

Volume 23 | Issue 3

1972

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Recommended Citation

Glendon Schubert, *Simulating the Supreme Court: An Extension of the Tenth Man Game*, 23 Case W. Res. L. Rev. 451 (1972)
Available at: <https://scholarlycommons.law.case.edu/caselrev/vol23/iss3/3>

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Simulating the Supreme Court: An Extension of the Tenth Man Game*

Glendon Schubert

The following article describes and analyzes a teaching experiment in which the author's graduate seminar simulated certain aspects of the decision-making and problem-solving behavior of United States Supreme Court Justices. The experiment was designed to elucidate some similarities and differences in the way the Justices and the seminar members would vote and to corroborate the findings of the author's earlier factor analysis research concerning the Justices. Moreover, the present experiment was hoped to, and did, yield substantial pedagogical value to the students involved in the simulation process.

I. INTRODUCTION

THE EXPERIMENTAL APPROACH¹ appears to have received little attention in either law or political science,² as a method of either pedagogy or research. Clearly this is not because law and political science are conventionally deemed, under a dichotomy that seems less relevant with each day that passes, to be social rather than natural sciences. In cognate social sciences such as psychology and sociology, experimentalism is not only accepted but is the (or at least *a*) basic approach in subfields as diverse as learning, perception, attitudes and beliefs, small group dynamics,

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* The author thanks his students in Political Science 923, and the Michigan State University Computer Institute for Social Science Research for their assistance in the generation and manipulation of the data that are the basis for this article.

¹ See generally A. KAPLAN, *THE CONDUCT OF INQUIRY* 126-70 (1964). For a recent discussion of the use of experimental method to study Supreme Court decision-making, see S. ULMER, *COURTS AS SMALL AND NOT SO SMALL GROUPS* 10-12 (1971).

[Ed. note: In the behavioral sciences generally, experiment provides for *controlled observation and manipulation*, and different experiments are designed to do different things. Simulation experimentation should be distinguished from survey research, which is already established as a method of political inquiry. Simulation experiments, such as the one described in this article, are designed to elucidate what happens under real conditions by relating the real conditions to experimental ones. Survey research, on the other hand, is a data-gathering process that lacks the overall research design and power of control inherent in simulation. A major problem arises in all simulations in the translation of experimental results to the real world. In the behavioral sciences, for example, laboratory conditions may not provide sufficient motivation and conflict to produce meaningful results, which would tend to vitiate the accuracy of the simulation. Cf. A. KAPLAN, *supra*, at 144-54].

and organizational behavior.³ It is no accident that neither law nor political science is represented in a symposium, published a decade ago, on the history of measurement in the natural and social sciences:⁴ the development of quantification in political science is so recent,⁵ and in law so uncommon, that to discuss the history of quantification in any of these fields will be a task for some more or less distant future. The absence or the novelty of quantification is of course an indication of the underdevelopment of law and political science as scientific disciplines; and a correlate of that underdevelopment is the high esteem that empirical inquiry — and the low esteem that research design — commands among both law professors and political scientists. On the other hand, the future extension of interest in behavioral legal and political theory (as distinguished from jurisprudence and the history of political philosophy) and in methodology will certainly entail an increasing concern for questions of research design, and a consequent focus on the use of both physical⁶ and mathematical⁷ models (and associated methods of simulation and experimentation)⁸ for purposes of both teaching and research.

Survey research already is well established as a method of political inquiry,⁹ having been used, for example, to investigate the atti-

² E. MEBHAN, *THE THEORY AND METHOD OF POLITICAL ANALYSIS* 106-07 (1965).

³ B. BERELSON & G. STEINER, *HUMAN BEHAVIOR* 15-36 (1964); *METHODOLOGY IN SOCIAL RESEARCH* 333-427 (H. Blalock & A. Blalock eds. 1968); A. CICOUREL, *METHOD AND MEASUREMENT IN SOCIOLOGY* 157-71 (1964); *RESEARCH METHODS IN THE BEHAVIORAL SCIENCES* 98-172 (L. Festinger & D. Katz eds. 1953).

⁴ *CONFERENCE ON QUANTIFICATION — ISIS* (H. Woolf ed. 1961).

⁵ See the reports of the Behavioral and Social Sciences Survey, jointly sponsored by the National Academy of Sciences/National Research Council and the Social Sciences Research Council, reproduced in *POLITICAL SCIENCE* (H. Eulau & J. March eds. 1969). See also D. LANDES & C. TILLY, *HISTORY AS SOCIAL SCIENCE* (1971).

⁶ See Dator, *Non-Verbal, Non-Numerical Models and Media in Political Science*, 11 *AM. BEHAVIORAL SCIENTIST*, May-June, 1968, at NS-9.

⁷ See H. ALKER, *MATHEMATICS AND POLITICS* (1965); *MATHEMATICAL APPLICATIONS IN POLITICAL SCIENCE* (J. Claunck ed. 1965); *MATHEMATICAL APPLICATIONS IN POLITICAL SCIENCE, II* (J. Bernd ed. 1966). See especially Ulmer, *Mathematical Models for Predicting Judicial Behavior*, in *MATHEMATICAL APPLICATIONS IN POLITICAL SCIENCE, III* (J. Bernd ed. 1967).

⁸ The 1969 Annual Meeting of the American Political Science Association included a panel session in judicial behavior, with three papers (one of which discussed the use of a field survey, the second simulation, and the third mathematical models) on research in this field. See 2 *PS*, Spring 1969, at 86-87.

⁹ See A. CAMPBELL, P. CONVERSE, W. MILLER & D. STOKES, *ELECTIONS AND THE POLITICAL ORDER* (1966); S. ELDERSVELD, *POLITICAL PARTIES: A BEHAVIORAL ANALYSIS* (1964); D. MATTHEWS, *U.S. SENATORS AND THEIR WORLD* 269-72 (1960); J. WAHLKE, H. EULAU, W. BUCHANAN & L. FERGUSON, *THE LEGISLATIVE SYSTEM* (1962); Robinson, *Survey Interviewing Among Members of Congress*, 14 *PUB. OPIN. Q.* 127 (1960).

tudes and voting behavior of elite populations such as judges.¹⁰ And in recent years, increasing attention also has been given by political scientists to a particular variant of the experimental approach, that of simulation and political gaming.¹¹ In this regard, it should be noted that such concepts as experimentation, simulation, and game analysis have come to acquire differing conventional connotations among economists, political scientists, psychologists, sociologists, and statisticians. An authoritative exposition of the political science viewpoint is given in a recent essay by Hermann, who states that:

A political game or political simulation is a type of model that represents some aspect of politics. The referent, or "reality," represented by a simulation-gaming technique may be some existing, past, or hypothetical system or process. Regardless of the reference system or process depicted in a game or simulation, the model is always a simplification of the total reality. Some political features will be excluded. Those elements of political phenomena incorporated in the model are reduced in complexity. The simplification and selective incorporation of a reference system or process produce the assets of parsimony and manageability as well as the liability of possible distortion. These attributes are, of course, equally applicable to other kinds of models, whether they be verbal, pictorial, or mathematical. . . . [A] game "is invariably concerned with studying human behavior or teaching individuals" In simulations, the interaction and change among elements represented in the model are specified in formal rules of transformation which are frequently programmed on a computer. . . . [A] game becomes

¹⁰ Glick, *Interviewing Judges: Access and Interview Setting*, 13 RES. REP. SOC. SCI. 1 (Feb. 1970); Grey, *Interviewing at the Court*, 31 PUB. OPIN. Q. 285 (1967); Nagel, *Off-the-Bench Judicial Attitudes*, in JUDICIAL DECISION-MAKING 29 (G. Schubert ed. 1963); Dator, *The Life History and Attitudes of Japanese High Court Judges*, 20 WEST. POL. Q. 408 (1967); Becker, *Surveys and Judiciaries, or Who's Afraid of the Purple Curtain*, 1 L. & SOC'Y REV. 133 (1966).

¹¹ See, e.g., H. GUETZKOW, C. ALGER, R. BRODY, R. NOEL & R. SNYDER, SIMULATION IN INTERNATIONAL RELATIONS: DEVELOPMENTS FOR RESEARCH AND TEACHING (1963); W. SCOTT, A. LUCAS & T. LUCAS, SIMULATION AND NATIONAL DEVELOPMENT (1966); W. SHAFER, COMPUTER SIMULATIONS OF VOTING BEHAVIOR (1972).

For some parallel developments in law, see the recent work of Robert Birmingham. Birmingham, *A Model of Criminal Process: Game Theory and Law*, 56 CORNELL L. REV. 57 (1970); Birmingham, *The Theory of Economic Policy and the Law of Torts*, 55 MINN. L. REV. 1 (1970); Birmingham, *Damage Measures and Economic Rationality: The Geometry of Contract of Law*, 1969 DUKE L.J. 49; Birmingham, *Legal and Moral Duty in Game Theory: Common Law Contract and Chinese Analogies*, 18 BUFFALO L. REV. 99 (1969). And for simulation studies in the law, see the work of Navarro and Taylor. Navarro & Taylor, *An Application of Systems Analysis to Aid in the Efficient Administration of Justice*, 51 JUDICATURE, Aug.-Sept., 1967, at 47-52; Navarro & Taylor, *Data Analyses and Simulation of a Court System for the Processing of Criminal Cases*, 9 JURIMETRICS J. 101 (1968); Navarro & Taylor, *Simulation of the District of Columbia Trial Court System for Processing Felonies*, 2 L. & COMPUTER TECHNOLOGY 16 (1969).

a simulation when the specified rules become so detailed as to require a separate calculating staff or a computer.¹²

It is in this sense of political gaming and simulation that the research to be reported below describes and analyzes a political game that simulates the United States Supreme Court.

To date, there have been several efforts to use experimental inquiry in areas of mutual interest to law, political science, and sociology; and although these efforts have been relatively sparse, a number have proven quite interesting. For example, political scientists Werner Grunbaum¹³ and Alan Sager¹⁴ have reported simulations of the Supreme Court that have been performed strictly with a computer, and lawyer Reed Lawlor has worked on somewhat related projects for several years.¹⁵ The area of jury behavior in particular has attracted several attempts to use experimental method in both field and laboratory studies,¹⁶ although the most ambitious and well-

¹² Hermann, *Simulation: Political Processes*, in 14 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 274 (D. Sills ed. 1968). [Ed. note: Hermann also explains the benefit of simulation in that it allows for *controlled* experimentation. If a model is carefully designed, a particular element can be isolated and its effects studied. Also, simulation can be of value as a teaching method because: (1) it increases student interest and motivation; (2) it provides a laboratory in which students can apply their knowledge; (3) it provides insight into the decision-maker's predicament; and (4) it can offer a model that facilitates comprehension of the decision-maker's process. See text accompanying note 67 *infra*.]

Cf. the alternative views expressed in Cochran, Box & Campbell, *Experimental Design*, in 5 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 245 (D. Sills ed. 1968); Morgenstern & Shubik, *Game Theory*, in 6 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 62 (D. Sills ed. 1968); Newell, Simon & Adelman, *Simulation*, in 14 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 262 (D. Sills ed. 1968); Selvin, *Methods of Survey Analysis*, in 15 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 411 (D. Sills ed. 1968).

¹³ Grunbaum, *Analytical and Simulation Models for Explaining Judicial Decision-Making*, in FRONTIERS OF JUDICIAL RESEARCH 307 (J. Grossman & J. Tenenhaus eds. 1969).

¹⁴ Sager, *From Brief to Decision: A Computer Simulation of the 1963 Supreme Court Term* (paper presented at the 65th Annual Meeting of the American Political Science Association, New York, N.Y., Sept. 2, 1969).

¹⁵ Lawlor, *What Computers Can Do: Analysis and Prediction of Judicial Decisions*, 49 A.B.A.J. 337 (1963); Lawlor, *Personal Stare Decisis*, 41 S. CAL. L. REV. 73 (1968); Lawlor, *The Chancellor's Foot: A Modern View*, 6 HOUSTON L. REV. 630 (1969); Lawlor, *Axioms of Fact Polarization and Fact Ranking — Their Role in Stare Decisis*, 14 VILL. L. REV. 703 (1969).

¹⁶ Some excellent recent examples include R. SIMON, *THE JURY AND THE DEFENSE OF INSANITY* (1967); Lawson, *Order of Presentation as a Factor in Jury Persuasion*, 56 KY. L.J. 523 (1968) (Cf. Green, *The Effect of Stimulus Arrangements on Normative Judgment in the Award of Penal Sanctions*, 31 SOCIOMETRY 125 (1968)); Simon & Eimermann, *The Jury Finds Not Guilty: Another Look at Media Influence on the Jury*, 48 JOURNALISM Q. 343 (1971). The earlier work is conveniently summarized in Winick, *The Psychology of Juries*, in LEGAL AND CRIMINAL PSYCHOLOGY 100 (H. Toch ed. 1961). See also Strodbeck, *Social Process, the Law, and Jury Functioning*, in LAW AND SOCIOLOGY 144 (W. Evan ed. 1962); Bevan, Albert, Loiseaux, Mayfield, &

financed endeavor of this sort was aborted due to political and legal opposition.¹⁷ At the 1971 meeting of the American Political Science Association, Professor Steve Whitaker presented an extensive oral report, supplemented by a brief but useful and intriguing mimeographed paper, that described his unusually extensive use of judicial role simulation as a learning procedure at Temple University.¹⁸ Otherwise, the most relevant work along these lines is that of Becker, who has conducted an experiment in simulating jury behavior,¹⁹ as well as survey research into the political and legal attitudes of students.²⁰ In his jury simulation, undergraduate students were impanelled to play the roles of jurors in the decision of a hypothetical case. The exercise was designed to measure the influence of individual values on the verdict, and it provided for experimental control over one attribute variable, religion. Becker's survey research consisted of the administration of questionnaires to both law school and undergraduate political science classes, where one of the questions required the decision of a hypothetical case.

Although Becker utilizes an idiosyncratic set of notions that he relates to a core concept designated as "judicial role," it seems apparent that in both studies he is engaged primarily in attitudinal research, and only secondarily in the study of roles. As others

Wright, *Jury Behavior as a Function of the Prestige of the Foreman and the Nature of His Leadership*, 7 J. PUB. L. 419 (1958); Hawkins, *Interaction Rates of Jurors Aligned in Factions*, 27 AM. SOC. REV. 689 (1962); Simon, *Mental Patients as Jurors*, 22 HUMAN ORGANIZATION 276 (1964); Strodtbeck & Hook, *The Social Dimensions of a Twelve-Man Jury Table*, 24 SOCIOMETRY 397 (1961).

¹⁷ See H. KALVEN & H. ZEISEL, *THE AMERICAN JURY* vi-vii (1966); Broeder, *The University of Chicago Jury Project*, 38 NEB. L. REV. 744 (1959).

[Ed. Note: The University of Chicago Jury Project, the endeavor referred to here, sought to study the American jury system by using field research techniques. It was originally financed with a \$400,000 grant from the Ford Foundation, and later with further funding from the University of Chicago. The project created political and legal opposition, largely because a microphone was used to record actual jury deliberations without the knowledge of the jurors. The study generally sought to discover when (or if) the result of a trial would differ because the jury, rather than the presiding judge, had made the determination of guilt. H. KALVEN & H. ZEISEL, *supra*, at 10.]

