

71-21,560

FLANGO, Victor Eugene, 1942-
ATTITUDES, INTERACTION AND DECISIONS: A
COMPUTER SIMULATION OF DECISION-MAKING IN
THE WISCONSIN SUPREME COURT 1954-1956.

University of Hawaii, Ph.D., 1970
Political Science, general

University Microfilms, A XEROX Company, Ann Arbor, Michigan

ATTITUDES, INTERACTION AND DECISIONS:
A COMPUTER SIMULATION OF DECISION-MAKING IN THE
WISCONSIN SUPREME COURT 1954-1956

A DISSERTATION SUBMITTED TO THE GRADUATE DIVISION OF THE
UNIVERSITY OF HAWAII IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF

DOCTOR OF PHILOSOPHY
IN POLITICAL SCIENCE
DECEMBER 1970

By
Victor Eugene Flango

Dissertation Committee:

Theodore L. Becker, Chairman
Harry V. Ball
Marshall N. Goldstein
Richard J. Richardson
Norman Meller

ABSTRACT

Policy is most often made at the appellate level of a judicial system where published opinions can serve as a source of future precedent. In many cases, the facts and the law are vague enough so that a court ruling favoring either party to the litigation could be justified by precedent. Under these circumstances, it is posited that appellate court justices have some discretion to interpret the law in terms of their personal values, their perceptions of the social consequences of their decisions, and their conceptions of the proper role of a judge.

It is hypothesized that a judge's decision will be based on his perception of the issue to be decided, and that his perceptions will be a function of his attitude structure. If a judge's attitude toward an issue is extreme and intense, he may misperceive a relatively "neutral" case as relating to the issue in question. Conversely, his decision on issues toward which he is indifferent, or at least feels no strong preference, may be more amenable to influence from his colleagues. In more symbolic terms, each judge perceives a dominant issue in a case (j-point) and his own position (i-point) on the relevant attitude dimension. A decision is based upon his comparison of the dominance relationship between these two points.

I-points were operationalized utilizing attitude data generously lent to me by Stuart Nagel from his 1960 survey of state supreme court judges. The directional and intensity components of an attitude were subjected to scalogram analysis and correlated. The base of the resulting J- or U-shaped curves determined the indifference or "zero" point, which in turn determined whether or not a change in attitude, resulting from a simulated conversation with a colleague, was sufficient to change a judge's original predisposition.

The J-point or dependent variable, necessarily limited to judges sitting together on one bench, was located by scaling all of the nonunanimous decisions made by the Wisconsin Supreme Court from January 4, 1954 to August 28, 1956.

The first manipulation of data using a computer, the "quasi-simulation" sought to correlate similarity of attitude with similarity in voting behavior. The correlation was moderate (.50). It was also found that a judge who scores highly on the Shapley-Shubik power index may be exhibiting the "freshman" tendency to vote with the majority.

The simulation itself was designed to discover how well attitudinal predispositions could predict decisional outcomes, both with and without the intervening variable of judicial interaction. Once the initial attitude predisposition of each justice was determined, each justice held a simulated confrontation with every other justice on the bench. The perceived attitude distance between each pair of justices

was divided equally on the assumption that compromise was attained, unless the distance separating them was unusually large, in which case it was assumed that neither justice altered his original predisposition. The modification of attitude disposition by interaction was little improvement over the rank-ordering of justices on the basis of liberalism of attitude as measured by a Likert-type scale. The latter ranking resulted in a rho of .80 when correlated with the rank order of justices based upon a scale of the liberalism of their decisions.

It was not possible to predict specific decisions from selected attitude scales. Decisions can be predicted from attitudinal data, but the relationship between these two classes of variables may not be a linear one because there are more barriers to the expression of behavior than there are to the expression of attitudes consonant with behavior.

PREFACE

"In paying tribute to our predecessors in a given field of research, the technique is to describe them as learned, meticulous and brilliant and then go on to demonstrate, in all but words, that we ourselves are better in all respects."

C. Northcote Parkinson

Contrary to the practice mentioned in the quotation above, my debt of gratitude to fellow Judicial researchers is real and my acknowledgment of this intellectual debt sincere. One need only glance at the number of times the various writers in political science appear in my footnotes to determine my dependence on their insights. To avoid redundancy, therefore, I will take this opportunity to thank them all collectively. Nevertheless, I must single out one person for special recognition, because his aid was literally a precondition of this work. Stuart Nagel generously permitted me to use the results of his nationwide survey of judicial attitudes and made very helpful comments on an earlier draft of this manuscript. Without his cooperation, this dissertation, at least in its present format, could not have been written. My appreciation to the faculty, students and computing center of the University of Hawaii, like the stimulation I received there, is immeasurable.

TABLE OF CONTENTS

ABSTRACT	iii
PREFACE.	vi
LIST OF TABLES	ix
LIST OF DIAGRAMS	x
CHAPTER I INTRODUCTION.	1
Previous Models of the Judicial Process.	6
Attitude Studies.	10
Group Interaction	13
The Simulation Technique.	18
CHAPTER II THE MODEL	26
The Psychometric Model.	32
CHAPTER III THE RESEARCH INSTRUMENT	37
Criteria for the Formation of a Scale.	41
Intensity Scales.	43
The Zero Point.	46
CHAPTER IV THE INDEPENDENT VARIABLES: ATTITUDE SCALES	50
The Attitude Inventory.	50
Attitude Clusters	56
CHAPTER V OUTTAKE: THE INDEPENDENT VARIABLE	59
Data Reduction Technique.	65
Scalogram Analysis of Judicial Interagreement	71
Scalogram Analysis of Liberal- Conservative-Judicial Votes.	75
Critique of the Previous Psychometric Model	82
CHAPTER VI THE QUASI-SIMULATION.	85
Testing Other Interactional Hypotheses	88

CHAPTER VII	THE SIMULATION.	92
	The Interaction Phase	94
CHAPTER VIII	THE CRITIQUE.	106
	Suggestions for Improvement	106
BIBLIOGRAPHY	112
APPENDIXES		
	Appendix A - The Questionnaire.	125
	Appendix B - The Wisconsin Supreme Court.	128
	Appendix C - Content and Intensity Scales	131
	Appendix D - Nonunanimous Decisions	148
	Appendix E - Economic Liberalism and Negligence Subscales	153
NOTES.	157

LIST OF TABLES

A.	A Matrix of Yule's Q Coefficients Derived from a Pairwise Comparison of Twelve Attitude Items	53
B.	Correlations among the Attitude Scales.	57
C.	Fourfold Table of Agreement-Disagreement on the Wisconsin Supreme Court	67
D.	Matrix of Agreement between Judicial Dyads.	68
E.	Actual Dissenting Combinations of the Wisconsin Supreme Court	69
F.	Agreement with the Majority Quasi-Scale	72
G.	Agreement with the Majority Opinion - Rank Order of Justices Derived from Three Alternative Indices	74
H.	The Liberalism-Conservatism Quasi-Scale	78
I.	Number of Times the Justices' Rank on the Eight Attitude Scales were Identical.	88
J.	Correlations between Attitudinal and Behavioral Similarity	88
K.	The Shapley-Shubik Power Index.	90
L.	The "Freshman Effect" and the "Power Index"	91
M.	Results of Multiplying Content and Intensity Scores for the Eight Attitude Scales.	93
N.	Simulation Prior to Communication	93
O.	The Effects of Interaction upon Predisposition.	96
P.	The Effects Upon Decision of Attitude Modified by Interaction.	97
Q.	Prediction from Likert-Type Scales.	105

DIAGRAMS

I.	Possible Decisions	35
II.	Perfect Correlation Table of Content Scores by Intensity Scores	48
III.	Flow-Chart for the Quasi-Simulation. . .	86
IV.	Flow-Chart of the Simulation	99
V.	The "Step Relationship Between Attitude and Behavior".	109

CHAPTER I

INTRODUCTION

A favorite story tells of a young lawyer arguing his first case before the bench, who explained his point in response to questions only to be told by a kindly Justice, "But that's not the law." The young lawyer said sadly, "It was, sir, until you spoke..."

"Scarcely any political question arises in the United States that is not resolved sooner or later, into a judicial question."

De Tocqueville

Many of the same problems that confront a legislature or an executive eventually find their way into a courtroom, and it makes little difference to those affected whether a policy is a consequence of a legislative enactment, an executive order, or a judicial decision. If draft card burning attracts the attention of Congress or the President, it will not be long before the alleged protesters will be defending their activities before a judge. The judiciary presents an alternative forum to those, especially minority groups, convicts, etc., who may be unsuccessful in other political arenas. Access to the courts is determined by resources, e.g. legal skill and financial assets, of a different nature than those required to win electoral victories. "Legality then is a political resource. Any group of people having special access to legality is potentially influential with respect to government decisions."¹

The task of the judiciary is two-fold. The first, accomplished by trial courts, is the application to specific

cases of policies formulated by the executive, legislature or appellate courts. It has been said that, "Without courts or some substitute for them government would fail, for courts ultimately enforce all of the laws of the state."² Most cases litigated in court require the application of established and generally accepted norms of behavior to particular conflicts. At times, a court can not apply a standard of conduct without making a policy of its own. Where no defined standard appears, "... the court has to create a standard by which to judge a dispute."³ These standards are applied in a flexible manner and gradually, through the accretion of many decisions, new standards are developed. Another instance where a court must make policy is in the interpretation of policy formulated by other branches of government.

Since the language of statutes is general, there may arise situations in which the court has to determine which one of several potentially applicable statutes covers the particular case before it. In choosing the particular statute to apply to the case, the court, unavoidably, plays a policy-making role. The court may, on other occasions, have to determine what a particular statute or executive order means. In choosing between conflicting interpretations of meaning, the court again plays a political or policy-making role.⁴

Whenever a judge makes a decision he favors one set of outcomes or one pattern of activity over others. Even if a judge refuses to make a judgment, he is part of the policy-making process. The law consists of decisions and predictions of future decisions and so "whenever a judge decides a case he is making law."⁵

Trial courts, however, make policy only occasionally. The decisions of a trial court are applied only to the case at hand and often, since the decisions are unaccompanied by an opinion or the opinion remains unpublished, the policy-making capacity of trial courts is severely limited, generally to those cases which present novel situations. Walter Crook remarked, "Many of the cases which present themselves to a trial judge are so much like other cases already passed upon that they are disposed of in a more or less routine way without much thought" and the decision is made "automatically" or "by habit."⁶ This view of trial court decisions is also held by Mr. Justice Cardozo who stated that "Nine-tenths, or perhaps more, of the cases that come before a court are pre-determined--predetermined in the sense that they are pre-destined..."⁷ Justice Cardozo meant that the law was so clear in these cases that the judge had little discretion.

The second task of the judiciary, and the one with which we will be concerned, is the formulation of policies intended to be guideposts for future action. This task is primarily accomplished through the use of published opinions of appellate courts.

"Without published opinions, appellate courts could not make policy, for they would have no medium through which to inform the public about their actions. Each decision would be an isolated act with no further significance."⁸

At the appellate level, cases are decided by panels of judges. Decisions, at this level, are based principally on the facts as taken from the record of trial courts. Since

the facts are "given", the appeal must be decided according to "the law"--the preferred outcomes of the organization as perceived by the judges. The mere fact that a case is appealed shows that appellate court cases are more difficult; less "routine" than cases handled by the lower courts. In many cases, the facts and the law are such that a ruling for either side in a dispute could be justified. Justice William O. Douglas said "There are usually plenty of precedents to go around; and with the accumulation of decisions, it is no great problem for the lawyer to find legal authority for most propositions."⁹ Unless they are unconcerned about financial matters, the parties to a dispute would not appeal a decision unless they felt they had a fair chance of winning. Generally, this means that the law is unclear in that particular area of litigation. Where the law is ambiguous, the judge will have more room to interpret the law in terms of his own personal values; his perception of the social consequences of the decision, and his attitude toward the role of a judge. There is a dissenting opinion to this conception of the role of the appellate courts which is presented here and it is well articulated by Mr. Justice Miller:

"In my experience in the conference room of the Supreme Court of the United States, which consists of nine judges, I have been surprised to find how readily those judges come to an agreement upon questions of law, and how often they disagree in regard to questions of fact."¹⁰

Most of the political science research, both traditional and behavioral, in the area once known as public law has

considered the terms "appellate court" and "Supreme Court" synonymous appellations, or at least their research would so indicate. But this trend has been changing as witnessed by the fact that even one of the persons who has conducted the bulk of his research on the United States Supreme Court has called for more diversification.

There is undoubtedly considerable merit in the argument that the time has come when political scientists ought to pay considerably more attention to courts other than the United States Supreme Court, to judges other than Supreme Court justices, and to relationships within judicial bureaucracies and between them and other bureaucracies.¹¹

Most litigational problems that affect most of the people in the United States are resolved in state judicial systems.¹² In a speech to the Pennsylvania Bar Association, Justice Brennan remarked:

"The work of the Supreme Court, especially significant, as, of course, it is, must not divert attention from the vital importance of the work of the state courts in the administration of justice. Actually the composite work of the courts of the 50 states probably has greater significance in measuring how well America attains the ideal of equal justice for all."¹³

The final decision "...on such matters as divorce law, personal injury litigation, and the powers of other government officials (to name just a few matters)..." is often made by the supreme court of a state.¹⁴

Contrary to the popular impression, state judicial systems are in no way subordinate to the national system. Each court is a separate center of power, according to Paul Sanders, which "...exert forces in opposite directions at times, rather than in harmony, even after presumably binding

precedent has been established at the highest level."¹⁵

My reasoning for distinguishing the state supreme courts from other appellate courts is that the data base for this dissertation rests primarily upon the responses of state supreme court justices to an attitude inventory. Whereas these courts have much in common with other appellate courts, there are some significant differences. Most state supreme courts must hear every case appealed to them, whether they feel it raises important issues or has legal merit or not.¹⁶ In some states all of the justices participate in every case, reading the briefs, participating in oral arguments and in conference discussion. Only after the vote is taken is one justice assigned to write the opinion. In other states, each case is assigned to a particular justice who is the only person responsible for reading the briefs. Justices who disagree with the opinion, as written by the particular justice, may also write an opinion. Drafts of all the opinions for a particular case are then circulated to all the justices and one is selected which represents the majority opinion of the court.

Previous Models of the Judicial Process

Whether a decision involves an individual case or a more general policy, it is still a decision. Regardless of the level at which a decision is made, political scientists have been attracted to the challenge of explaining the variation in the decisions of judges. Most of the previous studies of the judiciary have concentrated upon one of the following

classes of variables: judicial socialization and recruitment, attitudes of judges, and the interaction of judges, either separately or in association with judicial decisions.

The earliest studies of the judicial process consisted of the description of one of the above mentioned classes of variables. Political science classes in public law read the opinions and decisions of the U. S. Supreme Court and traced the history and development of constitutional doctrines. Robert Cushman and Edward Corwin became renown among academic constitutional lawyers.¹⁷ Writers such as Carl Swisher and Alpheus T. Mason spotlighted the judicial personality in a political context by means of judicial biography.¹⁸ A pioneering study of background variables was conducted by Mott, Albright, and Simmerling in their investigation of the backgrounds of two-thirds of the state supreme and federal district court judges over a thirty year period.¹⁹ A similar study which employed quantitative techniques to describe variables was John Schmidhauser's analysis of all of the justices ever to sit on the federal Supreme Court.²⁰

Descriptive research yielded to the type of research that associated certain background variables to a tendency to vote a particular way. In his later studies of the Supreme Court, Schmidhauser related judicial restraint and regional background of judges to their decisions.²¹ Using a somewhat different technique, David Danelski conducted an in-depth investigation of a single justice, Pierce Butler, and the effect of his background on his later behavior on the bench.²² But perhaps

the most prolific writer in this area of judicial behavior is Stuart S. Nagel.²³ He associated such background items as: political party affiliation, ethnic background, religion and group memberships with a judge's propensity to make decisions sympathetic to the underdog.

Political party affiliation has been one of the most important determinants of voting behavior in legislatures.²⁴ Similarly, party affiliation has been put forth in several studies of the judiciary as an indicator of differences in policy orientation. Both Glendon Schubert and Sidney Ulmer claimed to have discovered clear cleavages in voting behavior between Democrat and Republican judges on the Michigan Supreme Court.²⁵ Don Bowen, on the other hand, found party identification to be only a fair explanatory variable in the content areas that he investigated, and John Sprague found that party affiliation did not effectively discriminate between voting blocs of the Supreme Court justices except where property disputes were concerned.²⁶ Perhaps the findings of these studies are ambiguous because the same underlying or latent attitudes which result in identification with a particular political party lend to a certain type of judicial decision. This is one of the primary weaknesses of associational research, for while it is useful in determining whether or not a significant relationship exists between judicial characteristics and voting behavior, it cannot explain how much variation in decision-making is accounted for. The possible confounding effects of intervening variables on either or both the independent and dependent

variables are simply not considered. If intervening variables are not controlled, the results of some of the associational studies may be spurious. For example, on the basis of a national sample of appellate court judges, Stuart Nagel found that Catholic judges were more likely to support the defendant in criminal cases than were Protestant judges.²⁷ Yet, these marked differences between judges of different religions were found by Sheldon Goldman to disappear when political party affiliation was controlled.²⁸ Part of this discrepancy may be explained by variations in the samples, but perhaps this example may serve to illustrate the possible inadequacies of tests of association when used alone. On the basis of his sample of cases decided by the Courts of Appeals from 1961 to 1964, Goldman concluded that "background variables...tested... are not directly associated with uniform tendencies in judicial behavior."²⁹

The one study that does control for exogenous variation is Don R. Bowen's study of appellate judges. In this study, Bowen attempted to link several variables to variance in voting by means of a regression model, which measures the amount of variance explained by all the independent variables acting together.³⁰ The partial correlation coefficient was used to measure the effect of one independent variable on voting when all other variables were controlled. His conclusion was that background characteristics of judges "are generally not very helpful" in explaining decisions since no single variable

accounted for more than 16% of the variance in voting behavior and furthermore, with one exception, the combined explanatory power of the six independent variables tested never exceeded 30%.³¹ From these results, Grossman concluded not that background variables are irrelevant, but that there is a necessity to discover the presence of other "intervening" variables and to find a way "to integrate these variables into a theory which emphasizes their effect on judicial decisions."³²

Judges are similar on background attributes that account for much of the behavioral variance among individuals, e.g. sex, race, education, and income. Few other background variables can explain much of the variance in decision-making, since the relationship between the two classes of variables is an indirect one at best. Nevertheless, since political party affiliation has sometimes been a good indicator of ideological propensities, its utility in predicting judicial decisions should be tested. The fact that judges have similar background characteristics and endure the same socialization process in law school may be one of the reasons that so many judicial decisions in appellate courts are unanimous.

Attitude Studies

Glendon Schubert has suggested that attitudinal variables intervene between background and decisional variables, and that attitudes directly predispose a judge to decide a case in a certain way.³³ This means that the prediction of judicial

decisions will be most successful, if it is based upon the observation and measurement of attitudes. To date, however, there has been only one study that has asked judges directly what their general attitudes are.³⁴ But since Nagel's study is the basis of this dissertation, details of his methodology will be presented where relevant to the present enterprise. Most other studies of judicial attitudes, conducted primarily by Glendon Schubert and some of his colleagues, notably Sidney Ulmer and Harold Spaeth, popularized the Guttman scalogram technique as a measure of attitude. Schubert presented the magnum opus in this area of methodology when he scaled all the non-unanimous cases decided by the United States Supreme Court from 1946 to 1963.³⁵ The major attitudes scaled thus far have been the political, economic, and social subcomponents of liberalism. Sidney Ulmer has published a series of articles on the Supreme Court's civil liberties decisions, and Harold Spaeth initiated parallel investigations of Supreme Court voting in economic cases.³⁶

The utilization of the scalogram technique on voting data has come under much criticism. Theodore Becker and Sidney Peck both believe that it is not possible to arrive at judicial attitudes by scaling actual decisions. Becker believes that the scalogram technique can do little more than precisely describe patterns of judicial decisions.³⁷ In the same vein, Peck points out that "...Guttman theory was developed in connection with scales containing relatively simple questions..."³⁸

The researcher who prepares these questions attempts to compose items which are related to a single attitude dimension, and for this reason expects the responses to form the ideal scale pattern. Joseph Tannenhaus, the man who introduced scaling of judicial decisions to political science, questions "...whether what now passes for the cumulative scaling of judicial decisions is, in any strict sense, cumulative scaling at all."³⁹ One of the most frequent criticisms of the measurement of attitudes through a scalogram analysis of judicial voting behavior is that of circularity. Martin Shapiro charged, "Consistency in voting behavior is used to infer the attitude, and then the attitude is used to explain the consistency."⁴⁰ In other words, "conservative judges make conservative decisions" where both the conservativeness of the judge and the conservativeness of his decisions are measured by his voting record. Schubert responded to these attacks by accusing the attackers of scalogram analysis of lacking the statistical sophistication necessary to understand fully the implications of attitudinal inference from judicial decisions.⁴¹ It will not be necessary for me to enter into this debate, because most of the criticism of the scalogram method of analysis is not applicable to this dissertation. Cumulative scaling will be used to describe patterns of attitudes and patterns of decisions, but attitudes will not be inferred from decisions or vice versa. A cluster of attitude items will represent a scale of attitudes, and a rank of ordering of decisions will

precisely describe groups of decisions.

Group Interaction

As John Frank stated in his excellent discussion of methods of group decision. "The heart of the decision-making process has always been the conference."⁴² The influence of other judges may cause a judge to modify, reinforce or even reverse a previous predisposition. The concessions made by Chief Justice Taft to Justice Butler, who tried to modify the broad construction of Congressional power to regulate interstate commerce, caused Taft to make "...a real sacrifice of personal preference. ...But it is the duty of all of us to control our personal preferences to the main object of the Court, which is to do effective justice..."⁴³ In addition to cross-pressure, a judge may be persuaded to change his mind when other judges bring up new arguments. Justice Jackson once commented from the bench:

"I myself have changed my opinion after reading the opinions of the other members of this Court. And I am as stubborn as most. But I sometimes wind up not voting the way I voted in conference because the reasons of the majority didn't satisfy me."⁴⁴

Occasionally, Judges may select a case that is clearly against their predisposition and vote contrary to their expected response just to avoid being typed. A judge notorious for favoring the union in disputes with management may welcome a case that gives him the opportunity to vote against the union in good conscience. A judge may also try to avoid being a

permanent dissenter. Brandeis admitted voting against his natural inclinations where fundamentals were not at stake:

"I can't always dissent. I sometimes endorse an opinion with which I do not agree. I acquiesce. ...Indeed I differ widely from MacReynolds concerning the function and practice of the Trade Court--as you know from the Gratz case. But I have differed from the court recently on three expressed dissents and concluded in this case, I had better 'shut up'".⁴⁵

But judges seldom admit changing their minds, not that this is a fault, and rarely do we know why they switch their votes. The earliest behavioral attempts to study the group interaction process were made by C. Herman Pritchett in his application of small group theory to the behavior of the Supreme Court.⁴⁶ His analysis revealed the persistent division of the Court into subgroups or blocs of justices along liberal or conservative lines. The sociologist, Eloise Snyder, operationalized the concepts of liberalism and conservatism, then studied inter-group movements over a thirty-year period.⁴⁷ In his extension of Pritchett's research to the first five terms of the Warren Court, Schubert proposed an "objective" criteria for measuring the cohesiveness of blocs.⁴⁸ Advocates of bloc analysis seem to use this technique to serve a double purpose: to describe the voting behavior of subgroups of justices and to infer attitudinal dispositions of judges. The second assumption will be explicitly rejected in this dissertation and bloc analysis regarded purely as a descriptive technique. Sprague remarked, "A bloc is a name for a pattern of scores in a summary voting record, no more."⁴⁹ There is no reason to assume that members of a court divide

themselves along a left-right continuum. In the final arrangement, one of Pritchett's criterion requires that justices who are placed close together in the ranking have high rates of dissent in common. The second criterion requires that justices who seldom dissent together be placed far apart. It is possible for these criteria to be in conflict, and so both Schubert and Pritchett qualify them with disclaimers. Schubert admits that "...table construction proceeds by trial and error; we have not been able to develop an unfailing routine."⁵⁰ Despite claims of objectivity, Schubert's indices of bloc cohesiveness still require "tentative" identification of blocs by visual inspection. It is possible for different researchers working with the same data to arrive at different rank orderings for the justices.⁵¹

But the problem is perhaps more than just a methodological one. It stems from the fact that data on the detailed interactions among members of a court are almost inaccessible. The "purple curtain" presents a formidable obstacle to direct observation of changing perceptions of judges under the pressures of collegial decision-making.⁵² Both Woodward Howard and Walter Murphy have warned against the excessive dependence upon voting records. Howard was concerned about utilizing votes as a measure of attitude when he said, "...if a vote or an opinion has changed in response to a multiplicity of intra-court influences before its public exposure, how reliable is that vote or opinion as an indicator of attitude, ideology, or, if one pleases, predilection."⁵³

Murphy is concerned that voting behavior may not accurately reflect the group decision-making process:

"...the fact that two or more Justices vote together is rather weak evidence that their votes are the result of interaction; standing alone, voting records tell us very little about the force or direction of an interpersonal influence that may exist."⁵⁴

Furthermore, there is a difficulty in relying on voting interagreement among pairs of justices to identify three, four, or five man blocs. Sprague says "...we have no assurance that if A is highly associated with B, and B is highly associated with C, that A will be highly associated with C."⁵⁵ This criticism was carried one step further by Grossman who stated "...we do not know whether or how often A, B, and C will be associated with each other at the same time."⁵⁶ This raises the question whether blocs identified by inspection or by Schubert's indices are in fact blocs in the sense that they vote together. Grossman illustrates this problem by means of a hypothetical matrix.⁵⁷

"Suppose that in one set of nine different Supreme Court decisions the Court divides 7 - 2, and in a second set of three decisions the Court divides 6 - 3. Suppose that in the 7 - 2 decisions, the dissenting pairs are as follows: Black and Douglas (3); Black and Goldberg (3); Douglas and Goldberg (3). Suppose that in the second set Black, Douglas, and Goldberg dissent together each time. ...the matrix results are the same for both sets of decisions. In both cases, the same dissenting 'bloc' of Black, Douglas, and Goldberg would be identified, even though they may never have voted together as a bloc."

To be considered a bloc, justices should at least vote together.⁵⁸

Another group of small group researchers are more concerned with leadership within courts. David Danelski was probably the first political scientist to utilize both the theoretical concepts of small group theory and a data base consisting of both published and unpublished papers of justices.⁵⁹ He especially treats the task and social leadership roles of Supreme Court Chief Justices. Although this approach to the study of interaction is an improvement over using the voting records alone, it is limited by the accuracy of the notes kept at conference discussions and by time lag, since no justice is apt to allow his papers to be published during his lifetime. There is further hindrance to the use of private notes. Both Mason's biography of Chief Justice Stone and Bickel's biography of Justice Brandeis utilized the copious notes of the justices involved, but were this to become routine practice it is almost certain that there would be no notes left around for biographers to obtain.⁶⁰

Indices of leadership within a court were developed by Sidney Ulmer in his examination of the opinion-writing behavior of the Michigan Supreme Court.⁶¹ In this study, Ulmer found that the nominal leader of the court, the Chief Justice, ranked third on his leadership index.

Charles G. Haines was perhaps one of the first political scientists to present a process model of judicial decision-making.⁶² Three current models of the judicial process were reviewed by Grossman.⁶³ These models, according to Grossman,

can be seen as complementary in that background experiences lead to attitudinal or valuational predispositions which in turn, through some vague conversion process, lead to decisions. Yet, in the context of the judicial system there has been no evidence to date that illustrates any relationship between background and attitude or value differences.⁶⁴ The conversion process--that process by which personal values allegedly derived from background attributes are translated into policy, is mentioned albeit unpersuasively. There is also insufficient attention paid to interaction "which intervenes between attitude and action and qualifies both."⁶⁵ Although agreeing with Howard that "these variables resist quantification," I feel, a computer simulation is the research technique most suitable to the examination of a process such as judicial decision-making.

The Simulation Technique

The title of this dissertation may perhaps suggest a more complex model of the decision-making process than the author intends. Some type of simulation has been used for years in the construction of physical models to test design and performance. The development of electronic computers has added a new dimension to model construction. It is a stern master in that "...it forces one to be specific about the variables in interpersonal behavior and the exact relation between them."⁶⁶

Many political scientists represent their theories in the form of models, which abstract from the real world testable

variables and relationships. In this sense, a model is a working theory. Both theories and models are abstractions, of course, in that they omit some content, but while a theory states the structure of a content area it does not necessarily exhibit that structure itself as a model does.⁶⁷ But even models in the behavioral sciences are not expected to be exact replicas of the "real" system, because some relevant variables are likely not to be included in the system, and the variables that are included are probably not measured with great exactness.⁶⁸

Computer simulation is a technique that abstracts a model from a theory, and then performs experiments on the model. The model utilized herein will be deterministic in that no random variation from exogenous variables will be permitted, and static because time will not be taken explicitly into account. The reader may question the rationale for using the simulation technique, when relationships among variables are defined as exact rather than probabilistic. My justification for the use of simulation is the extreme difficulty of observing the decision-making process in an actual appellate court. How does a researcher attest to the relative influence of judges in conference, for example, when he is barred from the deliberations? Also, statistical models, like regression, are generally static and presume linearity, whereas a simulation model can provide for the dynamic interaction of a judicial conference. Another major advantage of the simulation technique is the extensive capacity to manipulate the variables. Martin

Shubik gives an excellent summary:

"The model is amenable to manipulations which would be impossible, too expensive or impractical to perform on the entity it portrays. The operation of the model can be studied and, from it, properties concerning the behavior of the actual system or its subsystem can be inferred."⁶⁹

All scientific models, and simulation is no exception, must somehow handle the inherent contradiction between realism and simplicity. A model should be as much like the system it portrays as possible, but not so complex that it is impossible to understand and manipulate. The model to be presented in this dissertation will tend toward the manipulative end of the continuum at the expense of realism.

