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THE SOCIAL SCIENTIST AS EXPERT WITNESS

by

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Service on advisory committees, presentations at scholarly conferences, testimony before Congress: These are the traditional modes, short of directly entering government service, by which scholars have sought to influence policy. But there is, in fact, another venue where the social scientist has a role to play, one that is gaining increasing significance in American society: the law courts.

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The purpose of FOCUS is to acquaint a wide audience with the work of the Institute for Research on Poverty, by means of short essays on selected pieces of research.

The material in any one issue is, of course, just a small sample of what is being done at the Institute. It is our hope that these summaries will whet the appetite of the reader to learn more about the research itself, and more about other research on poverty—an area of vital social concern—by Institute staff.

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The Law as Policymaker

The Supreme Court decision on school desegregation 25 years ago—Brown v. Board of Education—ushered in an era in which the law courts have carried an ever-growing share of the burden of social reform and policy change in this country. Even though several current members of the Supreme Court were appointed as "strict constructionists," and think of themselves as not in the business of setting social policy, their own rulings seem likely to increase judicial use of social science evidence and perspectives. It is becoming essential to understand the role and the potentialities of social science in the legal system. What follows is a case study of social science at work in a legal context.

Segregation in Schools and Housing: The Milwaukee Case

Elaboration of the meaning of the *Brown* decision, particularly its applicability to large northern cities, has been a major political issue in the 1970s and a continuing source of cases for consideration by the Supreme Court. In its *Dayton* decision (1977) the Court set forth two criteria intended to clarify the circumstances that it would accept as a basis for citywide school desegregation plans with extensive busing of pupils: (1) intent to discriminate must be determined and (2) the incremental segregative effect of any violations adjudged to arise from that intent must be specified. The second of these appears, probably inadvertently, to have opened the door more widely to social science evidence, for it raised issues at least as amenable to scientific examination as to jurisprudence.

One of the several school segregation cases undergoing post-*Dayton* litigation was recently heard in Milwaukee. The case originated in a suit that was brought against the Milwaukee school system in 1965 but did not come to trial until 1973. In January 1976, Federal Judge John W. Reynolds handed down his finding that the Milwaukee school system was unconstitutionally segregated, and he ordered that a desegregation plan be developed. A phased desegregation plan was approved and put into operation that fall. The decision was appealed, and eventually the Supreme Court returned the case for reconsideration in light of the criteria established in the Dayton case—"whether or not the defendants had administered the Mil-

waukee Public School System with an intent to segregate and what present effects, if any, resulted from any intentionally segregative conduct found by the Court".2

The first phase of the rehearing was devoted to the criterion of intent. In June 1978, Judge Reynolds found, as he had in January 1976, that the Milwaukee School Board had administered the school system "with segregative intent" since at least 1950. They had "deliberately separated most of the whites from most of the blacks, and this the Constitution forbids." (The motives of the School Board were, as he pointed out, irrelevant.) He found, too, that School Board policies in the areas of teacher assignment, intact busing, open transfers, and school construction and boundary changes had resulted in a systemwide pattern of deliberate segregation of whites from blacks.

The judge then set hearings on the issue of incremental segregative effects—the continuing consequences of the Milwaukee School Board's past decisions. Only if such effects were found to have current systemwide effects would he, under the Dayton criteria, be able to mandate systemwide remedies. Both parties chose to call expert witnesses from the social sciences, thus affording an occasion in which the interaction of research and policy can be observed under rather clearly delimited circumstances. During the summer and fall of 1978, the judge heard evidence from expert witnesses for both sides. This "battle of the experts" pitted the testimony of Robert L. Green, an educational psychologist, Karl Taeuber, a sociologist and urban demographer, and Gordon Foster, a professor of education, against that of William Clark, an urban geographer, and David Armor, a sociologist.

The Evidence for the Plaintiffs

In his analysis of the effects of the deliberately segregative actions of the Milwaukee School Board, Taeuber drew attention to the intimate links between schooling and housing.