¹⁸ Whitaker, *A Role-Playing Simulation of the United States Supreme Court* (paper presented to Panel 14A, on "Judicial Studies: Approaches to Teaching," at the 67th Annual Meeting of the American Political Science Association, Chicago, Ill., Sept. 7, 1971) (available from the association office, Washington, D.C.). The report covered a 5-year study involving considerable amounts of student time and effort.

¹⁹ Becker, Hildrum & Bateman, *The Influence of Jurors' Values on Their Verdicts: A Courts and Politics Experiment*, 46 SOUTHWEST SOC. SCI. Q. 130 (1965).

²⁰ T. BECKER, *POLITICAL BEHAVIORALISM AND MODERN JURISPRUDENCE* 113-42 (1964). See also Fast, *Political and Legal Attitudes Among Law Students* (paper presented at the 65th Annual Meeting of the American Political Science Association, New York, N.Y., Sept. 2, 1969); Reilly, *Political Attitudes Among Law Students in Quebec*, 4 CAN. J. POL. SCI. 122 (1971).

have pointed out, "[t]he behavior of the judge represents a kind of natural convergence between the area of 'decision theory' and the area of 'role theory' in social psychology."²¹ Of course, decision theory²² and role theory²³ can be concerned with facets of human behavior that are quite differently defined and conceptualized than are attitudes.²⁴ But when one investigates such hypotheses as — "Catholic and non-Catholic jurors will differ in their voting on the issue of euthanasia *because of* differences in their respective personal beliefs," or "How judges will decide issues of economic policy depends upon whether they are more strongly motivated by their economic prejudices or by their belief in their role obligation to follow precedent" — then he is engaged directly in the study of attitudes.

Moreover, if the subjects involved in simulating jurors' roles, and those sampled in the survey about judges' roles, are all college students (as Becker's were), then what one necessarily has investigated has been the attitudes of students and nothing more. There may be nothing improper about experimenting with student groups, and surveying them, so long as one's research findings are confined to statements about what *students* do and what they believe. It is quite improper, however, to leap, as Becker does, from findings about what students do and say to generalizations about the behavior of juries and judges.²⁵ Similarly, a questionnaire about what juries do,

²¹ Winick, Gerver & Blumberg, *The Psychology of Judges*, in LEGAL AND CRIMINAL PSYCHOLOGY, *supra* note 16, at 135. For some recent endeavors to model the relationships in these areas of convergence, see J. SIGLER, AN INTRODUCTION TO THE LEGAL SYSTEM (1968); Goldman, *Behavioral Approaches to Judicial Decision-Making: Toward a Theory of Judicial Voting Behavior*, 11 JURIMETRICS J. 142 (1971); Sheldon, *Structuring a Model of the Judicial Process*, 58 GEO. L.J. 1153 (1970).

²² Decision theory, in both psychology and political science, is strongly oriented toward analogous and prior developments in economic and statistical theory. See 4 INTERNATIONAL ENCYCLOPEDIA OF THE SOCIAL SCIENCES 34 (D. Sills ed. 1968); G. TULLOCK, THE LOGIC OF THE LAW (1971).

²³ For a discussion of how role theory has evolved in contemporary social psychology, sociology, and anthropology, see ROLE THEORY: CONCEPTS & RESEARCH (B. Biddle & E. Thomas eds. 1966). For applications of role theory to judicial behavior, see H. GLICK, SUPREME COURTS IN STATE POLITICS: AN INVESTIGATION OF THE JUDICIAL ROLE (1971); Goldman & Jahnige, *Eastonian Systems Analysis and Legal Research*, 2 RUTGERS-CAMDEN L.J. 285 (1970); Goldman & Jahnige, *Systems Analysis and Judicial Systems: Potential and Limitations*, 3 POLITY 334 (1971).

²⁴ For a convenient summary of attitudinal theory, see T. NEWCOMB, R. TURNER & P. CONVERSE, SOCIAL PSYCHOLOGY: THE STUDY OF HUMAN INTERACTION 17-53 (1965). For an excellent recent discussion of judicial attitudes, see J. HOGARTH, SENTENCING AS A HUMAN PROCESS, chs. 6, 7 (1971).

²⁵ "[O]ur statistical techniques reveal, as clearly as they can in a single study, that jury members . . . do make policy." Becker, Hildrum & Bateman, *supra* note 19, at 139. "This [finding about the behavior of students] justifies the statement that judicial role does seem to exist . . ." T. BECKER, *supra* note 20, at 130.

[Ed. Note: Political behavioralism and modern jurisprudence, according to Becker,

administered to a sample of judges, is going to provide information about judicial attitudes toward juries, and the evidence that such data provide about jury behavior is strictly hearsay and ought to be so treated.²⁶

Instead of assuming that college students and Supreme Court Justices think alike, the present study undertakes to investigate their similarities and differences. Moreover, a concern for the pedagogical aspects of involving students in the simulation was at least as strong as was the research motivation. This emphasis upon the teaching aspects of the project stands in sharp contrast to both the Becker and the Chicago jury studies, where the research thrust was preemptive.²⁷

II. EXPERIMENTAL DESIGN

The present research stems from an idea that was itself a by-product of an earlier investigation into the voting behavior and attitudes of Supreme Court Justices. The psychometric model for that research, which in turn was based upon a *methodological* experiment and simulation, postulated a configuration of points that represented the Justices of the Supreme Court in the field of their multidimensional attitudinal space.²⁸ Although the idea was only filed away at

center around a concept defined as "judicial role." Becker sought to establish that "judicial role" was a consequence of legal education by comparing the decisions that a group of law students chose in a hypothetical case with the decisions that a group of non-law students chose in the same case. He found that the law students tended to be more objective and that almost all of them relied on precedent in coming to their decisions. *Id.* Becker admits that the study is made less than absolutely convincing because of its artificiality, but believes that there is merit to his approach because legal education is one experience that all judges have in common. In order to go even further in establishing the existence of "judicial role," he suggests that other judicial institutional factors could be used as the basis for experiments to determine if they have any affect on the objectivity of decisions of people with and without legal training.]

²⁶ Cf. H. KALVEN & H. ZEISEL, *supra* note 17, at 88-113. The authors attempt to rationalize a contrary practice, as evinced in such claims (with which the book is replete) as, "through this special window [*i.e.*, the eyes of the judge] one is able to observe a very considerable amount of jury behavior," and "this book then is essentially an empirical study of the jury in operation." *Id.* at 10-11.

²⁷ Strodbeck, one of the sociologists who participated in the Chicago Jury Project, has pointed out that law teaching was not affected in any way by the existence of the project in the law school. Indeed, "[a]t no time at Chicago was it believed advisable to use the sociologists to teach in the Law School." Strodbeck, *Social Process, the Law, and Jury Functioning*, in LAW AND SOCIOLOGY, *supra* note 16, at 148 n.6.

²⁸ G. SCHUBERT, THE JUDICIAL MIND 84-96 (1965).

[Ed. note: For thorough discussions of the psychometric model and the theory and procedure involved in cumulative scaling and factor analysis — which are the basis of the author's earlier study, as well as the simulation experiment reported here — see B. FRUCHTER, INTRODUCTION TO FACTOR ANALYSIS (1954); H. HARMAN, MODERN FACTOR ANALYSIS (1960); G. SCHUBERT, *supra*, at 22-96; G. SCHUBERT, QUANTITATIVE

the time, it did occur to the author that there was no methodological reason why one could not position the individual analyzing the judicial attitudes in the same space with the Justices themselves. The Justices, then, would largely define the frame of reference, and the analyst would evaluate his own policy views in relation to those of the Court. In one sense, this was a very traditional idea because the stock-in-trade of public law scholars has been to criticize the "philosophy" of Supreme Court Justices against the criterion of the critic's own policy preferences. In this study, however, the suggested procedure would operationalize the whole enterprise, and by making explicit the interrelationship between the biases of the Justices and the biases of their critic, it might very well have the effect of taking all the fun — as well as the mystery — out of the public law game.

By positioning the student analyst in the same space with the Justices, then, it was easy to shift from a research to a teaching perspective, and to consider having each member of a graduate seminar vote independently in all of the decisions of the Court within a selected sample. Each student could analyze data that included his own votes together with those of the nine Justices; and each would thus become,

ANALYSIS OF JUDICIAL BEHAVIOR (1959); W. TORGERSON, THEORY AND METHODS OF SCALING 247-97 (1965). Attitudinal theory, which is the basis of the model, assumes that the intercorrelations of the behavior of a group of people in reacting to stimuli (the stimuli here being Supreme Court cases) must reflect the extent to which the individual members of the group are correlated with the set of attitudinal dimensions relevant to their behavior (where one's attitudes are defined as describing the person's tendency to respond to stimuli in a given way). This assumption leads to a *correlation matrix*, and various statistical methods are used to extract *factors* from the matrix (see generally B. FRUCHTER, *supra*; H. HARMAN, *supra*). And each factor so extracted is of decreasing significance (in the sense of being less determinative of the behavior of the group members as a whole) as its *communality* — a quantity reflecting the magnitude of the individual correlations with the given attitudinal dimension — decreases.

Factor analysis is typically formulated in geometric terminology, such that the set of n factors comprises a space of n dimensions. The individual-points (also called individual ideal-points and i -points), a composite of various degrees of each factor, are projected onto this n -dimensional space. The stimulus points (j -points) can also be represented in this space, which is then called a *joint space*.

The general statistical procedure for extracting factors assumes the factors are orthogonal (*i.e.*, "mutually exclusive" or statistically independent). Psychologically, it is not logically necessary that these orthogonal factors have a definite and recognizable meaning. In fact, it would be coincidental if such a relation occurred. By *rotation* of each factorial axis, the analyst tries to find axes that correspond to common sociopsychological notions. In the process, of course, the axes will probably lose their orthogonality (*i.e.*, attain nonzero correlation values). If two or more axes are rotated in this process such that they attain correlations of ± 1.00 , they become coincident and the dimensionality of the space is reduced correspondingly (this process is tantamount to folding an n -dimensional space into a space of less than n dimensions).

The related process of cumulative scaling is discussed in G. SCHUBERT, THE JUDICIAL MIND 75-83 (1965); G. SCHUBERT, QUANTITATIVE ANALYSIS OF JUDICIAL BEHAVIOR 269-90 (1959).]

in a psychological sense, a phantom additional Justice, although his position in the configuration would be just as "real" as those of the real Justices.

At the time of the earlier investigation and for several years thereafter, the author thought that an appropriate name for the proposed game would be "The Tenth Man Game." But when it became possible to conduct such a seminar, the promise of attaining a greater pedagogical payoff by playing the game as a social, rather than as a psychological one, led to a change in the substance as well as in the name of the game. The Court meets as a group to make decisions, and it seemed preferable to have the seminar simulate, to the limited extent that might be possible, the social as well as the psychological aspects of the Court's decision-making. Such an extension of the idea was, in a sense, perfectly natural: the research activity which spawned the "Tenth Man Game" had been predominantly a psychological operation, but the teaching of the seminar, although it might well have a research by-product, was most assuredly a social operation.

The teaching objective of the seminar was to guide the students in learning a variety of matters, including (but by no means limited to) the following: the kinds of issues that arise for decision by the Court; the manner in which individual Justices differ in their responses; the coding and keypunching of data for computer analysis; the reading and analysis of the computer output; the rudiments of multidimensional psychometric theory and methodology, including scaling and factor analysis; and the empirical aspects of the Court's decision-making process. The substantive research objective was to investigate the extent to which a group of the same size as the Supreme Court — but composed of legally naive, rather than professionally trained and qualified judges — would vote differently from the actual Justices on the merits of the issues raised in a substantial number of recent cases. There was also a methodological research objective: by performing the analysis with more powerful computer programs than had been available at the time of the earlier study of the Court alone, the author could ascertain whether it was necessary to modify or refine the original findings about the ideological characteristics of the Justices.

The working hypotheses were stated, of course, in the direction that was expected to facilitate their disconfirmation. They were: (1) that the students would not differ in their attitudes and voting behavior from the Justices, which would be demonstrated operationally if the points representing students, together with the points

representing the Justices, were to form a single mixed cluster in the composite attitudinal space; and (2) that the first three principal components of the present analysis would correspond in substantive ideological content to the three centroid dimensions of the earlier study of the Court (although there might well be additional interpretable dimensions in the present study because the more refined computer methods would eliminate part of the considerable error variance which could not be avoided before).

The sample of cases to be analyzed in the simulation was drawn from the decisions reported between October 1963 and as late a date in the Spring of 1966 as the pedagogical requirements for administering the seminar would permit. Within this gross sample, the final research sample was selected to articulate with the earlier study of the Court.²⁹ The published reports of the Court's decisions in the final sample, including the votes of the individual Justices, would be available to and read by the class; each member of the class "court" (including the instructor) would participate in discussion of each case, to be followed immediately by voting (which, though announced individually, would be in a group setting). There would then be two sets of votes for the sample of decisions: (1) an independent set of votes of the real Justices of the Court; and (2) a dependent set of simulated votes of student "judges" of the class.³⁰ It would be possible at that point to compare the two sets of votes, and presumably to reach some tentative conclusions about apparent similarities and differences between the similars and the real judges.

A. *Description of the Groups*

1. The Court. — In October 1963, the Supreme Court included the following nine Justices, each of whom is designated here by name and also by the two letters with which he will be identified in subsequent tables: Hugo Black (Bl), William Brennan (Br), Tom Clark (Cl), William Douglas (Do), Arthur Goldberg (Go), John Harlan (Hr), Potter Stewart (St), Chief Justice Earl Warren (Wa), and Byron White (Wh). Two years and 212 decisions later, Gold-

²⁹ G. SCHUBERT, *THE JUDICIAL MIND* 84-96 (1965).

³⁰ The class votes could hardly be considered to be independent of the voting of the Court, since students would be fully apprised of and undoubtedly often influenced by the positions assumed by various Justices who might function as reference actors for the students in the decision of particular issues. However, the votes of the Justices are also interdependent in precisely the same sense. More importantly, the student judges never could be exposed to the same — or even similar — stimulus inputs as are the real Justices. And there would be numerous other important differences between the two groups, as shall be discussed in detail below. See notes 70-72 *infra* & accompanying text.

berg resigned to be replaced by Abe Fortas (Fo) for the portion of the 1965 Term that constitutes the remainder of the present sample. Goldberg's participation was sufficient to include him in all of the analyses; but because Fortas voted in only about 14 percent of the total, it was possible to include him only in certain types of analysis.