"The tests of an analytical model are its internal consistency, the amount of simplification achieved, and whether it can be used to predict real events. Prediction is accomplished by a kind of stylized analogy; terms describing real events are translated into the terms of the model, manipulated symbolically, observed for outcome, and then translated back to the original in order to predict the real outcome."⁷⁰

In other words, we will not be concerned with the prediction of future outcomes for their intrinsic value, but in order to understand the particulars of the decision-making process.⁷¹ Perhaps, the word postdiction should be substituted for the word prediction since the cases used as a dependent variables have already been decided. In any case, prediction will provide the basis for the validation of the model. To verify any model is to show that it is "true". This, in turn, implies a criterion for judging the veracity of models. In this instance, since the computer simulation model is used to

explain the behavior of a particular system, predictions made on the basis of the model are subject to refutation by direct empirical observation. Refutation implies that one or more of the assumptions underlying the model inadequately explain the behavior of the "real" system.⁷² A correlational test of goodness of fit between the predicted results and the actual, "real-world" decisions will be the criterion used to either accept or reject the proposed model.

Most of the simulations of cognitive processes or social processes have been very complex. One of the most complex, in terms of the mechanisms included in the model, if not in the organizing power of the underlying theory, was the simulation of the socio-economic system of the United States.⁷³ On the other hand, Coleman's simulation of sociometric ratings in large groups contains little theory and is more concerned with simplifying calculation.⁷⁴ The models, that I will briefly mention now, have all had varying influence on the model I am about to propose. The first is the simulation of the 1960 presidential election by Pool, Abelson and Popkin.⁷⁵ In this simulation, the electorate was divided into 480 groups or types on the basis of survey data and equations employed to determine the voting preferences of each type. This deterministic simulation was more concerned with forecasting the results of particular elections, than with understanding the decision-making processes of voters. A more empirical contemporary of the Simulmatics model was designed by William

McPhee to test the effects of a sequence of elections on the distribution of party preferences.⁷⁶ A simulated voting population with assigned parameters was the input to the model, but individual voters, rather than aggregate types of voters, went through an intermediate "discussion" process before arriving at a decision. Each voter confronted another voter selected from the same voter type. If each had the same initial preference, that preference became their final choice. If there was a disagreement, both voters entered the stimulation a second time and the resulting preference became the final one. Once a choice was made, it was used as input to a learning process that generated new preferences for the following elections.

The third model which influenced my own design was Abelson and Bernstein's simulation of community referenda.⁷⁴ The model was constructed with floridation controversies in mind but is sufficiently general to apply to other individual decision-making situations as well. This model contains two phases, cognition and communication. In the first phase about 500 people are anonymously represented in the computer. The machine contains demographic characteristics, predisposition toward the referendum issues, and amount of exposure to the various mass media for each of the five hundred individuals. The initial positions of the individuals are changed in the second phase of the model as simulated confrontations among individuals in the community take place. These are based upon the probability of confrontation given each individual's

level of interest, and the likelihood of his appearance in places where the issues might be discussed.

The fourth model to be discussed is similar to the third, in that it contains a more or less deterministic predisposition phase and a stocastic communication phase. The Cherryholmes-Shapiro model, however, differs from the previous two models considered in that the national legislature, not the electorate, is simulated and that the predisposition of the legislators is based upon background attributes, rather than on attitudes as measured by a questionnaire.⁷⁸ The numerous propositions on legislative behavior were tested and validated by the degree of accuracy attained when the simulated voting was compared with the actual voting on the same set of bills. But postdicting the results of legislative roll-call voting was not the primary objective of this simulation model. The authors were concerned with representing the process involved in passing a bill, and so various components of the model were deleted in different runs in order to assess the contributions of each component.

The fifth model to have a direct bearing on the simulation technique to be proposed later on in this dissertation, like the third and fourth, is concerned with theory-building although the predictions based upon this model were not as successful as those of the other models previously discussed. Hare's model is concerned with the interaction of individuals in a small group.⁷⁹ Given the responses of an unknown student to

five items taken from the Bales-Couch Value Profile, five subjects were asked to predict the answers of the unknown student on ten more items. These five individual predictions were used as input for the simulation and the decision was programmed as an average of the five individual judgments. The machine predictions were compared with those made by twenty laboratory groups each containing five Harvard undergraduates. The computer program was later modified to take into account the effects of a leader in the group, and to make calculations based upon majority opinion rather than the group mean, but still the predictions were not very accurate. Perhaps Leiser-son's model, which contains the assumption that voters try to minimize the ideological distance as well as size, could be adapted from coalition formation to group interactions.⁸⁰ Another model of individual decision-making in social interaction was the essentially deterministic simulation conducted by the Gullahorns' utilizing five propositions from Homans.⁸¹ My model will be similar to the Har model and to the Gullahorns' model in that relatively few mechanisms will be employed in order to test the power of the theory being modelled.

One model that may have influenced the development of this dissertation had not my draft been completed before it was published, was the paper presented to the American Political Science Convention in 1969 by Alan M. Sager.⁸² Sager worked at a lower level of attitude formation than ideology and used opinions and decisions, including decisions to review, as his primary data base. In that respect, his work might come under

the same criticism as others who have relied on judicial decisions and Sager acknowledges this when he states: Considering the fact that two justices can concur or dissent for entirely opposite reasons, the meaning of even using votes as a measure of behavior might be called into question."⁸³ Unfortunately for me, his precise formulations on decisions to review and opinion assignment, major contributions to the judicial model, are inappropriate in state courts where judges must decide all cases that come before them and where the assignment of opinions is simply rotated. Nevertheless, the conceptions of predisposition and interaction in Sager's model do parallel mine and will be discussed in more detail in the appropriate sections of this paper.

Before leaving this chapter and presenting my model, one final simulation, Werner Grunbaum's simulation of Supreme Court voting in Civil Liberty and Economic cases, must be mentioned. Grunbaum's independent probability model demonstrated that "...the interplay of both (stare decisis and attitudes/values ...can be simulated mathematically."⁸⁴ Stare decisis considerations were found to determine the number of unanimous decisions. Attitude/value models did not fare so well. Grunbaum concluded: "The independent model's failure to explain the unanimous cases does indicate that judicial attitudes alone are insufficient to explain judicial behavior."⁸⁵ The attitudinal model, as modified by group interaction, which will be presented in the following chapter is an attempt to improve on the simple "attitude yields decision" models.

CHAPTER II

THE MODEL

The psychological theory underlying this dissertation is that the actions of an individual are determined to a large extent by his attitudes. Attitudes, being predispositions, are not directly measurable or observable, but are inferred from reactions to stimuli. For my purposes, it will not be necessary to break down an attitude into its cognitive, feeling and action tendency components. This is because my definition of an unidimensional attitude is an empirical one--a question of whether or not a set of specific opinions cluster sufficiently to be called an attitude.

Attitudes do differ with respect to multiplexity; degree of intensity with which they are held, and consonance (internal harmony).⁸⁶ An attitude with a large number and variety of elements is referred to as a multiplex and one with few or highly similar elements, as a simplex.⁸⁷ If there are no conflicting attitudes and a number of reinforcing attitudes, then an attitude is said to possess high congruency or internal harmony. Few attitudes exist in isolation; most form clusters with other attitudes. Relationships among these attitude clusters may be highly congruent or may, to varying degrees, be incongruent or even contradictory. There is very little empirical research in the entire field of attitude study, dealing with the question of the tendency toward consistency among the components of attitude in their

degree of multiplexity.

The second characteristic of an attitude to be considered in this dissertation is valence or intensity of feeling. Consider attitude towards a specific issue as lying along a continuum of unfavorableness-favorableness. Individuals are arranged on this continuum on the basis of the degree of their favorableness toward the issue. In other words, it is possible for an individual who lies near the center or "neutral zone" of the continuum who nevertheless feels very strongly about his moderation.

The term "attitude" as used in this dissertation is similar to the concept that Becker called "substantive value preference", and defined as "that personal value or attitude...which result in a personal tendency to decide for one of the parties presenting his case for decision in a litigational context."⁸⁸ A judge will base his decision on his perception of the question to be decided which in turn will be a function of the judge's position on the relevant attitude dimensions. If a judge's attitude towards an issue is extreme and intense, he may perceive a relatively "neutral" case as relating to that issue or may perceive a case as neutral, but nevertheless, use it as a vehicle to make known his preference on an issue about which he strongly feels.⁸⁹ Anthony Downs put it this way:

"Clearly, people with an intense interest in some policy are more likely to base their votes on it alone than are those who count it as just another issue."⁹⁰

Conversely, his decision on issues toward which the judge is

indifferent or at least feels no strong preference may be more susceptible to the influence of his colleagues. It is not novel to suggest that the votes of judges may be changed or even that their written opinions may be conduits for the ideas of others. Chief Justice Hughes' quotation of the willingness of some judges to alter their language may be appropriate as an illustration:

"Justice Holmes used to say, when we asked him to excise portions of his opinions which he thought pretty good, that he was willing to be 'reasonably raped.' I feel the same way."⁹¹

The real interaction among justices in a collegial court need not come in conference, but more often takes place when the author of an opinion circulates a copy to the other judges of their reactions. The draft of an opinion is circulated in an attempt to influence the colleagues of a judge in one way or another, even by appealing to patriotism as Justice Frankfurter did to Justice Murphy in the first Japanese Relocation Case.⁹² Draft opinions are commented upon by other judges and may be praised, condemned (Justice McReynolds used to write in the margin comments like "This statement makes me sick"), or accepted providing the author changes certain items.⁹³ Justice Stone once wrote to Justice Frankfurter:

"If you wish to write placing the case on the ground which I think tenable and desirable, I shall cheerfully join you. If not, I will add a few observations for myself."⁹⁴

A judge must decide for himself how much he is willing to compromise his principles in order to achieve consensus, and how much time he is willing to devote to altering the language of a colleague. A common attitude toward the writing of an opinion was expressed by Justice Bradley: "Where I concur in the doctrine I am willing to trust the Chief Justice in the mode of expressing it."⁹⁵ The final product is, then, the opinion of one judge, but also a truly collective effort. At least one judicial researcher considers the collective opinion far superior to an opinion written by one judge alone.⁹⁶ This proposition seems to be well supported in the psychological literature of group processes.⁹⁷ Generally, judges are expected to go along with the opinion of the court. Canon 19 of the Canons of Judicial Ethics states:

"It is of high importance that judges constitution a court of last resort should use effort and self-restraint to promote solidarity of conclusion and the consequent influence of judicial decision. A judge should not yield to pride of opinion or value more highly his individual reputation than that of the court to which he should be loyal. Except in case of conscientious difference of opinion fundamental principle, dissenting opinions should be discouraged in courts of last resort."⁹⁸

Aside from their professional socialization, there are many other factors that tend to facilitate the achievement of consensus on a collegial court. Most people are reluctant to sharply disagree with a group that they are intimately associated with, and conversely working with the same group of people tends to promote a similarity of outlook. Models of the pressures toward conformity in small groups were proposed by Leon Gestinger and by Harold Guetzkow and Herbert Simon.⁹⁹

The latter model was a translation of some of Festinger's concepts into mathematical language. One of the variables, the perceived discrepancy of opinion on an issue among members of a group, would appear to be useful in explaining the variance in voting behavior among judges. The other variables, especially the pressure upon group members to communicate and to conform, and the strength of attraction of individuals to the group, would seem to be ideal in the study of a collegial court as a small group, but unfortunately I do not have the means at my disposal to empirically measure these variables. A coefficient of attraction based on the percentage of agreements between justices during previous terms was used by Sager in his simulation, but this method of measuring attraction is unsatisfactory to me because it utilizes one set of decisions to predict to another. (See Chapter V: Critique of Previous Model). David Dannelski did consider value disparity to be significantly related to conflict on the court, but did not test his assertions empirically.¹⁰⁰ Values or attitudes that are relatively close together will reinforce each other and become more similar, but if the attitude distance (or in Dannelski's term value disparity) between two individuals is too great the initial contact will bring the people closer together, then subsequent contacts would tend to make the meetings between them less frequent.¹⁰¹ With communication between them becoming less frequent, the attitudinal distance between two or more individuals will increase. This was stated more poetically by William Blake:

I was angry with my friend:
 I told my wrath, my wrath did end.
 I was angry with my foe:
 I told him not, my wrath did grow.
 A Poison Tree, Stanza 1

But if the value disparity between one or more groups of judges "grows", a judge has three alternatives: he may go along with the judgment of the majority, trying to minimize through bargaining the extremeness of the majority position: he may try to form a minority bloc, or he may dissent alone, or with whoever will join him.¹⁰² The first alternative was discussed in the section of this chapter on pressure toward consensus. The second alternative would not appear to be a wise strategy in the long run. As Murphy says, "...minority bloc formation, like defense in war, would only be thought of as a temporary measure," the primary aim of a policy oriented judge would be to secure a majority for his policy.¹⁰³ The solo dissent is the last resort of a judge who failed to find any support among his colleagues and can not in conscience go along with the majority. Justice Jackson once uttered: "I give up. Now I realize what Mark Twain meant when he said, 'the more you explain it, the more I don't understand it.'"¹⁰⁴ The dissenting opinion may have more color than the majority opinion because it does not have to go through the process of conciliation and revision that the majority opinion must endure. Yet the tradition of dissent is odd because, in the words of Justice Jackson:

Each dissenting opinion is a confession of failure to convince the writer's colleagues, and the true test of a judge is his influence in leading, not in opposing, his court...

There has been much indiscriminating eulogy of dissenting opinions. It is said they clarify the issues. Often they do the exact opposite. The technique of the dissenter often is to exaggerate the holding of the Court beyond the meaning of the majority and then to blast away at the excess.¹⁰⁵

A more common complaint against dissents is not that they unsettle the law, for in most instances the majority opinion will stand forever, but that it consumes too much judicial energy and thus detracts effort from other cases.¹⁰⁶

The Psychometric Model

The psychometric model of decision-making considers attitudes as central to the explanation of all decisions. One of Becker's hypotheses is that a weakly held attitude (substantive value preference) leads to a "subjective" decision except when precedent is clear and considered important by the judge.¹⁰⁷ My general hypothesis is that a strong predisposition will tend to make a judge decide a case in accordance with that preference regardless of his perception of the facts. According to Eric Hoffer, "We usually see only things we are looking for--so much so that we sometimes see them where they are not."¹⁰⁸ A weak predisposition toward a particular issue might make a judge more susceptible to influence from his colleagues.

In more symbolic terms, the model is represented as follows. Each individual and each stimulus is represented by a point in multi-dimensional space. An individual's "ideal point" (i-point) is that combination of attitudes which best approximates a person's attitude constellation--the total set

of attitudes of an individual. Stimuli are ordered in terms of distance from i-points--the nearer a stimulus point to an i-point, the more preferred that alternative is.

Our concern here will be the special case where all individuals and stimuli can be represented on a single dimension, which Coombs calls a qualitative J scale.¹⁰⁹ Rarely does a common J-scale exist in reality because decisions may be made on several dimensions, information may be lacking, perception may be faulty or stimuli may be similar and hard to distinguish, so in practice we will be referring to a dominant J-scale, "the ordering of the alternatives along a single dimension which satisfies the largest proportion of the preference orderings."¹¹⁰

An individual will respond positively if his attitudinal position equals or exceeds that of the stimulus, (which in this instance is the case to be decided). This "dominance" relationship is described by Coombs as $\Phi_{ij} \geq \Phi_j$, that is, "if, and only if, at the moment h , the point corresponding to the individual dominates the point corresponding to the stimulus, the individual responds positively to the stimulus,"¹¹¹ Following Schubert's modification, the model will be defined as individual compensatory:

"...(1) it is the individual (rather than the stimulus) who determines the weighting function, which is considered to be constant over all stimuli for the responses of that individual; and (2) it is not essential that the individual exceed the stimulus in all relevant dimensions, since it may be possible for him to compensate for his deficiency on one dimension with an excess on other dimensions..."¹¹²

As applied to the court, this model means a salient, relevant attitude will have a great impact on the decision of a judge, or, as Justice Frankfurter's aphorism would have it, general propositions do decide concrete cases if a judge's convictions are strong enough.¹¹³ My model will assume additivity of attitude direction, that is, the relationship between a given attitude and a particular decision may not be one-to-one. The fact that a judge is strongly disposed to favor the economic underdog may not be sufficient evidence to conclude that he would favor high alimony for the female defendant (assuming she is indeed the underdog), but, if in addition to this fact we also knew that the judge viewed marriage as a sacred and indissoluble institution, our tentative conclusion about his liberalism could be strengthened. Alternatively, attitudes may neutralize each other, leaving the judge cross-pressured. He may want to come out strongly for the students' right to protest and yet be concerned with Communist infiltration of youth movements. As illustrated previously, an extreme position of a judge may be modified by interaction with his colleagues and the compromises necessary to make his opinion the opinion of the court.

A unidimensional unanimous decision upholding an issue occurs when all i points dominate the j (stimulus) point and conversely a negative unanimous decision occurs when the j point dominates all i points. This may be illustrated in the following diagram:

Diagram 1. Possible Decisions.

Positive Unanimous							Negative Unanimous						
x	*	*	*	*	*	*	*	*	*	*	*	*	*x
Positive Split							Negative Split						
*	*	x	*	*	*	*	*	**	*	*	x	*	*

x = j point

* = i points

Each judge perceives a dominant issue in a case (j point) and his own position (the resultant of the pertinent i points) on the relevant dimension. His decision is based upon his comparison of the dominance relationship between these two points. Individual differences in perception, either in the selection of the dimension to which an issue belongs or on the position on an agreed upon dimension, can account for errors of response on linear scales.

My first calculation using a computer, a "quasi-simulation" (it is bold of me to consider data manipulation a simulation, but for lack of a more descriptive term perhaps my usage here will be forgiven), will test the preposition that similarity in attitude direction tends to encourage similarity in voting behavior. Judges who share a common attitude space should have the highest rates of voting agreement.

The "true" simulation will attempt to predict a rank ordering of justices on a series of decisions from three

characteristics of modifiability of attitudes -- extremeness, intensity, and consonance, as these are influenced by group interaction. Other propositions tested are:¹¹⁴

- (1) Extreme attitudes are more resistant to change than are less extreme attitudes.
- (2) The more intensely an attitude is felt, the more resistant it is to change.
- (3) The more extreme and intense an attitude, the more likely it is that the attitude will manifest itself in overt behavior.
- (4) A multiplex attitude is more resistant to change than is a simplex attitude.
- (5) Consonant attitudes in a cluster are resistant to change in an incongruent direction, but easy to move in a congruent direction.

CHAPTER III

THE RESEARCH INSTRUMENTS

Operationalization of the Concepts

The psychometric model of the previous chapter relies strongly on the use of attitudes to determine overt behavior. The directional and intensity components of an attitude will be measured by linear cumulative scaling, and the various combination of these scales, or "simplexes" will locate the i point of each particular judge. Because each simplex possesses exactly the same degree of complexity, differing only with respect to the type of content measured, the combination of these simplexes is expected to form a circle or "circumplex".¹¹⁵

Before defining attitude in terms of content and intensity scales, perhaps the rationale for selecting Guttman scalogram analysis as my primary research tool would be in order. Factor analysis is generally the alternative technique for measuring the underlying dimensions of a set of data. My original design included the clustering of items from an attitude questionnaire with factor analysis and then attempting to scale the items highly loaded on each factor. Previous research in the area of judicial decision-making led me to expect a primary dimension of general liberalism and a second dimension of dogmatism--pragmatism.¹¹⁶ Hans J. Eysenck named the second dimension, tough-tender-mindedness and Schubert

equated it with Rokeach's open-closed mind. Both Eysenck in his study of British students and James Dator in his analysis of Japanese judges found only two underlying dimensions of attitude, but these studies are susceptible to criticism because the factors extracted were not rotated to the best solution.

Several principal component factor analyses with orthogonal rotations were performed on my data, but the results were not conclusive. When an eigenvalue criteria for rotation of 1.0 was used, a simple structure solution in nine dimensions was achieved, but was extremely unstable since the alteration of the eigenvalue by even .1 was enough to yield very different results. Eigenvalue criteria for rotation of .25, .50, .75, and .90 were used, but the resulting solutions were extremely difficult to interpret. For example, how would one label a dimension which gave high loadings to such diverse items as abandoning national sovereignty, approval of premarital sexual relationships, and believing that laws are biased in favor of the rich?117 Other dimensions contained only one or two highly loaded items. This phenomena can possibly be explained by the highly selective manner in which the test items were selected or by the violation of some of the basic assumptions, e.g. interval data, of factor analysis. Another explanation offered by Comrey and Newmeyer is that unrotated, first-order factors are usually identified as liberal-conservative dimensions, but when rotated these dimensions break

down into several distinct subvariables, such as religiosity, nationalism, etc.¹¹⁸ An oblique rotation may have yielded a more interpretable rotated structure, but this technique was not attempted, because I desired to keep the factors independent of each other.¹¹⁹ Incidentally, the results from image factor analysis, again using a matrix of Spearman's rhos as correlational input, were even less satisfactory than the results attained from principal components factor analysis.

On the other hand, Guttman's scalogram analysis is more suited to qualitative data because it requires fewer assumptions:

"Since qualitative variates, like responses to attitude questions, are by definition not numerical, any technique which involves adding numbers does not apply to the variate values. Qualitative variates do not have arithmetic means, standard deviations, nor product-moment correlation coefficients."¹²⁰ (Emphasis supplied).

Furthermore, if scale analysis reveals a single underlying dimension in a set of data, in general more than one common factor will emerge from a Spearman -- Thurstone analysis. In sum Guttman states:

"Factor analysis may be a proper approach for some problems involving quantitative variables. As for qualitative data, it is theoretically more desirable and in practice far simpler to analyze qualitative data qua qualitative data."¹²¹

According to Eysenck's model of attitude organization, attitudes are the third step in a four-step hierarchical structure, above both specific and habitual opinions, but below ideology.¹²² Attitudes are the first indication of structure. Eysenck says that at this level of organization "...opinions do not occur in isolation any more; they are

closely related to other opinions on the same issue...", and suggests that unidimensional scaling might be the appropriate measure of attitudes.¹²³ The recommendation of Guttman's, that a pretest on a hundred respondents with about ten or twelve items, be conducted to determine whether or not an area of content is scalable, was followed. Contrary to the way in which null hypotheses are tested, i.e. the assumption is made that there is no difference among the groups to be tested and that the variables are uncorrelated, scalogram analysis hypothesizes that the population has an approximately scalable distribution of responses for the given items. It should be easy to refute a hypothesis about perfection "by means of a sample drawn by any scheme, random or not," because

"... it is easy to prove that height and weight are not perfectly correlated for a given population by taking three people and finding that there is not a perfect linear relation between their heights and weights. Three people are sufficient here because if there were a perfect relationship in the population this would have to hold in any sample whatsoever... there is no room for sampling variation."¹²⁴

The usual criteria for a scale, a coefficient of reproducibility, above .90 tends to insure that sampling variance will be small and that only populations with actual variations near .90 will be scalable.

Similarly, only a sample of items from the entire universe of possible content can be used. These items are, of course, not randomly selected - in fact, quite the opposite is true. The items used in this study were selected rather carefully from a total of five hundred social attitude questions

shown by previous research to be relevant.¹²⁵ Again, a perfect pattern is hypothesized, rather than postulating the lack of any relationship, and therefore the hypothesis may be disproven by even two items regardless of how they were selected. According to the theory of scale analysis:

"... almost any sample of a dozen questions from the universe is adequate to test the hypothesis that the universe is scalable, provided the range of content is covered by the questions. If the hypothesis is accepted that the universe is scalable, then fewer questions can be used in the final study if fewer ranks are actually needed for the purpose of the final research."¹²⁶

Criteria for the Formation of a Scale

In practice when we speak of perfect scalability, we are really concerned with a hypothesis of approximately perfect reproducibility. Deviation from the ideal scale pattern is determined by the coefficient of reproducibility (C.R.) which measures the proportion of responses on the scale items that could be predicted accurately from a knowledge of scale scores or scale positions. Conventionally, a coefficient of reproducibility of .90 is accepted as satisfactory evidence of the unidimensionality of an attitude. Guttman did not regard a reproducibility level of .90 alone as sufficient criterion of scalability. He believed that the range of marginal distributions, the pattern of errors, the number of response categories in each item, and the number of items in the scale should be taken into consideration too.¹²⁷

Since the publication of Measurement and Prediction, two new coefficients have been developed to overcome the

deficiencies of the coefficient of reproducibility. The coefficient of scalability (C.S.) of Herbert Menzel was designed to compensate for spuriously high reproducibility caused by the inclusion in the scale of either respondents, or items with extreme marginal distributions. This coefficient measures the "ratio of actual improvement to that amount of improvement which would constitute perfect scalability," and the level of acceptance for a scale is "somewhere between .60 and .65."¹²⁸ The coefficient of reproducibility is the ratio of successful reproductions to total responses and is obtained from the formula:

$$C.R. = 1 - \frac{\text{Errors}}{\text{Total Responses}}$$

The extremeness of the items and the individuals place an effective ceiling on the number of errors in reproduction possible. This ceiling is called maximum errors, and is always smaller than the total responses. To compensate for the extremeness of the items and the individuals, the coefficient of scalability is defined in terms of the maximum errors possible. In symbols:

$$C.S. = 1 - \frac{\text{Errors}}{\text{Maximum Errors}}$$

The second coefficient, minimal marginal reproducibility, serves a function similar to that served by the coefficient of scalability, i.e. it determines the empirical lower limit of the coefficient of reproducibility. The reproducibility of any single item can never be less than the frequency present in the modal category. For example, if the split in a di-

chotomous item was such that 90% of the subjects fell into one of the categories, the minimum reproducibility of this item would be .90. The minimal marginal reproducibility (M.M.R.) is calculated by finding the proportion of responses in the model category of each item; summing these proportions, and then dividing the total by the number of items.¹²⁹ In this dissertation, then, the standard criteria of a scale will be required before a set of items is considered a scale. If the C.R. is .90 or greater the difference between C.R. and M.M.R. is between .15 and .20, and C.S. is .60 or above, the items will be considered unidimensional and the responses considered the result of a single dominant attitude.

A procedure was developed at Rutgers for computing reproducibility by chance, but this coefficient has not found favor among political scientists, perhaps because it does not add much information to that provided by the other three coefficients.¹³⁰ Several means of improving cumulative scales and testing their significance have also been proposed but no one technique has been accepted as a criterion of significance.¹³¹

Intensity Scales

As mentioned earlier in this chapter theoretical concepts, like liberalism, require operational definitions before their scientific properties can be compared. Scalogram analysis provides a rigorous test for the existence of single-meaning for an area and permits an ordinal ranking of individuals for scalable area of content. The ranking of individuals is

meaningful, if from a person's rank order, the precise responses to each of the questions in the scale can be determined. Because of its extensive use in political science, and in the area of judicial behavior in particular, the technique of Guttman scalogram analysis will not be reiterated here.¹³²

One of the recurring problems of scalogram analysis is the question of the measurement of intensity of feeling. Previous researchers have considered those items nearest the center of the content scales to be least extreme.¹³³ Nevertheless, researchers who utilize voting behavior as an indicator of attitude are really unable to measure the intensity of judicial decisions.¹³⁴ As Howard puts it, "An inherent problem of voting analysis generally is that votes, of themselves, do not distinguish underlying variations of intensity, issue perception, and certainty of response among voters ... Relative attitude intensities and influence are separate questions."¹³⁵

Edward A. Suchman in conjunction with Louis Guttman recommend two measures of the intensity of an attitude. The first can be described in a sentence. The respondent is asked a separate question after each content item: "How strongly do you feel about this?". In contrast to this two-part technique, the second method of measuring intensity obtains both the content and intensity dimensions of an attitude from a single item. In the Likert form of phrasing questions, a declarative statement is followed by an intensity check list. This "fold-over" technique is used almost exclusively by the Israel Institute because it does not increase the length of

the questionnaire.¹³⁶ But utilizing two scores from a single item does raise the question of spuriousness, because experimental errors will be correlated in the two scores. On the other hand, Suchman used both methods of determining intensity and found that the neutral points uncovered by each technique coincided almost perfectly. From this experiment Suchman concluded that "It is possible to measure intensity of feeling along with direction of content in a single question."¹³⁷ Although later experiments with the fold-over technique were not as successful, this method of determining the intensity component of an attitude will be used in this dissertation. The Likert-type items of Appendix A were initially coded so that:

<u>Content</u>	<u>Intensity</u>	<u>Code</u>	
1	1	+ +	if R strongly agreed with the item
2	2	+	if R agreed on the whole, but not strongly
3	3	0	if R could not decide or if he believed the question was worded in such a way that he could not answer
4	2	-	if R disagreed on the whole, but not strongly
5	1	--	if R strongly disagreed with the item

The attempt to produce a content scale with five possible responses per item was, not unexpectedly, unsuccessful. Guttman encountered the same problem:

"It has seldom been found that an item with four or five categories will be sufficiently reproducible if the categories are regarded as distinct. Some people may say "Strongly Agree" where others may say "Agree" whereas they have essentially the same position on the basic continuum but differ on an extraneous factor of verbal habits. By combining categories, minor extraneous variables of this kind can be minimized."¹³⁸

Like the intensity items, then, the content items were trichotomized. Content responses 1 and 2 in the above chart were recoded as 1, 3 was recoded as 2, and 4 and 5 were recoded as 3. Trichotomous categories were more successful in producing acceptable scales and were used whenever possible in order to increase the number of scale types. On this topic Guttman states:

"It is clear, then, that if items can remain in trichotomous form in a scalogram analysis, it is more plausible that the universe is scalable than if they have to be combined. It is easier for error to appear - if it actually should be present - when more categories are used; ..."139

Every attempt was made to secure acceptable scales using trichotomous responses to both the content and the intensity scales, but when even trichotomized items failed to yield scales of sufficient reproducibility, possibly because the neutral category contained fewer responses than the other two categories, the neutral category was combined with the category that yielded the largest increase in reproducibility.¹⁴⁰

The Zero Point

Just as the content scale ranks respondents on a single content continuum, the intensity scale ranks individuals from strong to weak on a single intensity continuum. To say that a set of items meets the criteria of scalability is to say that a rank order of individuals, from more to less favorable, for one sample of attitudinal questions will yield essentially the same order as any other sample of items will. This is the first invariant property of a scale. By obtaining

another invariant ranking, on intensity, and relating the two, an invariant zero point can be located.