Within any metropolitan area, the perceived quality of a residential neighborhood will ultimately be linked to the character of its schools. Realtors recognize this, and frequently in their advertisements identify neighborhoods by school district. The developers of residential housing know that the location and timely opening of new schools may profoundly influence the pace and profitability of their projects. Urban planners and community organizations seeking to maintain or improve older central city neighborhoods fight to keep the schools open. People may be willing to travel some distance to work, or for shopping and recreation, but as long as the school a child attends is determined by the district in which that child lives, housing and schooling—and thus the composition of a neighborhood-will remain intimately connected. In Milwaukee, Taeuber observed, "there was a continuing reciprocal interplay between schooling and housing such that the highly concentrated black ghetto and the highly concentrated portions of the school system grew up together, and the reciprocal influence on the white areas produced solidly white residential and school areas."3 He argued that the discriminatory actions of the school officials were an underlying cause of this total pattern of segregation. The examining attorney then explicitly introduced the issue that emerged from the criteria established in the *Dayton* case. What would have happened, he asked, had the Milwaukee School Board not engaged in intentionally segregative practices?

"There might be," Taeuber answered,". . . substantially less school segregation, substantially less housing segregation, and substantially improved race relations in all aspects of life and society in Milwaukee."

To provide a basis for that opinion, Taeuber reviewed the four general types of intentional discriminative policies that had been identified by the judge: teacher assignment, intact busing, open transfer policy, and school construction and boundary chages. He indicated how each of these school policies affected residential segregation in Milwaukee. Taeuber's analysis was directed at systemwide effects, and at the general attitudinal and psychological consequences of the Board's efforts to keep blacks and whites apart.

Teacher assignment. In 1950 there were 9 black teachers, all teaching in the 4 schools with black majorities. By 1965 there were 478 black teachers, and four-fifths of them were assigned to one-fifth of the schools—those with a majority of black pupils.

Suppose that for the past 30 years, Taeuber suggested, blacks had been affirmatively recruited to teaching and administrative positions in the public schools and had been assigned in a nonracial pattern. Pupils and parents both would have had first-hand experience with black teachers. The educational system by direct example would have taught that blacks and whites were equally capable of scholarly attainment and administrative responsibility, and of working together in harmony. More teachers might—as some teachers do—have chosen to live near their schools, thus retarding the growth of segregated neighborhoods.

Intact busing. If a school was overcrowded, or undergoing repairs, or otherwise unable to accommodate all the pupils assigned to it, children were bused to another school. If white children were involved, the students were ordinarily absorbed into the normal classes and activities of the schools to which they were sent. But black students bused to predominantly white schools, in contrast, were sent as an intact class unit, with their own teachers, under control of the school that sent them. Separate treatment was in several instances extended as far as the setting of separate recess times and denial of access to school lunch programs. And the numbers involved were not trivial. About half of Milwaukee's mainly black elementary schools, and nearly half of its white elementary schools, were directly affected during at least one semester by the intact busing program.

Public controversy over intact busing became intense in the 1960s. Taeuber asserted that the intact busing program and the ensuing controversy taught white citizens that the school system was going to great lengths to protect them and their children from contact with blacks. Black citizens learned that even in the highly structured situation of a public school they were not welcome to participate on an

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equal basis. A great opportunity to teach racial tolerance was lost, and an enduring lesson in intolerance taught instead.

Open transfer policy. From 1960 to 1970 the Milwaukee school system allowed students to transfer freely from school to school, provided that space was available. Toward the end of the period, students wishing to transfer were not required to give reasons. Open transfer, of course, was a weapon that blacks could—and did—use to gain access to white schools; but it was also used by white students to escape attendance at schools that had large numbers of black students.

The effects of such a transfer program on housing patterns are varied, but in the long run the most important housing market impact comes from the increasing black percentage as white pupils transfer out of schools. The result is to make the school racially identifiable and to dry up the demand by white families for the housing vacancies that do occur in the neighborhood. In Milwaukee no policies directed at maintaining racial balance in the schools were instituted. Such policies might arguably have slowed or halted the development of solidly black ghettos.

School construction and boundary changes. Judge Reynolds had already ruled that the steps taken by the Milwaukee School Board to ease overcrowding and provide new facilities were designed to preserve as clear a border as possible between black areas and schools and white areas and schools. Taeuber suggested that no other boundary system within a city is as crucial to residential behavior as is the system of attendance zones delineated by the school authorities. Thus, the shifting school boundaries take on a larger purpose: They are used by public agencies and private persons to demarcate the shifting boundaries between racially identifiable residential areas.