No previous observations of Fortas' judicial decision-making behavior are available, but such observations had been published for the other nine members of the Court.³¹ The earlier research indicated that Douglas, Black, Warren, and Brennan were sympathetic to claims of both political and economic liberalism, and in the order specified. Goldberg was observed to be a political liberal and an economic moderate, but his placement was not considered reliable because of the inadequate sample of decisions then available for observation — and also because of the possibility that his performance during his first few months as a Justice might not be completely reliable as an indication of his subsequent and more settled decision-making role. White was a moderate on both major scales, Clark was an economic liberal and a political conservative, Stewart was a political moderate and an economic moderate conservative, and Harlan was conservative on both dimensions. By the 1962 Term there was, for the first time in the entire history of the Supreme Court, a clear majority of Justices who were liberal on both major scales.

Although there are descriptions of the attributes of judges, not much has been done successfully to relate the attributes and the voting behavior of Supreme Court Justices.³² In modern times, all Supreme Court Justices have been trained as lawyers and function professionally in characteristically legal roles. Most have had considerable political experience — but very few have had much previous judicial experience — and all except Thurgood Marshall have been middle-aged or elderly Caucasian males with European ethnic origins. But no consistent relationship to either their attitudes or their decisions has yet been demonstrated for even such social attributes as political party and religious affiliations.³³

³¹ G. SCHUBERT, *supra* note 29, at 97-157.

³² See D. BOWEN, *THE EXPLANATION OF JUDICIAL VOTING BEHAVIOR FROM SOCIOLOGICAL CHARACTERISTICS OF JUDGES* (1965). *But see* D. DANIELSKI, *A SUPREME COURT JUSTICE IS APPOINTED* (1964); Goldman, *Backgrounds, Attitudes, and the Voting Behavior of Judges: A Comment on Joel Grossman's "Social Backgrounds and Judicial Decisions,"* 31 J. POL. 214 (1969).

³³ Nagel has reported significant relationships for both political party and religious affiliations for a sample of state supreme court justices; and Goldman has confirmed the political, but not the religious, relationship for a sample of federal appellate judges.

The major attitudinal dimensions identified with the Justices are political liberalism and conservatism, and economic liberalism and conservatism. The political scale was hypothesized to consist of two subscales which, defined in terms of their content, were identified as "fair procedure" and "political freedom;" the economic scale also has two subscales, "antibusiness" and "prounion."³⁴ (These scales and subscales will be designated as: C and E for the political and economic scales, respectively; and FP, PF, B, and W for the fair procedure, political freedom, antibusiness, and prounion subscales, respectively.) Three minor scales also were identified, although with varying (and, as compared to the major scales and their components, with considerably lesser) degrees of confidence: taxation (F); the right to privacy (RP); and religious freedom (RF).³⁵ One other major dimension, political equality (PE), which mistakenly (as the findings of the earlier study indicated) had been hypothesized to be a subscale of C, is discussed here in terms of what later were hypothesized to be its own three principal subcomponents: racial equality (RE), civic equality (CE), and voting equality or, as it is designated here, legislative reapportionment (LR).³⁶

The two major scales, C and E, were positively correlated; and rotation of the axes that were the analogues of C and E in factorial space suggested three ideological dimensions as the sociopsychological content of the orthogonal reference axes which defined the joint

Goldman, *Voting Behavior on the U.S. Courts of Appeals, 1961-1964*, 60 AM. POL. SCI. REV. 374 (1966); Nagel, *Ethnic Affiliations and Judicial Propensities*, 24 J. POL. 92 (1962); Nagel, *Political Party Affiliation and Judges' Decisions*, 55 AM. POL. SCI. REV. 844 (1961). See also Barber, *Partisan Values in the Lower Courts: Reapportionment in Ohio and Michigan*, 20 CASE W. RES. L. REV. 401 (1969); Feeley, *Another Look at the "Party Variable" in Judicial Decision-Making: An Analysis of the Michigan Supreme Court*, 4 POLITY 91 (1971).

³⁴ G. SCHUBERT, *supra* note 29, at 159-61.

³⁵ *Id.* at 150-54; G. SCHUBERT, *JUDICIAL POLICY-MAKING* 127-29 (1965).

³⁶ G. SCHUBERT, *JUDICIAL POLICY-MAKING* 126 (1965).

[Ed. Note: In an earlier study of the Supreme Court, the author dealt with sub-components of the political and economic scales. G. SCHUBERT, *supra* note 29, at 158-82. The five subcomponents of the political scale were: (1) political equality, which included such legal issues as racial integration and legislative reapportionment; (2) political freedom, which included freedom of speech, association, and press; (3) religious freedom, which included free exercise and separation of church and state issues; (4) the right to fair procedure, which related to various fifth, sixth, eighth and fourteenth amendment claims; and (5) the right to privacy, which included claims that the government had violated one's person in either a physiological or psychological sense. Three of the five subcomponents of the economic scale hypothesized in the earlier study appear here: (1) antibusiness, which included cases relating to government regulation of business; (2) prounion, which included disputes involving the union with its members as well as with management; and (3) taxation, which dealt with cases in which state taxation was challenged on federal constitutional grounds.]

space for the judicial ideal-points and the set of major and minor attitudinal scales.³⁷ These ideologies were identified as Liberalism/Conservatism (or Equalitarianism/Hierarchism), Libertarianism/Authoritarianism, and Individualism/Collectivism. The first of these dimensions was a predominant factor with which all of the scales and subscales had been defined so as to correlate positively; the second was primarily a political dimension, and the third primarily an economic one.

2. The Class. — The size of the class group was initially 10 persons (including the instructor), but one student withdrew after the second meeting. For purposes of the discussion below the student members of the class will be identified by the symbols J, K . . . Q, and the instructor will be designated as R. A brief description of the attributes of the class members follows.

J was an M.A. candidate in history, with no previous substantive training in the social psychology of attitudes, in law, or in the institutional parameters of the Supreme Court, nor did he have experience in the psychometric and statistical methods relevant to the simulation exercise. He was highly motivated to learn the methods, however, since he proposed to use them in his intended doctoral research project in constitutional history.

K was an advanced Ph. D. candidate in political science, with extensive previous training, at both the undergraduate and graduate levels, in political behavioral research theory and methods. (Concurrently with his participation in the seminar, he was teaching the department's undergraduate course in research methods.) The seminar was his last formal course before beginning his doctoral research, and he was well grounded in most of the substantive, as well as the methodological, knowledge appropriate for sophisticated participation in the simulation. He had gained experience as an assistant in a previous research project for which the instructor was codirector.

L was a beginning Ph. D. candidate in political science, whose announced major interest was in crosscultural study of judicial behavior. The only female in the group, she was a graduate of a southern private college for women, and recently had completed an M.A. in government at Harvard. She is married to a then doctoral candidate in history; she had experienced substantive training, but from a traditional point of view; and she had received no previous training in method. She did, however, voluntarily undertake a sub-

³⁷ The rotation of axes is effected by different manipulation of the same raw voting data. See note 28 *supra*.

stantial amount of relevant background reading which she completed before the seminar began. She also made it quite clear, before the class began, that her personal views on most questions of public policy, as well as those of academic ideology,³⁸ were not liberal. She was a self-styled conservative seeking greater enlightenment.

M was a Ph. D. candidate in political science, with an M.A. from a nearby university where he had been trained in some aspects of social psychology (small group behavior, in particular) and the relevant methods; he had no familiarity with the other substantive parameters of the raw data to be examined by the class. M was almost as outspokenly liberal as L was conservative.

N was a Ph. D. candidate in political science who, beginning with his freshman undergraduate year, had taken several directly relevant background courses with R. Except for his inexperience with computer staff and equipment, he was well grounded in both the substantive parameters and the relevant method. He expected to write his doctoral dissertation on a subject that would relate directly to the field of judicial behavior.

O was a military officer on temporary assignment to the university's School of Police Administration, where he was completing the requirements for an M.A. degree. He recently had graduated with an LL.B from Northwestern University Law School. His training in law and the institutional background of the Supreme Court was excellent, but he had received no prior training in either social psychology or methodology.

P was a Ph. D. candidate in political science. He was a superior student and a National Science Foundation fellow who, concurrently with this class, was serving as the instructor's graduate research assistant on other projects. His knowledge of both substance and method relevant to the proposed simulation was excellent.

Q was a member of the university faculty, on the staff of the School of Labor and Industrial Relations, with a particular interest in labor economics and labor law. He had received an M.A. in economics, and was a Ph. D. candidate in social science. His substantive background was good, but his research experience was in more traditional methods than those to be employed by the class.

R, the instructor who had designed and would direct the simulation exercise, had received a Ph. D. in political science. He had no formal training in either law or social psychology, although he had

³⁸ Schubert, *Ideologies and Attitudes, Academic and Judicial*, 29 J. POL. 3 (1967); Schubert, *Academic Ideology and the Study of Adjudication*, 61 AM. POL. SCI. REV. 106 (1967).

studied and performed research in these subjects generally, and in the institutional context of Supreme Court decision-making in particular. Similarly, he had had no relevant formal training in the method, although he had studied and published various books and articles dealing with the theory and research procedures that were to be used by the class.

There were only 11 meetings available for the class, and the initial four were devoted to a discussion of the design, theory, and procedures for the experiment. The next five meetings were allocated to the simulation, as explained presently. At the two final sessions, students presented preliminary oral reports on the seminar papers that they were to write subsequent to the completion of the academic term.

Each member of the class, including the instructor, maintained an independent log of the decisions made by the class and by the Court. Each log was an encoding of the decisions, utilizing 35 columns on standard data coding forms. Ten columns were required to identify the decisions according to their volume number, beginning page, docket number, and docket type as they appeared in the official reports of the Court. One column was used to assign each decision to one of the 10 hypothesized scales (FP, PF, B, W, F, RP, RF, RE, CE, LR); another column was used to denote decisions that could not, on a priori grounds, be assigned to any of the 10 scales; and a third column was used to denote the directionality of the outcome (pro or con) of each decision of *the Court*, in relation to the positive value of the scale to which the decision was assigned. Three columns were used to list each case in the sample in the sequence in which the cases were reported for the Court, and decided by the class. Nineteen columns were used for the decision-makers (ten Justices and nine class judges), and for each individual decision in every case, one of the following four actions was encoded: not participating, negative, no response, or affirmative. ("Affirmative" and "negative" had the equivalent meaning, for individual votes, as did "pro" and "con" for the group decision of the Court.)

The procedure for decision-making in the class's five simulation sessions was as follows. Each member independently read the subsample of 50-odd cases which had been assigned in advance as the agenda for a class meeting. At the time that he read a case, the student judge was required to code the following information: the case identification data; the scale variable to which the decision should be assigned, according to the questions which the Court pur-

ported to decide; the outcome of the Court's decision; the votes of the individual Justices; and the student's own vote. Thus, when the class convened, each student judge already had coded all aspects of the decisions to be discussed, except for the unknown (but what soon was largely predictable) voting behavior of the other members of the group.

Since all the members of the group had read and taken notes on all the cases, each took his turn in reading to the group a row of the code sheet representing a single decision; but voting by the class was announced on the basis of a fixed sequence corresponding to the column order for student judges (which was alphabetical). This procedure ensured that each member of the group would acquire considerable experience in coding, and that a common set of coding sheets would result from the group sessions. As long as there was unanimity in the coding of any case, the group passed immediately on, without discussion, to the next case on the list.

If any member of the class disagreed on any element of the coding, then as much discussion as was necessary to reach consensus was focused upon the point or points of disagreement. There was, of course, some tendency towards acquiescence by a minority of one in a group of nine (although the tendency to capitulate varied considerably with the individual), but every effort was made by the instructor to encourage the expression of disagreement, irrespective of whether the question was technical or substantive. The instructor also sought to avoid the propensities for unplanned manipulation of the group that were to some extent manifest in his own role as instructor of the class — as distinguished from his role as *primus inter pares* among the judges of the simulation group.

During the first two sessions, a few technical errors were made in the coding of case identifications, but this type of mistake virtually disappeared thereafter. Occasionally, there was disagreement over how to record the voting position of one or more of the Justices in a particularly complicated decision of the Court. There was, of course, no basis for argument over any individual's announced vote, since it was understood by all that what was desired was for each to vote according to his own personal value preferences. (There were several instances, however, in which individuals themselves insisted upon making an explanation of their votes.) Most discussion focused, instead, upon the assignment of decisions to scale variable categories. In part, this problem reflected the fact that almost all Supreme Court decisions have multivariate implications and can

be conceptualized as policy issues from more than one point of view.³⁹ But to some extent, these discussions of the partitioning of decisions among scales were required in order to educate the student judges concerning the meaning of the scales and their boundaries. In any case, this aspect of the simulation does not detract from its resemblance to the situation of the Supreme Court; it seems clear that freshman Justices usually go through a period of at least several months during which they are learning their roles, including an accommodation of the Court's decisional and rationale categories to their own value systems and, perhaps to some extent, vice versa as well. Of course, this fundamental type of learning was more difficult for the student judges than the merely technical aspects of coding.

Still, by the fourth session, the entire group understood all category differences, and the brunt of discussion had shifted to arguments pro and con particular value positions (with minorities of one or two functioning as protagonists in the discussion, apparently because of the intensity of affect which they experienced in regard to particular issues). Although individuals frequently changed their vote — usually from “no response” to either “affirmative” or “negative” — after hearing discussion, there were only a couple of instances out of the total sample in which several persons switched from one recorded voting category to another in the same decision. Occasionally, a person asked and was permitted to change a former vote of his in order to make his former position on an issue consistent with a position adopted by him subsequently. Undoubtedly, Supreme Court Justices do the same sort of thing, within an equivalent time span, before *public* announcement of their decisions.⁴⁰

In several cases the instructor acquiesced, as a member of the minority subset, in group decisions on coding. Most such decisions related to scale assignments of decisions, although at least one related to the more technical question of the interpretation of the intended voting positions taken by a Justice in an interrelated set of decisions of the Court. The instructor considered it more important to retain the confidence of the entire group in the integrity of each student judge's independent right to vote “his own conscience” than to pursue the phantom goal of error-free coding.

³⁹ To enfold the psychological space of the Court's decision (as represented in the opinions of the Justices) into a single line unavoidably involves simplification, and what often will appear to some observers to be oversimplification. Cf. note 28 *supra*.

⁴⁰ See, e.g., A. BICKEL, *THE UNPUBLISHED OPINIONS OF MR. JUSTICE BRANDEIS* (1957).

Although the coding that was the basis of the substantive findings reported below resulted from nine persons independently checking each other, and the usual precautions of verification were taken at appropriate stages of the manipulation of the data, it remains highly probable that some small amount of error variance — questions of validity in the coding aside — inadvertently intruded. The instructor's considered opinion was that the amount of error that would arise, as a consequence of his own occasional willingness to assume the role of the loyal opposition to the government of the moment (on the disposition of the particular decision), was likely to be well within the range of error variance that would affect the coding for other quite independent reasons.

While the partitioning of decisions among the scales was a major decisional task of the class, the outcome of class decisions (in terms of whether the majority subset of class votes was affirmative or negative) was quite incidental to the role of the group and rarely was the subject of even casual comment. In sharp contrast, the outcome of the Court's decisions is the primary focus of attention, apparently among the Justices as well as among their critics. The casting of rationales for the institutional opinion of the Court — as well as for the separate opinions of individual or small groups of Justices — is generally considered secondary to the policy outcomes affecting direct and indirect parties to the cases. It is certain, however, that both policy outcome and its rationalization are important components of the decisions of the Court, while in the simulation, only the rationalization component was emphasized.