The objective definition of a cutting point is important, because it divides the respondents into the same proportions of pro and con regardless of question wording.¹⁴¹ Respondents with attitudes favorable to an attitude object are separated from those with negative attitudes toward the object or item. In terms of my model, the zero point will be invaluable in determining whether or not a change in attitude, as a result of interaction, will be sufficient to alter a judge's predisposition to vote for one or the other parties to litigation.

When a content scale is correlated with an intensity scale a J- or U-shaped curve should result. That is to say, that moving from one end of the content scale, intensity of feeling decreases until a point is reached at which it starts to increase again. This is the neutral or indifference point. Theoretically, the intensity scores will have a perfect curvilinear relationship with the content scale scores. An ideal intensity curve is depicted in Diagram 2.¹⁴² Naturally, an ideal table of this type is not found in practice. Theoretically, there are two content ranks to each intensity rank, with the exception of the lowest intensity rank (the zero-point in the following illustration).

Diagram 2. Perfect Correlation Table of Content Scores by Intensity Scores

Intensity Rank	Content Rank										Total freq.	Cum. per cent
	(Neg.)					(Pos.)						
	0	1	2	3	4	5	6	7	8	9		
5 (High)										10	10	100
4	10								10		20	90
3		10						10			20	70
2			10				10				20	50
1				10		10					20	30
0 (Low)					10						10	10
Total freq.	10	10	10	10	10	10	10	10	10	10	100	
Cum. freq.	10	20	30	40	50	60	70	80	90	100		

Empirically Suchman states:

"The ideal curve is probably impossible of attainment in practice. Present techniques for the measurement of intensity all contain so much error that in all cases intensity has been measured as a "quasi scale."¹⁴³

Popularly, a quasi-scale is defined as a potential scale whose items fail to meet the minimum reproducibility requirement of a scale, but whose patterns of response fail to indicate substantial frequencies of non-scale types.¹⁴⁴ This conception of a quasi-scale is somewhat at variance with Guttman's definition which stated "Some areas which are not scalable are called quasi scales; their reproducibility may not be high but their errors occur in sort of a gradient."¹⁴⁵ A more precise definition of a quasi-scale in terms of image analysis has been devised by Guttman, but is not as yet

available in completed form.¹⁴⁶

In sum, then, the technique proposed to determine the neutral region of a scale is "...by far the most convincing that has yet been proposed."¹⁴⁷ Because the zero point is objectively located, it remains invariant with respect to sampling of items and to question wording.¹⁴⁸ Unfortunately, for the continuation of this type of analysis, Nagel's attitude questionnaire did not ask judges how certain they were of each of their responses. If this question had been asked, the third principal component of a scalogram, "closure" or the extent to which respondents have made up their minds, could have been tapped.¹⁴⁹

CHAPTER IV

THE INDEPENDENT VARIABLES - ATTITUDE SCALES

The Attitude Inventory

The data upon which this dissertation is based was kindly lent to me by Stuart Nagel from his survey in 1960 of three hundred and thirteen federal and state supreme court justices. Nagel's questionnaire was a condensation from the forty attitude items used by Hans J. Eysenck in measuring the attitudes of British students.¹⁵⁰ Although several attitude inventories have been developed which measure a liberal - conservative dimension, Eysenck's has been the one used most widely. Variations of this inventory have been used by Eysenck in Britain, Sweden, and Germany, by Nagel in the United States, and by Dator in Japan.¹⁵¹ Eysenck's inventory has the advantages of not being time-bound and yet the concise Likert-type items are easy to score and to interpret. Nagel's modification of the inventory, which contained twenty-four items divided into eight categories of three items each, is the basis for this present dissertation. He assigned weights to the items in accordance with the unrotated factor loadings on liberalism of Eysenck's British respondents.¹⁵² Nagel regarded the twenty-four items as a single liberal-conservative dimension, but the usual measure of unidimensionality, the scalogram, shows that these items do not form a cumulative scale. The C.R., even with dichotomously coded items, was only .80, thus even the first necessary criterion of a scale was not met.

Errors in reproducibility may be caused either by the operation of one or two major variables in the content area, or by the confounding effects of many minor variables. If more than one major variable seems to be contained in the content area of the scale, Guttman suggests that separate scales be constructed to measure the attitudes toward each of the major variables. This suggestion was taken and the twenty-four items were split into two potential scales on the basis of the error patterns produced in the original scale, but still the level of reproducibility was not markedly improved and so further bifurcation was undertaken. Not only should the scales meet the criteria of reproducibility, but also they should meet some sort of logical criteria. In other words, the items as clustered by scalogram analysis should contain some face validity. William McGuire writes, "Perhaps the most commonly used criterion for cognitive consistency is the use of propositions so clear cut that a set of cognitive responses to them is internally consistent or not almost by definition."¹⁵³

The various combinations of items that were attempted will not be elaborated upon here since, for one reason or another, they failed to meet all the criteria of a scale. For example, items numbered 15, 12, 21, 9, 19, 20, 7, 10, and 2 formed a scale pattern with a C.R. of .918 and an M.M.R. of .812. However, the C.S. was only .51 indicating that the high reproducibility was spuriously caused by extreme marginal

frequencies. Dator also tried unsuccessfully to form Nagel's data into a scale, attaining the highest C.R. (.86) by using the eight items that were loaded highest on the first unrotated factor - numbers 16, 19, 9, 10, 23, 1, 24, and 11.¹⁵⁴

At this point empirical scale searching techniques were employed in order to determine how to achieve the best possible sets of scales from the twenty-four items listed in Appendix A. A pairwise comparison of items, a technique developed by Duncan MacRae Jr., was undertaken.¹⁵⁵ Responses from one attitude question were cross-tabulated against the responses on another. Once a series of four-fold tables had been constructed, several alternative criteria for determining scalability and the level of permissible error, including simple percentage, Duncan MacRae's exponential model, ϕ over ϕ max, and Yule's Q , were evaluated.¹⁵⁶ Yule's Q was my choice of a measure of association for assessing the scalability of the pairs of attitude items because it is more accurate than the percentage, but less complex than the comparable exponential model.¹⁵⁷

Q values range from -1.0 to 1.0 with a perfect scale having a Q of 1.0 and two completely unrelated items having a Q equal to 0.0. The minimum acceptable value of Q depends on the amount of error the researcher is willing to tolerate. My Q_{\min} was set at the relatively low level of .5 in order to include in my scales all possible relevant items.

Table A is a matrix of Yule's Q coefficients derived

from a pairwise comparison of twelve of the original twenty-four items listed in Appendix A. The lower portion of the

Table A. A Matrix of Yule's Q Coefficients Derived from a Pairwise Comparison of Twelve Attitude Items.

	Item Numbers											
	17	14	4	18	23	8	24	13	21	19	7	22
17	//	.41	.05	.37	.31	.22	.20	.05	-.26	-.47	-.33	.32
14		//	.39	-.23	.61	.72	-.09	.64	-.04	-.56	-.48	1.0
4			//	.55	.63	.11	.20	.19	-.40	-.23	-.35	.13
18				//	.13	-.06	.23	.13	.26	.37	.08	.21
23		.61	.63		//	.33	.35	.13	-.20	-.17	.13	-.12
8		.72				//	-.22	.37	.15	-.56	-.16	-.09
24							//	.05	-.43	.22	.25	-.52
13		.64						//	.25	-.29	.42	-.12
21									//	-.15	.13	-.02
19		-.56				-.56				//	.35	-.10
7											//	.14
22		1.00					-.52					//

table contains the correlations that were above the minimum requirement.

Table A does illustrate fairly adequately the Criminal Rehabilitationism Scale and the problems involved with classifying item number 14, but the technique of successive bifurcations served the purpose just as well. Woods has run into the same problem:

"Studies which have employed this procedure for roll call analysis have frequently found that the largest scale to emerge is heterogeneous in terms of the substance of the issues before the legislators and is considerably larger than the next largest to emerge. Often the smaller scales are more homogeneous in content."¹⁵⁸ (Emphasis added)

At last, after making use of various combinations of scale

searching devices, eight scales that met the various criteria of scalability were arrived at. The abbreviated form of the questions comprising each scale follows:

I. Economic Liberalism Scale

- 2 Laws favor rich (L)
- 15R Nationalism means stagnation (C)
- 9 Have more collectivism (L)

II. Internationalism Scale

- 5 Abandon some sovereignty (L)
- 3R War is inherent (C)
- 10R Conscientious objectors are traitors (C)

III. Criminal Rehabilitationism Scale

- 4 Criminal treatment is too harsh (L)
- 18R Spare rod, spoil child (C)
- 23 Abolish death penalty (L)

IV. Religiosity Scale

- 6 Sunday observance is ole-fashioned (L)
- 11R Go back to religion (C)
- 16R Have religion in schools (C)

V. Ethnic Equalitarianism Scale

- 12R Discourage miscegenation (C)
- 1R Colored are inferior (C)
- 20R Jews are too powerful (C)

VI. Family Planning Scale

- 17 premarital sex is permissible (L)
- 14 Make divorce laws easier (L)
- 22R Make birth control easier (L)

VII. Faith in Democracy Scale

- 14 Make divorce laws easier (L)
- 8 Have unrestricted discussion (L)
- 13 Have more controversy on radio (L)

VIII. Sex Equalitarianism Scale

21	Have equal pay for both sexes (L)
19R	Women are inferior to men (C)
7R	Give men more sex freedom (C)

Note: Actual scales are reported in Appendix C.

An "L" or "C" after each item indicated whether or not the item is worded in a liberal or conservative direction. The "R" placed beside the items worded in a conservative direction indicates that the item was coded in a liberal direction in order to form a consistent scale - "reflected." A respondent who disagreed with an item worded in a conservative direction was coded in the same manner as a respondent who agreed with a liberally worded item.

As the reader has probably already noticed, the scales formed with Guttman's technique are nearly identical to the intuitive classifications of Professor Nagel. The major implication to be drawn from this correspondence is that items clustered according to the tenets of scale theory and those classified by "face validity" did, in this instance at least, yield comparable results. The only difference between the two classifications was the replacement of item 24 in the "Faith in Democracy" Scale by item 14. Factor analysis also groups item 14 with items 8 and 13, rather than with the family planning scale. As we have noted in Table A, item 14 clusters with many items. Actually, it is possible to combine the "Faith in Democracy" and "Family Planning" scales into one scale, which I would still consider a scale relating to

more personal freedom from governmental influence in the private sector, e.g. family life. Since item 14 is dichotomized in different places in the two scales and since the scales are not significantly correlated with each other, I did decide to keep them separate.

Trichotomized items were used where possible, since the more points there are to plot, the more detailed and precise the intensity curve will be, but these generally produced scales with more errors than dichotomized--item scales did. The more error free dichotomized--item scales yielded a "smoother" curve than the trichotomized--item scales did at the expense of some detail, while the scales composed of dichotomous items contained more clarity, higher reproducibility, and higher scalability. Since all of the scales met the reproducibility and scalability requirements, it will not be necessary at this point to go into a discussion of quasi-scales. Content scales cannot be altered or else it would not be meaningful to speak of respondents being positive or negative on an issue. Therefore, only items shown to scale on content were used to form the intensity scales. An examination of Tables I through VIII in Appendix C will reveal a clearly recognizable J- or U-type curve in all of the scales. The zero point is easily identified in all cases.

Attitude Clusters

Content scale scores from each of the eight attitude scales were correlated in order to determine the multiplexity

of the attitude constellation. Which attitudes are related to other simplex attitudes? The scales are almost completely uncorrelated, or as Schubert states show a "relative lack of cohesion."¹⁵⁹ This may be partially due to the careful selection of items that were scaled, but it is also, at least, a partial confirmation of Guttman's theory that cumulative scaling produces unidimensional scales. Because of the lack of relationship between the eight attitude sets, I will be unable to test the hypotheses concerned with multiplexity and consonance of attitudes. If the scales had indeed formed a circumplex or quasi-circumplex, there would be a tendency for the largest correlations to be next to the main diagonal and in the upper right and lower left corners.¹⁶⁰ As we can readily see from Table B, there is no such tendency in this data.

Table B. Correlations among the Attitude Scales

Attitude Scales	I	II	III	IV	V	VI	VII	VIII
I	.691	.120	.127	.430*	.192	.128	.127	.112
II	.120	.888	.214	.158	.076	.075	.157	-.101
III	.127	.214	.884	.133	.126	.108	.110	.031
IV	.430*	.158	.133	.952	.144	.206	.044	.163
V	.192	.076	.126	.144	.875	.030	.079	-.086
VI	.128	.075	.108	.206	.030	.708	.216	-.057
VII	.127	.157	.110	.044	.079	.216	.935	-.057
VIII	.112	-.101	.031	.163	-.086	-.057	-.057	.660

Since the scales do not form a circumplex or even a quasi-circumplex, we would not expect to be able to predict one set of scale scores from the other seven. In a perfect simplex,

the correlations in the principal diagonal would be unity. In fact, the correlations should be unity in Table B because the scales are correlated with themselves, but the correlations used in table B, Kendall's tau's, has a numerical upper limit that is strongly affected by marginal frequencies. Either Kendall's tau or Spearman's rho are acceptable measures of association for ordinal data, but the tau was selected because it is more effective when there are a large number of ties present. The correlation between "Economic Liberalism" and "Religiosity" is the only significant correlation in the whole table, and this correlation I attribute to spuriousness caused by the extreme marginal frequencies. However, the scales may be combined to form an acceptable scale, but since the rank order of justices is unchanged, I decided to keep them separate.

CHAPTER V

OUTTAKE - THE DEPENDENT VARIABLE

Although the responses of all 113 judges who responded to Nagel's questionnaire were used to construct the attitude scales (i points), the number of judges who collectively participate in deciding sets of cases is limited to the number of judges who are sitting together on one particular bench. This severe limitation of j-points necessitated the selection of a single court from which to derive the dependent variable. Judges of the Wisconsin Supreme Court were selected for analysis because six of the seven justices sitting on the bench in 1955 responded to Nagel's attitude inventory. Justice Edward Gehl was not able to respond to the questionnaire because of his untimely death on August 28, 1956. The names and short biographies of the justices sitting on the Wisconsin Supreme Court for the period of analysis: January 4, 1954 to August 28, 1956, are given in Appendix B. Respecting Professor Nagel's promise of anonymity to the respondents of his attitude schedule, individual judges will not be identified on any of the attitude scales. On the other hand, information about judges obtained from public records or from records of their published decisions will be printed.

Although a single state supreme court will be examined in some detail, it is not the uniqueness of the Wisconsin court, but the more general propositions to be tested that are important. To facilitate comparison, however, some characteristics

of the state will be mentioned briefly. In population, Wisconsin is a medium sized state, with more of the urban population concentrated in cities under 50,000 than is usually the case in large industrial states. Despite the marked urbanization in recent years, the state remained less urban than the United States as a whole. The most striking ethnic pattern is the predominance of Germans. Lutheran denominations comprise the largest religious group, but Wisconsin has relatively high percentage of Catholics when compared to the nation as a whole. The median income of the state is above the national average, with a higher proportion of agricultural workers.¹⁶¹

In their threefold classification of states, Austin Ranney and Willmoore Kendall classify Wisconsin between two-party and one party systems.¹⁶² The Democratic party was closely aligned with the labor movement while the Republican party was dominated by conservatives at least until the early 1960's. Wisconsin leaned strongly toward the Republican Party during this period, although there was a trend toward more competition in state contests. Forty seven percent of the people of Wisconsin voted for Democratic congressional candidates, yet the Supreme Court of the state contained only one Democratic member until the beginning of 1962. Appointments and elections did not change the ratio of six Republicans to one Democrat until January, 1962, but by 1965 there were four Democrats and three Republicans sitting on the highest bench in the state.

Nomination to the Supreme Court in Wisconsin, when there are more than two candidates for the office, is by nonpartisan primary. Justices are all elected during spring balloting, on a nonpartisan ballot, to serve ten-year terms. Justices may be elected and re-elected as often as they wish, but may not serve on the bench after they reach 70 years of age. Appointments are made by the governor whenever a vacancy occurs through death or resignation. The constitution was changed ending the popular election of the chief justice in 1889. Now, the member of the court with the longest continuous service automatically becomes the chief justice.

The nonunanimous decisions, which are the data base from which j-point rankings will be derived, are listed in Appendix D. Nonunanimous decisions are taken to mean that there are legitimate, conflicting, courses of action open to the judges. Consensus, though perhaps masking some disagreement, would be easy to predict using even a very inappropriate model, and thus artificially inflate the utility of my model. Additionally, there is evidence to indicate that attitude discrepancy is primarily responsible for dissensual decisions, whereas consensual decisions are probably more likely to result from a more limited choice of alternative decisions.¹⁶³ In his study of both consensual and dissensual labor cases, Goldman concluded that political attitude/values, to use his terminology, were of little importance in deciding the consensually decided labor cases, but were significantly related

to the dissensual cases.¹⁶⁴ These findings are similar to Grunbaum's conclusions, derived from his simulation model, that for unanimous cases "...justices are influenced by the lawyers' model governing traditional stare decisis."¹⁶⁵

During the two-year period under investigation, only 83 of the 707 cases decided by the Wisconsin Supreme Court were not decided unanimously and it is these 83 cases, I feel, which should best illuminate the value differences among the seven justices. This small proportion of dissensual decisions, 11.6%, is even unusual for the Wisconsin court. Interpolations from Adamany's Table 5 show that from January 7, 1957 to January 1, 1966, the proportion of split decisions in the state supreme court was 300 out of 2261, or 13.3%.¹⁶⁶ On workman's compensation cases, "the frequency of disagreement on the Wisconsin Court was much less than on the Michigan Court".¹⁶⁷ By way of comparison, the Louisiana Supreme Court from 1926 to 1961 has an average percentage of nonunanimous decisions of 11.9%, and of these only 30.4% contained a written dissent.¹⁶⁸ Daryl Fair, in his study of the Pennsylvania Supreme Court during twenty months in 1960-1961, found that 37.3% of the 550 cases before the Court were decided nonunanimously.¹⁶⁹ In contrast to the above figures, the percentage of unanimous decisions made by the United States Supreme Court between the years 1946 and 1962 was 46%.¹⁷⁰

One of the reasons for the large discrepancy in the proportion of dissensual decisions between the United States

Supreme Court and the state supreme courts is the fact that state courts do not have the control over the cases they will hear that the federal supreme court has. Therefore, more of the cases heard by state courts are likely to be comparatively clear cut. Additional evidence for this conclusion may be drawn from the fact that the federal Courts of Appeals, like state supreme courts, also have no control over which cases they hear, and they demonstrate a much higher degree of consensus than does the United States Supreme Court.¹⁷¹

Another reason why there is more consensus in state supreme courts as compared with the federal is probably a matter of size. Studies seem to indicate that pressure for unanimity is strong only in groups of six or less.¹⁷²

It has been suggested that a reason written dissents are so rare in state supreme courts in general is that judges are reluctant to distinguish themselves by engaging in public controversy.¹⁷³ A recorded dissenting vote can possibly be used against a judge in his campaign for re-election, whereas if he goes along with the majority of the court, he is not singled out for personal identification. At least in Wisconsin, this latter argument is not valid. Even during the highly competitive election of 1964-1965, 46% of the electorate in Wisconsin were not even aware that in Wisconsin judges are elected. Furthermore, only 30% could tell which candidate was the incumbent, and only 9% could remember anything substantive about a supreme court election held only a few months

before.¹⁷⁴ Therefore, it appears highly unlikely that the voters would oust a judge because of his unpopular decisions, most voters would not even know which judge dissented. If additional evidence is required, the record shows that although 79% of the supreme court elections in Wisconsin between 1940 and 1963 were contested, not one incumbent failed to get re-elected.¹⁷⁵ In fact, from 1852 till 1965 there were eighty-eight elections held, fifty-six of which were contested. An elected incumbent ran in 41 of the elections and only two were defeated.¹⁷⁶ Jacob summarizes: "...in normal circumstances, elections do not seriously threaten the judge's tenure or force him to defend his decisions."¹⁷⁷

Adamany lists two other procedural arrangements which may affect the rate of dissent in the Wisconsin Supreme Court.¹⁷⁸ In addition to the absence of a partisan constituency, the fact that Wisconsin has a resident court with judges living in Madison and working in adjacent offices, and the fact that there is a time limit on dissent may facilitate accommodation and compromise. Wisconsin justices meet at conference the Friday before a Tuesday decision to review the drafts of opinions written by the justices assigned to the cases and vote. "If a justice wishes to dissent, even after the prior opportunities for accommodation, he must normally prepare his dissenting opinion by the following Tuesday, although delays are sometimes requested and granted."¹⁷⁹

Data Reduction Techniques

Factor analysis was not used to classify judicial votes for many of the same reasons it was not employed to determine the dimensionality of attitudes (Refer to Chapter 3). In addition, the correlational input for factor analysis is usually a matrix of phi coefficients which are particularly sensitive to marginal frequencies. The phi sometimes yields peculiar results. In an extreme instance a researcher found it possible to obtain phi coefficients ranging from .06 to .54 while the rate of agreement remained a constant seventy per cent.¹⁸⁰ The discussion on factor analysis technique will be further suspended until Chapter 7, when factor analysis was used to dimension the 83 decisions on a liberal-conservative continuum.

Secondly, the decisions were subjected to bloc analysis techniques as developed by C. Herman Pritchett and as refined by Glendon Schubert.¹⁸¹ However, as was mentioned in Chapter 1, there was no necessity to postulate a left-right continuum. Bloc analysis as used in this dissertation is completely used for description. Empirically defined blocs, as originally defined by Stuart Rice and further developed by David Truman, would have been a useful tool with which to cluster the votes, but neither man is concerned with imposing order on all individuals subjected to analysis--the prime concern of judicial researchers.¹⁸²

This dissertation heavily relies on the improvements in

the rules for bloc construction developed by John Sprague.¹⁸³ The bloc is started with that pair of justices who possess the highest rate of agreement both in the majority and in dissent, rather than by placing disagreeing pairs at the corners of the matrix. Only first order relationships are considered, i. e. Justice A's score will be compared only with Justice B's and the relationships between A and C, B and D, etc. will be ignored. Once the position of a justice is fixed, the next justice to be placed is the one who has the highest association score with the last placed justice. The objective of these rules is to maximize rates of association of contiguous justices in the matrix, and it is by this principle that ties are resolved. This procedure of ordering data should yield the same results regardless of which investigator constructs the matrix.

Table C is a fourfold table of judicial decisions tabulated to show the totals of agreement and disagreement with the majority opinion, in the decision of each case, for every possible pair of justices. It shows, not only how pairs of judges agreed, but, equally important, ways in which justices disagreed. Any pair of justices has the following five possible alternatives: (1) both may agree in the majority; (2) both may agree in dissent; (3) the first justice may vote with the majority, while the second dissents; (4) the second justice may vote with the majority, while the first dissents; (5) either or both may fail to participate in the decision. Raw score

tables will be used to avoid the danger of placing too much confidence in correlation matrices, but because of non-participation in decisions, percentages will also be reported.

Table C. Fourfold Table of Agreement--Disagreement on the Wisconsin Supreme Court

		Currie		Steinle		Fairchild		Broadfoot		Gehl		Brown	
		+	-	+	-	+	-	+	-	+	-	+	-
Steinle	+	24	29										
	-	15	11										
Fair-child	+	27	30	32	22								
	-	14	12	21	4								
Broad-foot	+	28	33	36	21	42	19						
	-	13	9	17	5	15	7						
Gehl	+	26	41	47	17	45	22	46	21				
	-	15	1	6	9	12	4	15	1				
Brown	+	33	37	44	22	48	22	50	20	58	12		
	-	8	5	9	4	9	4	11	2	9	4		
Martin	+	35	38	46	23	50	23	52	21	58	15	62	11
	-	6	3	5	4	7	2	8	1	8	1	7	2

+ = Agreement with the majority
- = Dissent

Table D. Matrix of Agreement between Judicial Dyads.

	Bn	M	G	S	B	F	C
Brown	//	64	62	48	52	52	38
Martin	64	//	59	50	53	52	38
Gehl	62	59	//	56	47	49	27
Steinle	48	50	56	//	41	36	35
Broadfoot	52	53	47	41	//	49	37
Fairchild	52	52	49	36	49	//	39
Currie	38	38	27	35	37	39	//
Total	316	316	300	266	279	277	214
Total in percentage	63.4	64.2	62.2	52.1	56.0	55.6	43.0

Both the raw score totals and percentage totals were computed for each justice in Tables C and D in order to determine j-point rankings. These rank orders will be compared with the i-point ranks during the quasi-simulation.

No attempt at discerning particular blocs of justices within the Wisconsin Supreme Court will be made here, although it may be informally reported that Schubert's index of cohesion was calculated and found to increase in size in proportion to the number of justices who were added to the bloc. In other words, the most cohesive bloc was the entire bench. But, this was not my reason for not further analyzing dissenting blocs. The formation of a permanent dissenting bloc on a court of this size would not appear to be a very wise strategy. Aside from the disharmony and disruption it would cause, to the determinant of the atmosphere of uninhibited discussion essential in collegial decision-making, the

idea of a minority bloc is not practical, if the objective of a judge is to secure a majority to support his preferred outcome.

Some of the difficulties associated with using pairs of justices to measure dissent among three- and four-man blocs were mentioned in Chapter I. Table E lists the dissenting blocs which actually occurred on the Wisconsin Supreme Court during the time period under analysis.

Table E. Actual Dissenting Combinations on the Wisconsin Supreme Court.

1. <u>Solo Dissents</u>	<u>#</u>	3. <u>Triadic Dissents</u>	<u>#</u>
Broadfoot	7	Currie-Steinle-Gehl	1
Brown	1	Currie-Steinle-Broadfoot	2
Currie	15	Currie-Steinle-Brown	1
Fairchild	6	Currie-Steinle-Martin	2
Gehl	4	Currie-Broadfoot-	
Martin	2	Fairchild	4
Steinle	2	Currie-Fairchild-Martin	1
	<u>37</u>	Currie-Broadfoot-Brown	1
		Steinle-Brown-Gehl	2
2. <u>Paired Dissents</u>	<u>#</u>	Steinle-Fairchild-Gehl	2
Currie-Steinle	5	Steinle-Fairchild-	
Currie-Fairchild	5	Broadfoot	1
Currie-Brown	1	Steinle-Brown-Gehl	1
Currie-Broadfoot	2	Steinle-Brown-Martin	1
Steinle-Broadfoot	2	Fairchild-Broadfoot-Gehl	1
Steinle-Gehl	3	Martin-Broadfoot-Brown	1
Steinle-Fairchild	1	Currie-Brown-Fairchild	2
Fairchild-Martin	1		<u>23</u>
Fairchild-Broadfoot	1		
Fairchild-Brown	1		
Brown-Gehl	2		
	<u>24</u>		

These data do show the differences between cliques within the court and any other random combinations of justices. Eleven

of the twenty-one possible combinations of paired dissents, and all possible triadic combinations actually occurred. The potential pair relationships in a seven-man group is 21, but in a small primary group each member has to deal not only with his fellow members individually but on occasion with each possible pair, each possible triad, etc. The formula for this condition thus changes from $\frac{N(N-1)}{2}$ to $2(N-1) - 1$. In the present example, the number of potential relationships would change from 21 to 63.¹⁸⁴ These results concur with the findings of Grossman which demonstrated "...convincingly the tenuousness of the idea that there are: stable, persistent, and exclusive three and four-judge dissenting blocs whose members interact substantially as a bloc. The idea of two-man blocs seems slightly more plausible, but hardly unchallengeable."¹⁸⁵ I would conclude, along with Grossman, that justices may join together to further some short-range goals where attitudes toward particular cases are shared. Coalition members will not, however, identify with it to the extent that membership in one coalition would preclude the formation of other coalitions when other issues arose.

Murphy writes that:

"... it is improbably that any Justice could "form" a bloc among his colleagues. What he could very possibly do is to discover similar outlooks and voting tendencies among his brethren and then use his social and intellectual skills to reinforce ideological affinities and bring about a measure of co-ordination to individual behavior patterns."¹⁸⁶

Scalogram Analysis of Judicial Interagreement Votes

In addition of factor analysis and bloc analysis, there is yet another method of characterizing the votes of groups of judges. This is the technique used to characterize both individual roll calls and voting behavior of individuals, Guttman's scalogram analysis.

Because scalogram analysis ranks individuals and votes it may be used in conjunction with N-person game theory since the main activity of players is not only to choose strategies, but partners. "Partners once they become such, then select a strategy."¹⁸⁷ A preliminary universe of content is not selected a priori, rather the scalogram "... tests all the roll calls within a population for scalability and then selects from the mass those sets of roll calls which analysis reveals to the scaler."¹⁸⁸ Table F reports the attempt to scale eighty-three decisions when agreement with the majority opinion was coded x and dissent coded - .

Table F. Agreement with the Majority Quasi-Scale.

