

REPORT ON THESIS FOR DISTINCTION
(DUPLICATE)

NAME OF CANDIDATE: Jonathan Robert Pool

TITLE OF THESIS: The Usefulness of Quantitative Methods in Political Science:
the Case of Scaling and the United States Supreme Court

REMARKS:

This thesis has many virtues. The introductory section contains a clear and concise summary of the dispute between the non-quantitative and quantitative schools of analyzing judicial behavior and presents sensible criteria for evaluating the claims of each. The chapter of scaling techniques, although far from original, is exceptionally well written and evidences a sophisticated understanding of both the strengths and weaknesses, uses and misuses, of quantitative techniques. The author's judgments in this area are judicious, representing the eminently safe middle ground between extremists such as Mendelson and Schubert.

The inclusion of the chapter evaluating non-quantitative approaches was unfortunate for a variety of reasons, not the least of which is that it betrays an unfamiliarity with the material. My specific criticisms on this section are as follows:

1. The analysis proceeds from what I regard as an untenable and, in this case, unsupported assumption that the primary task of constitutional scholarship is to explain the behavior of the justices. To recognize that judges are human is not to deny, as the author apparently does, that there are objective standards of reason or logic--"neutral principles", if one prefers--which are capable of analyzing or explaining constitutional decisions.
2. The distinction between substance and method and the arranging (scaling?) of non-quantitative scholars on the basis of their "methodological sophistication", i.e., the number of factors that each considers, is folly. The inarticulate premise apparently is that all factors are of equal relevance; and this, quite simply, is not true. The poverty of the author's approach is amply attested by the fact that a propagandist, Fred Rodell, gets the highest ranking.
3. The choice of authors for evaluation is highly dubious. If

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THESIS COMMENTS, CONT.

the author wanted to evaluate the opposing schools, he might at least have juxtaposed Schubert to a Corwin, a Powell, or a Freund rather than a Rodell. (I will concede, however, that this might be analagous to comparing Bo Belinsky to Warren Spahn.)

This thesis would have been improved considerably if the author had simply acknowledged T. R. Powell's dictum that "The thinkers don't count and the counters don't think" and contented himself with analyzing, through the ~~use~~ use of more concrete examples, the effect quantitative methods had either in supporting or challenging the generalizations made by more conventional scholarship. By such an approach the author would have avoided many of the objections stated above and would have been able to exhibit to greater advantage his not inconsiderable skill and sophistication in explaining and evaluating quantitative analysis.

REPORT ON THESIS FOR DISTINCTION
(DUPLICATE)

NAME OF CANDIDATE: Jonathan Robert Pool

TITLE OF THESIS: The Usefulness of Quantitative Methods in Political Science:
the Case of Sealing and the United States Supreme Court

REMARKS:

This is a particularly well written and carefully thought out thesis, on a clearly circumscribed, though involved, topic. Within the limits you have set yourself, you have done a very good piece of work. Your criticisms of the deficiencies of sealing are well taken, as is your analysis of its advantages, particularly when used in conjunction with non-quantitative methods.

I wonder though, how far it is possible to generalize from this limited sphere, to the rest of the political science discipline, regarding the use of quantitative methods. Your introduction suggests that this is your original intention, although you do not return to it in the body of the essay. My guess is that many of the methodological problems which you raise at the beginning of the thesis are less applicable to other areas where quantitative methods are extensively used, such as voting behaviour. In other words, your analysis may be limited to the use of quantitative methods in studying Supreme Court decisions, and is not necessarily applicable over a wider area.

One aspect which you might have analysed is the reasoning of those opposed to the use of sealing in studying Supreme Court decisions, above and beyond the general methodological reasons which you deal with in Chapter 1.

REPORT ON THESIS FOR DISTINCTION
(DUPLICATE)

NAME OF CANDIDATE: Jonathan Robert Pool

TITLE OF THESIS: The Usefulness of Quantitative Methods in Political Science:
the Case of Scaling and the United States Supreme Court

REMARKS:

This thesis is a first-class piece of reasoning and research. The almost medieval caution with which the arguments are set forth bespeak care in thought, which, more than anything else, convinced this reader of the validity of the points made and the conclusions reached. It is only because of this great care that I was able to easily identify my major objection to the work. Much is made of the need for research to be useful, but what is left unanswered is the question -- useful to whom. Propositions may be interesting, but they are rarely interesting in themselves, but rather interesting to particular persons for particular reasons. The argument would have been stronger had there been five pages or so outlining exactly which of the findings of scaling are of interest or useful to exactly which persons. What would ~~excite~~ excite a social psychologist would leave a political scientist cold, and completely mystify a lawyer.

On page 65, the text talks of Schubert, but footnote 89 refers to Spaeth -- must this be? The proofreading, although not bad, did not approach that perfection that one might desire.

It is difficult to say much about the merits of this thesis, since it speaks so adequately for itself. Starting from carefully worked out premises, it goes on to discuss with considerable care the foolishness ~~in~~ that some men have committed to print; the paper does not deal with straw men. With a properly respectful tone, it examines what men have actually said, asks searching questions, and raises embarrassing counter-examples. The moderate conclusion is fully justified by the content of the argument, and it holds out just that proper amount of hope for the future to a present that it has most thoroughly damned.

**The Usefulness of Quantitative Methods in Political Science:
the Case of Scaling and the United States Supreme Court**

A thesis presented

by

Jonathan Robert Pool

to

**The Department of Government
in partial fulfillment of the requirements
for the degree with honors
of Bachelor of Arts
Harvard College
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Introduction

The purpose of this thesis is to attempt a partial answer to the question: Are quantitative methods useful in the study of the United States Supreme Court? The meanings of the terms in this question will be clarified in the following section, but first it is necessary to explain something that may not be clear to the reader. This study does not aim to discover anything about the the Supreme Court. The Court is being used as a special case: a small branch of politics. It is hoped that if we can discover whether quantitative methods are useful in the study of the Supreme Court, we shall have come part way towards answering the broader question which motivates this study: Are quantitative methods useful in the study of politics? Therefore, this paper is a study of methodology in political science, and not a study in American government or Constitutional law.