B. *Method*

1. The Model. — The simulation assumed the psychometric model of a joint (*i.e.*, including points representing both individuals and stimuli) space⁴¹ whose dimensionality would depend upon the complexity of the value content of the stimuli, as perceived and cognized by the individuals.⁴² The value content of the space can be represented by subspaces (such as planes, vectors, or axes) upon which are projected the points symbolizing individuals and stimuli; and the space has directionality which can be measured in terms of the attitudinal dimensions of the subspaces. Differences among the configuration of individual-points are equivalent to differences

⁴¹ See generally C. COOMBS, A THEORY OF DATA (1964).

⁴² For a more detailed discussion of the model, see G. SCHUBERT, *supra* note 31, at 22-43.

in the relations of the individuals to the ideological — and therefore to the attitudinal — dimensions of the space. Both the Supreme Court Justices and their academic simulars can be represented by corresponding subsets of points in the configuration. And by examining the similarities and differences between these two subsets of the configuration, in relationship to the reference dimensions which define the space, it is possible to compare and contrast the attitudes of the Justices, and the members of the seminar, toward questions of public policy typical of those currently being decided by the High Court.

2. Theory. — The theory of decision-making assumed in the simulation is that, in adjudication, there is an unspecifiably large number of stimuli to which the judge responds, but that these stimuli can nonetheless be represented by, and reduced by appropriate measurement to, a small set of scalable categories, each with a different value content. The judge's perception and cognition of the multiple stimuli presented by the various elements of any one "case," is represented by a point on a single one of the attitudinal dimensions. The judge's own value position can also be represented by a point located on the same dimension. The decision of the judge — like that of the analyst who seeks to understand and predict the judge's behavior — is arrived at by considering the relationship between his own point and that of the stimulus. The judge's vote, affirmative or negative, depends on whether he exceeds the stimulus in the positive direction of the attitudinal dimension. For the Court, the group decision, pro or con a particular scale variable, is strictly a function of the relationship between the set of points representing the individuals participating in the decision and the stimulus point. The outcome, pro or con, depends upon which side of the stimulus point lie a majority of the participating individual points. The theory assumes that the Court's decisions are completely determined by judicial attitudes.⁴³

⁴³ It is important to note that my statement in the text is: "The *theory* assumes . . ." (emphasis added). Many critics of behavioral research often fail to distinguish between the temporary suspension of judgment during hypothesis testing, and their own private (and no doubt, deeply felt) "can't help's." There are now in print a fairly sizable number of instances in which commentators have accused this writer of stating as some sort of personal credo what were intended to be, and what were clearly *in context*, "if . . . then" propositions. Richard Wells and Joel Grossman have argued, for example, that I am even "more categorical than [another political scientist, whom they named] in asserting that the values of the justices determine definition and response to issues." Wells & Grossman, *The Concept of Judicial Policy-Making: A Critique*, 15 J. PUB. L. 286, 308 (1966). For evidence, they cite my *Judicial Policy-Making* 106 (1965). An examination of that passage reveals that the statement they quote — "Is-

3. Procedures. — The voting responses of the Court and the class were coded in a form that permitted direct analysis by a computer program for cumulative scaling. The program (BMD O5S) produced a solution that could be treated as an initial approximation of the maximally consistent ordering that is sought. All of the scales described below were the result of manual transpositions, of both rows and columns, that improved the computer solutions. The same voting responses also were used to generate a phi correlation matrix. Each such correlation was a measure of the degree of dyadic association manifest in a four-fold table, which recorded agreement and disagreement in assent and in dissent for each pair of individuals. For this purpose, "assent" was defined to mean any voting response of an individual that agreed in direction with the outcome (pro or con) for the Court in the same decision; a contrary vote (which might be either affirmative or negative, in any particular decision, depending upon the outcome) would be a "dissent." In order to avoid recoding the response data in this form,⁴⁴ a transgeneration step which reversed the coding of all individual votes in con decisions was written into the initial stage of the factor analysis program. The program also calculated the correlation matrix and output as solutions of the principal components with both quartimax and varimax orthogonal rotations. A plotting program was appended to the factor analysis and used the output factor loadings⁴⁵ as the basis for visual representation of all pairs of significant axes. These factorial plots were useful as an initial step in locating scale vectors, and also in aiding conceptualization of the configurational relationships. The solution procedure for relating the factorial analogues to the cumu-

sues denominate . . . system of values" — appears on the same page as, and directly beneath, a figure captioned, "A Systemic Model of Judicial Policy-Making," and that in the context of the page preceding and the two pages following, it is indisputable that the statement quoted purports to be a description of the implications of the model. What I may personally believe about the importance of judicial values to judicial perception and conception is not irrelevant. Cf. sources cited in note 38 *supra*. But it is clearly distinguishable from my statements explicitly concerning logical relationships in a theory, which is the point at issue here.

No doubt, choice-making in real life, including judicial decision-making, involves many kinds of attitudes — legal ideology and social ideology of judges toward each other, as colleagues, for example — and classes of variables other than attitudinal (relating, for example, to personality dynamics, intelligence, health, career aspirations, and leadership roles within the group). See Schubert, *Behavioral Jurisprudence*, 2 L. & SOC'Y REV. 407 (1968). To the extent that other variables such as these are influential in adjudication, predictions of judicial behavior based upon policy attitudinal variables alone can be expected to err.

⁴⁴ Such a recoding would require that affirmative votes in pro decisions and negative votes in con decisions be classified as assents, and the contrary be classified as dissents.

⁴⁵ See G. SCHUBERT, *supra* note 29, at 23.

lative scales is algebraic, and so far as is known has not been programmed for computer analysis.⁴⁶

III. RESULTS

A. Data

The voting response data for the court (and the stimulus data for the class) consisted of all of the nonunanimous, nonjurisdictional, and nonprocedural decisions reported in volumes 375-83, and the first part of volume 384, of the *United States Reports*.⁴⁷ This sample totaled 263 decisions, and it was partitioned among the scales, with the total for each variable equal to the sum of the (pro-con) marginals, as follows: B, 49-19; FP, 36-11; LR, 27-1; PF, 15-6; RE, 18-3; W, 14-3; F, 9-7; RP, 10-5; CE, 7-3; RF, 0-0; and non-scale, 20. Thus, the data for at least two of these variables appears insufficient for constructing acceptable scales. Ordered in the sequence of the ratio of pro outcomes, the Court gave strongest support to LR (.96), then RE (.86), W (.82), FP (.77), next B (.72), PF (.71), CE (.70), RP (.67), and least F (.56). The corresponding ratios of support, by the class, are: LR, RE, and PF, all 1.00, FP (.96), RP (.93), CE (.90), B (.88), and then W (.53) and F (.50).

A comparison of these two sequences indicates (with $\rho = .53$) that the class consistently "decided" these cases with outcomes more liberal than the Court's for seven of the scales; indeed, the class upheld all claims in relation to legislative reapportionment, racial equality, and political freedom. In regard to two of the economic scales — W and F — however, the court voted more liberally than did the class, and this difference was particularly noteworthy for the W scale. The Court, in fact, supported the W and B scale values as much as or more than it did half of the political scales, while the class supported all six of the political values more than any of the three economic values. The clear implication is that the class tended to be politically more liberal, but economically more conservative, than the

⁴⁶ *Id.* at 73-75. For a critical commentary upon the significance the author has attributed to factorial analogues of cumulative scales, see D. Gow, *Judicial Attitude: A Critique and a Case Study of the High Court of Australia, 1964-1969*, ch. 6 (senior honor's thesis presented at the University of Sydney, 1971).

⁴⁷ The cut-off date was May 2, 1966. These data have been deposited in archives maintained by the Inter-University Consortium for Political Research (Ann Arbor), the Center for the Behavioral Study of the Judicial Process (University of Illinois), the Political Laboratory Curriculum Project, Department of Political Science (University of Minnesota), the Institute for Behavioral Research (York University), and the Louis Harris Political Data Center (University of North Carolina), as part of a set of data cards covering the period of the 1946-68 Terms, inclusive, of the United States Supreme Court.

Court. This is confirmed by Table 1, which shows that, for the political values, there were 25 decisions in which the class reached more liberal outcomes than did the Court, and *none* in which the court was pro when the class was con; but in cases involving the W and F scales, the court decided more liberally than the class twice as often as to the contrary.

B. Scales

Table 2 reports the coefficients of reproducibility and scalability for scales of the Court, the class, and the composite (or "synthetic") group of Justices and student judges, and also the coefficients of minimal marginal reproducibility for the composite group. Taking into consideration other conventional criteria of "scalability" (such as sample size, ratio of items with extreme marginal distributions, and randomness of error patterns) as well as these coefficients, the Court is considerably more consistent in its decisions than the class,⁴⁸ producing acceptable scales for six of the variables (PF, FP, RE, RP, LR, and B), one marginally acceptable scale (F), one quasi-scale (CE), and one nonscale (W). The class alone produced only a single acceptable scale (LR), one marginal scale (B), four quasi-scales (PF, FP, RP, and CE), and three nonscales (RE, F, and W). Indeed, in regard to every variable except CE, the group of Justices voted more consistently than the group of student judges.

When the two groups are combined, there are four good scales (PF, LR, RE, RP) and another acceptable one (FP). Three other variables will be dropped from further consideration: W and CE, which were a nonscale and a quasi-scale, respectively, for both groups independently and together; and F, for which the Court produced a good but marginal scale, the class did not scale, and the composite group formed a quasi-scale that failed to attain acceptable minimal levels for the coefficients. This leaves B, which does not scale for the composite group. But because B produced a good scale for the Court, and a good though marginal scale for the class, and

⁴⁸ A recent study of decision-making which compared the performance of groups of students, judges, and simulated juries in the tasks of estimating probabilities of defendant guilt, the interpretation of verbalized legal standards, and reaching verdicts, concluded that the judges were by far the most discriminating in the use of either qualitative or quantitative criteria, whereas students tended to be the most biased (in favor of defendants). Simon & Mahan, *Quantifying Burdens of Proof: A View from the Bench, the Jury and the Classroom*, 5 LAW & SOC'Y REV. 319 (1971). Another recent study focused on the judicial role and compared the interview responses of judges to those of undergraduate students, concluding that the judges shared "a strikingly similar set of perceptions about their role" while "the student sample was much less cohesive." Skogan, *Judicial Myth and Judicial Reality*, WASH. U.L.Q. 309, 332, 333-34 (1971).

TABLE 1
DECISIONAL OUTCOMES

a. Six political scales				b. The business scale					
		<i>Court</i>				<i>Court</i>			
		+	-	+	T	+	-	+	T
<i>Class</i>	+	25	113	138		+	16	44	60
	O	1	0	1	<i>Class</i>	O	0	1	1
	-	3	0	3		-	3	4	7
	T	29	113	142		T	19	49	68
c. The labor and taxation scales									
		<i>Court</i>							
		+	-	+	T				
<i>Class</i>	+	5	12	17					
	-	5	11	16					
	T	10	23	33					

TABLE 2
SCALE COEFFICIENTS

		<i>Scales</i>								
		<i>PF</i>	<i>FP</i>	<i>LR</i>	<i>RE</i>	<i>RP</i>	<i>B</i>	<i>CE</i>	<i>F</i>	<i>W</i>
	<i>MMR</i>	69	84	86	84	71	71	68	59	62
<i>All</i>	R	95*	93	99*	95*	94*	83n	95q	89m	84n
	S	69	61m	88	71	74	51n	72	51n	48n
<i>Court</i>	R	94*	95*	99*	96*	94*	93*	89q	91*m	85n
	S	78	76	96	82	72	72	63m	67	48n
<i>Class</i>	R	88*q	83n	99*	q	94q	90*m	93q	80n	82n
	S	67	41n	87	71	71	58m	70	38n	53n

Note: all values are two-place decimals.

Legend:

- MMR = minimal marginal reproducibility
- R = Guttman's coefficient of reproducibility
- S = Menzel's coefficient of scalability
- * = good scale
- m = marginally acceptable scale
- n = not an acceptable scale
- q = quasi-scale

TABLE 3
THE SIX SCALES

	PF	FP	LR	RE	RP	B	Σ	
<i>The Court</i>	Bl	7	2½	9½	16½	18	5½	59
	Br	13	14	9½	11½	10½	12	70
	Cl	17	17	14	13	16	12	89
	Do	3	5½	4	4½	2½	14	33½
	Go	13	10½	12½	4½	10½	7½	58½
	Hr	18	18	17½	18	15	18	104½
	St	15	16	16	14	17	16	94
	Wa	13	13	9½	11½	10½	12	69½
	Wh	16	15	9½	16½	13	15	85
	J	7	7½	4	4½	6	10	39
<i>The Class</i>	K	3	5½	4	4½	8	3	28
	L	10½	10½	15	4½	10½	17	67½
	M	3	7½	4	9½	2½	1	27
	N	3	2½	4	4½	6	3	23
	O	9	2½	17½	15	14	7½	65½
	P	7	2½	12½	4½	2½	3	32
	Q	10½	9	4	9½	2½	9	44½
	R	3	12	4	4½	6	5½	35

TABLE 4
INTERSCALE RANK CORRELATIONS (ρ)

	FP	B	PF	LR	RP	RE
FP		70	78	36	43	42
B	70		72	51	46	41
PF	78	72		72	66	65
LR	36	51	72		71	53
RP	43	46	66	71		74
RE	42	41	65	53	74	

Note: the matrix cell entries are two-place decimals.

TABLE 5
ASSENT-DISSENT CORRELATIONS (phi)⁴⁰

	Do	N	K	P	R	M	Q	J	Bl	Fo	Go	L	Wa	Br	O	Wb	St	Cl	Hr	+	-
Do	51	52	47	36	41	38	50	16	38	12	28	24	10	07	-18	-30	-15	-56	196	60	
N	84	66	63	60	66	53	47	42	37	37	29	27	20	17	-17	-30	-23	-69	190	66	
K	63	61	54	56	61	54	56	36	38	49	33	36	24	23	-13	-26	-18	-63	193	69	
P	63	56	55	44	43	35	54	47	13	41	20	25	-16	25	-16	-27	-30	-58	126	43	
R	51	51	51	56	51	31	34	35	-02	29	13	14	08	12	-08	-28	-13	-51	196	65	
M	41	40	40	33	40	40	33	34	37	20	24	11	15	-13	-25	-25	-46	193	62		
Q	38	53	54	44	31	40	50	14	56	47	20	34	22	16	-05	-19	-24	-52	189	67	
J	50	47	56	43	34	40	50	12	34	40	31	21	09	14	-16	-18	-32	-42	201	59	
Bl	16	42	36	35	35	33	14	12	-01	11	-05	06	-04	28	05	-20	-18	-44	177	84	
Fo	38	37	38	54	-02	34	56	34	-01	70	56	48	30	32	-20	-32	-17	-42	33	4	
Go	12	37	49	47	29	37	47	40	11	70	28	44	39	30	-07	03	-17	-26	169	40	
L	28	29	33	13	13	20	20	31	-05	56	28	14	05	15	-14	-00	-10	-25	180	76	
Wa	24	27	36	41	14	24	34	21	06	48	44	14	46	10	02	-08	05	-22	236	20	
Br	10	20	24	20	08	11	22	09	-04	30	39	05	46	10	23	11	06	-12	245	13	
O	07	17	23	25	12	15	16	14	28	32	30	15	10	10	12	-06	-18	-12	136	126	
Wh	-18	-17	-13	-16	-08	-13	-05	-16	05	-20	-07	-14	02	23	12	10	19	20	195	59	
St	-30	-30	-26	-27	-28	-25	-19	-18	-20	-32	03	-00	-08	11	-06	10	22	25	159	96	
Cl	-15	-23	-18	-30	-13	-25	-24	-32	-18	-17	-17	-10	05	06	-18	19	22	39	190	70	
Hr	-56	-69	-63	-58	-51	-46	-52	-42	-44	-42	-26	-25	-22	-12	-12	20	25	39	96	159	

Legend:

+ = total participation in assent
- = total participation in dissent

Note: the matrix cell entries are two-place decimals.