Scale Type	Case Numbers	Scale Pattern							Total Errors
		C	F	S	B	G	Bn	M	
7	3	x	x	x	x	x	-	x	1
7	21,22,83	x	x	x	x	-	x	x	3
7	23,50	x	x	x	x	x	x	-	2
7	76,40,41,42,60,64,68	x	x	x	-	x	x	x	7
7	31,52,65,69,	x	-	x	x	x	x	x	4
7	9	x	-	*	x	x	x	x	1
7	51	x	x	*	x	-	x	x	1
7	27,78	x	x	-	x	x	x	x	2
7	5,16	x	x	-	-	x	x	x	4
7	6	x	-	x	x	x	x	-	2
7	28	x	x	x	x	-	-	x	2
7	43,53,61	x	x	-	x	-	x	x	6
7	70	x	-	x	x	x	-	x	2
7	14,46	x	x	-	x	-	-	x	6
7	56	x	x	-	x	-	x	-	3
7	58	x	x	x	-	x	-	-	3
7	59	x	(-)	x	x	-	-	x	3
7	73	x	x	-	x	x	-	-	3
6	1,2,8,11,15,35,45 49,71,72,74,75,81	-	x	x	x	x	x	x	0
6	24,29	-	x	*	x	x	x	x	0
6	17,34,48,67,80	-	x	-	x	x	x	x	5
6	10	-	x	x	x	x	-	x	1
6	39,62	-	x	x	-	x	x	x	2
6	4	-	x	-	x	-	x	x	2
6	13	-	x	-	x	x	-	x	2
6	57,44	-	x	-	x	x	x	-	4
6	79	-	x	x	-	x	-	x	2
5	30,54,63,82	-	-	x	x	x	x	x	0
5	36	-	-	x	x	x	x	*	0
5	18,19,20,25	-	-	x	-	x	x	x	4
5	47,26	-	-	x	x	x	x	-	2
5	55	-	-	x	x	x	-	x	1

Scale F. Agreement with the Majority Quasi-Scale (Cont.)

Scale Type	Case Numbers	C	F	S	B	G	BN	M	Total Errors
4	77	x	-	-	x	x	x	x	1
4	32,38	x	-	-	x	-	x	x	4
3	33,12	-	x	-	-	x	x	x	2
3	37	x	-	-	-	x	x	x	1
2	66	x	-	x	-	-	x	x	2
Number of Agreements (x)		41	57	53	61	68	69	73	92
Per Cent Agreements (x's)		49	68.6	67	74	82	83	89	

x = Agreement with the majority

- = Dissent

* = Non-participation in the decision

C.R. = $1 - 576 = .840$ C.S. = $1 - 154 = .40$ M.M.R. = .734

Not only did the cases fail to meet the reproducibility level necessary for a scale, but since the errors did not occur in a gradient pattern, I would not consider the pattern a quasi-scale. There are problems involved in attempting to scale a universe of content coded in the manner described above, because only half of the possible scale types can possibly occur. Because there can never be more than three dissents in each case, the ideal types (----XXX), (-----XX), and (-----X) cannot exist, even in theory. Individual cases with errors may be removed from consideration in order to make the decisions scalable, but in this instance the number of cases that would have to be eliminated to make the universe scalable is prohibitive. Alternatively, the number of times each justice

agreed with the majority decision was tabulated at the bottom of Table F. Ranking the justices by the number of times they concurred with the majority produces almost the same rank order of justices, as the scale or quasi-scale would have. Fairchild and Steinle are apparently interchanged in the quasi-scale, but then it is considered that Steinle did not participate in four decisions, the difference between the two is small indeed. Fairchild agreed with the majority fifty seven times out of a possible eighty three (68.6%) and Steinle agreed with the majority fifty three times out of seventy-nine (67,0%). The final rank order of justices then is:

Table G. Agreement with the Majority Opinion - Rank Order of Justices Derived from Three Alternative Indices.

D ₁ Additive Index (Table F)	D ₂ Quasi-Scale (Table F)	D ₃ Paired-Relationships (Table D)
Martin	Martin	Martin
Brown	Brown	Brown
Gehl	Gehl	Gehl
Broadfoot	Broadfoot	Steinle
Fairchild	Steinle	Broadfoot
Steinle	Fairchild	Fairchild
Currie	Currie	Currie

Rho r between D₁ and D₃ = .893, Rho between D₁ and D₂ = .964
 Rho r between D₂ and D₃ = .893, p = .01 (one tailed).

Either because Justices Steinle, Broadfoot, and Fairchild hold very similar attitudes or because the instruments available to measure behavioral agreement are inadequate (and probably both are true), I am unwilling at the moment to

decide which of these rankings is the more accurate. Note that in Table D the difference between Justice Steinle and Justice Broadfoot is only one tenth of a percentage point, even though eighty three cases were used. Similarly, in terms of raw scores, the difference in rank between Justice Brown and Gehl in the agreement with majority additive index (D_1) depends upon a single vote. Under these circumstances, all three rankings will be reported and used as the j-point order to be compared with the rank order of i-points in the quasi-simulation.

Scalogram Analysis of Liberal-Conservative Judicial Votes

The dependent variable most commonly utilized in most current judicial research is some variety of the liberalism-conservatism dimension. Stuart Nagel, as well as most other judicial scholars, define liberalism-conservatism as referring

"...to a viewpoint associated with the interests of the lower or less privileged economic or social groups in a society and to a less extent with acceptance of long run social change; whereas the term "conservative" is used primarily to refer to a viewpoint associated with the interests of the upper or dominant groups in a society with resistance to long run social change."¹⁸⁹

Glendon Schubert identified the five semantic components of political liberalism as: political equality, political freedom, religious freedom, the right to fair procedure, and the right of individual privacy. The subcomponents of the second dimension, economic liberalism, included more compensation for injured workers, government regulation of business, sympathy for the union in its disputes with management, freedom of com-

petition, and the constitutionality of state taxation.¹⁹⁰ When fiscal liberalism (the F scale) is added to the other two components of liberalism-conservatism, economic (the E scale) and political or civil (the C scale), Schubert reports that 91% of the ninety-nine nonunanimous decisions of the United States Supreme Court during the 1960 term was accounted for.¹⁹¹ Furthermore, he reports that during the seventeen terms of the Supreme Court, from October 1946 to January 1963, two-thirds of the dissensual decisions (1,657) made by the Supreme Court related either to political or economic issues.¹⁹² The rank order of justices on Sidney Ulmer's scales closely approximates the rank order Schubert found on his "C" scales, but there is some discrepancy between the findings of Harold Spaeth and Glendon Schubert in regard to scaling economic liberalism.¹⁹³

In my attempt to construct cumulative scales relating to the dimension of liberalism-conservatism, I decided to follow Stuart Nagel's rather precise prescriptions. Consideration was given to the Becker technique of using panels of lawyers to decide whether a given case is decided liberally or conservatively, but the large number of cases that had to be coded made this suggestion unfeasible.¹⁹⁴ Furthermore, professionals in general, and more particularly lawyers, may show a conservative bias in their decision of whether or not a case is liberal.¹⁹⁵ Thirdly, my primary interest is in the rank order of justices, and my expectation is that this ordinal ranking is able to tolerate some degree of mis-coding

on my part. This last statement was not meant to dismiss the very real problem of coding judicial decisions cavalierly. Glendon Schubert has been coding cases for more than a decade and his coding practices have come under rather severe criticism from a law student at Yale.¹⁹⁶

A political liberal, according to Stuart Nagel, is one who: favors broadening free speech, finds violations of the constitution in criminal cases, and more generally favors the defense in criminal cases, and an economic liberal is one who votes more frequently than his colleagues: for a government agency in business regulation or tax cases, for the tenant in disputes with the landlord, for the injured party in motor vehicle accident cases, and for the economic underdog in general.¹⁹⁷ Some modification of these categories is necessary because the type of case decided by the United States Supreme Court is different from the type usually decided by state supreme courts. Dayrl Fair selected a time period roughly equivalent to one that Schubert selected for the United States Supreme Court to determine the amount of variance in voting behavior Schubert's three scales could account for on the Pennsylvania Supreme Court.¹⁹⁸ Fair reported that only 4.4% of the 205 nonunanimous decisions handed down by the Pennsylvania Supreme Court were civil liberties cases. The C,E, and F scales together accounted for only about 36% of the nonunanimous decided by that state supreme court. Noting the number of suits involving damages of some sort, Fair constructed an S scale, in which judges vote for the disadvantaged party in

cases involving damages of some sort, Fair constructed an S scale, cases involving: motor vehicle accidents, negligence, employee injuries, unemployment compensation, criminals, insurance, and fraud. Appendix E contains my attempts to construct E and S subscales from the universe of eighty three cases reported in Table F. My E scale will be a consolidation of Schubert's E and F scales.¹⁹⁹ If a quasi-scale can be attained, then regardless of how low the reproducibility is, "Multiple correlation of any outside variable ... will be precisely equal to the simple correlation with the rank order of the area."²⁰⁰

Table H. The Liberalism - Conservatism Quasi-Scale.

Scale		Scale Pattern							Total Errors
Type	Case Numbers	G	Bn	F	M	S	B	C	
7	29	x	x	x	x	*	x	-	1
7	11,1,2,45,71,72,74	x	x	x	x	x	x	-	7
7	64,40,68,42,41	x	x	x	x	x	-	x	5
7	69,52,65	x	x	-	x	x	x	x	5
7	78	x	x	x	x	-	x	x	1
7	39	x	x	x	x	x	-	-	2
7	77	x	x	-	x	-	x	x	2
7	67	x	x	x	x	-	x	-	2
7	30,63,54	x	x	-	x	x	x	-	6
7	6	x	x	-	-	x	x	x	2
6	51	-	x	x	x	*	x	x	0
6	83,21,22	-	x	x	x	x	x	x	0
6	43,61,53	-	x	x	x	-	x	x	3
6	4	-	x	x	x	-	x	-	2
6	38	-	x	-	x	-	x	x	2
6	66	-	x	-	x	x	-	x	2
5	14,46	-	-	x	x	-	x	x	2

Table H. (Cont.)

Scale Type	Case Numbers	Scale Pattern							Total Errors
		G	Bn	F	M	S	B	C	
4	59	-	-	-	x	x	x	x	0
4	70	x	-	-	x	x	x	x	1
4	13	X	-	-	x	x	x	-	2
4	44,57,73	-	-	-	x	x	-	x	3
3	12,33	-	-	-	-	x	x	x	0
3	48,34,17	-	-	-	-	x	-	x	3
3	16,5	-	-	-	-	x	x	-	2
3	47	x	x	-	-	x	x	-	3
3	37	-	-	x	-	x	x	-	2
2	62	-	-	-	-	-	x	x	0
2	20,25,19,18	-	-	x	-	-	x	x	4
2	79	-	x	-	-	-	x	x	1
2	56	-	x	x	-	-	x	x	2
1	36	-	-	x	*	-	-	x	1
1	24	-	-	-	-	*	-	x	0
1	35,75,49,8,15,81	-	-	-	-	-	-	x	0
1	58	x	-	x	-	x	-	x	3
1	55,26	-	x	x	-	-	-	x	4
1	82	-	-	x	-	-	-	x	1
1	80	-	-	-	-	x	-	x	1
1	10	-	x	-	-	-	-	x	1
0	60,76	-	-	-	-	-	x	-	2
0	27	-	-	-	-	x	-	-	1
0	50,23	-	-	-	x	-	-	-	2
0	9,31	-	-	x	-	-	-	-	2
0	3	-	x	-	-	-	-	-	1
0	28	x	x	-	-	-	-	-	2
0	7	-	-	x	-	-	x	-	2
0	32	x	-	x	-	x	-	-	3
No. of Liberal Decisions		30	42	41	43	43	48	53	91
Percentage of Liberal Votes		36.1	50.6	49.4	52.4	53.7	57.8	63.8	

x = Liberal decision

- = Conservative decision

* = Non-participation in decision

$$C.R. = 1 - \frac{91}{577} = .842 \quad M.M.R. = .559 \quad C.S. = 1 - \frac{91}{154} = .403$$

The errors in the liberal-conservative scalogram in Table H, (and those in both the E and S scales in Appendix E,) do occur in the gradient pattern required of quasi-scales by Guttman. The non-scale errors occur in groups because the items were ordered by the Cornell technique. But even so, I am reluctant to place full confidence in these "quasi-scales" because the maximum number of errors possible both at the top and bottom of the scale is one, since there was only one dissent in these cases. Toward the center of the scales, the cases contained either two or three dissents, thus increasing the number of inconsistencies possible to attain. Therefore, the likelihood that the gradient pattern could have occurred by chance is very good.

In addition to recording the scalogram pattern, I decided to use the "quasi-scale" also as a simple additive index, whereby justices are ranked on the basis of the number and the percentage of liberal decisions they made. These figures may be found at the base of Table H. The three resulting rank orders are as follows:

(D4) <u>From Simple Percentage</u>	(D5) <u>From Quasi-Scale</u>
Currie Broadfoot Steinle Martin Fairchild	Currie Broadfoot Steinle Martin Brown
Brown Gehl	Fairchild Gehl

Even the percentage index was extremely disappointing in the sense that it did not discriminate well among justices. Each of the three "quasi-scales" of liberalism-conservatism contain justices who are tied for a particular position and in several instances very different rank orders would result, if even one case were coded differently. Therefore, even a slight error in coding or classifying a case on my part would drastically change the rank order of justices. I had hoped that the differences among the justices would be great enough to allow me a much larger margin for error. The one time, of which I am aware, that the coding scheme of a judicial researcher has been replicated resulted in enough change so that the E scale was no longer acceptable.²⁰¹

On the assumption that perhaps the cases loaded highly on the first unrotated factor to be derived from a factor analysis of all 83 cases, coded on a liberal-conservative continuum, would form an acceptable scale, all cases with a standard factor score of ± 1.0 were selected and subjected to Guttman scalogram analysis. The resulting scale of thirty cases did not significantly improve on the reproducibility obtained by scaling all eighty-three decisions, but did raise the C.S. from .403 to .57. Nevertheless, the rank order obtained from this thirty-item scale was identical to that obtained from the percentage index (D_4), and so all further attempts to make use of factor analysis to select items for scalogram analysis were abandoned.

Critique of the Previous Psychometric Model

A distinguishing feature of my model is the utilization of an actual attitude inventory to provide a determinate set of i-points, while the j-points are obtained exclusively from actual judicial decisions. This feature contrasts with Schubert's method of locating both the i-points and the j-points in multidimensional space from the same set of decisional data.²⁰² Schubert determines the location of his i-points from a factor analysis of phi correlation matrices, which, in turn, are derived from a set of four-fold tables like those illustrated in Table C. In this cross-tabulation of judicial votes no attention is paid to the substantive content of the decisions.

J-points are not as easily located, as Schubert admitted, "Methods for locating j-points in the joint decision-making space have not yet been perfected."²⁰³ As in the case of i-points, factor analysis could have again been used to locate j-points, but the number of j points is limited to the number of justices authorized to sit on a particular bench. That is, if more cases were required to determine the precise location of i-points, the period of time under investigation could easily be lengthened, but there is no way to increase the number of judges who have participated in making a decision. So, in order to determine the location of the various j-points, Schubert uses exactly the same decisions that were used to determine the location of the i-points, but rather than tabu-

lating votes by dyads in terms of agreement with the majority, the votes are tabulated by case for scaling purposes and are classified as either favoring or opposing the hypothesized scale variable.

Schubert's technique of deriving both judicial attitudes and judicial responses from the same data base requires a closer examination. Following his reasoning, if dyads of justices agree with each other, what is it exactly that they agree upon? Their perceptions of the facts and/or the major issues raised by each case? What are the major questions asked by each case? Schubert requires that the hypothesis formulated for each set of cases be "reasonable" and "non-trivial." For example, judges decide civil liberties cases on the basis of their attitudes toward deprivation of civil liberty. Each nonunanimous case raising a civil liberty issue is treated as posing a question in the form, "Shall I allow a deprivation of the claimed civil liberty to the extent represented by this case?"²⁰⁴ A vote is classified plus if it upholds the civil liberties claim, and minus if it rejects the claim. Scalability is taken as evidence that the cases relate to a single attitude dimension. Since these sets of cases have in common one dominant issue, would it not be reasonable to assume that it is upon this one issue that the justices agree? Furthermore, only those cases that are thought to be unidimensional are subjected to scale analysis. In fact, Schubert reported that two-thirds of the non-unanimous

cases decided between October 1946 and June 1963 raised questions to which judges responded on the basis of one dimension, their liberal or conservative ideologies.²⁰⁵ To avoid such possible problems of contamination, rankings of both interagreements among justices and the various scales of liberalism will be classified as judicial responses (D_1 through D_5 supra.) Tau correlations between the two decisional measures were not quite as high as those usually attained by Schubert, the tau between D_3 and D_5 was only $-.38$ ($p = .15$), but it must be remembered that his correlations were not between two entire scales, but between two more homogeneous subscales.²⁰⁶

Armed now with these sets of j-points and with the i-points from Chapter 4, we are now ready to put them to work in determining the behavioral resemblances of justices.

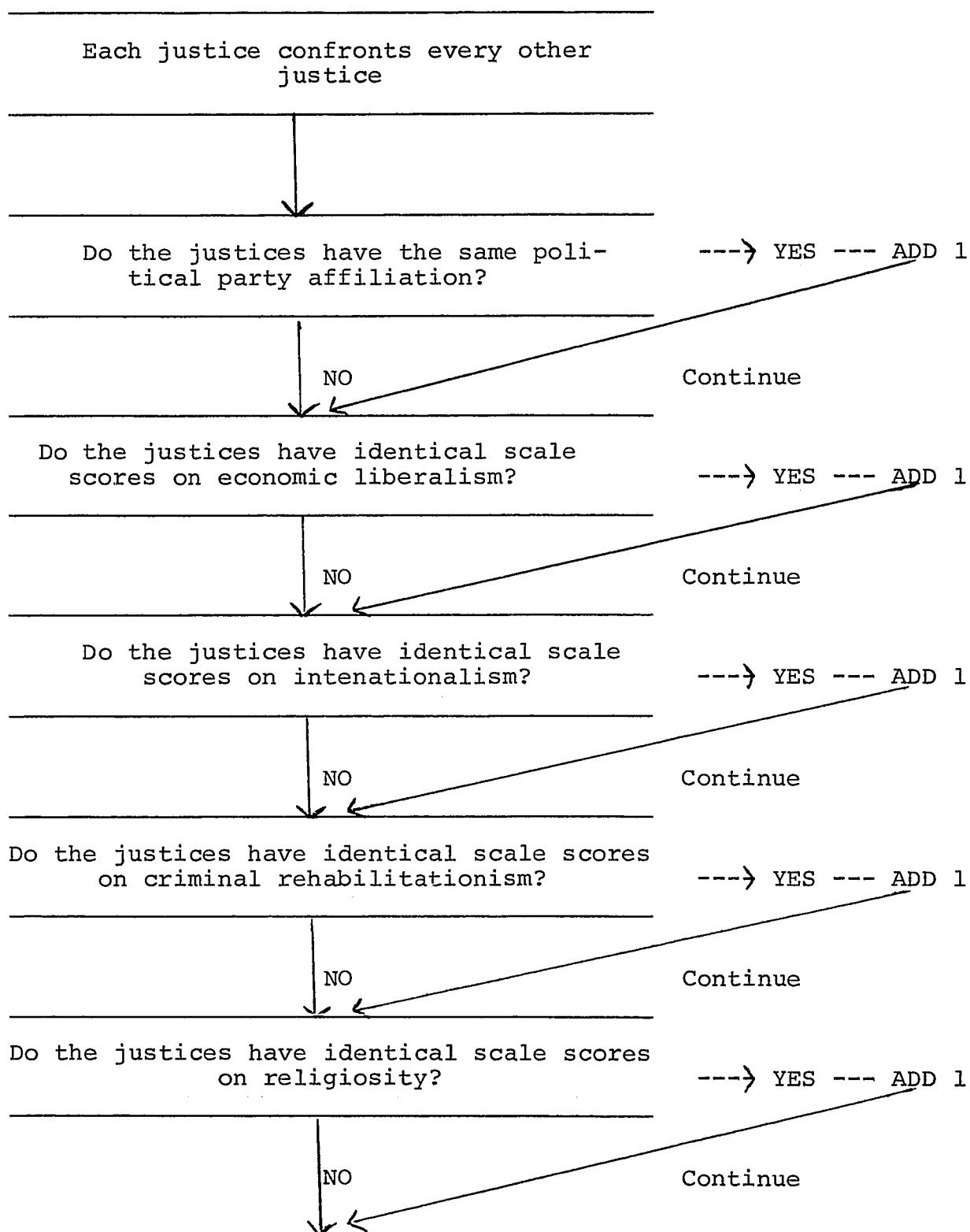
CHAPTER VI

THE QUASI-SIMULATION

The first simulation is called a "quasi-simulation" because it does not meet the requirements of a "true" simulation, that is, experiments will not be performed upon some model of reality. Rather, since the parameters are fixed, the computer is used merely as a mechanical calculator. The quasi-simulation was designed to measure the congruence between i-points and j-points or, in more psychological terms, the similarity between predisposition and behavior. More precisely, this quasi-simulation aspires to answer the question, how well can attitudes measured by survey research techniques predict behavior measured by scalogram analysis of judicial decisions. For several years Theodore Becker has been advocating the more extensive utilization of direct measuring devices.²⁰⁷ More specifically, Daryl Fair remarked, "Without doubt, the survey research technique is potentially the most fruitful of the ... approaches thus far applied to state courts."²⁰⁸ A major purpose of the first simulation is to discover exactly how useful attitude inventories are in determining the behavioral similarity of judges.

The flow chart for the quasi-simulation is reported in Diagram 3. The quasi-simulation as well as the "true" simulation to follow was run on the 360 computer at the University of Hawaii Statistical and Computing Center. As Diagram 3 illustrates, the program was a simple one.

Diagram 3. Flow Chart for the Quasi-Simulation



Do the justices have identical scale scores
on family planning?

---> YES --- ADD 1

NO

Continue

Do the justices have identical scale scores
on faith in democracy?

---> YES --- ADD 1

NO

Continue

Do the justices have identical scale scores
on sex equalitarianism?

---> YES --- ADD 1

NO

Continue

SUM AND RANK THE RESULTING SCORES

Each justice confronted each of his colleagues one time for each attitude and party variable. If the pair of justices had identical Guttman scale scores for a particular attitude, a +1 was added to each of their scores. No points were given to dyads who disagreed on a particular attitude variable. When all confrontations of justices had taken place for all of the variables, the total points each justice had received were summed and these sums placed in rank order. This ordinal ranking will be compared with the rank orders obtained from the judicial decisions.

Table I.* Number of times the justices' rank on the eight attitude scales were identical.

	Martin	Steinle	Brown	Currie	Fairchild
Broadfoot	7	4	4	4	2
Martin		3	3	3	3
Steinle			4	3	4
Brown				3	3
Currie					2
Fairchild					

*Summation of the above numbers and placing them in rank order will yield the attitude ranking in Table J. Justice Gehl was not included in this table, lest the correlations resulting from it be artificially inflated.

Actually, the simulation was run once with and once without the political party variable. The party variable did not seem to affect the correlation, perhaps because political party affiliation is a surrogate for attitudinal variables. This seems to be a reasonable conclusion based on the evidence that we have showing that Democrats generally share more attitudinal perspectives with members of their own party than they do with Republicans and vice versa.²⁰⁹ Adamy found that blocs did not form along party lines in the Wisconsin Supreme Court.²¹⁰

Table J. Correlation between Attitudinal and Behavioral Similarity.

Justices	Attitude		(D ₁)	Decisions	
	Party Included	Party Excluded	Additive Index	(D ₂) Quasi-Scale	(D ₃) Paired Relationships
Broadfoot	1	1	3	3	4
Martin	2	2	1	1	1
Steinle	3	3	5	4	3
Brown	4	4	2	2	2
Currie	5	5	6	6	6
Fairchild	6	6	4	5	5
Spearman's <u>rho</u> correlation between Attitude and					D ₁ = .468
p = .05 requires correlation of .829					D ₂ = .657
					D ₃ = .543

Similarity among the justices of the Wisconsin Supreme Court as measured by attitudes does have a moderate relationship with similarity measured by an analysis of judicial votes, especially if the decisions are put in the form of a scalogram.

Testing Other Interactional Hypotheses

The various measures of similarity, or at least voting interagreement, among justices tempt one to examine some other popular interactional hypotheses. If Murphy's hypothesis that the chief justice of a court should be weighted more heavily than the other justices because his role as titular leader of the court enables him to facilitate compromise by his control of discussion in conference, were indeed true, we would expect the chief justice to favor the compromise opinions he had helped to engineer.²¹¹ Therefore, the chief justice should vote with the majority more frequently than his colleagues would. But Table J shows that Chief Justice Fairchild is least similar in attitude and but for Currie, the least compatible in decisional similarity of any justice on the court. Perhaps, this ideological distance is caused by the institutional fact that the chief justice is the most senior member of the court and by the fact that justice Fairchild is the only Democrat on the court. Yet, studies indicate that the chief justices in other courts do not necessarily play the role of chief compromiser. Ulmer found that the chief justice of the Michigan Supreme Court ranked third on his leadership index.²¹²

The more commonly used index of power within a small group, the Shapley-Shubik index, was also employed to measure leadership

within the Wisconsin court. Is the chief justice the most powerful? Table K shows not, but this essentially decisional index does place Chief Justice Fairchild closer to the median than the other indices did. Incidentally, the ranking of justices on the Shapley-Shubik index is exactly the same as the ranking produced by the simple additive index (D_1).

Since this index measures the blocs as they actually occur, it has more reliability than indices based on paired relationships, e.g. D_3 . Power on the Shapley-Shubik index is dependent on the chance a group member has to be critical to the success of a winning coalition. An individual is given no credit for being in the minority.

Table K. The Shapley-Shubik Power Index

Justice	Majority			Minority	Index
	six-man	five-man	four-man		
Martin	34	21	18	9	.1749
Brown	35	20	15	13	.1633
Gehl	32	19	16	16	.1580
Broadfoot	29	18	14	22	.1384
Fairchild	31	14	12	26	.1315
Steinle	30	12	11	26	.1282
Currie	21	9	11	42	.0968

The Shapley-Shubik power index may also be used to test two other hypotheses, but hypotheses will also test the decisional indices. The hypothesis is the "freshman effect" which would cause newcomers to the court to restrain personal preferences and tend toward the center position.²¹³ Therefore, a freshman justice should be unwilling to fully express himself

and to acquiesce to the will of the majority most often. But if a justice does actually behave in this manner, he would be the most powerful justice on the court as measured by the Shapley-Shubik index, because he would be in the minority rarely.

Table L. The "Freshman Effect" and the "Power Index".

<u>Shapley-Shubik Index</u>	<u>Seniority (Most to Least)</u>
Martin	Fairchild
Brown	Martin
Gehl	Broadfoot
Broadfoot	Gehl
Fairchild	Currie
Steinle	Brown
Currie	Steinle

$$\underline{\rho} = .256$$

The Shapley-Shubik index will be discussed in the next chapter and its utility for measuring power among justices more fully explored.

CHAPTER VII

THE SIMULATION

This chapter will no longer be seeking to predict behavioral similarity from attitudinal similarity, but to see how well liberal attitudes predict liberal decisions and vice-versa. The second phase of the simulation model will attempt to determine the extent to which justices modify their predispositions as a result of interaction with their colleagues.

The first phase of the second simulation model is simply the multiplication of each justice's content scale score by his intensity scale score to locate his position in joint attitude space. Multiplication was used, because I felt that a justice who held an extreme position on an issue rather weakly, if such a phenomena could occur empirically given the nature of the data, would be equivalent to a justice who intensely held a moderate position. In other words, both the extremeness of an attitude and the intensity with which it is held are important in the determination of a judge's position on a given issue. The intensity score was derived from either side of the zero points, see Tables I through VIII in Appendix C. The content ranks immediately adjacent to the zero point were given a plus or a minus one depending upon whether they were located to the left or the right of the zero point. Ranks further away from the zero point, or the lowest portion of the U-Shaped curve, were given scores of plus or minus two or three. The multiplication of extremeness times intensity scores will comprise the

simulation without communication or interaction. Table M illustrates the direct effect of attitude on behavior.

Table M. Results of Multiplying Content and Intensity Scores for the eight attitude Scales.

Justice	Attitude Scales							
	I	II	III	IV	V	VI	VII	VIII
Currie	2	3	3	-1	2	2	6	6
Steinle	2	-1	0	-1	9	0	2	6
Brown	2	-1	0	0	2	6	0	6
Broadfoot	2	0	-1	-1	2	0	0	6
Martin	2	0	-1	-1	2	0	0	2
Fairchild	2	-1	0	-1	0	0	2	2

This simulation prior to communication yields a rank order that correlates moderately with decisions placed on a liberal-conservative dimension (See Table H.). Under the impression that perhaps multiplication of intensity scores by content scores distorted the differences among the justices too much, I also calculated the correlations between the two additive scores and the decisions. The results are reported in Table N.

Table N. Simulation Prior to Communication.

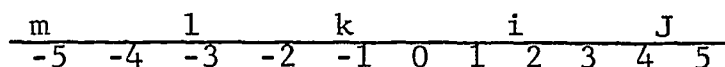
Justices	Additive Content Scores	Additive Intensity Scores	Multipli- cative Scores	Decision	
				Simple per cent	Quasi- Scale (D ₅)
Currie	1	1	1	1	1
Broadfoot	4	4	4	2	2
Steinle	2.5	2.5	2	3	3
Martin	5	5	5.5	4	4
Brown	2.5	2.5	3	6	5
Fairchild	6	6	5.5	5	6
<hr/>					
Rho =		Additive and D ₄ = .472	Multiplicative and D ₄ = .576		
		Additive and D ₅ = .647	Multiplicative and D ₅ = .615		

The multiplicative scores did yield more consistent results. From Table N, we do see the influence of attitude on decision-making behavior.