The Evidence for the Defendants

The expert witnesses called by the lawyers for the Milwaukee School Board explicitly rebutted the generalist approach of Taeuber and his colleagues⁴:

The untested claims of Drs. Green, Taeuber and Foster with respect to psychological attitudinal effects transcend the bounds of the task assigned this Court. The only issue presented is what the racial distribution of the school population would be today, not what psychological harm might have been caused and not what attitudinal concepts might have been developed because of the violations.

The Court, they argued, must determine "the present incremental effects of the constitutional violations found on a school-by-school basis, by comparing the present pupil racial composition of the schools to what would have existed had no violations occurred." Any other approach, they argued, failed to respect local school autonomy; it was as much a violation for a federal court arbitrarily to impose its will on local government as it was for that local government to violate the rights of a minority student group.

The defendants, then, sought to move the battleground from what they considered a speculative—they called it "presumptive"—ground to a "factual" zone based in strictly quantitative terms. Their intent was to limit the scope of judicial intervention to those individual schools for which specific consequences could be determined. Witnesses for the plaintiffs, they charged, had made no attempt to quantify the incremental effects of violations on the basis of detailed study of the facts and circumstances in Milwaukee; their evidence, presented in such terms as "substantial" or "not minimal," was by implication "unscientific." The witnesses for the defense sought to quantify changes in segregation through use of two common social science "segregation indices"—the dissimilarity index and the exposure index. They tabulated their findings for the effects of transfers, faculty distribution, intact busing, and boundary changes on a school-by-school basis in terms of percentage changes in these indices.

The basic defense challenge to the claim of systemwide impacts was Armor's claim that "the level of segregation that would exist in the school system in 1975-76 if all students attended schools based upon the 1950 boundaries, grade organizations and feeder patterns is virtually identical to the actual 1975-76 level of segregation." In other words, they would show that the School Board's policies over a quarter of a century had made barely one iota of difference in the racial distribution of Milwaukee schools in 1975-76. Thus, according to Armor, there was no currently measurable impact of all of the direct and indirect effects postulated by the plaintiffs.

The defense witnesses considered the issue of the reciprocal effects of housing and schooling, charging that Taeuber's opinion fell "within the realm of speculation and conjecture with no hard evidence to support it." Clark presented an updated revision of his previously published simulation study that sought to explain the development of the black residential concentration in the city of Milwaukee. Armor added a simulation of the effects of personal residential preferences of blacks and whites for living near persons of their own race. They concluded that at most a "residual of 15-20%" of racial segregation could be attributed to discrimination of all types, including private housing market discrimination. Thus, the actions of the Milwaukee School Board had made only a trivial contribution to the total set of causes of the existing school segregation.

The defense argued that the plaintiffs had thus failed to meet a burden of proof that was by law incumbent upon them—they could not demonstrate that the actions of the School Board had produced "significant present effects in identifiable schools in the system" in Milwaukee. There was, therefore, no ground upon which the Court could act to require "strong affirmative integrative programs."

The Judge's Findings

Somewhat ruefully, one suspects, Judge Reynolds commented that "the so-called 'battle of the experts' has required the Court as factfinder to . . . evaluate almost entirely contrary sociological and urban geographic theories." Nor could he merely avoid choosing among the

competing theories, for in his judgement "the manner in which the Court has viewed the expert testimony . . . is in turn determinative of the outcome of the case." Federal judges are, of course, well versed in the assessment of conflicting evidence; even so, the task at hand might be considered a daunting one, given the highly technical nature of much of the argument. How the judge, then, chose to resolve the issue is of some interest to those concerned with the interaction of social science and social policy. And social policy—the future shape and direction of the entire Milwaukee school system—was very much at issue here.

Judge Reynolds's first line of march through the issues was legal. The arguments of the defendants, he noted, did not accord with his own reading of the Supreme Court decisions set out in such cases as Keyes⁶ and Dayton, which deal with de facto segregation in school systems. After a court has demonstrated both past deliberate segregative acts and present systemwide segregation, he declared, the defendants in any such case must demonstrate conclusively that their actions did not create or contribute to the current segregated condition of the schools. Furthermore, if a school system failed to take affirmative action to end de facto segregation (a condition that both sides acknowledged to exist in the Milwaukee system), then that school system rendered itself liable to the imposition by federal courts of a systemwide remedy. Legally, then, the onus of proof was on the defendants, not the plaintiffs.