⁴⁰ Because Fortas succeeded Goldberg on the Court, these two Justices participated in no decisions together. The correlation between them reported in Table 5 is a rho, calculated from the rankings of their respective phi correlations with 16 other members of the composite group (all except P). Similarly, the correlation between Fortas and P is a rho estimate, because illness precluded P from participating in the last 76 decisions, and hence with any decision with Fortas jointly. The phi correlations, for Goldberg and P, on the one hand, and for Fortas, on the other, with the rest of the group, pertain to different (in both content and sample size) subsets of the decisions. It was assumed that these estimated correlations for Goldberg/Fortas and P/Fortas would bias

TABLE 6
 PRINCIPAL COMPONENT CORRELATIONS
 (INDIVIDUALS AND SCALES)

		<i>Factors</i>			
		<i>1</i>	<i>2*</i>	<i>3*</i>	<i>4*</i>
<i>Justices</i>	Bl	40	43	-45	-32
	Br	28	-61	-41	20
	Cl	-35	-23	-26	51
	Do	64	16	20	30
	Fo	66	-52	36	-15
	Go	62	-52	-04	-21
	Hr	-77	-27	-01	-11
	St	-38	-37	-14	01
	Wa	46	-52	-19	25
	Wh	-20	-22	-63	-10
	J	65	02	23	01
	K	85	06	-11	11
	L	40	-27	47	-06
	M	71	17	-10	03
<i>Simulars</i>	N	84	20	-12	12
	O	31	-16	-19	-73
	P	80	04	-12	-03
	Q	69	-18	06	03
	R	61	37	-30	15
	PF	100	100	50	-30
	FP	100	30	20	-60
<i>Scales</i>	LR	100	20	-30	100
	RE	60	-10	40	40
	RP	70	20	40	55
	B	100	-35	-55	-45

Note: all values are two-place decimals.

the analysis less than to insert zeroes or to fall back upon some other equally arbitrary procedure. The calculated values for these correlations were .744 and .577, respectively; these were reduced to .70 and .54, for insertion in the matrix, because rho overestimates r by about six percent.

because the inconsistencies in the composite scale clearly result from the synthesis of the two subgroups, this variable has been added to the five acceptable scales as a quasi-scale for the analysis below.

Table 3 reports these six scales for the composite group.⁵⁰ Among the Justices, Douglas is most consistently liberal, except in regard to B; Black also tends to be liberal, except for RP and RE; Warren and Brennan are consistently moderate on all issues; and Stewart and Harlan are consistently conservative on all scales. However, five of the class are about as liberal or more so than the most liberal Justice, Douglas, and even the other four student judges have average rankings higher than that of Brennan, whom we have designated a moderate. Conversely, two-thirds of the Justices (Warren, Brennan, White, Clark, Stewart, and Harlan) were more conservative than the entire class. Relative to the other members of the class, K, M, and N were most consistently liberal, and L and O were most consistently conservative.

The interscale rank correlations appear in Table 4, which shows that FP, B, and PF form one cluster, and LR, RP, and RE another — although PF is associated almost as highly with the second cluster as with the first. The FP and PF scales together define the core content of what the earlier research had treated as a single variable of political liberalism, and the B scale (together with W, which is omitted here) comprises the variable of economic liberalism. For our composite group, FP and PF are less highly correlated, but each of them, along with B, is somewhat more so than in the previous sample for the Court alone.⁵¹ The relationships summarized by this matrix can be denoted in more explicit detail, however, in the plots of the factorial space.

C. *Factor Analysis*

Table 5 presents the phi correlation matrix of voting interagreement and disagreement in assent and dissent. It is quite apparent that the second quadrant is the liberal corner, while the fourth quadrant is the conservative corner; Douglas and the five academic judges in sequence after him all gave perfect affirmative support on the PF scale, with the solitary exception of one dissenting vote by P, in a case that may have been misclassified as PF instead of W (it involved political democracy in a labor union). The matrix provides an ex-

⁵⁰ Fortas has been omitted from this table because his low participation precluded the determination of a reliable position for him on most of these scales.

⁵¹ G. SCHUBERT, *supra* note 29, at 173.

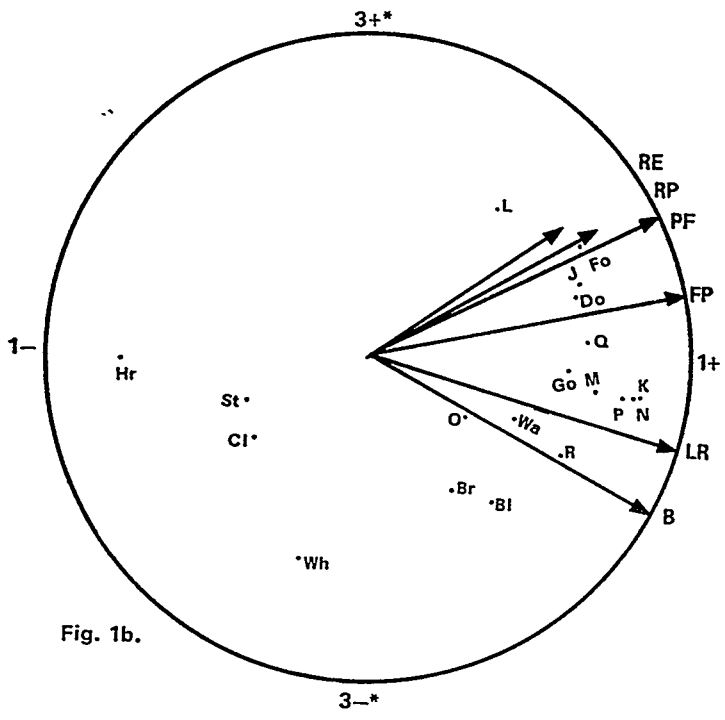
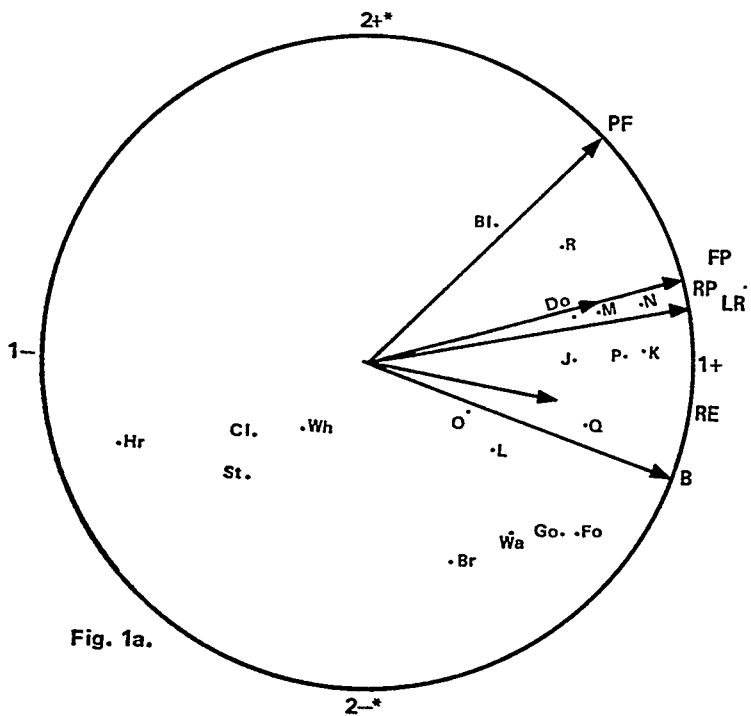
ceptionally clear-cut discrimination between the four most conservative Justices and all other 15 persons. The 105 intercorrelations among these others — the class and the six moderate to liberal Justices — are all positive except for four which are $\leq -.05$; and similarly, all the intercorrelations among the four conservative Justices are positive, and the 60 between them and the others are all negative, except for eight (of which five are $\leq .06$).

As one might expect, the first principal component separates the four conservative Justices, who have negative loadings, from the rest of the group, all of whom are positive (Table 6). The first component also distinguishes between ten liberals — seven of the class and three Justices, who all have loadings greater than .60 — and five moderates, including three Justices and the other two student judges, all of whom have loadings within the range .25 to .50. Only the first four components, all of which have eigenvalues greater than 1.0 and which together account for 60 percent of the variance in the matrix, are included in the table. The 15 other principal components were examined, of course, but their contribution was of less importance and the interpretation below will proceed without them. The first seven factors also were examined under both quartimax and varimax rotation; but these transformations to simple structure (for both judges and factors) do not aid in the interpretation below, so they are not reported.⁵²

Table 6 also reports the factor loadings for the six scale vectors. These loadings determine the position of the vectors in the four-dimensional space defined by the principal components. The correlations between the projected ranks of 18 of the persons represented in the point configuration⁵³ upon these scale vectors, and their ranks on the analogous cumulative scales, all are highly positive: .97 (PF), .89 (FP), .88 (LR), .85 (RE), .84 (RP), and .79 (B). All of these rhos are significant at less than .005; the corresponding taus, which range from .90 to .62, all are significant at less than .0002. Thus, the probability of finding such analogous rankings in the fac-

⁵² Both the quartimax and the varimax rotation of the first two factors, for example, are an almost identical counterclockwise orthogonal rotation of about 45 degrees, which has the effect of putting all those with positive loadings on the first principal component into the first quadrant — actually, Black and Brennan are just beyond the quadrant boundaries — and the four with negative loadings on the first component are distributed along the boundary between the third and fourth quadrants.

⁵³ Fortas is represented in the point configuration, but he was necessarily omitted from the scales (Table 3), so he cannot be included in the comparison of scale ranks with projected ranks — although it is possible, of course, to calculate a projected rank for him.



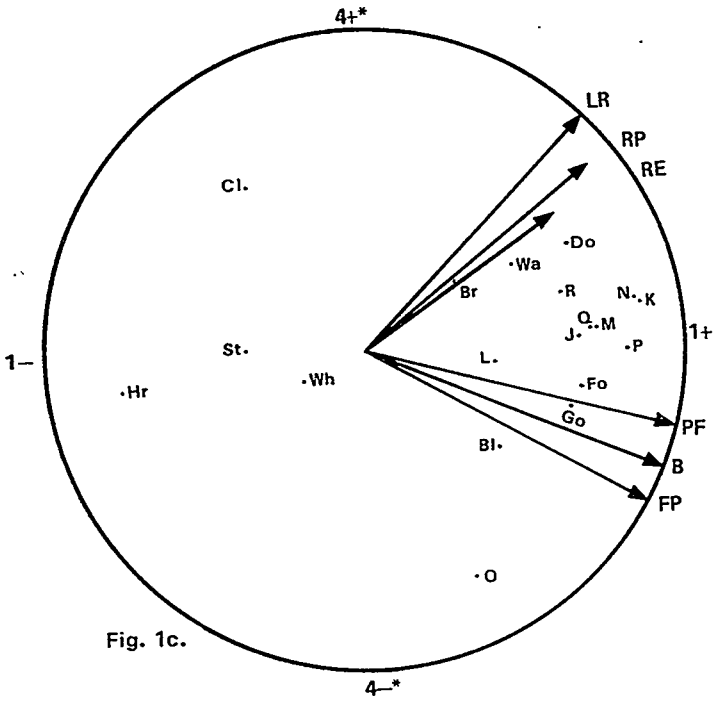


Fig. 1c.

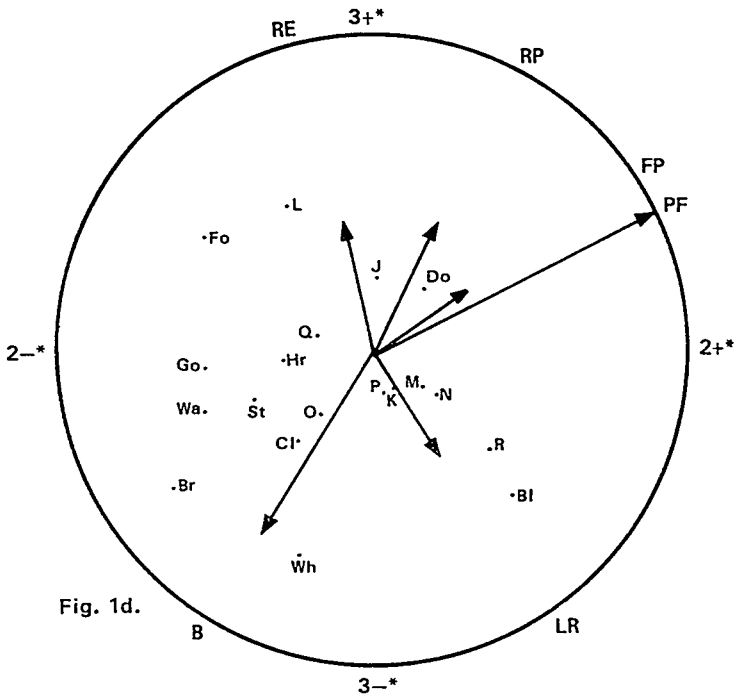


Fig. 1d.

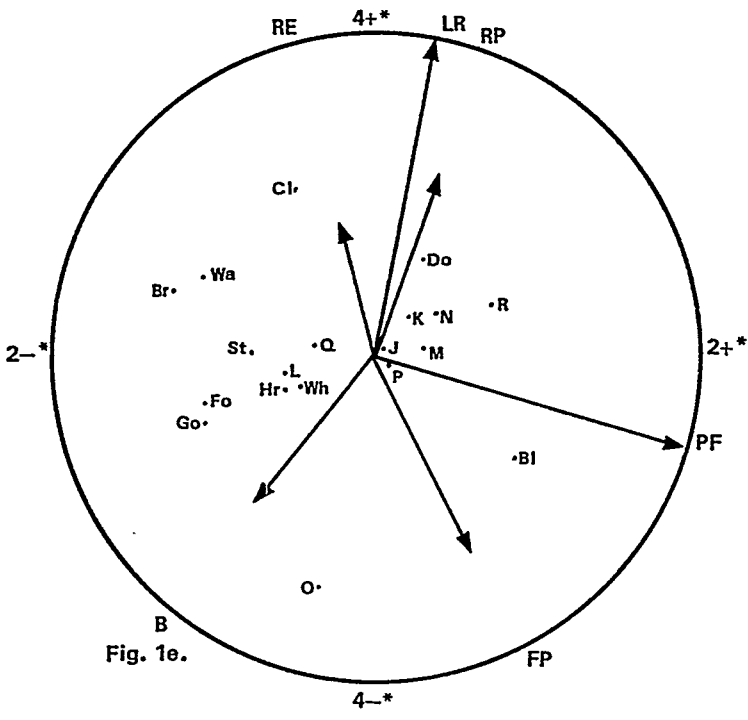


Fig. 1e.