THE INTERACTION PHASE

The second phase of the model will present interaction as an intervening variable between attitude and voting behavior. Once each justice's initial attitude predisposition was determined, each justice confronted every other justice and the differences in predisposition between each dyad was recorded. If the difference in predisposition between a pair of justices was unusually large, the conversation between them was assumed to be short, if indeed it took place at all. Neither justice would be likely to have changed his position. Since in order for large differences in predisposition to occur, it is necessary that at least one of the justices be relatively rigid in his position.

To illustrate, let the unidimensional scale portrayed below represent an attitude continuum upon which judges are unequally spaced, indicating differences in predisposition. Five represents the position maximally favorable and minus five represents the position maximally unfavorable to the attitude in question. Zero is the point of neutrality or difference.



The small letters indicate the perceived positions of the judges on this dimension. My hypothesis is that Judges i and j would probably hold a meaningful conversation because the possibility of them coming to agreement, at some point between 2 and 4, is reasonable to expect. On the other hand, the probability of sustained interaction between judges j and m is not very great because each man is rather extreme, and perhaps intensely committed, to his position. The exact distance between judges that would facilitate communication and compromise would, of course, have to be determined by experimentation and would be one of the parameters used in the sensitivity testing of the model.

This formulation contrasts with Alan Sager's which postulates "... the greater the difference in predispositions, the greater the influence effects..." except "If one is too highly predisposed one way or another, he is not included either as a justice who can influence others or as one who can be influenced." 214 (Emphasis supplied). While agreeing with Sager that it is difficult to influence a highly predisposed justice, it is my contention that his second constraint is much too restrictive, i.e. a justice who could not be influenced might influence another justice whose position is nearby in terms of distance, or who is relatively indifferent to the dimension as a whole. In the diagram above, while probably true that Judges j and m would not hold a meaningful dialogue on the issue in question, it is unreasonable

to exclude them from consideration altogether. Justice m then could influence Judges l, k and perhaps even i, though he might not be influenced by them as much. Actually, this criticism probably did not affect the results of Sager's simulation, because the criteria required to consider a justice "too highly predisposed," was essentially a measure of distance.

Three alternative methods of partitioning the resultant distances between judges were attempted. In the first run, as a result of a conversation with i, the position of j on the issue would change only if j's attitude was more extreme, in either direction, than i's.²¹⁵ This proposition is necessary in such a homogeneous group.²¹⁶ In his own words:

"Given a specification of attitude change in dyadic interaction as a function of the attitude positions of the two participants, if that function is such that the attitude position of each participant always moves toward the attitude position of the other, then any compact group of individuals engaged in mutual dyadic interactions at constant rates will asymptotically tend toward complete homogeneity of attitude positions."²¹⁷

Table O. The Effects of Interaction upon Predisposition.

Justices	Attitude							
	I	II	III	IV	V	VI	VII	VIII
Currie	2	6	6.5	-4.5	9	8	17	26
Steinle	2	-2	.5	-4.5	45	4	9	26
Brown	2	-2	.5	-2.5	9	16	6	26
Broadfoot	2	0	-1.5	-4.5	9	4	5	26
Martin	2	0	-1.5	-4.5	9	4	5	18
Fairchild	2	-2	.5	-4.5	4	4	9	18

Table P. The Effects upon Decision of Attitude Modified by Interaction

Justices	Attitude after Interaction	Decision	
		Simple per cent	Quasi-Scale
Currie	2	1	1
Broadfoot	4	2	2
Steinle	1	3	3
Martin	5	4	4
Brown	3	6	5
Fairchild	6	5	6

RHO = .43 and .6

The second method of dividing distance between justices employed the Shapley-Shubik indices as a measure of relative influence. The proportionate power relationship between two justices was calculated and the justice with the weaker relative power position was considered to move proportionately more toward the justice with more power than that justice moved toward him. In this case, perhaps as a result of using a small court, the technique did not significantly improve the correlations given in Table P. (The results were .55 and .60)

The third method of partitioning the distance between judges was a simple compromise -- the perceived attitudinal distance was simply split between them. Mathematically presented, the model is:

$$\Delta_j (X_i) = k (X_j - X_i) \text{ with } K > 0$$

with X_j and X_i denoting the position of two individuals and the constant, K , set at .5. This formula is, in effect, similar to Sager's except that he added the entire distance ($X_j - X_i$) to the predisposition of the justice, whereas my formula added only half the distance to the justice's prior disposition.²¹⁹

A more significant difference between our models is the manner in which judges interacted. Sager used a probability model to determine which justices influenced their colleagues and which justices were influenced by the other members of the bench. This chance element further complicates his model since random selection of influencers will affect prediction. Even if the data base is held constant, then, predictions could vary because the influencers vary. My feeling is that stochastic processes are unnecessary in a small, homogeneous body like a court. Justices are well acquainted with each other and surely have the opportunity to present their point of view, and therefore the opportunity to influence others, if they are so motivated. My assumption of one conversation per each possible pair of justices was, in the other hand, too liberal perhaps, yet it does take into account the fact that some conversations are unnecessary because the positions of some justices on some issues are very well known. This parameter is certainly amenable to further experimentation, perhaps justices could be broken down into ("players") and these could confront each other. As Luce and Raiffa state "The distinction between an individual and a group is not a biological-social one but simply a functional one. Any decision maker- a single, human being or an organization - which can be thought of as having a unitary interest motivating its decisions can be treated as an individual in the theory." 220

Diagram 4. Flow Chart of the Simulation

Predisposition Phase

Multiply each justice's content score on
economic liberalism by his intensity score
on that scale



Multiply each justice's content score on
internationalism by his intensity score
on that scale



Multiply each justice's content score on
criminal rehabilitationism by his intensity
score on that scale



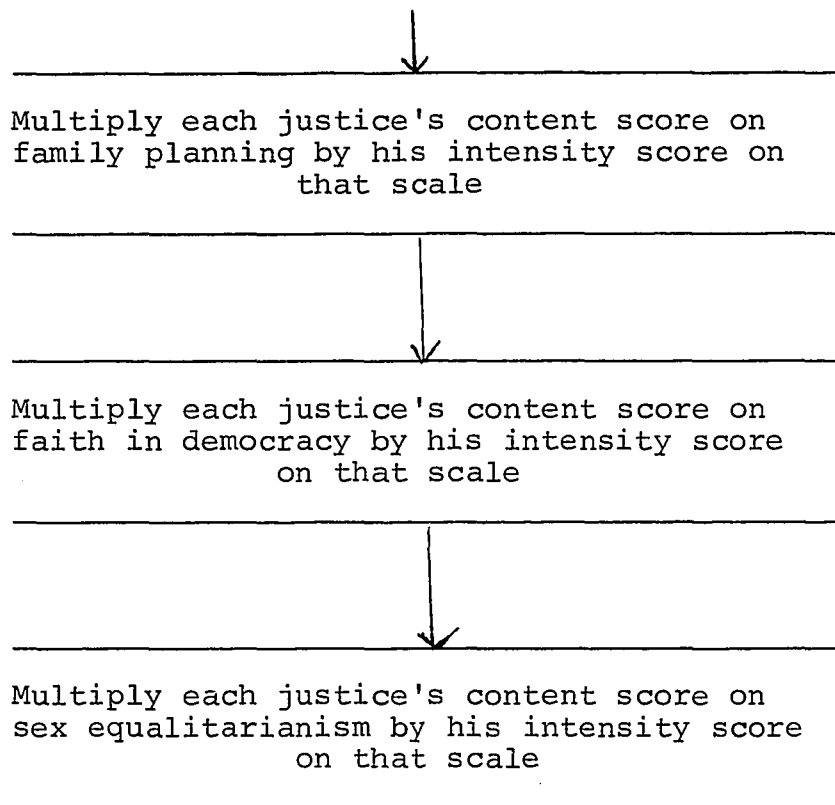
Multiply each justice's content score on
religiosity by his intensity score on that
scale



Multiply each justice's content score on
ethnic equalitarianism by his intensity
score on that scale



The Simulation



Interaction Phase

Each justice confronts every other justice

Is the difference between each successive pair of justices on economic liberalism very large? ---YES---CONTINUE

The Simulation

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score



Is the difference between each successive pair of justices on internationalism very large?

---YES---CONTINUE

NO

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score



Is the difference between each successive pair of justices on criminal rehabilitationalism very large?

---YES---CONTINUE

NO

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score.



The Simulation

Is the difference between each successive pair of justices on religiosity very large?

---YES---CONTINUE

NO

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score

Is the difference between each successive pair of justices on ethnic equalitarianism very large?

---YES---CONTINUE

NO

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score

Is the difference between each successive pair of justices on family planning very large?

---YES---CONTINUE

NO

The Simulation

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score

↓

Is the difference between each successive pair of justices on faith in democracy very large?

---YES---CONTINUE

NO

↓

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score

↓

Is the difference between each successive pair of justices on sex equalitarianism very large?

---YES---CONTINUE

NO

↓

Divide the difference by two. Add the quotient to the score of the justice with the smaller of the two scores and subtract it from the justice with the larger score

↓

The Simulation

Total the score for each justice



Rank order the justices on the basis of their final scores

Since it has been established that the various items do form scales, I decided to keep the scales, but to use them in their extended forms, that is, to discriminate among all five responses, rather than using three categories. In other words, this is a Likert-Scale, but the items that go into the scale were selected by scalogram analysis. As Table Q indicates, this more precise scale, produced the best correlations obtained so far. Unfortunately, the usefulness of this type of index did not extend to the subscales. For example, it was not possible to predict with any degree of accuracy the rank order of judges on the economic liberalism quasi-scale in Appendix E from a rank ordering of attitudes on economic liberalism.

Table Q. Prediction from Likert-Type Scales.

Justices	Attitude after Interaction	Decision	
		Simple per cent	Quasi- Scale
Currie	1	1	1
Broadfoot	3	2	2
Steinle	2	3	3
Martin	5	4	4
Brown	4	6	5
Fairchild	6	5	6

$RHO = \text{Attitude and percent} = .77; \text{attitude and scale} = .885$

Unfortunately, perhaps because of the crudeness of my indices, interaction as an intervening variable did not add to the direct correlation between attitude and decision.

CHAPTER VIII

CRITIQUE

Suggestions for Improvement

The model, up to the interaction phase, seemed to work almost as well as it was expected. This does illustrate that decisions can, to some extent, be predicted from attitudinal data. The direct use of an attitude inventory to measure predisposition also avoids the problems associated with measuring both attitude and decisions from behavioral responses.

It is my opinion that a study of this type conducted in the future would have much better results, as there are several ways in which this study could be improved. Looking first at the "i" points, the questionnaire was not specifically designed for judges. Since many of the decisions of a state supreme court deal with cases involving: accidents, wills, estates, insurance, negligence, labor union disputes, etc., there should be questions on the attitude inventory soliciting judicial opinions in these areas of content. Perhaps, at the expense of questions on internationalism. Also, we have a rather peculiar instance here where the attitude questionnaire was given to the judges five years after the decisions were made. This fact would take on more importance if the population under consideration were more heterogeneous because mass attitudes are amorphous and complex.²²¹ Judges, like congressmen, are members of an elite and their ideology should be well-developed.²²² Sager acknowledged this fact in his

simulation when he used liberalism as a general constraint on judicial behavior, saying a judge is "basically liberal".²²³ Although attitudes toward specific attitude objects will change, many of the basic attitude orientations were formed in the judge's early years and will tend to persist.

In the words of Felix Frankfurter,

"It is asked with sophomoric brightness, does a man cease to be himself when he becomes a Justice? Does he change his character by putting on a gown? No, he does not change his character. He brings his whole experience, his training, his outlook, his social, intellectual and moral environment with him when he takes a seat on the Supreme bench."²²⁴

More generally, Hess and Torney state:

"The political behavior of adults has childhood origins in attitudes, values, and basic orientation which are broader in scope and which extend beyond the specific acts usually included in studies of adult political involvement."²²⁵

More pertinently, attitudes do change but "...have a way of resisting change and preserving themselves once they have been well-formed".²²⁶ The reason for this was mentioned earlier, most social situations are relatively ambiguous and frequently it is possible to interpret them in a variety of ways. By selective perception, the individual interprets the situation in a manner consistent with his pre-existing attitudes. Furthermore, individuals expose themselves to viewpoints that agree with their own, thus further strengthening the attitudes already held. Therefore, the fact that the votes predate the attitude inventory is not of great concern to me, but it is a factor to be accounted for when the system is being evaluated.

Intensity analysis was used extensively in this dissertation, and its further use is recommended in future attitude studies. However, the results might be improved by asking the respondent the intensity of his feeling about an issue as a separate question. Attraction to the group has a great influence on communication within a group and therefore sociometric data showing the attitude of the judge toward his colleagues should improve the mode.

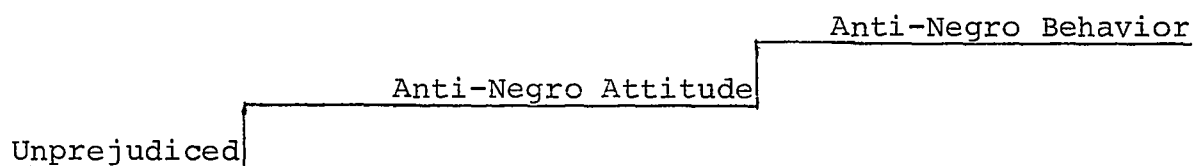
The attitude scale may also be a useful device for quantitatively measuring the cognitive component of an attitude, but may be less successful in measuring the action tendency component. Assuming that the questionnaire does indeed tap the relevant attitude domain, there are still discrepancies between the attitudes of people as stated on a questionnaire and actual behavior. This is true even though conditioning from early childhood trains us to match verbal expression with overt behavior and also thoughts with overt behavior.²²⁷ Easton says

"No overt action is involved at this level of description (set of predispositions), although the implication is that the individual will pursue a course of action consistent with his attitudes. Where the anticipated action does not flow from our perception of the state of mind, we assume that we have not penetrated deeply enough into the true feelings of the person but have merely skimmed off his surface attitudes."²²⁸

Actions are typically determined by all psychological factors and by many attitudes. Secondly, attitudes are determined by the particular situation. Objects on an attitude test may not

be the same as objects in an action test, i.e. "Negro" as an item on an attitude inventory may be quite different than "Negro" in a face-to-face confrontation. Attitude scores can only indicate a predisposition toward classes of behavior, overt responses depend on the real-life situation. Doob remarked, "overt behavior can seldom be predicted from knowledge of attitude alone."²²⁹ It has been suggested by Donald Campbell that the oft-found lack of relationship between attitudes and behavior could be understood in terms of the steps or barriers of the Guttman scale pattern.²³⁰ There are more barriers to the expression of behavior than there are to the expression of attitudes consonant with that behavior, e.g. it is easier to hold an anti-Negro attitude than to join the Ku Klux Klan.

Diagram 5. The "Step Relationship between Attitude and Behavior.



This step relationship may be a more realistic model than the linear model proposed by Schubert.²³¹ The literature on race relations shows about the same correlation between attitudes and behavior as this study. Douglas Bray found little relationship between attitude scale scores and behavior until he grouped his subjects on the basis of their attitude

scale scores, and then predicted behavior in a particular evoking situation from personality scores.²³² In two studies made on midwest college students, it was discovered that the students were more prejudiced in behavior than in attitude. This brings us to the question of the utility of using overt behavior as a validation of attitude measurement.²³³ Murphy, Murphy, and Newcomb made the following observation:

"Actions are no more inherently 'valid', in the first place, than words. The following remarks seem to us patently true: "Actions are frequently designed to distort or conceal 'true' attitude quite as fully as verbal behavior..."²³⁴

On the j-point side of the equation, perhaps a more partisan court with a greater divergence of views could be selected for study, so that the rank ordering of justices on the dependent variable would not depend on the coding ability of the researcher. Alternative methods of recovering j-points should be explored: content analysis is an example.²³⁵ At least, a more rigorous method to selecting and classifying cases is needed. As a start, perhaps some of the variables suggested by Stuart Nagel for correlational analysis could be used.²³⁶

Simulation is the appropriate technique to study interaction in the relatively "closed" atmosphere of a court. Experiments could be made using these techniques on other, more accessible groups. On the other hand, in the process of becoming a science, existing formal structures were always considered by political researchers. As the influence of

the formal political institution is determined, then other influences on policy-making are considered. In other words, the legislature as a whole and the president were studied before particular subcommittees and cabinet members were. I do feel confident, however, that when the very useful "impact" studies are completed, they will show that the courts do have an important, if not exclusive, role to play in policy-making in general.²³⁷

Abelson, Robert P. and Alex Bernstein. "A Computer Simulation of Community Referendum Controversies." Public Opinion Quarterly 27:93-122, Spring, 1963.

Abelson, Robert P. "The Use of Surveys in Simulations." Public Opinion Quarterly 26:485-486, Fall 1962.

Adamny, David W. "The Party Variable in Judges' Voting: Conceptual Notes and a Case Study." American Political Science Review, 63-57-73, March, 1969.

Anderson, Lee F., Meredith W. Watts Jr., and Allan R. Wilcox. Legislative Role-Call Analysis. (Evanston: Northwestern University Press), 1966.

Apter, David, ed. Ideology and Discontent. (New York: Free Press), 1964.

Becker, Theodore L. The Impact of Supreme Court Decisions: Empirical Studies. Oxford University Press, New, 1969.

_____. Political Behavioralism and Modern Jurisprudence. Rand McNally and Comp., Chicago, 1964.

_____. "Surveys and Judiciaries, or Who's Afraid of the Purple Curtain?" Law and Society Review, 133-143, 1966.

Berelson, Bernard and Gary A. Steiner. Human Behavior: An Inventory of Scientific Findings. Harcourt, Brace and World, Inc., New, 1964.

Bickel, Alexander. The Unpublished Opinions of Justice Brandeis. Cambridge Belknap Press of Harvard University Press, 1957.

Bowen, Donald R. The Explanation of Judicial Voting Behavior from Sociological Characteristics of Judges. (Unpublished Ph.D. dissertation, Yale University), 1965.

Bray, Douglas W. "The Prediction of Behavior from Two Attitude Scales." Journal of Abnormal and Social Psychology, 45:64-84, January, 1950.

Bunzel, John H. Anti-Politics in America. Alfred A. Knopf, New York, 1967.

Campbell, Angus, Philip E. Converse, Warren F. Miller, and Donald E. Stokes. The American Voter. John Wiley & Sons, Inc., New York, 1964.

Chapin, F. Stuart. Contemporary American Institutions: A Sociological Analysis, Harper, New York, 1935.

F

Christie, Richard. "Eysenck's Treatment of the Personality of Communist," and "Some Abuses of Psychology." Psychological Bulletin 53:411-430, 439-451, November, 1956.

Clausen, Aage R. "Measurement Identity in the Longitudinal Analysis of Legislative Voting," American Political Science Review, 61:1020-1035, December 1967.

Coleman, James S. "Analysis of Social Structures and Simulation of Social Processes with Electronic Computers." Educational and Psychological Measurement, 21:203-218, 1961.

Collins, Barry and Harold Guetzkow. A Social Psychology of Group Processes for Decision-Making. John Wiley & Sons, New York, 1964.

Comrey, Andrew, and John Newmeyer. "Measurement of Radicalism-Conservatism." Journal of Social Psychology, 67:357-369, December, 1965.

Cook, Walter Wheeler. "'Substance' and 'Procedure' in the Conflicts of Law." Yale Law Journal 42:33, 1933.

Coombs, Clyde H. A Theory of Data. John Wiley & Sons, Inc. New York, 1964.

Coplin, William O. ed. Simulations in the Study of Politics. Markhan Publishing Company, Chicago, 1968.

Conwin, Edward. Liberty against Government. Louisiana State University Press, Baton Rouge, 1948.

Cushman, Robert. Leading Constitutional Decisions. Appleton-Century-Crofts, New York, 1966.

Dahl, Robert A. Who Governs? Yale University Press, New Haven, 1961.

Danelski, David J. "Conflict and Its Resolution in the Supreme Court" Journal of Conflict Resolution, 11:71-85, March 1967

_____. A Supreme Court Justice Is Appointed. Random House, New York, 1964.

Dator, James A. "The Life History and Attitudes of Japanese High Court Judges," Western Political Quarterly, 20:408-439, June, 1967.

DeFleur Melvin L. and Frank R. Westie. "Verbal Attitudes and Overt Acts: An Experiment on the Salience of Attitudes." American Sociological Review 23:667-673, 1958.

Dollard, John. "Under What Conditions Do Opinions Predict Behavior?" Public Opinion Quarterly, 12:623-632, Winter 1948, 1949.

Doob, Leonard W. "The Behavior of Attitudes." Psychological Review, 54:135-156, 1947.

Downs, Anthony. "An Economic Theory of Political Action in a Democracy." Journal of Political Economy 65:#2, April, 1957.

Easton, David. "An Approach to the Analysis of Political Systems." World Politics, Vol. LX, April, 1957.

Edwards, Allen L. Techniques of Attitude Scale Construction. Appleton-Century-Crofts, Inc., New York, 1957.

(Edwards). "A Technique for Increasing the Reproducibility of Cumulative Attitude Scales." Journal of Applied Psychology, 40:263-265, 1956.

Epstein, Leon D. Politics in Wisconsin, University of Wisconsin Press, 1958.

Eulau, Heinz and John D. Sprague., Lawyers in Politics. Bobbs-Merrill, New York, 1964.

Eysenck, Hans J. "Primary Social Attitudes: A Comparison of Attitude Patterns in England, Germany, and Sweden." Journal of Abnormal and Social Psychology, 48:563-568, 1953.

_____. The Psychology of Politics. Routledge & Kegan Paul, London, 1954.

Fair, Daryl R. "An Experimental Application of Scalogram Analysis to State Supreme Court Decisions." Wisconsin Law Review, 449-459, 1967.

Fendrich, James M. "Perceived Reference Group Support: Racial Attitudes and Overt Behavior." American Sociological Review 32:960-970, December, 1967.

Festinger, Leon. "Informal Social Communication." Psychological Review 57:271-282, September, 1950.

Festinger, Leon. "The Treatment of Qualitative Data by Scale Analysis." Psychological Bulletin, 44:156, March, 1947.

Fiske, Harlan. Stone: Pillar of the Law. The Viking Press, New York, 1956.

Foa, Uriel G. "Scale and Intensity Analysis in Opinion Research." International Journal of Opinion and Attitude Research, 4:192-208, Summer, 1950.

_____. Courts on Trial. Atheneum, New York, 1963.

Frank, Jerome. Law and the Modern Mind, Doubleday & Company, Inc., Garden City, 1930.

_____. Marble Palace: The Supreme Court in American Life. Alfred A. Knopf, New York, 1958.

Frederiksen, Norman and Harold Gulliksen. Contributions to Mathematical Psychology. Holt, Rinehart and Winston, 1964.

Froman, Lewis A., Jr. People and Politics. Prentice Hall, Inc., Englewood Cliffs, 1962.

Goldberg, Solomon C. "Three Situational Determinants of Conformity to Social Norms." Journal of Abnormal and Social Psychology 49:325-329, July, 1954.

Goldman, Sheldon, "Conflict and Consensus in the United States Court of Appeals," Wisconsin Law Review, 461-482, 1968.

_____. Politics, Judges and the Administration of Justice. (unpublished Ph. D. dissertation: Harvard University), 1965.

_____. "Voting Behavior in the United States Court of Appeals." American Political Science Review, 60:374-383, 1966.

Goldstein, Marshall Nathan. Political Involvement among American Law Students. (unpublished Ph. D. dissertation: University of North Carolina), 1964.

Grossman, Joel B. "Dissenting Blocs on the Warren Court: A Study in Judicial Role Behavior." (mimeographed).

_____. "Social Backgrounds and Judicial Decision-Making." Harvard Law Review, 79:1551-1564, June, 1966.

_____. "Social Backgrounds and Judicial Theory: Notes for a Theory." Journal of Politics, 29:334-351, May, 1967.

Grunbaum, Werner F. "Analytical and Simulation Models for Explaining Judicial Decision-Making." (paper presented at the

Shambaugh Conference on Judicial Research, University of Iowa), October, 1967.

Grunbaum, Werner F. "A Computer Simulation of Supreme Court Voting in Civil Liberty and Economic Cases during the 1964-1965 Terms." (paper presented at sixty-fourth annual meeting of American Political Science, Washington D. C.), 1968.

Gullahorn, John T. and Jeanne E., "A Computer Model of Elem. Social Behavior." Behavioral Science 8:354-362, Oct., 1963.

Guttman, Louis. "The Cornell Technique for Scale and Intensity Analysis." Educational and Psychological Measurement, 7:249, Summer, 1947.

_____. "On Festinger's Evaluation of Scale Analysis." Psychological Bulletin, 5:457, September, 1947.

Guttman, Louis and Edward A. Suchman. "Intensity and Zero Point for Attitude Analysis." American Sociological Review, 12:57-67, February, 1947.

Haines, Charles G. "General Observations on the Effects of Personal, Political, and Economic Influences in the Decisions of Judges.: Illinois Law Review, 17:96-116, 1922.

Hanley, Charles and Milton Rokeach. "Care and Carelessness in Psychology." Psychological Bulletin, 53:183-186, March, 1956.

Hare, A. Paul. "Computer Simulation in Small Groups." Behavioral Science, 6:261-265, July, 1961.

Hess, Robert and Judith V. Torrey. The Development of Political Attitudes in Children. Aldire Publishing Company, Chicago, 1967.

Hovland, C.I., O.J. Harvey, and M. Sherif. "Assimilation and Contrast Effects in Reaction to Communication and Attitude Change." Journal of Abnormal and Social Psychology, 55:244-252, 1957.

Hovland, C. I. and H. A. Pritzker, "Extent of Opinion Change as a Function of Amount of Change Advocated." Journal of Abnormal and Social Psychology, 54:257-261, 1957.

Howard, J. Woodford, Jr. "On the Fluidity of Judicial Choice." American Political Science Review, 62:43-56, March, 1968.

Jacob, Herbert. "Judicial Insulation--Elections, Direct Participation, and Public Attention to the Courts in Wisconsin." Wisconsin Law Review, 801-819, Summer, 1966.

_____. Justice in America. Little, Brown, and Company, Boston, 1965.

Joiner, Charles W. Civil Justice and the Jury. Prentice-Hall, Inc., New Jersey, 1962.

Kaplan, Abraham. The Conduct of Inquiry. Chandler Publishing Company, San Francisco, 1964.

Koch, Sigmund, ed. Psychology: A Study of a Science. McGraw Hill, New York, 1963.

Koopmans, Tjalling C. Three Essays in the State of Economic Science. McGraw Hill, New York, 1957.

Kretch, David, Richard S. Crutchfield, and Egerton L. Ballachey. Individual in Society. McGraw-Hill, New York, 1962.

Ladinsky, Jack and Alan Silver. "Popular Democracy and Judicial Independence: Electorate and Elite Reactions to Two Wisconsin Supreme Court Elections." Wisconsin Law Review, 128-169, Winter, 1967.

Lazarsfeld, Paul F., ed. Mathematical Thinking in Social Sciences. The Free Press, Glencoe, 1954.

Lazarsfeld, Paul F., Bernard Berelson, Hazel Gaudet. The People's Choice. Duell, Sloan, Pearce, New York, 1944.

Lerner, Daniel and Harold D. Lasswell. The Policy Sciences. Stanford University Press, Stanford, 1951.

Levi, Edward H. "An Introduction to Legal Reasoning." University of Chicago Law Review, 15:505-506, 1948.

Lindzey, Gardner, (ed.). Handbook of Social Psychology. Addison-Wesley, Cambridge, 1954.

Luce, R. Duncan and Howard Raiffa. Games and Decisions. John Wiley & Sons, 1957.

MacRae, Duncan, Jr., Dimensions of Congressional Voting. University of California Press, Berkeley, 1958.

_____. "An Exponential Model for Assessing Fourfold Tables." Sociometry, 19:84-94, June, 1956.

_____. "A Method for Identifying Issues and Factions from Legislative Votes." American Political Science Review 59:909-926, 1965.

Mason, Alpheus T. Brandeis: A Free Man's Life. Viking Press, New York, 1946.

_____. William Howard Taft: Chief Justice. Simon and Schuster, New York, 1964.

Mayer, Martin. The Lawyers. Harper & Row, New York, 1966

McPhee, William N. "Notes on a Campaign Simulator." Public Opinion Quarterly, 25:184-193, July, 1961.

McPhee, William N. and William A. Glaser, eds. Public Opinion and Congressional Elections, The Free Press, New York, 1962.

Mendelson, Wallace. "The Neo-Behavioral Approach to the Judicial Process: A Critique." American Political Science Review, 57:593-603, September, 1963.

Menzel, Herbert. "A New Coefficient for Scalogram Analysis." Public Opinion Quarterly, 17:268-280, 1953.

Morgan, Clifford T. Introduction to Psychology 2d, ed. McGraw-Hill, New York, 1961.

Mott, Robert L., Spencer D. Alright, and Helen R. Semmerling. "Judicial Personnel." Annals of the American Academy of Political and Social Science, 167, 1933.

Murphy, G., Lois Murphy, and T. M. Newcomb. Experimental Social Psychology. Harper, New York, 1937.

Murphy, Walter F. "Courts as Small Groups." Harvard Law Review, 79:1565-1572, June, 1966.

_____. and C. Herman Pritchett, eds. Courts, Judges and Politics. Random House, New York, 1961.

_____. Elements of Judicial Strategy. University of Chicago Press, Chicago, 1964.

Nagel, Stuart S. "Ethnic Affiliations and Judicial Propensities." Journal of Politics, 24:92-110, 1962.