Our approach to the question will be a case study of the use of Guttman scaling in the analysis of the attitudes of the Justices. Our major problem in this undertaking will be to separate the assets and defects inherent in scaling as a method from the characteristics which its users have implanted in it while applying it to the Supreme

Court.

Our study will involve two main parts: an evaluation of the non-quantitative methods that are used in the same area of inquiry as scaling, and an evaluation of scaling itself as applied to the Supreme Court. What follows will be divided into three parts: first, a clarification of the question; second, a consideration of the problems involved in answering the question and the manner in which an answer will be sought; and, third, the analysis itself.

I

Clarification of the Question

Quantitative methods are methods, whether of obtaining information or presenting it, which use numbers or other means of precisely expressing absolute or relative amounts.

Such methods are useful for something if they have already been profitably used for such a purpose. This paper will not primarily consider whether it is possible that some quantitative method or methods, not yet invented or applied, may at some time in the indefinite future prove profitable in the study of the Supreme Court. Rather we shall here be concerned with examining quantitative studies already conducted on the Supreme Court, and to discover, partly by comparison with non-quantitative studies, whether quantitative methods have been profitably employed. Whether a method has been used profitably or unprofitably is a subjective matter. Our criteria for judgment will be elaborated in the next section.

By the United States Supreme Court is meant the Justices (normally nine) who sit on the Court and their behavior as members of the Court. The Justices and their

behavior may be considered individually or collectively, in relation to each other or to the outside world.

II

The Problems of the Question and the Plan of Analysis

Many arguments have been advanced both for and against the use of scientific methods (methods used in the natural sciences) in the study of politics.¹ Since quantitative methods are one of the chief components of scientific methods, some of these arguments may be applicable to the subject of our inquiry. Most important, an examination of these arguments will give us a collection of reasons why quantitative methods may or may not be profitably employed, in the minds of those who have stated the arguments. Implied in these reasons will be criteria of profitability and unprofitability. After taking note of these criteria implicit in the thought of others, we shall be better able to set forth our own criteria. We should then be able to fix upon a procedure for applying our criteria, in search of an answer to our question.

Arguments for and against the use of scientific methods in the study of politics may be grouped into two

categories:

1. Arguments for and against the proposition that scientific methods can be profitable in improving knowledge or understanding of politics.

2. Arguments which state that the use of scientific methods in the study of politics has beneficial or, on the other hand, harmful effects on the world, apart from their effects on the knowledge or understanding of politics.

We shall consider the two categories in order, and within each category we shall begin with arguments for, and then treat arguments against, scientific methods.

What are some arguments that are employed in support of the notion that scientific methods can be profitable for improving knowledge and understanding of politics? In the first place, it is said that political inquiry which does not use scientific methods has faults. One such fault is the confusion of descriptive facts with normative values, which, it is said, often occurs in the absence of scientific methods.² Here a political thinker declares that something is, when in reality he only thinks that it ought to be. If this fault is not present, descriptions of fact are still based on the

unsystematic collection of information, with a reliance on common sense, says a second argument. Common sense can give us information which is not only imprecise, but even opposite to the truth.³ And once we have obtained this information, completely false though it may be, common sense is capable of explaining why the information is reasonable, and even why it is obvious.⁴

The advocates of scientific methods, then, claim that they are helpful because they can be used to eliminate or at least mitigate the faults of non-scientific political study. Scientific methods include the precise definition of terms and the precise formulation of methods for verifying or disproving theories. Thus, when these methods are applied to the objective world, "the bias of each single observer, although not eliminated, can at least be taken into account."⁵ This holds for the bias which confuses values with facts, as well as the one which is present in common sense and distorts the apparent facts that we perceive.

Another argument for scientific methods says that the things that we elect to study are influenced by the means available for studying them. Some aspects of politics are more amenable to scientific study than others.

Moreover, many of those subjects that are amenable are more interesting than many subjects which are fitting for non-scientific methods. Therefore, and increased use of scientific methods would shift attention from less interesting to more interesting topics.

Thus scientific methods are said to aid the understanding of politics by:

1. Separating facts from values.
2. Reducing the influence of subjectivity.
3. Focusing attention on important topics.

For each of these arguments, there is an opposing argument against the use of scientific methods in the study of politics.* In answer to the accusation that non-scientific methods facilitate the confusion of facts with values, it is said that, in politics, facts are inseparable from values, and that any attempted separation of the two is detrimental to our understanding of politics. As Bertrand de Jouvenel has stated:

In the theory of astronomy there is no place for Ptolemaeus, in the theory of chemistry no place for Paracelsus: not so in political theory. The theory of any science is an integrated whole from

*In actual fact the arguments appear in the opposite order from the one presented here. Researchers begin to use scientific methods in political science; they are attacked by non-users; finally the users of scientific methods rebut these attacks.

which past theories have been discarded. Political theory is a collection of individual theories which stand side by side, each one more or less impervious to the impact of new observations and to the advent of new theories. This can be the case only because political theories are normative (i.e. are doctrines), and are not meant to perform the representative function which the word "theory" evokes in the case of the factual sciences.⁶