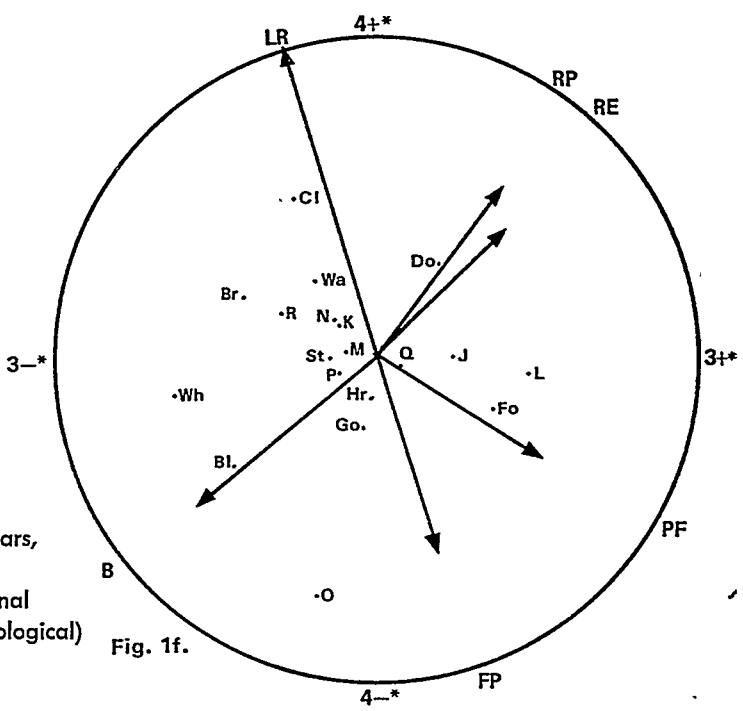


Fig. 1f.

Figure 1. Justices, similars, and scales in four-dimensional factorial (ideological) space.

torial space on a chance basis are quite remote, particularly since the joint probability value of randomly drawing a point configuration for which such a good-fitting set of scales can be observed is the product of the six significance values cited above.

In Figure 1 we can observe the two-dimensional plots for each pair of the principal component reference axes, with the six scale vectors positioned in relation to the point configuration. All of the scales are positively correlated with the first factor (although not all maximally so), which confirms the finding of previous research that these six scales are all components of liberalism. On the second component, PF is maximally positive, but none of the remaining scales have high correlations; B is the most negative and has the next largest loading. PF, RE, and RP all have moderately positive loadings on the third component, while B has a moderately negative (and the largest) loading, and there are no high correlations. The fourth component, however, provides a sharper differentiation between LR (which is maximally positive) and RP and RE, on the one hand, and the moderately negative PF, B, and FP, on the other. The plot for the second and third components shows the contrast between PF and B in particular; while the third and fourth show the greatest differentiation among the scales, with RP and RE clustered in the first quadrant, LR alone in the second quadrant, B in the third quadrant, and PF and FP clustered in the fourth quadrant.

D. *Interpretation*

The suggested interpretation of the data is that the first principal component represents the general ideology of liberalism and conservatism; the second component is one of libertarianism and authoritarianism; and the third, individualism and collectivism. Hence, the first component is a blend of the political values and the economic value; the second is a political dimension; and the third gives emphasis to economic ideology. This interpretation is in accord with the findings of the earlier research,⁵⁴ which was limited, however, to three-factor space. The fourth component distinguishes between (1) the set of novel issues of liberalism (RE, RP, and LR) that the Court agreed to confront for the first time in any sustained way during the 1950's and '60's, and (2) the more traditional issues of liberalism (such as B, PF, and FP) which were the foci of policy change during the 1920's and 30's. Evidently, most Justices, like all but one of the students, did not perceive this distinc-

⁵⁴ G. SCHUBERT, *supra* note 29, at 183-235.

tion to be a determinative one, but it was a major dimension for Clark and Black (and even more so for the law-graduate seminar member). Clark was relatively sympathetic to claims of what we might call *modern* liberalism, while Black, and especially student O, were much more willing to support the claims of *traditional* liberalism than the unorthodox claims for judicial policy intervention that were provoked by the newer issues. And even though only a minority of the 19 respondents changed their voting position because of such a distinction, Table 4 shows that the clustering of the issues into these two sets was at least consensually recognized.

A proposed interpretation of this fourth dimension is that a person, like Clark, is a radical if he is highly positively correlated to it — a radical in the sense that he is more sympathetic to claims in behalf of reform in unresolved and developing sectors of policy-making, but hostile to demands for the extension of “settled” traditional liberties.⁵⁵ Logically, any respondent with a maximal positive loading on the fourth dimension, and a zero loading on the first, ought to support all claims under the new issues and reject all those under the traditional ones — and vice versa, of course, for anyone whose correlations with the first and fourth dimensions are .00 and -1.00, respectively. The latter type we can readily denote as orthodox, because such a person would support all, but only, traditional liberal rights.⁵⁶ Thus, the fourth dimension is one of radicalism/orthodox.

The explicit and most general finding, therefore, is that the first four principal components, of a correlation matrix based upon agreement among judges deciding policy issues of the types specified in the scales, represent ideological dimensions of the contemporary American understanding of liberalism and conservatism: the first is a general dimension, the second political, the third economic, and the fourth focuses upon social change.

⁵⁵ This appears to be the same dimension as one that was identified as the third in a three-dimensional smallest space analysis of comparative political ideology, including appellate judges in Japan and the United States. Schubert, *Ideological Distance: A Smallest Space Analysis Across Three Cultures*, 1 COMP. POL. STUDIES 319, 336 (1968). What is denoted here as the first factor of general liberalism/conservatism was not observed in the smallest space analysis of the comparative ideological data.

⁵⁶ As Table 6 shows, the law student's actual coordinates were .31 and -.73, indicating that he was an orthodox liberal — and considerably more orthodox than liberal; the late Mr. Justice Black's coordinates of .40 and -.32 indicate, by contrast, a liberal reactionary, a finding that is corroborated by the profile of his scale rankings. Table 3 shows that Black's average rank on the three traditional scales was fifth, and his average rank on the three novel scales was fifteenth, in the combined group of respondents. Douglas, with scores of .64 and .30, is a liberal radical. Clark's loadings of -.35 and .51 show him to be a radical conservative.

Figure 1 explains the cluster association that is apparent among the scales in Table 4. RP and RE are closely associated on all dimensions, and they are distinguished from the other four scales, on the first component, by their relatively lower scores. Figure 1f affords the best perspective of the separation of the two clusters, while Figure 1e in particular shows (although the other plots also confirm) why PF appears to be relatively closely associated with the cluster of new issues.

Figure 1a makes it clear why the student judges vote more liberally on all scales (except W, which cannot be located in the factorial space) than do the Justices. With only a ten degree counterclockwise rotation of the first component toward the political liberalism cluster FP/RP/LR, in fact, seven members of the class then exceed *all* members of the court in the direction specified. Figure 1a therefore confirms the previous suggestion that the first component should be understood to discriminate among liberals (mostly students), moderates (mixed), and conservatives (all of whom are Justices).

The second component shows Black and R as the most politically libertarian — with Douglas and five of the academic judges also being positive on this dimension — while the court's moderates (Warren, Brennan, Goldberg, Fortas) are the most authoritarian, followed by Stewart. The leading individualists are L (the female student) and Fortas, followed by J and Douglas; while the most collectivist are White, Black, Brennan, R, and Clark. On the fourth dimension, only four persons load with absolute values equal to or greater than .30: radicals Clark and Douglas, and traditionalists O and Black. Mr. Justice Black's characterization as a traditionalist no doubt will occasion some dissent from readers familiar with his reputation during the 1940's and 50's as the Supreme Court's leading "libertarian activist," to use Pritchett's phrase.⁵⁷ Our present concern is not with Black's more distant past, however, but with his voting behavior in his last years, as an octogenarian — quite literally, when he was the "old man" of the court.⁵⁸ In particular, his continued opposition to the Court's development of a new constitutional right to privacy⁵⁹ and his assumption of leadership among the Justices, during the 1960's, *against* the further extension of racial equality,⁶⁰

⁵⁷ C. PRITCHETT, CIVIL LIBERTIES AND THE VINSON COURT 192 (1954).

⁵⁸ See H. BLACK, A CONSTITUTIONAL FAITH (1968), which is replete with traditionalist dogma about the sanctity of the literal verbal mandate of the Founding Fathers etc.

⁵⁹ See G. SCHUBERT, CONSTITUTIONAL POLITICS 610 (1960).

⁶⁰ See G. SCHUBERT, THE CONSTITUTIONAL POLITY 118-29 (1970).

require his placement in the position in which we observe Black in Figure 1f. His position should be interpreted as a function of his relationship to the negative extensions of the RP and RE vectors, as well as of his projection on the positive vector for B. We already have noted that O, the group's stalwart in defense of traditionalism, was a recent product of law school socialization.

IV. DISCUSSION

A. Methodology

The earlier study of the Court was undertaken over a decade ago, at a time when computer technology was less advanced than it is today. However, the former reliance upon a centroid program which used communalities estimated from each individual's highest correlation and which did not iterate the solution, produced a point configuration that led to no significantly different interpretation than would have been made if the same data were analyzed by a principal components program with unities for communalities and an iterated solution.⁶¹ Consequently, comparison of the present results for the Court with those of the earlier study is not invalid.

The computer-produced initial approximations of the scales⁶² did

⁶¹ Several years after the completion of the analysis for the earlier study, the author did analyze the original set of correlation matrices using a modern principal components program, and comparison of the two outputs led to the conclusion stated in the text.

The centroid solutions are rough approximations of the principal components, and the error variance increases rapidly as one moves to higher order (lower ranking) factors. But the error variance affecting the first three factors was small; and the earlier study used only the first three factors. For example, comparison of the centroid with principal axes factor output for the 1959 Term shows the following:

First, the four-dimensional fit of the cumulative scales to the principal axes, as compared to the three-dimensional fit for the centroid factors, was 1.00 and .94 (economic liberalism), .89 and .78 (political liberalism), and .74 and .75 (governmental fiscal policy). Evidently, the two major scales were better accommodated in four dimensions than in three, although this made no difference in the case of the minor scale.

Second, the Pearsonian correlations between the three centroid factors and the corresponding (first three) principal axes, using the factor correlations of judges as the scores, are: .997 (I), .817 (II), and .797 (III). Clearly, the first centroid factor is an excellent estimate of the first principal axis, while the second and third centroid factors are good (but certainly to some extent misleading, as each shows 20 percent error variance) estimates of the second and third principal axes.

Third, the fourth principal axis is possibly a stable (from term to term), usable dimension; the fourth centroid factor was not. If I may indulge in a myope's analogy, the difference between the centroid factors and the principal axes is akin to the vision of a moderately near-sighted person watching a basketball game, without and with his glasses on. The more distant the factors (*i.e.*, the play), the more he misses of whatever action is taking place.

⁶² One might say that the computer-produced scales were about as good an approximation of the final scales reported herein as a centroid factor is an approximation of a principal components factor.

not differ much from the earlier, manually produced scale rankings, although it should be noted that the present set of scales cannot be directly compared, except in part, with the scales to which the bulk of attention was given in the earlier study.⁶³ The scale analysis of the present study is more discriminating, although both studies lead to substantially equivalent interpretations of the ideological dimensions — the factors or principal components — if we note the caveat that the present study included the fourth dimension of judicial radicalism/traditionalism.⁶⁴

The use of cumulative scales as an extrinsic criterion for interpretation, in lieu of a rotation (as such) of the reference axes, was possible because the sample sizes of the voting data were generally adequate for the scales. When other kinds of data are utilized and such an extrinsic criterion is not available, then it is necessary, of course, to fall back upon statistical (rather than substantive) criteria for either orthogonal or oblique rotation and for guides to interpretation. The sample sizes in the present study are larger and hence better than for the earlier study. The design of the earlier study had called for the grouping of scale data on the basis of single terms of the Court, because one of its objectives was to analyze the stability of attitudes over time. Apparently, pooling of data over several terms is a prerequisite to the analysis of more refined subsets of the data, as occur in the scales of this study as distinguished from the grosser variables utilized earlier.

The pooling of respondents in the present study suggests another possible development for future research. One limitation upon factor analytic studies of Supreme Court voting data has been that only Q analysis has seemed possible, because a maximum of nine observations was available for any particular stimulus (where a stimulus, of course, is a case).⁶⁵ Doubling the size of the sample of such observations, as was done in the present study by merging the class with the Court into a composite group of decision-makers, results

⁶³ The C scale of political liberalism, analyzed in the earlier study, was a composite which included FP, PF, RP, RE, LR, CE, and RF; the E scale of economic liberalism included W as well as B. See note 36 *supra*.

⁶⁴ Perhaps the use of the centroid procedure is the explanation for the shaky interpretation of the third factor, and the inability to interpret the fourth factor, in the earlier study. The fourth principal component was identified as judicial activism/judicial restraint in a later study which analyzed the value content of judicial opinions for a single judge. Schubert, *Jackson's Judicial Philosophy: An Exploration in Value Analysis*, 59 AM. POL. SCI. REV. 940, 953 (1965).

⁶⁵ The content analysis study of judicial values utilized P-technique. See *id.*

in a sample almost large enough to make possible the more usual type of R-technique factor analysis.

If the defined class goal, however, had been for each student to select and to attempt to imitate the perspective of a particular reference Justice in predictive decision-making — which *was* one of the goals in Whitaker's class simulations as we shall discuss below⁶⁶ — then the criterion for the validity of factor analysis would be the degree of equivalence between real Justices and their respective student similars. Perfection in simulation would consist of a set of +1.00 correlations between each student and his own reference Justice; and there would be then only nine *i*-points in the factorial space (since a single point could represent each Justice and any or all of his particular student similars). Empirically, we could anticipate high positive, but not perfect, correlations and pairs of points in close proximity for each Justice and his simular (rather than a single point for both). Obviously, this approach would not be helpful in facilitating R-type factor analysis, whatever its other merits, because there would still be only nine observations of each stimulus (case) point.