_____. "Judicial Attitudes and Those of Legislators and Administrators." (prepared for delivery at the 1962 annual meeting of the American Political Science Association, Washington, D. C.), September 5-8, 1962.

Nagel, Stuart S. "Judicial Backgrounds and Criminal Cases." Journal of Criminal Law, Criminology, and Police Science, 53:333-339, 1962.

_____. "Judicial Characteristics and Judicial Decision Making." (unpublished Ph. D. dissertation: Northwestern University), 1961.

_____. The Legal Process from a Behavioral Perspective. Dorsey Press, Homewood, Illinois, 1969.

_____. "Testing Relations between Judicial Characteristics and Judicial Decision-Making." Western Political Quarterly, 15:425-437, 1962.

Newcomb, Theodore M., Ralph H. Turner, Philip E. Converse. Social Psychology: The Study of Human Interaction. Holt, Rinehart, and Winston, New York, 1965.

Niemi, Richard G. "Majority Decision-Making with Partial Unidimensionality." American Political Science Review, 63:488-497, June, 1969.

Orcutt, Guy H., Martin Greenberger, John Korbel, and Alice M. Rivlin. Microanalysis of Socioeconomic Systems: A Simulation Study, Harpers, New York, 1961.

Peck, Sidney Raymond. "A Behavioral Approach to the Judicial Process: Scalogram Analysis." Osgoode Hall Law Journal, 5:1-28, April, 1967.

Pool, Ithiel de Sola, Robert Abelson, and Samuel Popkin. Candidates, Issues, and Strategies: A Computer Simulation of the 1960 and 1964 Presidential Elections. Massachusetts Institute of Technology Press, Cambridge, 1964.

Pritchett, C. Herman. Civil Liberties and the Vinson Court. University of Chicago Press, Chicago, 1954.

_____. Public Law and Judicial Behavior 30:480-509, May, 1968.

_____. The Roosevelt Court: A Study in Judicial Politics and Values, 1937-1947. Macmillan, New York, 1948.

Ranney, Austin and Willmoore Kendall. "The American Party Systems." American Political Science Review 48:477-485, June, 1954.

Redford, Emmette S., David Truman, Alan F. Westin, and Robert C. Wood. Politics and Government in the United States. Harcourt, Brace, and World, inc., New York, 1965.

Rice, Stuart. Quantitative Methods in Politics. Knopf, New York, 1928.

Riker, William H. The Theory of Political Coalition. Yale University Press, New Haven, 1962.

Riley, Matilda W., John W. Riley Jr. and Jackson Toby, eds. Sociological Studies in Scale Analysis. Rutgers University Press, New Brunswick, 1954.

Rokeach, Milton and Charles Hanley. "Eysenck's Tender-Mindedness Dimension: A Critique." Psychological Bulletin, 53:169-176, March, 1956.

Rosenberg, Milton J., Carl I. Hovland, William J. McGuire, Robert P. Abelson, and Jack W. Brehm. Attitude Organization and Change. Yale University Press, New Haven, 1960.

Rosenblum, Victor G. Law as a Political Instrument. Random House, New York, 1955.

Rosenthal, Douglas, "Book Review: The Judicial Mind." The Yale Law Journal, 77:1432-1446, June, 1968.

Rummel, Rudolph J. "Understanding Factor Analysis." The Journal of Conflict Resolution, 11:44-480, December, 1967.

Sager, Alan M. "From Brief to Decision: A Computer Simulation of the 1963 Supreme Court Term." (Paper presented at the annual meeting of the American Political Science Association: New York), September 1-6, 1969.

Schlesinger, Joseph A. "A Two-Dimensional Scheme for Classifying the States according to Degree of Inter-Party Competition." American Political Science Review, 49:1120-1128, December, 1955.

Schmidhauser, John R., ed. Constitutional Law in the Political Process. Rand McNally & Company, Chicago, 1963.

_____. "Judicial Behavior and the Sectional Crisis of 1837-1860." Journal of Politics, 23:616-640, November 1961.

_____. "The Justices of the Supreme Court: A Collective Portrait." Midwestern Journal of Political Science 3:1-57, 1959.

_____. "Stare Decisis, Dissent and the Background of the Justices of the Supreme Court of the United States." University of Toronto Law Journal, 14:194-212, May, 1962.

_____. The Supreme Court: Its Politics, Personalities, and Procedures, Holt, Rinehart, and Winston, New York, 1960.

Schubert, Glendon A. and Daniel J. Danelski. Comparative Judicial Behavior, Oxford University Press, New York, 1969.

Schubert, Glendon A. "Ideological Distance: A Smallest Space Analysis Across Three Cultures." Comparative Political Studies, 1:319-347, October, 1968.

_____. "Ideologies and Attitudes, Academic and Judicial." Journal of Politics, 29:3-40, February 1967.

_____. "Judicial Attitudes and Voting Behavior: The 1961 Term of the United States Supreme Court." Jurimetrics, 1:100-142, Winter, 1963.

_____. Judicial Behavior: A Reader in Theory and Research. Rand McNally, Chicago, 1964.

Schubert, Glendon A. Judicial Decision-Making. The Free Press, New York, 1963.

_____. The Judicial Mind: Attitudes and Ideologies of Supreme Court Justices, 1946-1963, Northwestern University Press, Evanston, 1965.

_____. Judicial Policy Making. Scott Foresman, and Company, 1965.

Schubert, G. "A Psychometric Model of the Supreme Court." American Behavioral Scientist, 5:14-18, November, 1961.

"Psychometric Research in Judicial Behavior." (See Footnote #202) Modern Uses of Logic in the Law, 2:9-18, March, 1962.

_____. Quantitative Analysis of Judicial Behavior. The Free Press, Glencoe, 1959.

_____. "The Study of Judicial Decision Making as an Aspect of Political Behavior." American Political Science Review, 52:1010-1011, December, 1958.

"A Solution to the Indeterminate Factorial Resolution of Thurstone & Degan's Study of the Supreme Court." Behavioral Science, 7:448-458, 1962.

_____. "The 1960 Term of the Supreme Court: A Psychological Analysis." American Political Science Review, 56:908-102, 1962.

Schuessler, Karl R. "A Note on the Statistical Significance of the Scalogram." Sociometry, 24:313-318, September, 1961.

Shapiro, Martin. Law and Politics in the Supreme Court, The Free Press, New York, 1964.

Shapiro, Michael J. The House and the Federal Role: A Computer Simulation of Role Call Voting, (unpublished Ph.D. dissertation; Northwestern University), 1966.

_____. "The House and the Federal Role: A Computer Simulation of Role Call Voting." American Political Science Review, 62:494-517, June 1968.

Shapley, L. S. and Martin Shubik. "A Method for Evaluating the Distribution of Power in a Committee System." American Political Science Review, 48:787-792, September, 1954.

Shubik, Martin. "Simulation of the Industry and the Firm." American Economic Review, 50:908-919, December, 1960.

Simon, Herbert A. and Harold Guetzkow. "A Model of Short and Long-Run Mechanisms Involved in Pressures toward Uniformity in Groups." Psychological Review, 62:56-68, 1955.

Slater, Philip E. "Contrasting Correlates of Group Size." Sociometry, 21:129-133, 1958.

Snyder, Eloise. "The Supreme Court as a Small Group." Special Forces, 36:232-238, 1958.

_____. "Uncertainty and the Supreme Court's Decisions." American Journal of Sociology, 65:241-245, 1959.

Spaeth, Harold. "An Analysis of Judicial Attitudes in the Labour Relations' Decisions of the Warren Court." Journal of Politics 22:290-311, 1963.

Sprague, John. Voting Patterns and the United States Supreme Court, Bobbs-Merrill Company, New York, 1967.

Stouffer, Samuel A., Louis Guttman, Edward A. Suchman, Paul F. Lazarsfeld, Shirley A. Star, John A. Clausen, eds. Measurement and Prediction, John Wiley & Sons, Inc., New York, 1950.

Stouffer, Samuel A., Edger F. Borgatta, David G. Hays, and Andrew F. Henry. "A Technique for Improving Cumulative Scales." Public Opinion Quarterly, 16:273-291, 1952.

Swisher, Carl B. Robert Taney, Macmillan Company, New York, 1936.

Tannenhaus, Joseph. "The Cumulative Scaling of Judicial Decisions." Harvard Law Review, 79:1583-1594, June 1966.

_____. "Supreme Court Attitudes Toward Federal Administrative Agencies." Journal of Politics, 22:502-516-517, 1963.

Torgerson, Warren S. Theory and Methods of Scaling. John Wiley & Sons, New York, 1958.

Trimble, Bruce R. Chief Justice Waite. Princeton University Press, New Jersey, 1938.

Truman, David. The Congressional Party. John Wiley & Sons, Inc., New York, 1959.

Ulmer, S. Sidney. "The Analysis of Behavior Patterns on United States Supreme Court." Journal of Politics, 22: 647, 1960.

_____. "The Political Party Variable in the Michigan Supreme Court." Journal of Public Law, 11:352-362, 1962.

_____. "Quantitative Analysis of Judicial Process: Some Practical and Theoretical Applications." Law and Contemporary Problems 28:169, 1963.

_____. "Scaling Judicial Cases." American Behavioral Scientist, 4:31-34, 191, 1960.

_____. "Supreme Court Behavior and Civil Rights." Western Political Quarterly, 13:288-311, 1960.

_____. "Toward a Theory of Sub-Group Formation in the United States Supreme Court." Journal of Politics, 27:133-153, 1965.

Vines, Kenneth N. "Federal District Judges and Race Relations" Cases in the South. Journal of Politics, 26:350-351, 1964.

_____, and Herbert Jacob. Tulane Studies in Political Science, Studies in Judicial Politics, Tulane University Press, New Orleans, 1963.

Westin, Alan. The Anatomy of a Constitutional Law Case. Macmillan Company, New York, 1958.

Woll, Peter. American Government: Readings and Cases, Little, Brown, and Company, New York, 1958.

Wood, David M. "Majority vs. Opposition in the French National Assembly, 1956-1965: A Guttman Scale Analysis." American Political Science Review, 62, 1969.

Young, Roland, ed. Approaches to the Study of Politics, Northwestern University Press, Evanston, 1958.

APPENDIX A
THE QUESTIONNAIRE

Below are given 24 statements which represent widely-held opinions on various social questions selected from speeches, books, newspapers, and other sources. They were chosen in such a way that most people are likely to agree with some and disagree with others. After each statement please record your completely confidential personal opinion regarding the statement, using the following system of marking:

- ++ if you strongly agree with the statement.
- + if you agree on the whole but not strongly.
- 0 if you cannot decide for or against or if you think the question is worded in such a way that you cannot give an answer.
- if you disagree on the whole but not strongly
- if you strongly disagree.

OPINION STATEMENTS

Your Frank
Opinion

- | | |
|--|-------|
| 1. Colored people are innately inferior to white people. | _____ |
| 2. Present laws favor the rich as against the poor. | _____ |
| 3. War is inherent in human nature. | _____ |

APPENDIX A (Continued)

126.

4. Our treatment of criminals is too harsh; we should try to cure, not to punish them. _____
5. In the interests of peace, we must give up part of our national sovereignty. _____
6. Sunday-observance is old-fashioned and should cease to govern our behavior. _____
7. It is right that men should be permitted greater sexual freedom than women by society. _____
8. Unrestricted freedom of discussion on every topic is desirable in the press, in literature, and on the stage. _____
9. More collectivism, like TVA, should be introduced into our society.
10. Conscientious objectors are traitors to their country and should be treated accordingly. _____
11. Only by going back to religion can civilization hope to survive. _____
12. Marriages between white and colored people should be greatly discouraged. _____
13. There should be far more controversial and political discussion over the radio and television. _____
14. Divorce laws should be altered to make divorce easier. _____
15. Nationalization in any industry is likely to lead to inefficiency, bureaucracy and stagnation. _____

16. It is right and proper that non-sectarian religious education in schools be compulsory. _____
17. Men and women have the right to find out whether they are sexually suited before marriage. _____
18. The principle, "Spare the rod and spoil the child" has much truth in it and should govern our methods of bringing up children. _____
19. Women are not the equals of men in intelligence and organizing ability. _____
20. The Jews have too much power and influence over this country. _____
21. Differences in pay between men and women doing the same work should be abolished. _____
22. Birth control, except when medically indicated, should be made illegal. _____
23. The death penalty is barbaric and should be abolished. _____
24. Only people with a definite minimum of intelligence and education should be allowed to vote. _____

Your father's main occupation (a possible relevant background item not published in the directories) _____

Correlation number (for IBM computer purposes) _____

APPENDIX B*

THE WISCONSIN SUPREME COURT

January 4, 1954 to August 28, 1956

GROVER L. BROADFOOT

Term: Elected, November 15, 1948 to December 31, 1955. Born in Independence, Wisconsin on December 27, 1892. L.L.B. from the University of Wisconsin in 1917, admitted to the Wisconsin bar in 1918. Law practice in Mondovi, Wisconsin 1919-1948; District Attorney, Buffalo County, 1923-35; Mayor of Mondovi, 1943-1948; member of the Wisconsin legislature, 1945-1948; Attorney General of Wisconsin June 1948; appointed to the Supreme Court, November 1948. Republican. Congregationalist. Group affiliations include, American Legion, Knights of Pythias, Loyal Order of Moose.

TIMOTHY BROWN

Term: Elected, January 1, 1954 to December 31, 1963. Born in Madison, Wisconsin on February 24, 1889. A.B. from the University of Wisconsin, L.L.B., Harvard University. Admitted to the Wisconsin bar in 1914. Executive counsel to Governors Goodland and Rennebohm, 1945. 1947-1949; Commissioner of Public Service 1949. Non-partisan. Protestant. Affiliations include American Legion, Veterans of Foreign Wars, Loyal Order of the Moose.

GEORGE ROBERT CURRIE

Term: Appointed to fill a vacancy September 1, 1951, the term expires January 1, 1958. Born in Princeton, Wisconsin on January 16, 1900. Wisconsin State Teacher's College 1917-1919; L.L.B., University of Wisconsin 1925. Admitted to the Wisconsin bar 1925; private practice in Sheboygan, Wisconsin from 1925- to 1951. President of Sheboygan Public Library Board, 1935-1951, Director of the Wisconsin Welfare Council since 1952. Affiliations include, American Judicature Society, American Legion, American Dahlia Society, Mason, Kiwanis, Order of Coif. Non-partisan. Congregationalist.

THOMAS E. FAIRCHILD

Term: Elected, January 1, 1947 to December 31, 1956. Chief Justice. Born in Milwaukee, Wisconsin on December 25, 1912. Attended Princeton University 1931-1933, A.B. from Cornell University in 1934, L.L.B. University of Wisconsin 1938.

APPENDIX B* - cont.

Admitted to the Wisconsin bar in 1938, practiced in Portage, Wisconsin, 1938-1941, in Milwaukee, 1945-1948, Attorney General of Wisconsin 1948-1951; United States Attorney, Western District, Wisconsin, 1951-1952; candidate for the Wisconsin senate. Democrat. Evangelical and Reformed Church.

EDWARD JOHN GEHL

Term: Elected, January 2, 1950 to December 31, 1959. Born in Hartford, Wisconsin on January 26, 1890. L.L.B. from the University of Wisconsin in 1913. Admitted to the Wisconsin bar in 1913; practiced in West Bend from 1913 to 1917, in Hartford from 1919 to 1940; United States Attorney, Milwaukee 1932 to 1933; judge 13 Judicial Circuit of Wisconsin, West Bend, 1940-1950. Purple Heart won as Captain, United States Army in World War I. Republican. Roman Catholic. Affiliations include the American Legion, Veterans of Foreign Wars.

JOHN EDWARD MARTIN

Term: Elected, January 1, 1952 to December 31, 1961. Born in Green Bay, Wisconsin on November 15, 1891. Attended both the University of Wisconsin and Notre Dame. Admitted to the Wisconsin bar in 1919. Private practice from 1919 to 1928, and in Milwaukee from 1929 to 1932, Assistant District Attorney, Milwaukee County, 1933, Counsel for the Wisconsin State Banking Commission, 1933 to 1935; Attorney General of Wisconsin from 1938 to 1940, justice of the Supreme Court, 1949. Republican. Roman Catholic.

ROLAND JOSEPH STEINLE

Term: Elected, January 1, 1955 to December 31, 1964. Admitted to the Wisconsin bar in 1920. Private practice, Milwaukee 1920-1940, Instructor in jurisprudence, Marquette University, 1928-1954, Special Assistant District Attorney, Milwaukee County, 1923-1924, Forest County, 1925-1926, Waukesha County, 1937, Dodge County, 1939. Court commissioner, Circuit Court, Second Judicial District, Milwaukee County, 1937-1940; Judge; Circuit Court, Second Judicial District, Branch 3, 1940-1954; Chairman, Board of Circuit Judges of Wisconsin, 1948, Associate Justice of the Supreme Court, January 4, 1954. Republican. Roman Catholic. Affiliations include American Legion, Knights of Columbus, Fraternal Order of Eagles, Elks.

APPENDIX B* - cont.

*The information in this Appendix was gathered primarily from two sources, Volume 28 of Who's Who in America (Chicago: Marquis Publications, 1955) and Charles Liebman (ed.), Directory of American Judges (Chicago: American Directories, 1955).

**There is a major discrepancy between the two sources with regard to the biography of Chief Justice Fairchild. Who's Who has clearly recorded the most accurate information.

APPENDIX C

CONTENT SCALES, INTENSITY SCALES, CONTENT X INTENSITY TABLES

SCALE I

Economic Liberalism Content Scale

Scale Type	2	Items 15R**	9	Frequency	Errors per Type	Total Errors
3	x	x	x	5	0	0
3	x	-	x*	3	1	3
2	-	x	x	65	0	0
2	-	x	-*	8	1	8
1	-	-	x	29	0	0
0	-	-	-	<u>3</u>	0	<u>0</u>
				113		11

* Indicates non-scale pattern of response.

$$C.R. = 1 - \frac{11}{339} = .968 \quad C.S. = 1 - \frac{11}{54} = .796 \quad M.M.R. = .84$$

Economic Liberalism Intensity Scale

Scale Type	15	Items 9	2	Frequency	Errors per Type	Total Errors
3	x	x	x	16	0	0
3	x	-	x	11	1	11
3	x	x	-	1	1	1
2	-	x	x	16	0	0
2	-	x	-	3	1	3
1	-	-	x	61	0	0
0	-	-	-	<u>5</u>	0	<u>0</u>
				113		15

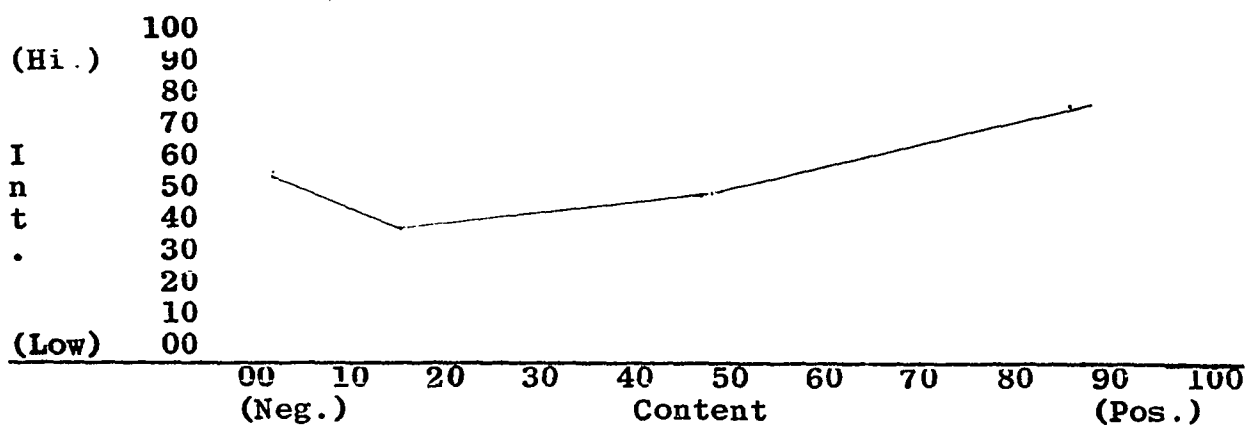
$$C.R. = 1 - \frac{15}{339} = .956 \quad C.S. = 1 - \frac{15}{55} = .727 \quad M.M.R. = .783$$

**R stands for Reflect. All items not phrased in a liberal direction were "reflected," i.e., item responses were reversed so that strong disagreement to a conservatively-worded item and strong agreement to a liberally-worded item were both coded as "x".

Table I

Economic Liberalism

Intensity Rank	Content				Total Frequency	Cumulative Percent
	(Neg.) 0	1	2	(Pos.) 3		
3 (high)	1	3	19	5	28	99.9
2		4	14	1	19	75.2
1	2	19	38	2	61	58.2
0 (low)		3	2		5	4.4
Total Frequency	3	29	73	8		
Cumulative Percent	2.6	28.2	92.8	99.9		
Midpoint of Content Percentile	1.3	16.7	60.5	96.3		
Midpoint of Intensity Percentile	44.6	36.8	53	80.1		



SCALE II

Internationalism Scale

Scale Type	5	Items 3R	10R	Frequency	Errors per Type	Total Errors
3	x	x	x	32	0	0
3	x	-	x*	11	1	11
3	x	x	-*	2	1	2
2	-	x	x	36	0	0
2	-	x	-*	5	1	5
1	-	-	x	23	0	0
0	-	-	-	3	0	0
0	x	-	-*	1	1	1
				<u>113</u>		<u>19</u>

* Indicates non-scale pattern of response.

$$C.R. = 1 - \frac{19}{339} = .944 \quad C.S. = 1 - \frac{19}{95} = .80 \quad M.M.R. = .72$$

Internationalism Intensity Scale

Scale Type	3	Items 10	5	Frequency	Errors per Type	Total Errors
6	x	x	x	9	0	0
6	x	#	x*	3	1	3
6	x	x	#*	4	1	4
6	x	-	x*	2	1	2
6	x	x	-*	1	1	1
5	#	x	x	8	0	0
5	#	x	#*	12	1	12
5	x	-	x*	1	1	1
5	#	x	-*	2	1	2
4	#	#	x	13	0	0
3	#	#	#	43	0	0
3	#	#	-*	4	1	4
3	x	#	-*	1	1	1
2	-	#	#	4	0	0
2	x	#	#*	1	1	1
1	x	-	#*	1	1	1
1	-	-	x*	1	1	1
0	-	-	-	1	0	0
0	x	-	-	1	1	1
				<u>113</u>		<u>35</u>

$$C.R. = 1 - \frac{35}{339} = .897 \quad C.S. = 1 - \frac{35}{120} = .709 \quad M.M.R. = .646$$

Table II
Internationalism

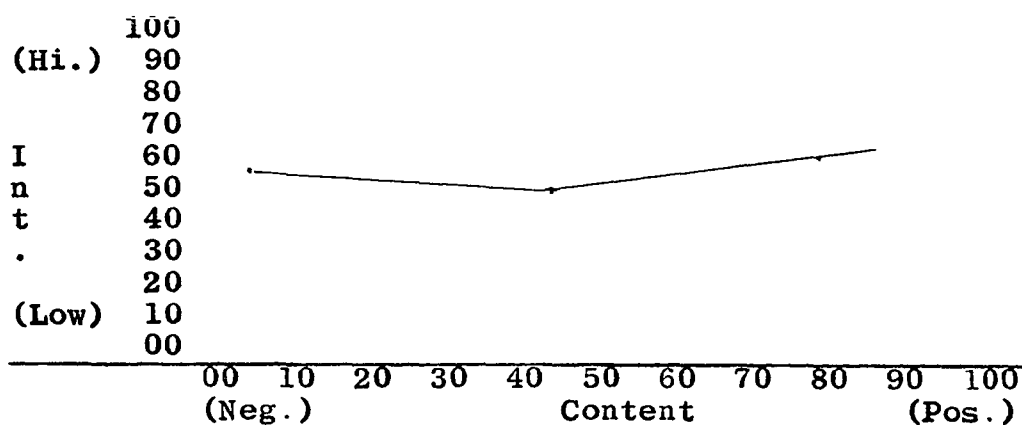
Intensity Rank	Content				Total Frequency	Cumulative Percent
	(Neg.) 0	1	2	(Pos.) 3		
6 (high)	1	3	4	11	19	99.9
5		6	7	10	23	83.1
4	2	4	6	1	13	62.8
3	1	10	18	20	49	51.3
2			3	2	5	8.0
1			1	1	2	3.6
0			2		2	1.8

Total Frequency	4	23	41	45
--------------------	---	----	----	----

Cumulative Percent	3.5	23.8	60.1	99.9
-----------------------	-----	------	------	------

Midpoint of Content Percentile	1.75	13.65	42	80.0
--------------------------------------	------	-------	----	------

Midpoint of Intensity Percentile	57	55.9	42.6	48.0
--	----	------	------	------



SCALE III

Criminal Rehabilitationism Scale

Scale Type	4	Items 18R	23	Frequency	Errors per Type	Total Errors
3	x	x	x	6	0	0
3	x	-	x*	7	1	7
3	x	x	-*	4	1	4
2	-	x	x	5	0	0
2	-	x	-*	14	1	14
1	-	-	x	20	0	0
0	-	-	-	53	0	0
0	x	-	-*	5	1	4
				<u>113</u>		<u>29</u>

*Indicates non-scale pattern of response.

$$C.R. = 1 - \frac{29}{339} = .915 \quad C.S. = 1 - \frac{29}{88} = .671 \quad M.M.R. = .74$$

Criminal Rehabilitationism Intensity Scale

Scale Type	18	Items 4	23	Frequency	Errors per Type	Total Errors
3	x	x	x	14	0	0
3	x	-	x*	6	1	6
3	x	x	-*	3	1	3
2	-	x	x	8	0	0
2	-	x	-*	4	1	4
1	-	-	x	8	0	0
0	-	-	-	65	0	0
0	x	-	-*	5	1	5
				<u>113</u>		<u>18</u>

$$C.R. = 1 - \frac{18}{339} = .947 \quad C.S. = 1 - \frac{18}{93} = .806 \quad M. M. R. = .725$$

Table III

Criminal Rehabilitationism

Intensity Rank	Content				Total Frequency	Cumulative Percent
	(Neg.) 0	1	2	(Pos.) 3		
3(high)	13	2	1	7	23	99.9
2	7	3	2		12	79.6
1	2	1	2	3	8	69.0
0	35	14	14	7	70	61.9
Total Frequency	57	20	19	17	113	
Cumulative Percent	50.4	68.1	84.9	99.9		
Midpoint of Content Percentile	25.2	59.2	76.5	92.4		
Midpoint of Intensity Percentile	49.5	44.0	42.0	65.4		

Content (X)	Intensity Rank (Y)
25.2	99.9
59.2	79.6
76.5	69.0
92.4	61.9

SCALE IV

Religiosity Scale

Scale Type	6	Items		Frequency	Errors per Type	Total Errors
		11R	16R			
3	x	x	x	5	0	0
3	x	x	-*	1	1	1
3	x	-	x*	5	1	5
2	-	x	x	26	0	0
2	-	x	-*	6	1	6
1	-	-	x	42	0	0
0	-	-	-	26	0	0
0	x	-	-*	2	1	2
				<u>113</u>		<u>14</u>

* Indicates non-scale pattern of response.

$$\text{C.R.} = 1 - \frac{14}{339} = .959 \quad \text{C.S.} = 1 - \frac{14}{86} = .838 \quad \text{M.M.R.} = .75$$

Religiosity Intensity Scale

Scale Type	16	Items		Frequency	Errors for Type	Total Errors
		11	6			
6	x	x	x	11	0	0
6	x	3	x*	7	1	7
6	x	x	#*	4	1	4
5	#	x	x	9	0	0
5	#	x	#*	10	1	10
5	-	x	x*	3	1	3
4	#	#	x	7	0	0
3	#	#	#	36	0	0
3	x	#	#*	3	1	3
3	#	-	#*	4	1	4
3	#	#	-*	5	1	5
2	-	#	#	3	0	0
2	-	#	x*	2	1	2
1	-	-	#	1	0	0
0	-	-	-	2	0	0
0	-	x	-*	1	1	1
0	x	-	-*	3	1	3
0	#	-	-*	2	1	2
				<u>113</u>		<u>44</u>

$$\text{C.R.} = 1 - \frac{44}{339} = .871 \quad \text{C.S.} = 1 - \frac{44}{142} = .691 \quad \text{M.M.R.} = .58$$

SCALE V

Ethnic Equalitarianism Scale

Scale Type	Items			Frequency	Errors for Type	Total Errors
	12R	1R	20R			
6	x	x	x	8	0	0
6	x	#	x*	1	1	1
6	x	-	x*	1	1	1
5	#	x	x	2	0	0
4	-	x	x	41	0	0
4	-	x	#*	3	1	3
4	-	x	-*	2	1	2
3	-	#	x	8	0	0
3	#	#	#*	1	2	2
3	-	#	#*	3	1	3
3	-	#	-*	1	1	1
2	-	-	x	26	0	0
1	-	-	#	8	0	0
0	-	-	-	8	0	0
				113		13

* Indicates non-scale pattern of response.

$$C.R. = 1 - \frac{13}{339} = .962 \quad C.S. = 1 - \frac{13}{95} = .863 \quad M.M.R. = .72$$

Legend

- x = Liberal Response
 # = Neutral or Indifferent Response
 - = Conservative Response

SCALE IV (Cont'd)

Ethnic Equalitarianism Intensity Scale

Scale Type	1	Items 20	12	Frequency	Errors for type	Total Errors
6	x	x	x	4	0	0
6	x	x	#*	3	1	3
6	x	#	x*	6	1	6
6	x	x	-*	1	1	1
6	x	-	x*	4	1	4
5	#	x	x	9	0	0
5	#	x	#*	4	1	4
5	-	x	x*	2	1	2
4	#	#	x	19	0	0
4	#	-	x*	4	1	4
3	#	#	#	36	0	0
3	x	#	#*	5	1	5
3	#	#	-*	1	1	1
3	#	-	#*	3	1	3
2	-	#	#	2	0	0
2	-	x	#*	3	1	3
2	-	#	x*	3	1	3
1	-	-	#	2	0	0
1	-	-	x*	1	1	1
0	-	-	-	1	1	1
				<u>113</u>		<u>40</u>

$$\text{C.R.} = 1 - \frac{40}{339} = .882 \quad \text{C.S.} = 1 - \frac{40}{133} = .700 \quad \text{M.M.R.} = .51$$

Table V
Ethnic Equalitarianism

Intensity Rank	(Neg.)		Content				(Pos.)		Total Frequency	Cumulative Percent
	0	1	2	3	4	5	6			
6(high)	2	3	2		7	1	3	18	100.0	
5	2		5	1	6		1	15	84.0	
4	3	3	8		8		1	23	70.7	
3	1	2	11		28	1	5	45	50.3	
2				8				8	10.5	
1				3				3	3.4	
0				1				1	.8	

Total Frequency	8	8	26	13	46	2	10	113
Cumulative Percent	7	14	37	48	89	91	100	

Midpoint of Content Percentile	3	10	25	42	69	90	94
Midpoint of Intensity Percentile	70	60	55	5	47	50	50

(Hi.)	100										
	90										
	80										
	70										
I	60										
n	50										
t	40										
.	30										
	20										
	10										
(Low)	00										
	00	10	20	30	40	50	60	70	80	90	100
	(Neg.)				Content					(Pos.)	