Judge Reynolds then bypassed some of the methodological controversy by rejecting the defendants' argument that the *Dayton* case mandated a school-by-school analysis of the entire Milwaukee system. He cited *Keyes:* If deliberately segregative policies were found in a "substantial portion" of a school system, it was only common sense to conclude that a dual system existed. Thus, he rendered irrelevant much of the specific analysis of individual schools in which the defendants' witnesses had engaged. They were, he commented, taking far too narrow a view of the intent of the law and of the evidence; they were, furthermore, ignoring his own earlier findings that systemwide violations had been demonstrated to exist in Milwaukee.

Judge Reynolds's second line of march took him right through the thicket of competing sociological perspectives. He rejected the argument that only quantitative evidence—"hard data"—was relevant to his decision. "Any 'alternative universe' created, whether by plaintiffs' or defendants' experts, will necessarily be an approximation. . . . Consequently, the use of a term like 'substantial' . . . by a person whose expertise qualifies him to make a judgment . . . is all that is reasonably possible."

With this comment, the judge undercut much of the elaborate methodological apparatus erected by the defendants. Furthermore, he dismissed evidence based on the simulations of housing patterns as incomplete because it did not disprove competing interpretations.

These decisions, grounded in a choice among social science perspectives (rather than among technical details) as well as in law, in the judge's own values, and in his broad

interpretation of the powers of the court, had, of course, major consequences. They allowed the judge, in his decision of 8 February 1979, to adopt the arguments of the expert witnesses for the plaintiffs in support of his findings that "the systemwide intentional discrimination . . . of the Milwaukee public school system . . . necessitates imposition of a systemwide remedy." For instance, he agreed with Taeuber that a school-by-school approach failed to take into account that individual School Board actions may have ramifications—especially psychological and attitudinal consequences—far beyond their impact on the immediate school or schools at which they are directed. The defendants had argued, for example, that intact busing did, after all, bring numbers of students of one race into contact with students of another race, and that therefore the busing could not be considered a segregative act. To make such a claim, Reynolds commented, is to ignore the nature of the contact. He saw no reason why he should not use the "broad and flexible equity powers" of the court to fashion a remedy to cure the adverse psychological effects of the School Board's actions.

Conclusion

In the Milwaukee case, the technical and empirical details of the social science evidence can hardly be said to have been the decisive factor in the decision: A liberal judge, disposed to interpret broadly the powers of the federal courts, had already gone on record as believing that the Milwaukee school system was in law segregated by race, and had already imposed systemwide remedies. He was asked by a higher court to reconsider. Could he have been otherwise convinced the second time around by expert witnesses for the defense? Given his belief that the law placed the onus of proof in such cases on the defendants and not on the plaintiffs, such a change seems unlikely, for it is in fact possible—especially in the area of segregation and discrimination—for equally qualified social scientists to read the chains of cause and effect in very different ways. What the evidence did provide, it appears, was more in the nature of a perspective, a clarification and an airing of the issues in relatively impersonal terms rather than through heated exchanges of anecdote and personal opinion.

But another aspect of the case is perhaps, in legal terms, equally important. The written record of a decision carries some force of precedent in law. Material incorporated as evidence may, therefore, have an influence considerably beyond its influence in the immediate legal decision. In the Milwaukee instance, the judge's findings of fact incorporated, in large part, the social science evidence adduced to the case by Taeuber and his colleagues. Such evidence is, therefore, likely to have reverberations in future decisions.

For those anxious to bring to bear upon policymaking the perceptions and the understanding derived from the social sciences, the courts emerge as a venue where the stakes, but equally the risks, may be very high. An adversary system can often be a winner-take-all system, and one individual—the judge—has very great powers.

NEW INSTITUTE SPECIAL REPORTS

SR 22 Labor Supply and Social Welfare Benefits in the United States. A report prepared for the National Commission on Employment and Unemployment Statistics, by Robert J. Lampman.