If a student of politics claims to exclude his values from his work, goes one argument, he is merely denying that his work is biased, although in fact a bias is inevitably present. Many reasons are advanced for the inevitability of a bias. In the first place, the selection of problems for study necessarily precedes any study, and this selection requires the exercise of values, to determine what, in the mind of the investigator, is important or worth studying.⁷ Once a problem has been selected, an investigator cannot avoid letting his values influence the results of his study. And, if he tries to eliminate the influence of his values, by this very act he bases his research on some value-laden assumption or assumptions. For example, according to Leo Strauss, when a scholar refuses to assume the existence of a common good or a public interest, he is tacitly assuming the equality of all values; but this assumption

in turn implies support of a kind of government that treats all values as equal in their right to be expressed: this kind of government is liberal democracy.⁸

Opponents of scientific methods also contest the assertion that common sense is an unreliable source of information. There is no such thing, they say, as objective truth, for in politics and in human affairs generally all facts are subjective. Even pure sense perceptions vary, it is said, from one person to another; a much greater variation occurs when the observers begin to interpret what they perceive in order to make it meaningful to them.⁹ For facts derive their meanings from the ways in which people think about them: something is a tool, for example, only because of a purpose that men assign to it;¹⁰ and facts about society are meaningful only because most people think more or less alike. This similarity in thinking allows us, for example, to interpret a vote for someone as an indication of support.¹¹ Since there is always some subjectivity in what we take as fact, a user of scientific methods who tries to eliminate all subjectivity necessarily fails. If he is classifying things, he cannot help making his

choice of categories subjective.¹² And, in defining his area of inquiry, in formulating his questions, in deciding which methods he will accept as scientific, and in establishing criteria for simplicity and therefore preferability of formulae, he must rely on a "pre-scientific" and aesthetic knowledge of the world as a whole, derived from general "life-experience".¹³ Thus, "...to understand politics implies the kind of insight characteristic of the artist as well as the precision which we usually associate with science...."¹⁴ As a result of the alleged inadequacies of scientific methods, it is claimed by some that scientific methods cannot tell us anything that more traditional methods cannot tell us. The complaint is heard that scientific methods merely verify what is already known, if not by the common man,¹⁵ at least by "intelligent and educated journalists" and "political practitioners".¹⁶ Some are even less charitable to the methods of science and claim that with these methods the student cannot reach a state of any significant understanding about politics. According to one such argument, "political understanding" is acquired through the common-sense perception of qualities, and cannot be acquired by empirical processes.

Hence, the new political science, based as it is on empiricism, must reject the results of political understanding and political experience as such, and since the political things are given to us in political understanding and political experience, the new political science cannot be helpful for the deeper understanding of political things: it must reduce the political things to non-political data.¹⁷

Even assuming that scientific methods can give us knowledge that is not otherwise available, opponents of scientific methods dispute the claim that this knowledge is interesting. They assert that the users of scientific methods propose comprehensive theories and then unsuccessfully try to verify their theories by treating the most trivial particular cases within the theories, for only the trivial is amenable to scientific methods.¹⁸

Whatever the inherent potentialities of scientific methods, we are told that those who utilize them do so with such incompetence that the potentialities are nullified. This incompetence is manifested in several ways. Those who use scientific methods, influenced by their methods, may make assumptions about politics and man that are unwarranted. The attempted elimination of the values of the scholar from his work may make him assume that men's values do not influence their actions; or the search for rules expressing correlations between

men's behavior and factors external to men may lead the scholar to assume that, given a sufficiently advanced state of research technology, we could predict with exactitude men's activities from elements of their environments.¹⁹ Another type of incompetence is the inflation of the usefulness of scientific methods until all other sources of political knowledge are considered of negligible importance.²⁰ Where scientific methods may be accepted as a productive supplement to preexisting methods of gaining understanding, scientific methods are not necessarily admitted to be capable of everything that other methods can do, and so a total substitution can only do harm. Such an absolutist attitude can lead to a distorted selection of data to be gathered, favoring those data that are most easily obtained by scientific methods. Thus an investigator may refuse to consider anything that falls outside of the present time or of a certain geographical area where, for example, the government is of a kind that makes certain research techniques practicable.²¹ An overly parochial view of what information is needed may arise from an excessive reliance not only on scientific methods, but also more particularly on quantitative methods.

The blind transfer of the striving for quantitative measurements to a field in which the specific conditions are not present which give it its basic importance in the natural sciences, is the result of an entirely unfounded prejudice. It is possibly responsible for the worst aberrations and absurdities produced by scientism in the social sciences. It not only leads frequently to the selection for study of the most irrelevant aspects of the phenomena because they happen to be measurable, but also to "measurements" and assumptions of numerical values which are absolutely meaningless.²²

Other kinds of incompetence are alleged to be characteristic of those who use scientific methods, although these faults are not necessarily implied by the methods themselves. One such sin is the confusing jargon-laden style that is said to be so prevalent in scientific political writing that the findings of scientific politics, whether important and interesting or not, are incomprehensible to the lay reader.²³ Another alleged fault is the making of arbitrary decisions, which make the conclusions of a study very different from, and even opposite to, what they would be if other, no more arbitrary, decisions were made. Misclassification is a common example.²⁴ Some have attacked the tendency of those who use scientific methods to concentrate on individuals and small groups as units of analysis, making conclusions about macro-politics from individual and

small-group behavior, but not recognizing that the latter not only affects, but also is affected by, political aggregates such as states.²⁵ Twenty years ago, however, Hayek accused the "scientists" of the opposite fault. He claimed that they sought laws governing aggregates which they simply accepted as existing, without questioning whether these aggregates were anything more than a collection of unrelated elements lumped under one name in the popular vocabulary. "The social sciences", he wrote, "...do not deal with 'given' wholes but their task is to constitute these wholes by constructing models from the familiar elements...." These models should be "precise descriptions", which "separate...the significant from the accidental...."²⁶ What Hayek decried scientific political studies for lacking seems now to be a major characteristic of the work of the users of scientific methods, especially the "behavioralists".²⁷

In sum, it is argued that scientific methods do not aid the understanding of politics because:

1. Facts and values are inseparable in politics.
2. All political facts are subjective.

and because scientific methods:

1. Tell us no more than do non-scientific methods.

2. Tell us only about trivial things.
3. Are conducive to false assumptions.
4. Tend to limit the information and the non-scientific methods used.
5. Are used incompetently.