Taking the alternative tack of having students vote their own personal policy preferences is certain to increase the number of observations available for each stimulus point, but at the cost of decreasing the relative weight of the actual choices of the real Justices in determining the correlation matrix. (Introducing groups of lower court judges⁶⁷ — voting on the same or similar issues, in terms of attitudinal content — instead of additional students would have precisely the same effect from the present point of view.) In a synthetic group of 19 individuals, of which real Justices comprised a majority, the structure of the configuration of the subset of points representing the real Justices does not differ in any important degree from the configuration derived from intercorrelating their votes alone (in the same cases). It was easy to determine this by running separate analyses for the Court and for the class, as well as for the synthetic group of Court plus class; and I decided to base the present analysis in this article upon the results for the synthetic group only after careful comparison showed that to do so did not distort the findings

⁶⁶ See Whitaker, *supra* note 18.

⁶⁷ Several of the federal courts of appeals, when sitting *en banc*, are about the size of the Supreme Court, and it might be possible to locate an adequate sample of decisions in which both courts had acted (*viz.*, appeals from one of these lower courts to the Supreme Court) over a period of time, provided that personnel turnover for both courts was minimal.

that one would be forced to reach, for either the Court or the class, on the basis of the separate analyses of their voting behavior.⁶⁸

But whether or not one would reach the same conclusion in examining the results for a synthetic group of nine Justices plus 50 students seems dubious. I expect that the interrelationships among the Justices themselves would tend to get lost in the setting of the student crowd. But this is the kind of question that invites empirical resolution, and *if* I am wrong, and the Court structure were to stand up in the context of a 60×60 correlation matrix,⁶⁹ *then* it would be feasible to perform both Q and R analyses and to locate both Justices (and other respondents), and the stimulus points representing case policy issues, in the same joint space.⁷⁰ If that could be done, it would constitute a major advance in the systematic mapping of the policy content of Supreme Court decisions.

B. *The Simulation*

The differences between the Court and the experimental group are substantial. They involve such matters as the temporal dimension of the decision-making, the qualifications of the actors, the reality of the decision-making context, the character of stimuli, the motivation of the actors, the procedures for decision-making, and the kinds of decisional outputs. Indeed, these differences are sufficiently large and many that it may seem surprising to find the degree of similarity that is evident in the decisions of the Justices and their student simulators.

The decisions of the Justices extended over a time period of some 30 months; those of the class were compressed into slightly over one month. The Justices were involved in making history, and doubtless were acutely aware of this; the students, when they examined the reports of the Court's decisions, were reading history. Although the students understood that their role was to attempt to play vicariously one selected aspect of judicial decision-making roles, they well knew, for example, that no person would go, or

⁶⁸ The first three dimensions were clearly the same for the Court, the class, and the synthetic groups, while the fourth dimension was the same for the Court and the synthetic groups, but not for the class group.

⁶⁹ From a substantive point of view, of course, the larger the composite group, the less will be the Supreme Court's relative weight in the determination of such a configuration; and the less valid, therefore, the ensuing findings as a description of the Court *alone*.

⁷⁰ For a simplified explanation of what is involved in such a mapping of policy issues, and what is implied by such a joint space for both justices/respondents and cases/issues, see G. SCHUBERT, *supra* note 29, at 84-96.

fail to go, to prison because of their votes. Being responsible only to their own consciences, they were quite literally irresponsible in comparison to the real Supreme Court Justices.

In terms of their qualifications for the judicial role, Justices are very different from students, and conspicuously so in regard to such parameters as training, experience, career goals, and age. In the real situation, the Justices had read briefs filed by opposing counsel; looked through the record of previous decisions in the case; listened to, and in several instances, themselves participated in oral argument; discussed the cases with their assistants, with each other, and with friends (in correspondence as well as in conversation); undertook independent personal reading and research on the subject of the case; read and commented upon each other's draft opinions about the proposed decision; participated in a joint conference discussion of the decision; considered (albeit, mostly indirectly) the probable reactions to the proposed decision that would issue from various clientele and personal reference groups; and otherwise lived with the problem of the decision for a period of from several weeks to several months.

On the other hand, the students probably spent no more than an hour at most examining the report of any case, and they did so by reading a book in the library. It is presumed that the motivation of the Justices was more complex than that of the students, for whom only two considerations seemed important: to exploit the opportunity provided by the simulation exercise, so as to articulate and be self-conscious about the rationalization of their private beliefs about issues of public policy; and to perform their roles in the simulation in such a way that the instructor would be favorably impressed.

Since the Court's conferences are secret and no minutes are kept of the proceedings — except for a log of the voting in the decisions, which is posted by the Chief Justice himself — there is available no systematic data about how the Court's group process of decision-making proceeds, apart from some formal knowledge (*e.g.*, that voting is in the sequence of inverse seniority).⁷¹ Some observations can be made, however, about certain of the sociopsychological aspects of the decision-making of the class. It was apparent by the middle of the second session that each student had sized up generally the value positions of the other members of the group, on the different scales, and each had corresponding expectations about the voting behavior of the others. The realization of expectations typically was

⁷¹ The class voted in alphabetical order: J, K . . . R.

manifested by knowing smiles of satisfaction, while the frustration of expectations resulted in raised eyebrows, sighs and verbal expressions of surprise — and disappointment. It was also apparent that the pressure toward consensual decisions was strong: at first this took the form of *psychological* (internalized) feelings on the part of the deviant individuals. Later, after about the third session, these pressures shifted to an overt social form,⁷² as members of the large majorities (on all issues, most of the time) showed increasingly less tolerance for the persistent dissenters who, in turn, were becoming hardened to their own roles as social outcasts whenever certain types of questions had to be decided.

Probably the most important difference between the two groups relates to decisional outcomes. The Justices are preoccupied with the effect that their decision will have upon other persons, while the students were at most concerned with the effect that their voting choices would have upon the attitudes of the other members of the class toward the voter. The latter is, of course, a part, but only a small part, of the feedback to the Justices' decision-making. The instructor structured the simulation as he did on the grounds that it would be a much more realistic exercise for the students to focus their attention upon their individual voting, rather than upon a manifestly fictional group product. The decisions of the class were not going to either affirm or reverse those of the Court, nor would they in all likelihood ever even be communicated, as individual decisions, to any person not a member of the class. On the other hand, the merely academic implications of the individual decisions that the student judges were asked to make seemed adequate to motivate them to perform in a manner appropriate to their own status, experience, knowledge, and other work activities as university graduate students in the social sciences.

My primary pedagogical goals had been to guide the students in learning (1) how to read and analyze Supreme Court decisions; (2) the theory of judicial ideological analysis; (3) psychometric methods of investigating judicial decisional data; and (4) how to prepare data for computer analysis and how to interpret computer output. This was no doubt a large order for a 10-week course, and certainly none of these objectives was optimally realized.

On the other hand, I am quite satisfied that all four goals were

⁷² B. COLLINS & H. GUETZKOW, A SOCIAL PSYCHOLOGY OF GROUP PROCESSES FOR DECISION-MAKING, *cb.* 2 (1964). *Cf.* R. BALES, PERSONALITY AND INTERPERSONAL BEHAVIOR (1970).

met to a considerably greater extent than would have happened in a conventional seminar, in which we would have read and discussed the same set of decisions and used the customary paraphernalia such as oral reports and term papers. These students did much more common and cooperative work than is usual, and their research papers evinced considerably greater sophistication about their data than one normally encounters in seminars. I think the reasons for the collective Stahkanovite performance is precisely that the social roles within the class, as well as the task presented to the class, was structured so that each individual accepted and felt obligations to the group — not merely to me, but to the joint enterprise — that motivated him to work exceptionally hard.

Whitaker's experience in teaching the judicial process by simulating it led him to similar, although perhaps even stronger conclusions: "The strongest single argument for this type of simulation is the extent to which students are motivated to excel. Those who have not conducted simulations can scarcely conceive of the effect which peer group pressure has on participants."⁷³ Incidentally, Whitaker's simulation explicitly required that his students learn and play the roles of the Justices, including the *prediction* of the individual vote of each Justice in each pending case. In sharp contrast to Whitaker's impressively wide-ranging efforts to put students into the shoes of their respective reference Justices, my class was explicitly and quite deliberately confined to the much more prosaic game of playing the role of students.

Given my complex set of class goals, I doubt that several of them (and in particular, those relating to psychometric and computer methodology) would have been better achieved if a "more realistic" decision-making situation had been structured for the students. But on the other hand, given Whitaker's equally complex but different set of goals, and his quite different physical setting (*e.g.*, in a major metropolitan region, near the District of Columbia, and with convenient access to a good law library), his class simulations no doubt were more successful because he did make them as realistic as possible.

C. Findings

The first hypothesis was that the students would not differ significantly from the Justices in their attitudes and voting behavior. Our expectation was that this hypothesis would be disconfirmed by

⁷³ Whitaker, *supra* note 18, at 6.

the data resulting from the simulation — and it will be recalled that we were forced to predict for the Justices as well as the students, because information about the former had not been collected and analyzed (although most of it was available for observation). In order for the first hypothesis to be unsupported by the data, Figure 1 should portray two consistently distinct clusters: one for the class, and another for the Court.

In fact, the first two dimensions *do* show a perspective in terms of which most of the students are clustered together above and to the right of most of the Justices; but Figure 1a also shows that Douglas and Black are more like the class than like the rest of the Court, and students O and L are as close to the Court as they are to the rest of the class. Moreover, the mixture of students and Justices is considerable from the perspective of the third and fourth dimensions, as Figure 1f indicates. Thus, our first hypothesis can be only partially (and inconclusively) deemed disconfirmed: the particular students who participated in the seminar did tend to be different (in that they were generally and politically more liberal than the Justices), but the evidence from this single study is insufficient to support a clear-cut decision.⁷⁴

The second hypothesis was that the attitudinal dimensions common to students and Justices would be the same as those identified by previous work on the Court. This hypothesis cannot be disconfirmed on the basis of the evidence of this study. The first three dimensions here are the same as those of the earlier study; and the more powerful analytical techniques now available made it possible to denote a fourth dimension that, if it was present in the earlier study of the Court alone, was indistinguishable there because of error variance. The additional and new dimension may be of some gen-

⁷⁴ Supporting evidence is, however, beginning to accumulate. Returns to a 107-item questionnaire on attitudes toward punishment in the sentencing of convicted criminals yielded five significant rotated (varimax) factor scales representing the following attitudes: opposing treatment; favoring punitiveness; intolerance; favoring sentencing for deterrence; and puritanicalism. Results consistently discriminated (on the basis of their mean scores) five subpopulations of respondents, and in the following sequence: police officers (most punitive); magistrates (trial judges in Ontario), probation officers, and law students (all three groups virtually tied in mean scores); and social work students (least punitive). J. HOGARTH, *supra* note 24, at 135 (1971).

In no way inconsistent with these findings is the report of a Spokane questionnaire survey of four respondent groups consisting of state superior court judges, members of a civic club (Kiwanis), a random sample drawn from the telephone book, and undergraduate students. The study concluded that the differences among the four groups were not great, but that students were most different from judges, with the telephone sample and the Kiwanis ranking in between. McConnel & Martin, *Judicial Attitudes and Public Morals*, 55 A.B.A.J. 1129 (1969). See also the surveys of students and judges reported in Simon & Mahan, *supra* note 48, and Skogan, *supra* note 48.

eral interest to students of the judicial process, because it suggests that attitudes toward the novelty of proposed change are a significant, if subordinant, component of judicial liberalism and conservatism, and therefore of judicial policy-making.

It may also be of interest to observe that the new dimension appears, on the necessarily scanty evidence that a single study such as this can provide, to be linked with legal training: only a minority of the respondents have moderate or high loadings on this dimension (six of the Justices and one student have correlations of .20 or higher), but all persons who do are law school graduates. The next step, of course, is to design an experimental study in which a mixed group of equal numbers of students with and without legal training participate. This would provide a more rigorous test of the hypothesis concerning the relationship between legal education and attitudes toward judicial policy-making as a vehicle for social change.

APPENDIX

List of Decisions in the Sample, Grouped by Scale Sets

Political Freedom (PF)

- Baggett v. Bullitt, 377 U.S. 360 (1964).
- Jacobellis v. Ohio, 378 U.S. 184 (1964).
- A Quantity of Copies of Books v. Kansas, 378 U.S. 205 (1964).
- Aptheker v. Secretary of State, 378 U.S. 500 (1964).
- Mayer v. Rusk, 378 U.S. 579 (1964).
- Copeland v. Secretary of State, 378 U.S. 588 (1964).
- Calhoon v. Harvey, 379 U.S. 134 (1964).
- Cox v. Louisiana, 379 U.S. 536 (1965).
- Cox v. Louisiana, 379 U.S. 559 (1965).
- Dombrowski v. Pfister, 380 U.S. 479 (1965).
- American Committee v. SACB, 380 U.S. 503 (1965).
- Brigade Veterans v. SACB, 380 U.S. 513 (1965).
- Zemel v. Rusk, 381 U.S. 1 (1965).
- United States v. Brown, 381 U.S. 437 (1965).
- Cameron v. Johnson, 381 U.S. 741 (1965).
- Rosenblatt v. Baer, 383 U.S. 75 (1966).
- Memoirs v. Massachusetts, 383 U.S. 413 (1966).
- Ginzburg v. United States, 383 U.S. 463 (1966).
- Mishkin v. New York, 383 U.S. 502 (1966).

DeGregory v. New Hampshire, 383 U.S. 825 (1966).
Elfbrandt v. Russell, 384 U.S. 11 (1966).

Fair Procedure (FP)

Panico v. United States, 375 U.S. 29 (1963).
Grews v. Wainwright, 375 U.S. 50 (1963).
Banks v. Wainwright, 375 U.S. 51 (1963).
Bartone v. United States, 375 U.S. 52 (1963).
Corey v. United States, 375 U.S. 169 (1963).
Hardy v. United States, 375 U.S. 277 (1964).
Ungar v. Sarafite, 376 U.S. 575 (1964).
United States v. Barnett, 376 U.S. 681 (1964).
United States v. Welden, 377 U.S. 95 (1964).
Massiah v. United States, 377 U.S. 201 (1964).
United States v. Tateo, 377 U.S. 463 (1964).
Malloy v. Hogan, 378 U.S. 1 (1964).
Jackson v. Denno, 378 U.S. 368 (1964).
Escobedo v. Illinois, 378 U.S. 478 (1964).
Berman v. United States, 378 U.S. 530 (1964).
Senk v. Pennsylvania, 378 U.S. 562 (1964).
Lathan v. New York, 378 U.S. 566 (1964).
Lopez v. Texas, 378 U.S. 567 (1964).
Oister v. Pennsylvania, 378 U.S. 568 (1964).
Muschette v. United States, 378 U.S. 569 (1964).
Del Hoyo v. New York, 378 U.S. 570 (1964).
Pea v. United States, 378 U.S. 571 (1964).
Harris v. Texas, 378 U.S. 572 (1964).
Gatanzaro v. New York, 378 U.S. 573 (1964).
Owen v. Arizona, 378 U.S. 574 (1964).
McNerlin v. Denno, 378 U.S. 575 (1964).
McLeod v. Ohio, 378 U.S. 582 (1964).
Peoples v. United States, 378 U.S. 586 (1964).
Boles v. Stevenson, 379 U.S. 43 (1964).
Henry v. Mississippi, 379 U.S. 443 (1965).
Turner v. Louisiana, 379 U.S. 466 (1965).
United States v. Gainey, 380 U.S. 63 (1965).
Sansone v. United States, 380 U.S. 343 (1965).
Jenkins v. United States, 380 U.S. 445 (1965).
Griffin v. California, 380 U.S. 609 (1965).
Holt v. Virginia, 381 U.S. 131 (1965).
Jaben v. United States, 381 U.S. 214 (1965).
Estes v. Texas, 381 U.S. 532 (1965).

