal education should reflect these changes by introducing more behavioral science courses and materials in law schools, and by appointing social scientists to law school faculties. I also urge social scientists to become involved in the exciting and dramatic work of litigation with lawyers.

Theories, assumptions, hypotheses, reliability and validity are concepts that can be readily transferred, without distortion of meaning, from the scientific treatise to the courtroom. To satisfy the scientist, the vehicle of that transference must be through the capable articulation of competent companion lawyers. Judges should be urged to understand the testimony of scientists, not as a language of faith nor of heresy, but as a discourse of reason whose rules are sometimes as firm, sometimes as flexible, as those of criminal precedence and procedure.

ferred to in *Brown v. Board of Education*, 347 U. S. 483, 495 n.11 (1954).