Having scanned the major arguments concerning the possibility of scientific methods being profitable for improving knowledge or understanding of politics, we shall consider some arguments which treat the desirability of using such methods, taking into account their effects on the world as a whole. There is little explicit argumentation on the affirmative side, perhaps because of the widespread assumption that an increase in knowledge and understanding is good in itself. Occasionally, however, this point is made, especially when it might seem doubtful. Usually specific advances of knowledge through scientific methods are adduced, and the resulting advantages for government policymaking or for other goals are explained.²⁸ On the other side, those who believe that scientific methods add nothing to political knowledge, or even detract from it by displacing other methods, can argue that such methods are harmful for that very reason. However, it is also possible

for one person both to credit scientific methods with the ability to help increase knowledge, and to assert that they are still detrimental. The making of policy, for example, requires values and an estimate of the conditions of the future, and since, it is argued, scientific methods can supply neither values nor predictions, an excessive emphasis on such methods will handicap policy-makers.²⁹ According to another argument, the use of scientific methods tends to lure the users into a belief that they can collect in one place all the information necessary to direct society absolutely from the center, a belief which is both false and pernicious.³⁰ Still another opponent of scientific methods claims that those who use them are prone to make quantitative, rather than more traditional qualitative, distinctions between things. Distinctions between kinds of government are an example, and "everyone knows what follows from the demonstration...that there is only a difference of degree between liberal democracy and communism in regard to coercion and freedom."³¹ In a passage quoted above, Bertrand de Jouvenel pointed out the special doctrinal nature of political theory as opposed to scientific theory. He then added:

Why is political science rich in normative theories, deficient in "representative" theory? Only a fool would opine that the masters of the past were incapable of establishing the latter: they must have been unwilling. And why? The reason may lie in... [a] sense of danger....³²

The "danger" lies in the conflict between preceptive political philosophy and factual political science. The former has always taught politically active persons to be moral by means of two phrases: You can not do this, and This is what is done. Without these two sanctions of practicality and custom, pure normative statements would not have succeeded in influencing those in power. But factual political science "by its very nature"

pulls down what the preceptive science has built up. Where the preceptive science stressed "You can not," factual science is bound to observe that "You can"; and what the preceptive science indicates as "What is done" is denied by the findings of factual science.... A factual science in this realm is therefore dangerous medicine for weak moral constitutions.³³

We have considered some of the main arguments for and against the use of scientific methods in the study of politics. Implicit in the arguments are various criteria by which to judge whether a method can be profitable in the study of politics. Some hold that the method should help distinguish statements of fact from statements of

value and eliminate or define errors arising from subjectivity. Others believe that the method should enable its user to base his factual statements on certain values and assumptions, or to realize which values and assumptions are implicit in his statements. Both of these opinions assume a goal of improving knowledge and understanding of politics, but they are based on different assumptions about the nature of political knowledge and understanding. In spite of this difference, there are some broad criteria on which the various arguments cited above do not disagree. The knowledge acquirable by the method in question should be either inaccessible by other methods or more easily, more conveniently, more reliably, or in some other way preferably reached by this method than by others. This knowledge should be about subjects that are somehow "interesting" or "important", rather than "trivial" or "inconsequential". And the knowledge should not have detrimental effects on the world that outweigh its beneficial effects on political science. Thus we have four criteria for the ability of a method to be profitable. Proponents and opponents of scientific methods agree on these criteria, and we can adopt them for our study of quantitative methods.

Remembering our definition of what is useful, we shall say that quantitative methods, and, in particular, scaling, are useful in the study of the United States Supreme Court if they have:

1. Improved knowledge or understanding.
2. Done so better than other methods.
3. Done so about things interesting or important.
4. Not caused more harm than good in the process.

In seeking to discover whether these criteria have been met, we shall need to ask ourselves many questions, suggested by the foregoing arguments. In considering the first criterion, we shall ask:

1. Have values successfully been separated from facts with quantitative methods, or have values influenced facts but been obscured by quantitative methods? What values, if any, have affected the results of quantitative studies?

2. Has subjectivity successfully been removed from quantitative studies, or has it remained? If there is subjectivity, is it made apparent or obscured?

3. Have quantitative methods led their users to concentrate their attention on certain kinds of problems or on certain areas of study, or to ignore non-quantita-

tive methods, with the result that our view of the subject under study is distorted and our understanding of it either is not augmented or is hampered?

4. If the users of quantitative methods have gained understanding with these methods, have the users confined their understanding to themselves by presenting their findings in a jargon-filled or otherwise incomprehensible manner?

In dealing with the second criterion, we should ask:

1. Have non-quantitative studies of the Supreme Court confused facts with values? Have any values implicit in the results been defined or have they been obscured?

2. Have non-quantitative studies presented conclusions partly stemming from the subjectivity of the investigators?

3. Have non-quantitative methods been accompanied by careless collection of information, careless reasoning, or the influence of elements of "common sense", leading to unjustified, incorrect, or meaningless conclusions?

The third criterion requires us to ask: Has the application of quantitative methods to the study of the Supreme Court turned our attention to, and given us an understanding of, more or less interesting, and more or

less important, subjects than have non-quantitative methods?

The fourth criterion suggests the following questions:

1. Have quantitative studies of the Supreme Court changed the knowledge or attitudes of people in such a way as to be harmful or beneficial?
2. Have quantitative studies had any other significant effects on the world, including the Supreme Court itself?