- Knowles v. Florida, 381 U.S. 763 (1965).
Harris v. United States, 382 U.S. 162 (1965).
Tehan v. Shott, 382 U.S. 406 (1966).
United States v. Ewell, 383 U.S. 116 (1966).
Stevens v. Marks, 383 U.S. 234 (1966).
Stevens v. McCloskey, 383 U.S. 234 (1966).
Pate v. Robinson, 383 U.S. 375 (1966).
Kent v. United States, 383 U.S. 541 (1966).
Brookhart v. Janis, 384 U.S. 1 (1966).

Legislative Reapportionment (LR)

- Wesberry v. Sanders, 376 U.S. 1 (1964).
Martin v. Bush, 376 U.S. 222 (1964).
Reynolds v. Sims, 377 U.S. 533 (1964).
Vann v. Baggett, 377 U.S. 533 (1964).
McConnell v. Baggett, 377 U.S. 533 (1964).
WMCA v. Lomenzo, 377 U.S. 633 (1964).
Maryland Committee v. Tawes, 377 U.S. 656 (1964).
Davis v. Mann, 377 U.S. 678 (1964).
Roman v. Sincock, 377 U.S. 695 (1964).
Lucas v. Colorado, 377 U.S. 713 (1964).
Swann v. Adams, 378 U.S. 553 (1964).
Meyers v. Thigpen, 378 U.S. 554 (1964).
Nolan v. Rhodes, 378 U.S. 556 (1964).
Sive v. Ellis, 378 U.S. 556 (1964).
Williams v. Moss, 378 U.S. 558 (1964).
Oklahoma Farm Bureau v. Moss, 378 U.S. 558 (1964).
Baldwin v. Moss, 378 U.S. 558 (1964).
Germano v. Kerner, 378 U.S. 560 (1964).
Marshall v. Hare, 378 U.S. 561 (1964).
Hearne v. Smylie, 378 U.S. 563 (1964).
Pinney v. Butterworth, 378 U.S. 564 (1964).
Hill v. Davis, 378 U.S. 565 (1964).
Parsons v. Buckley, 379 U.S. 359 (1965).
Hoff v. Buckley, 379 U.S. 359 (1965).
Fortson v. Dorsey, 379 U.S. 433 (1965).
Fortson v. Toombs, 379 U.S. 621 (1965).
Travia v. Lomenzo, 381 U.S. 431 (1965).
Swann v. Adams, 383 U.S. 210 (1966).

Racial Equality (RE)

- Wright v. Rockefeller, 376 U.S. 52 (1964).
Hamilton v. Alabama, 376 U.S. 650 (1964).

Griffin v. School Bd. of Prince Edward County, 377 U.S. 218 (1964).

Griffin v. Maryland, 378 U.S. 130 (1964).

Barr v. Columbia, 378 U.S. 146 (1964).

Bell v. Maryland, 378 U.S. 226 (1964).

Bouie v. Columbia, 378 U.S. 347 (1964).

Drews v. Maryland, 378 U.S. 547 (1964).

Williams v. North Carolina, 378 U.S. 548 (1964).

Mitchell v. Charleston, 378 U.S. 551 (1964).

Fox v. North Carolina, 378 U.S. 587 (1964).

Hamm v. Rock Hill, 379 U.S. 306 (1964).

Lupper v. Arkansas, 379 U.S. 306 (1964).

Blow v. North Carolina, 379 U.S. 684 (1965).

Swain v. Alabama, 380 U.S. 202 (1965).

McKinnie v. Tennessee, 380 U.S. 449 (1965).

Walker v. Georgia, 381 U.S. 355 (1965).

Wells v. Reynolds, 382 U.S. 39 (1965).

Evans v. Newton, 382 U.S. 296 (1966).

Brown v. Louisiana, 383 U.S. 131 (1966).

South Carolina v. Katzenbach, 383 U.S. 301 (1966).

Right to Privacy (RP)

Fahy v. Connecticut, 375 U.S. 85 (1963).

Stoner v. California, 376 U.S. 483 (1964).

Rugendorf v. United States, 376 U.S. 528 (1964).

Clinton v. Virginia, 377 U.S. 158 (1964).

Aguilar v. Texas, 378 U.S. 108 (1964).

Etchieson v. Texas, 378 U.S. 589 (1964).

McIlvaine v. Louisiana, 379 U.S. 10 (1964).

Beck v. Ohio, 379 U.S. 89 (1964).

Schlagenhauf v. Holder, 379 U.S. 104 (1964).

United States v. Ventresca, 380 U.S. 102 (1965).

Griswold v. Connecticut, 381 U.S. 479 (1965).

Linkletter v. Walker, 381 U.S. 618 (1965).

Angelet v. Fay, 381 U.S. 654 (1965).

California v. Hurst, 381 U.S. 760 (1965).

Riggan v. Virginia, 384 U.S. 152 (1966).

Civic Equality (CE)

Costello v. Immigration Service, 376 U.S. 120 (1964).

Mrvica v. Esperdy, 376 U.S. 560 (1964).

Schneider v. Rusk, 377 U.S. 163 (1964).

Marks v. Esperdy, 377 U.S. 214 (1964).

- Carrington v. Rash, 380 U.S. 89 (1965).
Davis v. Mabry, 380 U.S. 251 (1965).
United States v. Yazell, 382 U.S. 341 (1966).
Harper v. Virginia Bd. of Elections, 383 U.S. 663 (1966).
Butts v. Harrison, 383 U.S. 663 (1966).
Texas v. United States, 384 U.S. 155 (1966).

Antibusiness (B)

- Tipton v. Socony Mobil Oil Co., 375 U.S. 34 (1963).
Chicago & East. Ill. R. Co. v. United States, 375 U.S. 150 (1963).
SEC v. Capital Gains Bureau, 375 U.S. 180 (1963).
Dennis v. Denver & Rio Grande R. Co., 375 U.S. 208 (1963).
National Rental v. Szukhent, 375 U.S. 311 (1964).
England v. Medical Examiners, 375 U.S. 411 (1964).
Shenandoah Co. v. A.S.C.A.P., 375 U.S. 994 (1964).
Southern R. Co. v. North Carolina, 376 U.S. 93 (1964).
United States v. North Carolina, 376 U.S. 93 (1964).
FPC v. Hunt, 376 U.S. 515 (1964).
United States v. El Paso Gas Co., 376 U.S. 651 (1964).
United States v. First Nat'l Bank, 376 U.S. 665 (1964).
Simpson v. Union Oil Co., 377 U.S. 13 (1964).
FPC v. Texaco, 377 U.S. 33 (1964).
Missouri Pac. R. Co. v. Elmore & Stahl, 377 U.S. 134 (1964).
Mercer v. Theriot, 377 U.S. 152 (1964).
Willis Shaw Exp. v. United States, 377 U.S. 159 (1964).
United States v. Continental Oil, 377 U.S. 161 (1964).
Parden v. Terminal R. Co., 377 U.S. 184 (1964).
United States v. Alcoa, 377 U.S. 271 (1964).
Red Ball Motor Freight v. Shannon, 377 U.S. 311 (1964).
United States v. Shannon, 377 U.S. 311 (1964).
Hostetter v. Idlewild Liquor Corp., 377 U.S. 324 (1964).
Dep't of Revenue v. James Beam Co., 377 U.S. 341 (1964).
Meeks v. Georgia S. & Florida R. Co., 377 U.S. 405 (1964).
Wilbur-Ellis Co. v. Kuther, 377 U.S. 422 (1964).
General Motors Corp. v. Washington, 377 U.S. 436 (1964).
Aro Mfg. Co. v. Convertible Top Co., 377 U.S. 476 (1964).
Dep't of Alcoholic Beverage Control v. Ammex Warehouse Co.,
378 U.S. 124 (1964).
United States v. Penn-Olin Chemical Co., 378 U.S. 158 (1964).
United States v. Continental Can Co., 378 U.S. 441 (1964).
Brulotte v. Thys Co., 379 U.S. 29 (1964).

- Gillespie v. United States Steel Corp., 379 U.S. 148 (1964).
Farmer v. Arabian American Oil Co., 379 U.S. 227 (1964).
Arabian American Oil Co. v. Farmer, 379 U.S. 227 (1964).
All States Freight v. N.Y., N.H., & H. R. Co., 379 U.S. 343 (1964).
California v. Lo-Vaca Co., 379 U.S. 366 (1965).
Southern California Gas Co. v. Lo-Vaca Co., 379 U.S. 366 (1965).
FPC v. Lo-Vaca Co., 379 U.S. 366 (1965).
El Paso v. Simmons, 379 U.S. 497 (1965).
Crider v. Zurich Ins. Co., 380 U.S. 39 (1965).
Reserve Life Ins. Co. v. Bowers, 380 U.S. 258 (1965).
O'Keeffe v. Smith Associates, 380 U.S. 359 (1965).
FTC v. Colgate-Palmolive Co., 380 U.S. 374 (1965).
American Oil Co. v. Neill, 380 U.S. 451 (1965).
General Motors Corp. v. District of Columbia, 380 U.S. 553 (1965).
Paragon Coal Co. v. Commissioner, 380 U.S. 624 (1965).
Commissioner v. Merritt, 380 U.S. 624 (1965).
FPC v. Union Electric Co., 381 U.S. 90 (1965).
Minnesota Mining & Manufacturing Co. v. New Jersey Wood Co., 381 U.S. 311 (1965).
Atlantic Rfg. Co. v. FTC, 381 U.S. 357 (1965).
Goodyear v. FTC, 381 U.S. 357 (1965).
United Gas Co. v. Continental Oil Co., 381 U.S. 392 (1965).
FPC v. Marr, 381 U.S. 392 (1965).
FTC v. Texaco, 381 U.S. 739 (1965).
Gondeck v. Pan American Airways, 382 U.S. 25 (1965).
FTC v. Mary Carter Paint Co., 382 U.S. 46 (1965).
United States v. Huck Manufacturing Co., 382 U.S. 197 (1965).
United Gas v. Callery Properties, 382 U.S. 223 (1965).
Public Service Comm'n v. Callery Properties, 382 U.S. 223 (1965).
Ocean Drilling & Exploration Co. v. FPC, 382 U.S. 223 (1965).
FPC v. Callery Properties, 382 U.S. 223 (1965).
Western Pac. R. Co. v. United States, 382 U.S. 237 (1965).
United States v. Adams, 383 U.S. 39 (1966).
Hopson v. Texaco, 383 U.S. 262 (1966).
Perry v. Commerce Loan Co., 383 U.S. 392 (1966).
Brenner v. Manson, 383 U.S. 519 (1966).
FTC v. Borden Co., 383 U.S. 637 (1966).

Prounion (W)

- Carey v. Westinghouse Corp., 375 U.S. 261 (1964).
Boire v. Greyhound Corp., 376 U.S. 473 (1964).
Railroad Trainmen v. Virginia, 377 U.S. 1 (1964).
NLRB v. Fruit Packers, 377 U.S. 58 (1964).
NLRB v. Burnup & Sims, 379 U.S. 21 (1964).
Republic Steel Corp. v. Maddox, 379 U.S. 650 (1965).
NLRB v. Brown, 380 U.S. 278 (1965).
Railway & Steamship Clerks v. Association, 380 U.S. 650 (1965).
United Air Lines v. Mediation Bd., 380 U.S. 650 (1965).
Mediation Bd. v. Employees Ass'n, 380 U.S. 650 (1965).
Meat Cutters v. Jewel Tea Co., 381 U.S. 676 (1965).
Food Retailers v. Jewel Tea Co., 381 U.S. 761 (1965).
Locomotive Engineers v. Chicago, Rock Island & Pac. R. Co., 382 U.S. 423 (1966).
Hardin v. Chicago, Rock Island & Pac. R. Co., 382 U.S. 423 (1966).
Linn v. United Plant Guard Workers, 383 U.S. 53 (1966).
UAW v. Hoosier Corp., 383 U.S. 696 (1966).
American Guild v. Smith, 384 U.S. 30 (1966).

Taxation (F)

- United States v. Zacks, 375 U.S. 59 (1963).
Meyer v. United States, 375 U.S. 233 (1963).
Jackson v. United States, 376 U.S. 503 (1964).
United States v. Powell, 379 U.S. 48 (1964).
Ryan v. United States, 379 U.S. 61 (1964).
King v. United States, 379 U.S. 329 (1964).
United States v. First Nat'l City Bank, 379 U.S. 378 (1965).
Commissioner v. Brown, 380 U.S. 563 (1965).
Commissioner v. Estate of Noel, 380 U.S. 678 (1965).
Maryland v. United States, 381 U.S. 41 (1965).
Commissioner v. Cooper, 381 U.S. 274 (1965).
United States v. Speers, 382 U.S. 266 (1965).
Fribourg Navigation Co. v. Commissioner, 383 U.S. 272 (1966).
Malat v. Riddell, 383 U.S. 569 (1966).
Motorlease Corp. v. United States, 383 U.S. 573 (1966).
United States v. O'Malley, 383 U.S. 627 (1966).

Nonscale (NS)

- Thompson v. Immigration Service, 375 U.S. 384 (1964).
Greene v. United States, 376 U.S. 149 (1964).

- Wolfsohn v. Hankin, 376 U.S. 203 (1964).
Kreznar v. United States, 376 U.S. 221 (1964).
Yiatchos v. Yiatchos, 376 U.S. 306 (1964).
Italia Soc. v. Oregon Stevedoring Co., 376 U.S. 315 (1964).
Arizona v. California, 376 U.S. 340 (1964).
Banco Nacional de Cuba v. Sabbatino, 376 U.S. 398 (1964).
Van Dusen v. Barrack, 376 U.S. 612 (1964) [Appellate Dkt. No. 56].
Van Dusen v. Barrack, 376 U.S. 612 (1964) [Appellate Dkt. No. 80].
Donovan v. Dallas, 377 U.S. 408 (1964).
Whitney Nat'l Bank v. Bank of New Orleans & Trust Co., 379 U.S. 411 (1965).
Saxon v. Bank of New Orleans & Trust Co., 379 U.S. 411 (1965).
Texas v. New Jersey, 379 U.S. 674 (1965).
NLRB v. Metropolitan Life Ins. Co., 380 U.S. 438 (1965).
United States v. California, 381 U.S. 139 (1965).
United States v. Maryland, 382 U.S. 158 (1965).
Maryland v. United States, 382 U.S. 159 (1965).
Katchen v. Landy, 382 U.S. 323 (1966).
Wallis v. Pan American Petroleum Corp., 384 U.S. 63 (1966).