Since the end of World War II, public program benefits for social welfare have more than doubled as a percentage of GNP. Increasing concern has been voiced over the degree to which these health, education and welfare benefits discourage market work by recipients. This report addresses that issue by posing the following question: Would the current labor supply be larger than it actually is if the post-1950 increase in social welfare spending had not occurred, and, if so, by how much?

The author looks first to theory and then to empirical studies. He divides the social welfare system into two elements: (1) the lump-sum grants and the guarantees in earnings-conditioned grants, all of which add to the nonlabor income of beneficiaries; and (2) the taxes that go to finance the benefits and the benefit reduction rates in earnings-conditioned benefits, all of which combine to reduce net wage rates. In total it is estimated that the 1976 labor supply might have been 7% greater than it actually was, if social welfare expenditures were at their 1950 level. The effect is greatest for women and aged persons.

Better knowledge of the increasingly tentative and transitional nature of work for certain people may lead labor market analysts to design measures of unemployment that reflect more accurately the complex set of factors that determine an individual's labor market behavior.

SR 23 Potential for Planned Experimentation in the DOL Regulatory Area. A report prepared for the U.S. Department of Labor, ASPER, by Stanley Masters et al.

The objective of this study was to provide the Department of Labor with information on the feasibility of conducting experiments to assess the effects of possible changes in three of its regulatory programs—the Occupational Safety and Health Administration (OSHA), the Employee Retirement Income Security Act (ERISA), and the Office of Federal Contract Compliance Programs (OFCCP). The authors focus on two important issues: (1) the identification of specific policy questions relating to these programs that are amenable to experimental research and of sufficient importance to warrant undertaking such research; and (2) an examination of important design issues, including the specification of experimental treatments and outcomes, the duration of the experiment, the unit of analysis, and the prospects for cooperation from affected firms and workers. The findings are based on a review of the literature and discussions with government officials, labor and management representatives, and many leading policy researchers.

The authors find that there is considerable interest in experimentation with regard to the three regulatory programs. The most appropriate topic for experimentation in OSHA appears to be variation in targeting strategies; other possibilities include varying the average probability of inspection and/or reinspection, and providing incentives for the formation of effective labor-management committees on workplace safety and health. For ERISA, the most promising topics are variations in what plan administrators are required to report to the government, what they must disclose to enrollees, and variations in Pension Benefit Guarantee Corporation (PBGC) premiums. In OFCCP, the prime issues are variations in targeting of compliance reviews, possible financial incentives for government contractors who have good Equal Employment Opportunity (EEO) records, and possible training subsidies for those with weak EEO records.

A Postscript: The Milwaukee Settlement

In fact, the outcome in Milwaukee can be considered encouraging. Faced, on the one hand, with the prospect of pursuing an expensive and distracting legal battle, and on the other with the prospect of a desegration plan imposed by a federal court (as had been the case in Boston), both parties to the Milwaukee case presented to the Court on March 1, 1979, a jointly devised plan for remedying the patterns of segregation now existing in the Milwaukee schools. Thus the school system retains its autonomy, and the plaintiffs in this case—civil rights and affirmative action advocates in Milwaukee—secure written commitments to a course of action that is designed to maintain racial balance in the school system, and that is enforceable through

a jointly appointed, permanent monitoring board that has the authority of the courts behind it.⁷ ■

Dayton Board of Education et al. v. Brinkman, 45 U.S.L.W. 4910, 4915.

[&]quot;Settlement Agreement," U.S. District Court, Eastern District of Wisconsin, 1 March 1979, p. 2.

^{&#}x27;Taeuber's testimony formed the basis for K. Taeuber, "Housing, Schools, and Incremental Segregative Effects," *Annals of the American Academy of Political and Social Science* 441:157-67.

^{&#}x27;The following account is drawn from the defendants' post-trial "Memorandum of Law . . . and Proposed Findings of Fact," submitted to U.S. District Court, Eastern District of Wisconsin, 8 December 1978.

⁹This account is drawn from the "Findings of Fact, Conclusions of Law, and Decision and Order," issued by the U.S. District Court, Eastern District of Wisconsin, 8 February 1979. *Keyes v. School District No. 1, Denver, Colorado, 413 U.S. 189 (1973).

[&]quot;"Settlement Agreement," U.S. District Court, Eastern District of Wisconsin, 1 March 1979.