The nature of the third and fourth criteria makes it impossible to decide objectively whether they are met, since what is important and what is harmful are matters of opinion. These two criteria will occupy, for this reason, a less important place in our discussion than the first two criteria.

On the basis of arguments for and against the use of scientific methods in the study of politics, we have formulated criteria for the profitability of quantitative methods in the study of the Supreme Court, and questions that will help us apply these criteria. We can now decide on a suitable plan for seeking an answer to the problem of this paper.

We have derived and stated the criteria above in such a way that they could be applied to any quantitative method used to study the Supreme Court. As stated in the Introduction and explained in Section IV, however, we shall be able to examine here only one area of inquiry into the Court, the attitudes of the Justices, and only one quantitative method used in this area, scaling. To apply the criteria which we have formulated to evaluate scaling, it will be necessary, because of the second criterion, to treat both non-quantitative methods and scaling with about equal attention. Since we want to know which characteristics of the work done with both kinds of methods are inherent in the methods themselves and which are the result of the way the methods are employed, we must distinguish the methods, their theories, and their actual applications from each other. First, therefore, for each kind of method, we shall examine the methods in theory and practice, to find out how they might work and do work. Then we shall subject them, both individually and in comparison, to criticism, based on our four criteria. Finally we shall offer an answer (a partial one dealing with scaling alone) to the question asked at the beginning of this paper.

III

Non-quantitative Methods

Being appointed for life, the Justices of the Supreme Court are immune from one form of check by the people, removal from office, and until more sophisticated methods of control were acknowledged to operate, it could be assumed that the Justices were basically "politically nonresponsible",³⁴ a fact incongruent with their great power in a supposedly popular government. "The dilemma was once resolved by recourse to the fiction that the Court has no power; it merely applies the Constitution which, in some mystical way, is always the highest expression of the people's will."³⁵ As late as 1936, the Court in its opinions "propounded with a straight face" this "'yardstick theory'" of objective application of the Constitution to questioned laws.³⁶ At the same time, however, the Court itself, by the vitriolic attacks of dissenters against the views of the majority and by Justice "Roberts' strange waverings and wanderings"³⁷, began to make it clear to the public that "the Supreme Court...always has been and, so long as it retains its present powers, always will be a political institution."³⁸

Thus it is generally admitted by students of the Court, regardless of their methods of scholarship, that the attitudes of the individual Justices have some influence on the way they decide particular questions. There is no general agreement, however, on just what the attitudes of each Justice are, or on what attitudes each Justice bases his decisions. And it is on this question that the users of quantitative methods often differ from those who use non-quantitative methods.

In order to make a thorough comparison of non-quantitative methods of studying Justices' attitudes with the quantitative method of scaling, we must investigate both the theory and the operation of each. In the case of scaling, the theory is explicitly stated by those who use the method. We can thus begin by examining the theory, and go on by discovering how it is used and what its use achieves. Non-quantitative methods, however, do not have a single, articulated theory, and there are many methods, each operating according to its own unstated theory. Therefore, although our discussion of scaling will proceed from theory to practice, we shall move in the opposite direction in analyzing non-quantitative methods, and this is the analysis which we shall undertake

first.

In a short paper such as this which examines non-quantitative work in order to evaluate the quantitative, no pretense can be made at making a survey of the non-quantitative studies drawing conclusions about Justices' attitudes. We can, however, consider a small sample of writings representative of different kinds of non-quantitative scholarship, and we shall do so, proceeding in order of increasing sophistication of methods. The least sophisticated method is pure compilation of the Justices' own writings, usually their written opinions. This method does not really claim to discover attitudes, but simply to present material for analysis by others.

But there are those who do claim to reveal the Justices' attitudes, by means of only a slight embellishment on pure compilation. Examples include the summaries of Supreme Court terms found especially, but not solely, in law journals.³⁹ Typically, in such articles, the cases decided during the term are grouped into legal categories, such as Federal power and state power, and further divided into sub-groups. The discussion of each case is prefaced with comments on its background and its implications. Then the Court's decision is summarized

and its effect is explained or predicted. The dissenting opinions are also summarized, and occasionally the author expresses his own judgment on what the Court should have decided. In classifying, summarizing, and putting into their practical contexts the opinions, such studies are more advanced than anthologies. Since, however, the main purpose of these surveys is to detect changes in legal principles and not Justices' attitudes, we can understand the failure to be more critical in the presentation of the attitudes.

When the purpose of a study is to reveal the attitudes of a Justice, such a method is less easy to accept. One study of Brennan, for example,⁴⁰ states: "Undoubtedly, the most accurate source of the true nature of Mr. Justice Brennan's legal characteristics and jurisprudential leanings are: first, his decisions in the New Jersey courts; second, his written statements and public addresses; and third, his decisions as Associate Justice of the United States Supreme Court."⁴¹ The authors proceed to present selections from these sources and to generalize therefrom, without making any interpretations of their own and without questioning the possible existence of a divergence between the Justice's stated

opinions and his actual attitudes. Included are statements, made to a hostile Senator in testimony preceding confirmation of Brennan's appointment, about his view of the rigidity or adaptability of the Constitution over time. The methods used in the studies so far mentioned make them unsophisticated as aids to understanding the Justices' attitudes.