SCALE VI

Family Planning Scale

Scale Type	17	Items 14	22R	Frequency	Errors Per type	Total errors
3	x	x	x	4	0	0
3	x	-	x*	10	1	10
2	-	x	x	12	0	0
1	-	-	x	74	0	0
0	x	-	-*	1	1	1
0	-	-	-	12	0	0
				<u>113</u>		<u>11</u>

*Indicates non-scale pattern of response.

$$C.R. = 1 - \frac{11}{339} = .967 \quad C.S. = 1 - \frac{11}{44} = .75 \quad M.M.R. = .867$$

Family Planning Intensity Scale

Scale Type	14	Items 22	17	Frequency	Errors per type	Total errors
3	x	x	x	15	0	0
3	x	-	x*	12	1	12
3	x	x	-*	1	1	1
2	-	x	x	26	0	0
2	-	x	-*	1	1	1
1	-	-	x	50	0	0
0	-	-	-	4	0	0
0	x	-	-*	4	1	2
				<u>113</u>		<u>16</u>

$$C.R. = 1 - \frac{16}{339} = .953 \quad C.S. = 1 - \frac{16}{85} = .812 \quad M.M.R. = .748$$

Table VI

Family Planning

Intensity Rank	Content				Total Frequency	Cumulative Percent
	(Neg.) 0	1	2	(Pos.) 3		
3(high)	5	17	2	4	28	99.9
2	1	13	9	4	27	75.1
1	7	37		6	50	51.2
0		7	1		8	7.0
Total Frequency	13	74	12	14	113	
Cumulative Percent	11.5	76.9	87.5	99.9		
Midpoint of Content Percentile	5.7	44.2	82.2	93.7		
Midpoint of Intensity Percentile	48.1	42.8	64.3	57.2		

(Hi.) 100
90
80
70
60
50
40
30
20
10
00
(Low)

00 10 20 30 40 50 60 70 80 90 100
(Neg.) Content (Pos.)

SCALE VII

Faith in Democracy Scale

Scale Type	Items			Frequency	Errors per type	Total Errors
	14	8	13			
3	x	x	x	7	0	0
3	x	x	-*	7	1	7
3	x	-	x*	2	1	2
2	-	x	x	22	0	0
2	-	x	-*	18	1	18
1	-	-	x	39	0	0
0	-	-	-	18	0	0
				<u>113</u>		<u>27</u>

* Indicates non-scale pattern of response.

$$C.R. = \frac{27}{339} = .92 \quad C.S. = 1 - \frac{27}{113} = .761 \quad M.M.R. = .67$$

Faith in Democracy Intensity Scale

Scale Type	Items			Frequency	Errors per type	Total Errors
	13	8	14			
3	x	x	x	16	0	0
3	x	x	-*	5	1	5
3	x	-	x*	1	1	1
2	-	x	x	78	0	0
2	-	x	-*	3	1	3
1	-	-	x	7	0	0
0	-	-	-	3	0	0
				<u>113</u>		<u>9</u>

$$C.R. = 1 - \frac{9}{339} = .974 \quad C.S. = 1 - \frac{9}{44} = .796 \quad M.M.R. = .867$$

Table VII

Faith in Democracy

Intensity Rank	Content				Total Frequency	Cumulative Percent
	(Neg.) 0	1	(Pos.) 2	3		
3 (high	4	2	8	8	22	99.9
2	12	20	32	8	81	80.4
1	1	6			7	8.8
0	1	2			3	2.6
Total Frequency	18	39	40	16	113	
Cumulative Percent	16.0	50.5	85.9	100.0		
Midpoint of Content Percentile	8	33.3	68.2	92.9		
Midpoint of Intensity Percentile	50.3	37.2	53.6	80.1		

(Hi.)	100	
	90	
	80	
	70	
I	60	
n	50	
t	40	
.	30	
	20	
	10	
(Low)	00	

00	10	20	30	40	50	60	70	80	90	100
(Neg.)									(Pos.)	

SCALE VIII

Sex Equalitarianism Scale

Scale Type	21	Items 19R	7R	Frequency	Errors per Type	Total Errors
3	x	x	x	61	0	0
3	x	x	-*	5	1	5
3	x	-	x*	10	1	10
2	-	x	x	22	0	0
2	-	x	-*	5	1	5
1	-	-	x	6	0	0
0	-	-	-	1	0	0
0	x	-	-*	3	1	3
				<u>113</u>		<u>23</u>

*Indicates non-scale pattern of response.

$$\text{C.R.} = 1 - \frac{23}{339} = .933 \quad \text{C.S.} = 1 - \frac{23}{68} = .662 \quad \text{M.M.R.} = .80$$

Sex Equalitarianism Intensity Scale

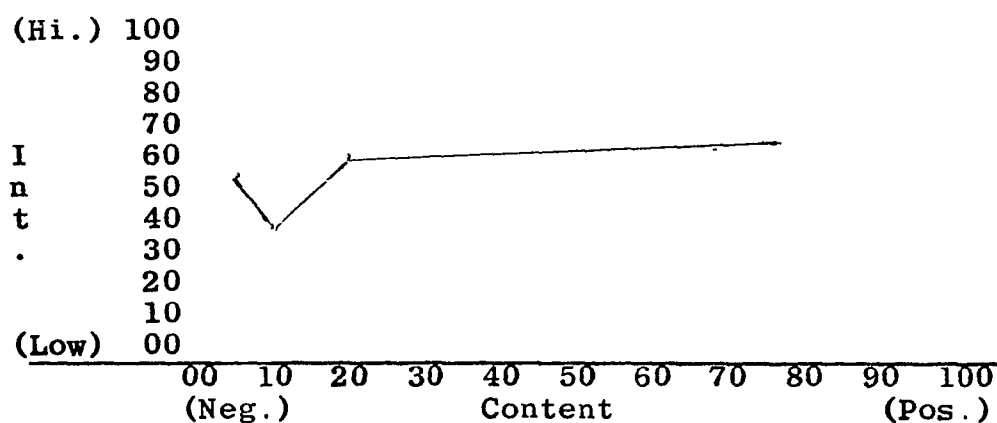
Scale Type	21	Items 19	7	Frequency	Errors per Type	Total Errors
3	x	x	x	20	0	0
3	x	-	x*	3	1	3
2	-	x	x	10	0	0
2	-	x	-*	4	1	4
1	-	-	x	68	0	0
0	-	-	-	8	0	0
				<u>113</u>		<u>7</u>

$$\text{C.R.} = 1 - \frac{7}{339} = .979 \quad \text{C.S.} = 1 - \frac{7}{69} = .898 \quad \text{M. M. R.} = .80$$

Table VIII

Sex Equalitarianism

Intensity Rank	Content				Total Frequency	Cumulative Percent
	(Neg.) 0	1	2	(Pos.) 3		
3 (high)		1	4	18	23	99.7
2	1		6	7	14	79.4
1	3	4	14	47	68	67.0
0 (low)		1	3	4	8	7.0
Total Frequency	4	6	27	76	113	
Cumulative Percent	3.5	8.8	32.7	99.9		
Midpoint of Content Percentile	1.8	6.2	20.8	66.3		
Midpoint of Intensity Percentile	47.0	37.0	52.0	50.4		



APPENDIX D

Nonunanimous Decisions

WISCONSIN SUPREME COURT

January 4, 1954--August 28, 1956

1. Will of Hafemann (Charles): La Bonde and another, Trustees v. Weckesser, Administratrix w.w.a. Respondent 265 Wis. 641
2. Estate of Hafemann (Catherine): La Bonde and others, Trustees, v. Weckesser, Administratrix w.w.a., Respondent 265 Wis. 651.
3. Grosso, by Guardian ad litem v. Wittemann, 266 Wis. 17.
4. Bolick v. Gallagher, 266 Wis. 208.
5. Leach v. Leach, 266 Wis. 223.
6. Estate of Stevens: Stevens, Executrix v. Wittig, Public Administrator, 266 Wis. 331.
7. Musselman v. Mutual Automobile Insurance Company of the Town of Herman, 266 Wis. 387.
8. Town of Caledonia v. Racine Limestone Company, 266 Wis. 475.
9. State ex rel. Larson, Commissioner of the Motor Vehicle Dept. v. Giessel, Director of Budget and Accounts, 266 Wis., 547.
10. Roeske v. Schmitt: Home Mutual Casualty Company, 266 Wis. 557.
11. Estate of Cheaney: Cosby v. Marshall & Ilsley Bank Administrator, 266 Wis. 620.
12. Estate of Jorgensen: State v. Patu, 267 Wis. 1.
13. State ex rel. Doering v. Doering and wife, 267 Wis. 12.
14. M. & M. Realty Company v. Industrial Commission, 267 Wis. 52.

15. Employers Mutual Fire Insurance Company v. Haucke, 267 Wis. 72.
16. State ex rel. Wisconsin Lutheran High School Conference v. Sinar, Building Inspector, 267 Wis. 91.
17. Moore v. City of Milwaukee, 267 Wis. 166.
18. Estate of Halverson: Halverson v. Nelson, 267 Wis. 188.
19. Boulin v. Cardinal Theatre Company, 267 Wis. 199.
20. Starry v. E. W. Wylie Company, 267 Wis. 258.
21. Danply Boat Corporation v. Wisconsin Employment Relations Board, 267 Wis. 316.
22. State ex rel. Thomson, Attorney General v. Giessal, Director of Budget and Accounts, 267 Wis. 331.
23. Walter v. Shemon, 267 Wis. 424.
24. Mayer v. Boynton Cab Co., 267 Wis. 486.
25. Ozaukee Finance Company v. Cederburg Lime Co.: Cowhey, 268 Wis. 20.
26. Will of Emmerick: Emmerick v. Dempze, Executor, 268 Wis. 186.
27. Donahue, Administratrix v. Western Casualty & Surety Co., 268 Wis. 193.
28. Toman v. Town of Lake, 268 Wis. 239.
29. Weber, by Guardian ad litem v. Walters, 268 Wis. 251
30. Wisconsin Bridge & Iron Co. v. Industrial Commission, 268 Wis. 314.
31. Bolick v. Gallagher, 268 Wis. 421.
32. Dodge v. Dodge, 268 Wis. 441.
33. Estate of Sealy: state v. Seeley, 268 Wis. 498.
34. State v. Selback, 268 Wis. 538.
35. Nyka v. State, 268 Wis. 644.
36. Weber v. Sunset Ridge, Inc., 269 Wis. 120.

37. Graebner v. Industrial Commission, 269 Wis. 253.
38. Sommerfeld v. Board of Canzassers of City of St. Francis, 269 Wis. 299.
39. Marshfield Clinic v. Daegue, 269 Wis. 519.
40. Wing v. Deppe, 269 Wis. 633.
41. Estate of Dasterhoft: Tharwachter v. City of Waukesha, 270 Wis. 5.
42. Edwards v. Edwards, 270 Wis. 48.
43. Edwards v. Edwards, (rehearing), 270 Wis. 56 .
44. California Packing Co. v. Industrial Commission, 270 Wis. 72.
45. Bachmann v. Bollig, 270 Wis. 82.
46. Wrachek v. Stephenson Town School District, 270 Wis. 116.
47. Estate of Sweet: Sweet v. Dept. of Taxation, 270 Wis. 256.
48. Sponholtz v. Meyer, 270 Wis. 288.
49. Vogt, Inc. v. International Brotherhood of Teamsters, Local 695, 270 Wis. 322.
50. City of Waukesha v. Plumbers & Gas Fitters Local #75, A.F.L., 270 Wis. 322.
51. Home Savings Bank v. Gertenbach, 270 Wis. 386.
52. Taylor v. Western Casualty & Surety Company, 270 Wis. 408.
53. Wm. H. Heinemann Creameries, Inc. v. Milwaukee Automobile Insurance Company, 270 Wis. 443.
54. State ex rel. Hannon v. Eisler, 270 Wis. 469.
55. Kuhl Motor Company v. Ford Motor Company, 270 Wis. 488.
56. Rehearing on Kuhl Motor Company v. Ford Motor Company (Per Curiam) 270 Wis. 503.
57. In Re Incorporation of Village of Oconomowoc Lake: Gotfredson v. Town of Summit, 270 Wis. 530.

58. Wodill v. Sullivan (James) Sullivan (Henry) v. Hartford Accident and Indemnity Co., 270 Wis. 591.
59. State ex rel. Holmes v. Krueger, 271 Wis. 129.
60. Brunette v. Bierke, 271 Wis. 190.
61. Laughnan (Lauretta) v. Griffiths; Lea, 271 Wis. 247.
62. Leiterman v. Burnette, 271 Wis. 359.
63. State v. Hall, 271 Wis. 450.
64. Paulus v. Truskowski, 271 Wis. 565.
65. City of Appleton v. Sauer, 271 Wis. 614.
66. Smith v. City of Brookfield, 272 Wis. 614.
67. Rose Manor Realty Company v. City of Milwaukee, 272 Wis. 339.
68. Rainer v. Holmes, 272 Wis. 349.
69. State v. Industrial Commission, 272 Wis. 409.
70. Braatz v. Continental Casualty Co.: Milwaukee Automobile Insurance Company, Limited, Mutual, 272 Wis. 479.
71. Dostal v. Magee, 272 Wis. 509.
72. Dostal v. Magee, 272 Wis. 519.
73. Garvey v. Wenzel, 272 Wis. 606.
74. Bino v. City of Harley, 273 Wis. 10.
75. Chapman v. Zakzaska, 273 Wis. 64.
76. Niske v. Nackman, 273 Wis. 69.
77. Wood v. Indemnity Insurance Company of North America, 273 Wis. 93.
78. Estate of Draheim: Draheim v. Rowson, 273 Wis. 189.
79. Fitzpatrick v. Rice, 273 Wis. 201.
80. Siler v. Read Investment Company, 273 Wis. 255.
81. Manitowoc Company v. Industrial Commission, 273 Wis. 293.

82. Menne v. City of Fond Du Lac, 273 Wis. 341.

83. Fullerton Lumber Company v. Tirborg, 270 Wis. 133.

APPENDIX E

153.

DECISIONAL SUB-SCALES

I. WORKMAN'S COMPENSATION SUB-SCALE

Scale Type	Case Number	G	Bn	Scale Pattern					Total Errors
				S	F	B	M	C	
7	69	x	x	x	⊖	x	x	x	1
7	30	x	x	x	⊖	x	x	⊖	2
6	21	-	x	x	x	x	x	x	0
4	14,46	-	-	-	x	x	x	x	0
3	59	-	-	⊗	-	x	x	x	1
2	44	-	-	⊗	-	-	x	x	1
2	50	-	-	-	-	-	x	⊖	1
1	49,81	-	-	-	-	-	-	x	0

$$\text{C.R.} = 1 - \frac{6}{70} = .9143 \qquad \text{C.S.} = 1 - \frac{6}{19} = .69$$

II. BUSINESS SUB-SCALE

Scale Type	Case Number	G	S	Scale Pattern					Total Errors
				M	Bn	C	F	B	
7	71,72	x	x	x	x	⊖	x	x	2
7	39	x	x	x	x	⊖	x	⊖	2
7	48	x	⊖	x	x	⊖	x	x	2
6	83	-	x	x	x	x	x	x	0
6	51	-	*	x	x	x	x	x	0
5	53	-	-	x	x	x	x	x	0
4	56	-	-	-	x	x	x	x	0
4	55	-	-	-	x	x	x	⊖	1
3	25	-	-	-	-	x	x	x	0
3	73	⊗	-	-	-	x	x	x	1
2	37	-	⊗	-	-	-	x	x	1
1	76	-	-	-	-	-	-	x	0
0	75	-	-	-	-	⊗	-	-	1

$$\text{C.R.} = 1 - \frac{10}{98} = .898 \qquad \text{C.S.} = 1 - \frac{10}{27} = .6297$$

III. ACCIDENT AND NEGLIGENCE SUB-SCALE

Scale Type	Case Number	S	G	M	Bn	F	B	C	Total Errors
7	23	x	x	⊖	x	x	x	x	1
7	29	*	x	x	x	x	x	⊖	1
7	52	x	x	x	x	⊖	x	x	1
7	64, 40	x	x	x	x	x	⊖	x	2
7	70	x	x	x	⊖	⊖	x	x	2
6	77	-	x	x	x	⊖	x	x	1
5	61	-	-	x	x	x	x	x	0
3	19, 20	-	-	-	-	x	x	x	0
3	7	-	-	-	-	x	x	⊖	1
2	62	-	-	-	-	-	x	x	0
2	79	-	-	-	⊖	-	x	x	1
1	15	-	-	-	-	-	-	x	0
1	24, 45	*	-	-	-	-	-	x	0
1	17	⊖	-	-	-	-	-	x	1
1	10	-	-	-	⊖	-	-	x	1
0	60	-	-	-	-	-	⊖	-	1
0	31	-	-	-	-	⊖	-	-	1
0	27	⊖	-	-	-	-	-	-	1

 15

$$C.R. = 1 - \frac{15}{147} = .898$$

$$C.S. = 1 - \frac{15}{33} = .546$$

IV. FAMILY AFFAIRS SUB-SCALE

Scale Type	Case Number	C	F	Bn	M	G	S	B	Total Errors
7	43	x	x	x	x	⊖	⊖	x	2
5	54	-	-	x	x	x	x	x	0
4	13	-	-	-	x	x	x	x	0
3	32	-	⊖	-	-	x	x	⊖	2
2	5	-	-	-	-	-	x	x	0
1	42	-	-	-	-	-	-	x	0

 4

$$C.R. = 1 - \frac{4}{42} = .9048$$

$$C.S. = 1 - \frac{4}{13} = .6923$$

V.

WILLS SUB-SCALE

Scale Type	Case Number	Scale Pattern							Total Errors
		M	F	G	Bn	S	B	C	
7	1,2,11	x	x	x	x	x	x	⊖	3
7	41	x	x	x	x	x	⊖	x	1
7	78	x	x	x	x	⊖	x	x	1
5	47	-	-	x	x	x	x	x	0
3	12,33	-	-	-	-	x	x	x	0
2	18	-	⊗	-	-	-	x	x	1
1	26	-	⊗	-	⊗	-	-	x	2
1	35	-	-	-	-	-	-	x	0
									8

$$\text{C.R.} = 1 - \frac{8}{77} = .896 \quad \text{C.S.} = 1 - \frac{8}{20} = .6000$$

VI.

LOCAL ORDINANCES SUB-SCALE

Scale Type	Case Numbers	Scale Pattern							Total Errors
		S	F	G	B	Bn	M	C	
7	74	x	x	x	x	x	x	⊖	1
6	67	-	x	x	x	x	x	⊖	1
6	16	-	x	x	⊖	x	x	x	1
4	38	-	-	-	x	x	x	x	0
3	66	⊗	-	-	-	x	x	x	1
2	57	⊗	-	-	-	-	x	x	1
1	8	-	-	-	-	-	-	x	0
0	68	-	-	-	⊗	-	-	-	1
0	28	-	-	⊗	-	⊗	-	-	2
									8

$$\text{C.R.} = 1 - \frac{8}{63} = .873 \quad \text{C.S.} = 11 - \frac{8}{18} = .556$$

VII. CRIMINAL CASES SUB-SCALE

Scale Type	Case Number	F	G	Scale Pattern					Total Errors
				Bn	M	B	S	C	
6	63	-	x	x	x	x	x	(-)	1
6	65	-	x	x	x	x	x	x	0
2	34, 80	-	-	-	-	-	x	x	0
1	36	(x)	-	-	*	-	-	x	1
									2

$$C.R. = 1 - \frac{2}{35} = .943$$

$$C.S. = 1 - \frac{2}{9} = .788$$

VIII. Cases not used in the sub-scales include three tax cases, numbers 22, 6, and 9, and three miscellaneous cases, numbers 3, 4, and 82.

FOOTNOTES

1. Robert A. Dahl, Who Governs (New Haven: Yale University Press, 1961), 246-247.
2. Charles W. Joiner, Civil Justice and the Jury (New Jersey: Prentice-Hall, Inc., 1962), 5.
3. Ibid., 13.
4. Victor G. Rosenblum, Law as a Political Instrument (New York: Random House, 1955), 3.
5. Jerome Frank, Law and the Modern Mind (Garden City: Doubleday & Company, Inc., 1930), 138.
6. Walter Wheeler Cook, "'Substance' and 'Procedure' in the Conflicts of Law," 42 Yale Law Journal 333 (1933).
7. Benjamin N. Cardozo, Growth of Law (1924) 60 as quoted by Jerome Frank, Courts on Trial (New York: Atheneum, 1963) 56.
8. Herbert Jacob, Justice in America (Boston: Little, Brown and Company, 1965), 183.
9. Emmette S. Redford, David B. Truman, Alan F. Westin, Robert C. Wood, Politics and Government in the United States, (New York: Harcourt, Brace, and World, 1965) 89.
10. Edward H. Levi, "An Introduction to Legal Reasoning," University of Chicago Law Review 15 (1948) 505-506.
11. Glendon A. Schubert, Judicial Policy Making (Chicago: Scott, Foresman and Company, 1965) 182.
12. Ibid., 54.
13. Emmette S. Redford, op. cit., 469.
14. Herbert Jacob, op. cit., 174
15. Paul H. Sanders, "The Warren Court and the Lower Federal Courts: Problems of Implementation," in John R. Schmidhauser (ed.) Constitutional Law in the Political Process (Chicago: Rand McNally & Company, 1963) 425.
16. Herbert Jacob, op. cit., 174.

17. Robert Cushman, Leading Constitutional Decisions (New York: Appleton-Century-Crofts, 1966) and Edward Corwin, Liberty Against Government (Baton Rouge: Louisiana State University, Press, 1948)
18. Carl B. Swisher, Roger B. Taney (New York: The Macmillan Company, 1936); Alpheus T. Mason, Brandeis: A Free Man's Life (New York: The Viking Press, 1946) and Harlan Fiske Stone: Pillar of the Law (New York: The Viking Press, 1956).
19. Robert L. Mott, Spencer D. Albright, and Helen R. Semmerling, "Judicial Personnel," Annals of the American Academy of Political and Social Science 167 (1933).
20. John R. Schmidhauser, "The Justices of the Supreme Court: A Collective Portrait," 3 Midwestern Journal of Political Science 1-57 (1959). See also John R. Schmidhauser, The Supreme Court: Its Politics, Personalities, and Procedures (New York: Holt, Rinehart & Winston, 1960).
21. John R. Schmidhauser, "Stare Decisis, Dissent and the Background of the Justices of the Supreme Court of the United States," 14 University of Toronto Law Journal 194-212 (May 1962) and "Judicial Behavior and the Sectional Crisis of 1837-1860," 23 Journal of Politics 616-640 (November 1961).
22. David J. Danelski, A Supreme Court Justice Is Appointed (New York: Random House, 1964).
23. Many of Stuart Nagel's articles are based on his dissertation Judicial Characteristics and Judicial Decision-Making (unpublished Ph.D. dissertation: Northwestern University, 1961). See especially, "Judicial Backgrounds and Criminal Cases," 53 Journal of Criminal Law, Criminology and Police Science 333-339 (1962) Ethnic Affiliations and Judicial Propensities. 24 Journal of Politics 92-110 (1962:) and "Testing Relations between Judicial Characteristics and Judicial Decision-Making," 15 Western Political Quarterly 425-437 (1962).
24. Angus Campbell, Philip E. Converse, Warren E. Miller, Donald E. Stokes, The American Voter (New York: John Wiley & Sons, Inc., 1964) 79-85; David Truman, The Congressional Party (New York: John Wiley & Sons, Inc., (1959).
25. Glendon A. Schubert, Quantitative Analysis of Judicial Behavior (Glencoe: The Free Press, 1959) 129-142; S. Sidney Ulmer. "The Political Party Variable in the Michigan

- Supreme Court," 11 Journal of Public Law 352-362 (1962); and Kenneth N. Vines, "Federal District Judges and Race Relations' Cases in the South," 26 Journal of Politics 350 - 351 (1964).
26. Don R. Bowen, The Explanation of Judicial Voting Behavior from Sociological Characteristics of Judges (unpublished Ph.D. dissertation, Yale University, 1965) 201-206 and John Sprague, Voting Patterns of the United States Supreme Court (New York: The Bobbs-Merrill Company, 1967) 108, 115-117, 146.
 27. Nagel, "Judicial Backgrounds and Criminal Cases," op. cit., 333-339.
 28. Sheldon Goldman, Politics, Judges and the Administration of Justice (unpublished Ph. D. dissertation, Harvard University, 1965), 219.
 29. Ibid., 254.
 30. Bowen, loc. cit.
 31. Ibid., 201-206.
 32. Joel B. Grossman, "Social Backgrounds and Judicial Decision-Making," 79 Harvard Law Review 1551-1564 (June 1966). See also his "Social Background and Judicial Theory; Notes for a Theory," 29 Journal of Politics 334-351 (May 1967).
 33. Glendon A. Schubert, Judicial Behavior; A Reader in Theory and Research (Chicago: Rand McNally & Company, 1964) 446-7.
 34. Stuart S. Nagel, "Off-the-Bench Judicial Attitudes", in Glendon A. Schubert (ed.), Judicial Decision-Making (New York: The Free Press, 1963) 29-51.
 35. Glendon A. Schubert, The Judicial Mind: Attitudes and Ideologies of Supreme Court Justices, 1946-1963 (Evanston: Northwestern University Press, 1965) which was termed by C. Herman Pritchett, "Public Law and Judicial Behavior," 30 Journal of Politics 480-509 (May 1968) "...the most methodologically advanced of all the behavioral books on the Supreme Court."
 36. S. Sidney Ulmer, "Supreme Court Behavior and Civil Rights," 13 Western Political Quarterly 288-311 (1960) and "Scaling Judicial Cases," 4 American Behavioral Scientist 31-34 (1961). Harold Spaeth, "Warren Court Attitudes Toward Business: the 'B' Scale," in Schubert, Judicial Decision-Making, op. cit., 79-108.

37. Theodore L. Becker, Political Behavioralism and Modern Jurisprudence (Chicago: Rand McNally & Company, 1964) 12-18.
38. Sidney Raymond Peck, "A Behavioural Approach to the Judicial Process: Scalogram Analysis," 5 Osgoode Hall Law Journal 1028 (April 1967).
39. Joseph Tannenhaus, "The Cumulative Scaling of Judicial Decisions," 79 Harvard Law Review 1583-1594 (June 1966).
40. Martin Shapiro, Law and Politics in the Supreme Court (New York: The Free Press, 1964), 14. See also Wallace Mendelson, "The Neo-Behavioral Approach to the Judicial Process: A Critique," American Political Science Review 57 593-603 (September 1963) and Becker, op. cit., 14.
41. Glendon Schubert. "Ideologies and Attitudes, Academic and Judicial," 29 Journal of Politics 3-40 (February, 1967).
42. John P. Frank, Marble Palace: The Supreme Court in American Life (New York: Alfred A. Knopf, 1958) 110.
43. Alpheus T. Mason, William Howard Taft: Chief Justice (New York: Simon and Schuster, 1964) 204.
44. Quoted in Alan Westin, The Anatomy of a Constitutional Law Case (New York: Macmillan Co., 1958) 123-124.
45. Mason, William Howard Taft, op. cit. 201.
46. C. Herman Pritchett, The Roosevelt Court: A Study in Judicial Politics and Values, 1937-1947 (New York: The Macmillan Co., 1948). See also his Civil Liberties and the Vinson Court (Chicago: University of Chicago Press, 1954).
47. Eloise Snyder, "The Supreme Court as a Small Group," 36 Social Forces 232-238 (1958). See also her "Uncertainty and the Supreme Court's Decisions," American Journal of Sociology Vol. 65, 241-245 (1959).
48. Glendon A. Schubert, Quantitative Analysis of Judicial Behavior, op. cit., Chapter 3.
49. Sprague, op. cit., 56.
50. Schubert. Quantitative Analysis of Judicial Behavior, op. cit., 83.