A second group of studies we might call methodologically semi-sophisticated. These do everything done by the first group, but, in addition, they subject the Justices' opinions to more extensive interpretation or rely partly on sources other than the writings of the Justices. Such is the treatment of Justices' attitudes in T.A. Mason's The Supreme Court: Palladium of Freedom.⁴² In addition to restating the Justices' expressed opinions in concise form, Mason divides the Justices into two groups, contrasts the principles followed by the groups, and generalizes about their behavior, as distinguished from their opinions. The Frankfurter-Clark-Whittaker-Harlan-Stewart group, for instance, is "inclined to pay greater deference to presumption of constitutionality" and generally favors "public power" over "individual rights".⁴³ Frankfurter, especially, is "vehemently

opposed to the preferred freedom concept⁴⁴, which is the guiding doctrine, according to Mason, of the Warren-Black-Douglas-Brennan group.⁴⁵

In her biography of Frankfurter⁴⁶, Helen S. Thomas relies almost exclusively on his writings as sources.* Her technique is to divide the cases into groups according to subjects and, taking one subject as a time, to describe Frankfurter's opinions in the relevant cases. She also compares his opinions with those of other Justices, most often Black. Finally she explains Frankfurter's opinions, by naming the general principles on which they are based and which serve to make all the opinions on each subject consistent. For example, Frankfurter's "desire to avoid trivia motivates his behavior on certiorari problems and on the PELA."⁴⁸ In civil liberties questions, Frankfurter thinks that the Court should "acknowledge legislative ability to deal with the problems of subversion", and if "the judiciary, and

**[H]e has provided analysts with a library of materials, ranging from pieces for The Nation and the New Republic to works on varying aspects of the Supreme Court history and personnel.... [H]e has written, as of the end of the 1958 Term, two hundred and forty opinions or judgments for the Court. In addition he has produced over two hundred and fifty dissents and over one hundred and fifty concurrences. Once again, the analyst is faced with an abundance of information."⁴⁷

especially the Supreme Court, assures procedural protection for the people, they have done all they can." But "if any restriction is placed upon any individual...", Frankfurter favors an "absolutist interpretation of the First Amendment", based on the "'clear and present danger" rule.⁴⁹ Frankfurter, the author indicates, would have voted, in the Steel Seizure Case of 1952, against the steel companies, were it not for the fact that he found the "major public interest...not in the issue of executive seizure versus the claims of the steel companies but in the broader issue of executive-legislative relations and competences."⁵⁰ This was, however, "one of the most trying personal cases of his career...."⁵¹

Thomas admits that "Frankfurter is not entirely consistent" on the question of which subjects are outside the proper realm of Supreme Court decision, because of his favoritism toward Court supervision of education on the state level, compared with his opposition to the role for the Court of "'super-legal-aid bureau'" or "divorce court for the nation".⁵² But she defends the consistency of Frankfurter's opinions with his pre-Court activities: his support of the defendants in the Palmer Raids and the Sacco-Vanzetti case was due not to his leftward leaning,

but to his concern for due process, and the same holds for his opinions on the Court.⁵³

Another example of semi-sophisticated scholarship is an article on Brennan by Daniel Berman.⁵⁴ Berman uses the Justice's opinions, his speeches outside the Court, and his voting behavior to discover his attitudes. Supporting his assertion with quotations from Brennan's opinion in Roth, Berman says, "In Roth, the Justice strove valiantly to prevent his ruling from becoming another precedent, however oblique, for the abridgment of the freedom to speak and write on public questions."⁵⁵ Among his interpretations of the Justice's general behavior, Berman credits him with "a passionate concern with the rights of persons accused of crimes" and with a "great indignation" at improper police tactics and other violations of the right to a fair trial.⁵⁶ He is not frightened by big business, and he is favorable toward workers, as is seen in the FEELA cases. "Another generalization which seems warranted on the basis of Brennan's first year is that he shows no inclination to subordinate the individual's right to speak freely on public questions to society's right to protect itself from 'dangerous ideas.'"⁵⁷

A final instructive example of the studies of this type is an article entitled, "Mr. Justice Whittaker", by Marlin Volz.⁵⁸ His sources include Whittaker's opinions, both before and during his Supreme Court Justiceship, and the reactions of lawyers and others to his appointment and to his opinions. Volz succinctly summarizes his conclusions thus:

He hews consistently to the law as he understands it and votes his convictions independently of any possible divisions within the Court. ...Nor may his action be predicted on the basis of any liberal or conservative bent, for he is giving evidence of being neither. He appears to be neutral in the contest between the supremacy of federal and state law. He gives expression to no prejudice in favor of or against the exercise of federal jurisdiction.^{59*}

 *Perhaps to be included in the semi-sophisticated group are articles like "The Frankfurter Imprint as Seen by a Colleague", written by Justice Harlan.⁶⁰ The author does more than restate Frankfurter's expressed opinions, but clearly does not go as far as he, because of his position, is able; and his close association with Frankfurter gives Harlan an expertise that allows him to propound an interpretation of his fellow Justice without offering any documentary sources as evidence. Harlan portrays Justice Frankfurter as being nowhere on the conventional liberalism-conservatism spectrum:

For one of the things that shines brightly and consistently throughout the whole of Mr. Justice Frankfurter's judicial work is a fierce determination to keep his own ideologies and predilections out of the decision of cases. ...One could point to many instances where he felt compelled to decide a case quite contrary to his personal tastes.*

Frankfurter, says Harlan, sought an objectivity combining

It should be clear from the above examples, particularly the last, that a stage of sophistication, as the term is used here, has no implication of a degree of perspicacity, insightfulness, or correctness, but merely indicates how many kinds of sources are used and how many kinds of analysis are applied to them: it is methodological, not substantive, sophistication.

When a study utilizes a wide variety of sources, or undertakes a detailed analysis of its sources, we can call it methodologically sophisticated. Here the scholar is not content to accept more or less at face value two or three kinds of sources, for example opinions and votes. He adds supplementary sources to his study, to check the principal ones, or he carefully examines his few sources, testing them for internal consistency, or he does both of these.

We shall consider three examples of this third type of scholarship. The first is an article not primarily devoted to the explanation of Justices' attitudes, but containing conclusions about them nevertheless. Robert ----- an understanding of American federalism, the separation of powers, and the balance between the individual and the government, with a "dispassionate approach to the conflicting forces always present in a dynamic economy"⁶¹.

McCloskey's survey of the progress of civil rights and liberties during the 1960 term of the Court⁶² is notable for the variety of sources and means of analysis which he uses. He begins the discussion of each case by considering its background. Then he presents the facts of the case as he sees them. On this basis he states the alternatives among which he believes the Court had to choose, and there are not always only two. In Scales v. United States⁶³, for example, the Court did not have to choose between upholding Scales's conviction for knowing membership in the Communist Party and reversing the conviction on the grounds that punishment of membership, even if knowing, is unconstitutional. A third alternative was to interpret the per se clause of the McCarran Act as repealing the membership clause of the Smith Act. McCloskey also explains the alternatives open to the Court in light of the jurisprudential principles to which it must conform. Thus, if precedents indicate that gerrymandering to disenfranchise Negroes is outside the reach of the Supreme Court, then in order to bring the practice within its purview the Court must either announce a special status for acts of racial discrimination or formulate a new general rule with which both the

precedent and the new decision are compatible. After this step, McCloskey discusses the probable effects of the various alternatives. Only at this point does he actually describe the opinions and the votes given in the case. Then he predicts the effect of the opinion of the Court; one technique used to this end is the juxtaposition of the case with others in the same field, to see in which direction and to what extent the Court's policy has changed. He also discusses the consistency of the Court's decision with its previous ones. After all this analysis, he makes a personal evaluation of the decision, sometimes suggesting that he would favor an alternative other than the one selected by the Court. After considering in this manner individual cases, grouped by topic, he evaluates the entire term's civil rights and liberties work, putting the cases and their effects into a perspective that, in this case, makes what might seem a regressive term look instead like one in which rights and liberties have been manifestly enhanced. The development of legal doctrine, too, during the term is given close attention.

McCloskey finally seeks in the Justices' attitudes a partial explanation of the trends which he has described.

In this article he asserts that the Court is plagued by an idiosyncratic dogmatism on the part of such Justices as Douglas, Black, Frankfurter, and Clark. Each insists, even when voting for the same judgment, on writing his own opinion, giving different reasons for the same result. Each of these Justices has a parochial viewpoint which can never be shared by a majority of the Court, and the result is that the most experienced Justices (rigidity seems to accompany experience) rarely write the Court's opinions on major issues. McCloskey expresses particular concern at the effect that this situation has of retarding the growth of legal doctrine. The reader's understanding of these conclusions is enhanced—made possible, in fact—by the initial presentation of the alternatives facing the Court and the Court's reaction to its situation of choice.

We shall now turn to our second example of sophisticated study: Clyde Jacobs's Justice Frankfurter and Civil Liberties⁶⁴. This entire book is devoted to an analysis of Frankfurter's attitudes, and we can here discuss only a few examples of the technique employed therein. Jacobs uses as sources:

1. Frankfurter's writings and activities previous to

his Justiceship.

2. His opinions rendered as a member of the Court.

3. Letters to his fellow Justices.

4. The judgments for which he voted.

Jacobs's greatest reliance is on the two latter sources: he subjects the votes and the opinions in several related cases simultaneously to close, critical analysis, seeking the distinctions which Frankfurter must have made among various cases if his votes are to be rationally explained. Jacobs tries to find patterns and tendencies in the Justice's behavior, such as in his choices among the kinds of judicial action open to the Court.

On the familiar matter of Frankfurter's pre-judicial compared with his judicial behavior, Jacobs claims that Frankfurter believes in both civil liberties and judicial self-restraint. These two ideas were once mutually supporting, but they now compete. Considerations of self-restraint "are rarely, if ever, forgotten by Frankfurter; and they account in the main for those opinions which seemingly run counter to those which, in a nonjudicial capacity, he would undoubtedly advance."⁶⁵

If one were to rely on Frankfurter's explicit references to the preferred-position doctrine of the First

Amendment freedoms, one would conclude without doubt that Frankfurter is simply and strongly opposed to it. Jacobs, however, admitting that Frankfurter is not willing to presume laws hampering free expression unconstitutional, still asserts that Frankfurter does accord a preferred position to these freedoms: Frankfurter allows defendants whose actions were not protected by the First Amendment to argue the unconstitutionality of the violated law because some other hypothetical actions, covered by the same law but not involved in the case at hand, are covered by the Amendment. This boon granted to the defense is "a departure from the established rule..." and constitutes favoritism toward the First Amendment.⁶⁶

By concentrating on two subversion cases, Jacobs analyzes the pattern in which Frankfurter copes with this question. In Dennis v. United States⁶⁷, Frankfurter voted to uphold the Smith Act against leaders of the Communist Party. He recognized that enforcement of the act would have the effect of limiting even legitimate criticism of the existing order by the Communist Party and by the unorthodox in general; non-enforcement, on the other hand, would be likely to endanger national security to some extent. Frankfurter, says Jacobs, "has indicated

that, in his private judgment, measures directed against the Communists—such as the Smith Act—are unwise and probably futile. But this private judgment he would not transform into a judgment of the Court."⁶⁸ So in his dilemma he chose to let Congress decide which value—freedom or security—should prevail. This deference "was here a hard and disagreeable responsibility. ...Although he argues that the democratic process was not impaired or restricted by the Court's decision, notes of skepticism and of sadness pervade his opinion."⁶⁹

The second case, Sweezy v. New Hampshire⁷⁰, involved a non-Communist, convicted of contempt for refusing to answer questions in a state subversion inquiry. Here Frankfurter voted for the defendant, on the basis that the state had abridged his intellectual, academic, and political freedom. Frankfurter had acknowledged that the same abridgment would result from an upheld conviction in Dennis, but now he recognized no countervailing state interest in self-preservation, because Sweezy's activities in the Progressive Party could not be presumed a threat to security as could participation in the Communist Party. What is amazing, notes Jacobs, is that Frankfurter squarely faced the substantive issue of the

Sweezy case, while Warren, writing the opinion of the Court, in which Black, Douglas, and Brennan concurred, evaded the issue by reference to the excessive vagueness of the relevant legislation. Jacobs summons both constitutional arguments and the manner in which the state legislature reacted to the decision, as evidence for the artificiality of the Court's reason for reversing the conviction.