51. Sprague, op. cit., 27. 161.
52. For a more hopeful view, see Theodore L. Becker, "Surveys and Judiciaries, or 'Who's Afraid of the Purple Curtain?'" 1 Law and Society Review 133-143 (1966).
53. J. Woodford Howard, Jr., "On the Fluidity of Judicial Choice," 62 American Political Science Review 43-56 (March 1968).
54. Walter F. Murphy, "Courts as Small Groups," 79 Harvard Law Review 1565-1572 (June 1966).
55. Sprague, op. cit., 31.
56. Joel B. Grossman, "Dissenting Blocs on the Warren Court: A Study in Judicial Role Behavior," (mimeographed) 1-35.
57. Ibid., 18-19.
58. S. Sidney Ulmer, "Toward a Theory of Sub-Group Formation in the United States Supreme Court," 27 Journal of Politics 133-153 (1965).
59. David J. Danelski, "The Influence of the Chief Justice in the Decisional Process," in Walter F. Murphy and C. Herman Pritchett (eds.), Courts, Judges and Politics (New York: Random House, 1961), 497-508.
60. Mason, op. cit., Alexander Bickel, The Unpublished Opinions of Justice Brandeis (Cambridge: Belknap Press of Harvard University Press, 1957).
61. S. Sidney Ulmer, "Leadership in the Michigan Supreme Court," in Schubert, Judicial Decision-Making, op. cit., Chapter 1. 13-28.
62. Charles G. Haines, "General Observations on the Effects of Personal, Political, and Economic Influences in the Decisions of Judges," 17 Illinois Law Review 96-116 (1922).
63. Grossman, "Social Backgrounds and Judicial Decisions; Notes for a Theory," op. cit. The models reviewed were Glendon Schubert's as presented in Judicial Policy-Making, op. cit., Walter Murphy's as presented in Elements of Judicial Strategy (Chicago: University of Chicago Press, 1964) 32, and Sheldon Goldman's as presented in his dissertation, op. cit.
64. Ibid., 343
65. Howard, op. cit., 43.

66. A. Paul Hare, "Computer Simulation in Small Groups," 6 Behavioral Science 261-265 (July 1961)
67. Abraham Kaplan, The Conduct of Inquiry (San Francisco: Chandler Publishing Company, 1964), 265.
68. Kenneth J. Arrow, "Mathematical Models in the Social Sciences," in Daniel Lerner and Harold D. Lasswell, The Policy Sciences (Stanford: Stanford University Press, 1951) 129-154.
69. Martin Shubik, "Simulation of the Industry and the Firm," 50 American Economic Review 908-919 (December, 1960).
70. F. Stuart Chapin, Contemporary American Institutions: A Sociological Analysis, (New York: Harper, 1935) 13-18.
71. For this distinction, see Robert P. Abelson, "The Use of Surveys in Simulations," 26 Public Opinion Quarterly 485-486
72. Tjalling C. Koopmans, Three Essays on the State of Economic Science (New York: McGraw-Hill Book Co., 1957.)
73. Guy H. Orcutt, Martin Greenberger, John Korbel, Alice M. Rivlin, Microanalysis of Socioeconomic Systems: A Simulation Study (New York: Harpers, 1961).
74. James S. Coleman, "Analysis of Social Structures and Simulation of Social Processes with Electronic Computers," 21 Educational and Psychological Measurement 203-218
75. William N. McPhee and William A. Glaser (eds.) Public Opinion and Congressional Elections (New York: The Free Press, 1962) and William N. McPhee, "Notes on a Campaign Simulator," 25 Public Opinion Quarterly 184-193 (July 1961).
76. Ithiel de Sola Pool, Robert Abelson, Samuel Popkin, Candidates, Issues & Strategies: A Computer Simulation of the 1960 and 1964 Presidential Elections (Cambridge: The Massachusetts Institute of Technology Press, 1964).
77. Robert P. Abelson and Alex Bernstein, "A Computer Simulation of Community Referendum Controversies," 27 Public Opinion Quarterly 93-122 (Spring 1963).
78. Michael J. Shapiro, The House and the Federal Role: A Computer Simulation of Roll Call Voting (unpublished Ph. D. Dissertation, Northwestern University, August 1966) soon to be published with Cleo H. Cherryholmes under the

title Representatives and Roll-Calls: A computer Simulation of Voting in the Eighty-Eighth Congress (Indianapolis: Bobbs-Merrill, 1968) forthcoming. See also Michael J. Shapiro, "The House and the Federal Role: A Computer Simulation of Roll-Call Voting" 62 American Political Science Review 494-517 (June 1968).

79. Hare, Loc. cit.
80. Michael Leiserson, "Models of Political Coalitions," (New Haven, Conn: Yale University, 1966) unpublished Ph.D. dissertation, quoted in Howard Rosenthal, "Voting and Coalition Models in Election Simulations," in William D. Coplin (ed.) Simulation in the Study of Politics (Chicago: Markhan Publishing Co. 1968) 237-285.
81. John T. Gullahorn and Jeanne E. Gullahorn, "A Computer Model of Elementary Social Behavior," 8 Behavioral Science 354-362 (October 1963)
82. Alan M. Sager, "From Brief to Decision: A Computer Simulation of the 1963 Supreme Court Term," (paper presented at American Political Science Association, Commodore Hotel, New York, Sept. 1-6, 1969) 14
83. Ibid., p. 13.
84. Werner F. Grunbaum, "Analytical and Simulation Models for Simulation Models for Explaining Judicial Decision-Making", (paper presented at Shambaugh Conference on Judicial Research, University of Iowa, October, 1967) p.31.
85. Ibid. 29. See also Werner F. Grunbaum, "A Computer Simulation of Supreme Court Voting in Civil Liberty and Economic Cases" during the 1964-1965 Terms" (paper presented at sixty-fourth annual meeting of Americal Political Science, Washington D.C., Sept. 3-7, 1968)
86. David Kretch, Richard S. Cruthfield, and Egerton L. Ballachey, Individual in Society (New York: McGraw-Hill Book Company, Inc., 1962) chapter 5.
87. Ibid, 178.
88. Becker, Political Behavioralism and Modern Jurisprudence op. cit., 100
89. Schubert, Judicial Behavior, op. cit. 445.
90. Anthony, Downs, "An Economic Theory of Political Action in a Democracy." Journal of Political Economy, Vol. 65, April 1957.

91. Quoted in Howard, op.cit., 44.
92. Murphy, op.cit. 63-64. See also the memorandum in the Ex parte Quirin case also quoted by Murphy on page 48.
93. Ibid., 59
94. Ibid. 59.
95. Bruce R. Trimble, Chief Justice Waite. (Princeton: Princeton University Press, 1938) 263.
96. John Frank, op. cit., 123.
97. For an inventory of propositions on this point see Barry E. Collins and Harold Guetzkow, A Social Psychology of Group Processes for Decision-Making (New York: John Wiley & Sons, 1964).
98. Quoted in Murphy, op. cit., 62-63.
99. Leon Festinger, "Informal Social Communication," 57 Psychological Review 271-282 (September 1950). Herbert A Simon and Harold Guetzkow, "A Model of Short-and Long-Run Mechanisms Involved in Pressures Toward Uniformity in Groups," 62 Psychological Review 56-68 (1955). Harold Guetzkow, "Building Models About Small Groups," In Roland Young (Ed.), Approaches to the Study of Politics (Evanston: Northwestern University Press, 1958) 265-281.
100. David J. Danelski, "Conflict and Its Resolution in the Supreme Court," ; Journal of Conflict Resolution 71-85 (March 1967)
101. C.I. Hovland, O.J. Harvey, and M. Sherif, "Assimilation and Contrast Effects in Reaction of Communication and Attitude Change," 55 Journal of Abnormal and Social Psychology 244-252 (1957). See also:

James S. Coleman, "An Expository Analysis of Some of Rashevsky's Social Behavior Models" In Paul F. Lazarsfeld (ed.) Mathematical Thinking in the Social Sciences (Glencoe: The Free Press, 1954), 105-165.
102. Murphy, op. cit., 78.
103. Ibid., 81.
104. Quoted in Martin Mayer, The Lawyers (New York: Harper & Row, 1966), 518.
105. Ibid.

106. John Frank, op.cit., 128-129.
107. Becker, op. cit., 100.
108. John H. Bunzel, Anti-Politics in America (New York Alfred A. Knopf, 1967), 91.
109. Clyde H. Coombs, A Theory of Data (N.Y.: John Wiley and Sons, 1958) 352-359.
110. Richard G. Nieimi, "Majority Decision-Making with Partial Unidimensionality, American Political Sci. Review 63:488-497, June 1969.
111. Coombs. op. cit., 23
112. Schubert, Judicial Mind, op. cit. 28. See also Warren S. Torgerson, Theory and Methods of Scaling (New York: John Wiley & Sons, 1958 (352-359)).
113. Felix J. Frankfurter, Memorandum to Conference, April 25, 1947: No. 84, Box 136. Harris v. United States, op. cit., 51. 331 U.S. 145 (1947); quoted from J. Woodford Howard, Jr.
114. Lewis A. Froman, Jr., People and Politics (Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1962) 27-28; Kretch et. al., op. cit., 216; Theodore M. Newcomb Ralph H. Turner, Philip E. Converse, Social Psychology: The Study of Human Interaction (New York: Holt, Rinehart and Winston, Inc., 1965 Chapters 4 and 5. See also Harold H. Kelley and J.W. Thibaut, "Experimental Studies of Group Problem Solving and Process," in Gardner Lindzey (ed.), Handbook of Social Psychology (Cambridge: Addison-Wesley, 1954)
115. Louis Guttman, "A New Approach to Factor Analysis: The Radex, "Lazarsfeld (ed.), op. cit., Chapter 6:258-348.
116. Schubert, Judicial Mind, op. cit., 259; Hans J Eysenck, The Psychology of Politics (London: Routledge and Kegan Paul, 1954) Chapter 4; James Allen Dator, "The Life History and Attitudes of Japanese High Court Judges," 20 Western Political Quarterly 408-439 (June 1967).
117. See James Allen Dator, "Measuring Attitudes Across Cultures: A Factor analysis of the replies of Japanese Judges to Eysenck's Inventory of Conservative-progressive ideology. Schubert, and David J. Danelski, Comparative Judicial Behavior, (New York, Oxford University Press, 1969 pp.71-102.
118. Andrew Comrey and John Newmeyer, "Measurement of Radicalism-Conservatism," 67 Journal of Social Psychology 357-369 December, 1965.

119. For a very readable summary of the relative merits of the oblique versus orthogonal rotation see Rudolph J. Rummel, "Understanding Factor Analysis," 11 The Journal of Conflict Resolution 444-480 (December 1967).
120. Louis Guttman, "Relation of Scalogram Analysis to other Techniques," In Samuel A. Stouffer, Louis Guttman, Edward A. Suchman, Paul F. Lazarsfeld, Shirley A. Star, John A. Clausen (eds.) Measurement and Prediction (New York: John Wiley & Sons, Inc., 1950) 194.
121. Ibid., 203-204.
122. Eysenck, op. cit., 111-113.
123. Ibid.
124. Guttman, op. cit., 278. supra at note 109.
125. Eysenck, op. cit., 121.
126. Louis Guttman, "The Cornell Technique for Scale and Intensity Analysis," 7 Educational and Psychological Measurement 249 (Summer 1947). See also his, "Problems of Reliability," in Stouffer et al., op. cit., 286.
127. Louis Guttman, "The Basis for Scalogram Analysis," in Stouffer et al., op. cit., 78-79.
128. Herbert Menzel, "A New Coefficient for Scalogram Analysis," 17 Public Opinion Quarterly 268-280 (1953).
129. Allen L. Edwards, Techniques of Attitude Scale Construction (New York: Appleton-Century-Crofts, Inc., 1957) 191-193.
130. Marcia L. Toby and Mary Moore, "Object Scale Procedure Using Hand Tabulation," in Matilda W. Riley, John W. Riley Jr., and Jackson Toby (eds.), Sociological Studies in Scale Analysis (New Brunswick: Rutgers University Press, 1954) 317-320.
131. Samuel A. Stouffer, Edger F. Borgatta, David G. Hays, and Andrew F. Henry, "A Technique for Improving Cumulative Scales," 16 Public Opinion Quarterly 273-291 (1952) Allen L. Edwards, "A Technique for increasing the Reproducibility of Cumulative Attitude Scales," 40 Journal of Applied Psychology 263-265 (1956) ; Karl F. Schuessler "A Note on the Statistical Significance of the Scalogram," 24 Sociometry 313-318 (September, 1961).
132. See footnotes 35,36,37,38,39 and 41.

133. See Schubert's discussion and reply to this criticism in his Journal of Politics article, *supra*, footnote 41, 33-41.
134. Schubert, Judicial Mind, *op. cit.*, 33; and Glendon A. Schubert, "The Study of Judicial Decision Making as an Aspect of Political Behavior," 52 American Political Science Review 1010-1011 (December 1958); See also Spaeth, "Warren Court Attitudes toward Business: The 'B' Scale," *op. cit.*, 89-90, and Ulmer "Supreme Court Behavior and Civil Rights," *op. cit.*, 296.
135. Howard, *op. cit.*, 51-52.
136. Uriel G. Foa, "Scale and Intensity Analysis in Opinion Research," 4 International Journal of Opinion and Attitude Research 192-208 (Summer 1950).
137. Edward A. Suchman, "The Intensity Component in Attitude and Opinion Research," in Stouffer *et al.*, *op. cit.* 253.
138. Guttman, "The Cornell Technique for Scale and Intensity Analysis," *op. cit.*, 256 and Edward A. Suchman, "The Scalogram Board Technique for Scale Analysis," in Stouffer *et al.*, *op. cit.*, 111.
139. Guttman, "Problems of Reliability," in Stouffer *et al.*, *op. cit.*, 294.
140. Suchman, "The Scalogram Board Technique for Scale Analysis," *op. cit.*, 111-115.
141. Suchman, "The Intensity Component in Attitude and Opinion Research," *op. cit.*, 215.
142. *Ibid.*, 217.
143. *Ibid.*, 218
144. Leon Festinger, "The Treatment of Qualitative Data by "Scale Analysis" 44 Psychological Bulletin 156 (March 1947) and Edwards, Techniques of Attitude Scale Construction, *op. cit.*, 197.
145. Edward A. Suchman, "The Utility of Scalogram Analysis," in Stouffer *et al.*, *op. cit.*, 159-163; Louis Guttman, "On Festinger's Evaluation of Scale Analysis," 5 Psychological Bulletin 457 (September 1947); Guttman, "The Basis for Scalogram Analysis," *op. cit.*, 79.
146. Louis Guttman, "The Israel Alpha Technique for Scale Analysis," in Riley *et al.*, (eds.) *op. cit.*, 410-415.

147. Kretch, et al., op. cit., 157
148. Suchman, "The Intensity Component in Attitude and Opinion Research," op. cit., 213-376. See also Louis Guttman, "The Principal Components of Scalable Attitudes," in Lazarsfeld, op. cit., 229-233; Louis Guttman and Edward A. Suchman, "Intensity and Zero Point for Attitude Analysis," 12 American Sociological Review 57-67 (February 1947); Foa, "Scale and Intensity Analysis in Opinion Research," op. cit.
149. Guttman, "The Principal Components of Scalable Attitudes," op. cit., 233-239.
150. Nagel, "Off-the-Bench Judicial Attitudes", op. cit., 29-51. In footnote 11, he cites nine such attitude inventories and tells why he believes Eysenck's is superior to each. The complete questionnaire is given in Eysenck, op. cit. Chapter 4. Eysenck has been subjected to much justifiable criticism, primarily because of his non-random sampling techniques and his methods of data analysis, but this does not detract from the basic utility of his measuring instrument. See Milton Rokeach and Charles Hanley, "Eysenck's Tender-Mindedness Dimension: A Critique," 53 Psychological Bulletin 169-176 (March 1956); Charles Hanley and Milton Rokeach, "Care and Carelessness in Psychology," 53 Psychological Bulletin (March 1956) 183-186; Richard Christie, "Eysenck's Treatment of the Personality of Communists," and "Some Abuses of Psychology," 53 Psychological Bulletin 411-430 and 439-451 (November 1956).
151. Hans J. Eysenck, "Primary Social Attitudes: A Comparison of Attitude Patterns in England, Germany, and Sweden," 48 Journal of Abnormal and Social Psychology 563-568 (1953: Dator, "The Life History and Attitudes of Japanese High Court Judges," op. cit., 408-439; Stuart S. Nagel, "Judicial Attitudes and Those of Legislators and Administrators," prepared for delivery at the 1962 annual meeting of the American Political Science Association, Washington, D.C., Mayflower Hotel, September 5-8, 1962.
152. Nagel, "Off-the-Bench Judicial Attitudes," op. cit., 259.
153. William J. McGuire, "A Syllogistic Analysis of Cognitive Relationships," in Milton J. Rosenberg, Carl I. Hovland, William J. McGuire, Robert P. Abelson, Jack W. Brehm Attitude Organization and Change (New Haven: Yale University Press, 1960), 70.
154. Dator, "Measuring Attitudes Across Cultures," op. cit., 25.
155. Duncan MacRae, Jr., Dimensions of Congressional Voting

- (Berkeley: University of California Press, 1958) especially Appendix A. See also Duncan MacRae, Jr., "A Method for Identifying Issues and Factions from Legislative Votes," 59 American Political Science Review 909-926 (1965) and his "Intra-Party Division and Cabinet Coalitions in the Fourth French Republic," 5 Comparative Studies in Society and History 164-211 (January, 1963).
156. Duncan MacRae, Jr., "An Exponential Model for Assessing Fourfold Tables," 19 Sociometry 84-94 (June 1956) and David M. Wood, "Majority vs. Opposition in the French National Assembly, 1956-1965: A Guttman Scale Analysis," 62 American Political Science Review 88-109, see note 14 for a discussion of ϕ/ϕ max. (1969)
 157. For an excellent discussion of Guttman scalogram techniques see Lee F. Anderson, Meredith W. Watts Jr., and Allan R. Wilcox, Legislative Roll-Call Analysis (Evanston: Northwestern University Press, 1966), chapter 6.
 158. Wood, op. cit., 90.
 159. Glendon Schubert "Ideological Distance." A Smallest Space Analysis Across Three Cultures" 1 Comparative Political Studies 319-347 (October 1968) Provides an excellent discussion of utilization of another technique, smallest space analysis, to cluster the items.
 160. Guttman, "A New Approach to Factor Analysis: The Radex," op. cit., 329.
 161. Leon David Epstein, Politics in Wisconsin (Madison: University of Wisconsin Press, 1958), 3-11.
 162. Austin Ranney and Willmoore Kendall. "The American Party Systems," 48 American Political Science Review 477-485 (June 1954). For a more involved system of classification see Joseph A. Schlesinger, "A Two-Dimensional Scheme for Classifying the States According to Degree of Inter-Party Competition," 49 American Political Science Review 1120-28 (December 1955).
 163. Sheldon Goldman, "Conflict and Consensus in the United States Court of Appeals," Wisconsin Law Review, 461-482, (1968).
 164. Goldman, Op. cit., "Politics, Judges, and the Administration of Justice," Chapter 2.
 165. Grunbaum, "Analytical and Simulation Models for Explaining Judicial Decision-Making," (Paper presented at the Shambaugh Conference on Judicial Research, University of Iowa, October, 1967) op. cit., 29.

166. David W. Adamany, "The Party Variable in Judge's Voting: Conceptual Notes and a Case Study," 63 American Political Science Review 57-73 (March 1969).
167. Ibid., 65.
168. Kenneth N. Vines, "Political Functions of a State Supreme Court," in Kenneth N. Vines and Herbert Jacob, Tulane Studies in Political Science: Studies in Judicial Politics (New Orleans: Tulane University, 1963) 51-75.
169. Daryl R. Fair, "An Experimental Application of Scalogram Analysis to State Supreme Court Decisions," 1967 Wisconsin Law Review 449-459 (1967).
170. Schubert, Judicial Mind; op. cit., 45.
171. Sheldon Goldman, "Voting Behavior on the United States Court of Appeals," 60 American Political Science Review 374-383 (1966).
172. Philip E. Slater, "Contrasting Correlates of Group Size," 21 Sociometry 129-139 (1958).
173. Vines, "Political Functions of a State Supreme Court," op. cit., 70.
174. Jack Ladinsky and Allan Silver, "Popular Democracy and Judicial Independence: Electorate and Elite Reactions to Two Wisconsin Supreme Court Elections," 1967 Wisconsin Law Review 128-169 (Winter 1967).
175. Herbert Jacob, "Judicial Insulation--Elections, Direct Participation, and Public Attention to the Courts in Wisconsin," 1966 Wisconsin Law Review 801-819 (Summer 1966).
176. Mrs. Patricia Dolbeare as part of Ladinsky and Silver, op. cit., note 14.
177. Jacob, "Judicial Insulation," op. cit., 808.
178. Adamany, loc. cit.
179. Ibid., 72.
180. Anderson, Watts and Wilcox, op. cit., note on pp. 56-57. For a defense of the phi coefficient as a measure of association see Schubert, Judicial Mind, op. cit., 67-69.

181. C. Herman Pritchett, The Roosevelt Court: A Study in Judicial Politics and Values 1937-1947 (New York: The Macmillan Co., 1948) and Civil Liberties and the Vinson Court (Chicago, University of Chicago Press, 1954); Schubert, Quantitative Analysis of Judicial Behavior, op. cit., Chapter 3.
182. Stuart A. Rice, Quantitative Methods in Politics (New York: Alfred A. Knopf, 1928), Chapter 16. David B. Truman, The Congressional Party: A Case Study (New York: John Wiley and Sons, 1959), especially the appendix.
183. Sprague, op. cit., 31-40.
184. Chapin, op. cit., 13-18.
185. Grossman, "Dissenting Blocs on the Warren Court: A Study in Judicial Role Behavior," op. cit., 31-32.
186. Murphy, Elements of Judicial Strategy, op. cit., 79.
187. Wm. H. Riker. The Theory of Political Coalition (New Haven. Yale University Press, 1962). 35.
188. Anderson et al., op. cit., 94.
189. Nagel, "Ethnic Affiliations and Judicial Propensities," op. cit., 92, 95.
190. Schubert, Judicial Mind, op. cit., 159-160.
191. Glendon A. Schubert, "The 1960 Term of the Supreme Court: A Psychological Analysis," 56 American Political Science Review 90, 102 (1962).
192. Schubert, Judicial Mind, op. cit., 97.
193. S. Sidney Ulmer, "Supreme Court Behavior and Civil Rights," op. cit., 295; "Scaling Judicial Cases," op. cit., "The Analysis of Behavior Patterns on the United States Supreme Court," 22 Journal of Politics 647 (1960); "Quantitative Analysis of Judicial Process: Some Practical and Theoretical Applications," 28 Law and Contemporary Problems 169 (1963). Harold Spaeth, "An Analysis of Judicial Attitudes in the Labour Relations Decisions of the Warren Court," 22 Journal of Politics 290-311 (1963) agrees with Schubert in placing cases challenging an order of an administrative agency on the economic liberalism scale. Joseph Tannenhaus, "Supreme Court Attitudes Toward Federal Administrative Agencies," 22 Journal of Politics, 502, 516-517 (1963) concluded that this type of case did not belong on the E scale. For a more thorough discussion of the various results of scaling judicial attitudes see Peck, op. cit., 11-19.

194. Becker, Political Behavioralism and Modern Jurisprudence op. cit., 82, 107.
195. Bernard Berelson and Gary A. Steiner, Human Behavior: An Inventory of Scientific Findings (New York: Harcourt, Brace & World, Inc., 1964) 430. See the discussion in Heinz Eulau and John D. Sprague, Lawyers in Politics (New York: The Bobbs-Merrill Company, 1964) 23-27 for a somewhat different view. See also Marshall Nathan Goldstein, Political Involvement among American Law Students (unpublished Ph.D. dissertation, University of North Carolina, 1964) 117-123 for a discussion of the ideology of law students.
196. Douglas Rosenthal, "Book Review: The Judicial Mind," 77 The Yale Law Journal 1432-1446 (June, 1968).
197. Nagel, "Judicial Backgrounds and Criminal Cases," loc. cit.
198. Fair, loc. cit.
199. Schubert, "Judicial Attitudes and Voting Behavior," op. cit., 100, 123-125.
200. Suchman, "The Utility of Scalogram Analysis," op. cit., 159.
201. Rosenthal, op. cit., 1436.
202. For the best statement of this theory see Glendon A. Schubert, "A Psychometric Model of the Supreme Court," 5 American Behavioral Scientist 14-18 (November 1961); "Psychometric Research in Judicial Behavior," 2 Modern Uses of Logic in the Law 9-18 (March 1962); "A Solution to the Indeterminate Factorial Resolution of Thurstone and Degan's Study of the Supreme Court," 7 Behavioral Science 448-458 (1962); and Judicial Mind, op. cit.
203. Glendon A. Schubert, "Judicial Attitudes and Voting Behavior: The 1961 Term of the United States Supreme Court," 1 Jurimetrics 100-142 (Winter 1963). Reprinted along with a specially written appendix in Schubert (ed.) Judicial Behavior, op. cit., 556-557.
204. Ulmer, "Supreme Court Behavior and Civil Rights," op. cit. 295 and Schubert, Judicial Mind op. cit., 75.
205. Schubert, Judicial Mind, op. cit., 97.
206. Schubert, "Prediction from a Psychometric Model," in Judicial Behavior, op. cit., 582.
207. Becker, "Surveys and Judiciaries," loc. cit.

208. Daryl R. Fair, op. cit., 452.
209. Campbell, Convers, Miller, and Stokes, op. cit., 72-85. Paul F. Lazarsfeld, Bernard Berelson, Hazel Gaudet, The People's Choice (New York: Duell, Sloan, Pearch, 1944) Chapter 4.
210. Adamany, op. cit., 731.
211. Murphy, Elements of Judicial Strategy, op. cit., 82-89.
212. Ulmer, "Leadership in the Michigan Supreme Court," op. cit., 13-28.
213. Eloise Snyder, op. cit., 236-238. For the power index see L.S. Shapley and Martin Shubik, "A Method for Evaluating the Distribution of Power in a Committee System," 48 American Political Science Review longer w 787-792 (September 1954).
214. Alan M. Sager. op. cit., 14.
215. Shapiro, "The House and the Federal Role," op. cit., 505. Solomon C. Godlberg, "Three Situational Determinents of Conformity to Social Norms," 49 Journal of Abnormal and Social Psychology 325-329 (July 1954); C.I. Hovland and H.A. Pritzker, "Extent of Opinion Change as a Function of Amount of Change Advocated," 54 Journal of Abnormal and Social Psychology 257-261 (1957).
216. Robert P. Abelson and Alex Bernstein, "A Computer Simulation Model of Community Referendum Controversies," 27 Public Opinion Quarterly 106 (Spring 1963). See also Herbert A. Simon and Harold Guetzkow, op. cit., 58-68.
217. Robert P. Abelson, "Mathematical Models of the Distribution of Attitudes under Controversy," in Norman Frederiksen and Harold Gullicksen, Contributions to Mathematical Psychology (New York: Holt, Rinehart and Winston, Inc., 1964) 142-160.
218. Ibid., 143.
219. Sager, op. cit., 14.
220. R. Duncan Luce and Howard Raiffa, Games and Decisions, (New York: John Wiley, 1957). 13.
221. Philip E. Converse, "The Nature of Belief Systems in Mass Publics," in David Apter (ed.) Ideology and Discontent (New York: Free Press, 1964) 206-261.

222. See Aage R. Clausen, "Measurement Identity in the Logitudinal Analysis of Legislative Voting," 61 American Political Science Review 1020-1035 (December 1967).
223. Sager, op. cit., 13.
224. Redford, op. cit., 513.
225. Robert D. Hess and Judith V. Torney, The Development of Political Attitudes in Children (Chicago: Aldine Publishing Company, 1967) 7.
226. Clifford T. Morgan, Introduction to Psychology (New York: McGraw-Hill Book Company, Inc., 1961 second edition) 534.
227. John Dollard, "Under What Conditions Do Opinions Predict Behavior?" 12 Public Opinion Quarterly 623-632 (Winter 1948-1949).
228. David Easton, "An Approach to the Analysis of Political Systems," World Politics Volume LX (April 1957) quoted in Peter Woll, American Government: Readings and Cases. (Boston, Little, Brown, and Company, 1960) 17.
229. Leonard W. Doob, "The Behavior of Attitudes," 54 Psychological Review 135-156 (1947).
230. Donald T. Campbell, "Social Attitudes and Other Acquired Behavioral Dispositions," in Sigmund Koch (ed) Psychology: A Study of a Science (New York: McGraw-Hill Book Company, Inc. 1963) 94-172.
231. Schubert, Judicial Behavior, op. cit. 447.
232. Douglas W. Bray, "The Prediction of Behavior from Two Attitude Scales," 45 Journal of Abnormal and Social Psychology 64-84 (January 1950).
233. James M. Fendricy, "Perceived Reference Group Support: Racial Attitudes and Overt Behavior," 32 American Sociological Review 960-970 (December 1967); Melvin L. DeFleur and Frank R. Westie, "Verbal Attitudes and Overt Acts: An Experiment on the Salience of Attitudes," 23 American Sociological Review 667-673 (1958).
234. G. Murphy, Lois Murphy, and T.M. Newcomb, Experimental Social Psychology (New York: Harper, 1937), quoted in Kretch, op. cit., 160.

235. See Fred Kort, "Content Analysis of Judicial Opinions and Rules of Law," in Schubert, Judicial Decision-Making, op. cit., 133-197.
236. Stuart S. Nagel, The Legal Process from a Behavioral Perspective (Homewood, Illinois, The Dorsey Press, 1969) 144-156.
237. Theodore L. Becker, The Impact of Supreme Court Decisions: Empirical Studies (New York: Oxford University Press, 1969).