Jacobs does not generalize about Frankfurter from these two cases; on the contrary, he notes that, because Frankfurter here based his votes on constitutional questions,

these opinions are, for him, somewhat atypical His voting record, particularly since the beginning of the 1955 term, has revealed a strong disposition to favor individual claims in loyalty-security cases; yet, even when sustaining such claims, he has fastidiously avoided pronouncements imposing, in the name of free utterance and belief, substantive limitations upon governmental power.⁷¹

Jacobs also undertakes a closer analysis of Frankfurter's preferences among the freedoms accorded by the Bill of Rights. As opposed to the First Amendment, says Jacobs, the Fourth, Fifth, and Sixth Amendments tend to be invoked to question the fairness of judicial procedure, and do not call forth problems of the separation of

of powers or of Federal-state relations. Therefore Frankfurter, who acknowledges the supervisory duty of the Supreme Court over the lower courts, is activist in the enforcement of these Amendments. Here activism means implementing, not thwarting, Congress's will. Among these Amendments, Jacobs continues, Frankfurter's favorite is the Fourth. "No other member of the Court has demonstrated greater friendliness...toward individual claims" under the Fourth Amendment than Frankfurter, and even Black and Douglas are not strong supporters of the Amendment's protection. Perhaps the reason for this idiosyncrasy of Frankfurter's is the fact that privacy is the main goal of the Fourth Amendment, and, as is suggested by his support of privacy against sound trucks and door-to-door solicitors for religions, "This right is second to none in Justice Frankfurter's hierarchy of constitutional values."⁷² Jacobs backs up this assertion with an examination of Frankfurter's voting record, which shows that in every relevant case he has voted for the protection of the Fourth Amendment, regardless of the position of the majority of the Court.

Our third example of a sophisticated study is the iconoclastic interpretation of the attitudes of Black and

Frankfurter by Fred Rodell,⁷³ on the occasion of his prediction of the outcome of Baker v. Carr⁷⁴. For Rodell the ultimate test of any analysis of judicial attitudes is the success with which that analysis can be used to predict future votes. Taking two Justices, Frankfurter and Black, as an example, he claims that their votes "have been and remain far more accurately predictable in light of...personal predilections," not necessarily recognized by the Justices themselves, "than in terms of the allegedly impersonal, objective, reasoned rules with which those votes are regularly rationalized."⁷⁵ Rodell denies that Black is motivated by a principle of non-deference to legislatures. Although Black defends his civil liberties votes with the uncompromising language of the First Amendment, he would vote just the same if the First Amendment did not exist, and would base his vote on the requirement of due process or on whatever passage would be most convincing. Black's real motives, says Rodell, are a sympathy for "personal liberties", for the poor against the rich, for persons against businesses, for taxation of "personal or corporate wealth presumably for the public good", and for labor: in short, a "many-faceted evangelical yet practical humanitarianism."⁷⁶

Rodell's view of Frankfurter is analogous to that of Black. In contrast to what most non-quantitative scholars say, Rodell asserts that Frankfurter's record on judicial deference to the legislative branch is not consistent, but very unsteady. He has "not infrequently voted to strike down laws which Black has voted to uphold." He has led the Court in overthrowing "various state taxes" with the commerce clause, but has voted to uphold other, similar taxes when the clause invoked against them was due process. Frankfurter interferes with legislative power, says Rodell, but not by declaring laws unconstitutional. Instead he gives them narrow interpretations, in order (1) to make them constitutional and (2) to decrease any regulatory effect. The balancing doctrine which he uses in conflicts between security and liberty requires the exercise of much discretion by the Court and is therefore antithetical to the doctrine of deference. Frankfurter's true motives, according to Rodell, are a "worship of the Court as an institution" and a consequent desire to keep its "power and prestige" by minimizing the exercise of them; an elevation of the legislative branch to the top of the governmental system; and a passion for order, procedure, "propriety and form",

rather than concern "with the plain effect of government action on living human beings".⁷⁷

On the basis of this information and other knowledge in his possession, Rodell concluded his article⁷⁸ with a prediction of the outcome of a case that was still to be decided, Baker v. Carr. The predicted vote of every Justice except one (Clark) turned out to be correct (except for one non-participation). Rodell says that perfect prediction is impossible, because of the "infinite variety of human factors" which enter into each vote, but that consideration of these factors is rewarded more than attention to "such conditioned verbal behavior from the high bench as is illustrated by random and self-rationalizing balderdash about judicial deference to legislative will."⁷⁹

The foregoing examples of non-quantitative analysis of the attitudes of Justices show a variety of implied theories. The unsophisticated studies rely on the assumption that the attitudes of a Justice are the attitudes he explicitly claims, especially in his judicial opinions. If this assumption were instead stated as a theory and then defended with relevant obser-

vations, it would be respectable.* But when few students of politics take at face value the public statements of officials in the legislative or executive branch of the government, it is incumbent on those studying the judiciary to consider the possibility that public reaction, the legal tradition of the Supreme Court, the subjectivity of the Justices, or other forces may enter into the wording of the Justices' opinions. This possibility is assumed out of existence by the unsophisticated studies.

Semi-sophisticated and sophisticated scholarship considers that what Justices do, as well as what they say, is a clue to their attitudes, and that a useful interpretation of the Justices' actions and words is possible only with an examination of the surrounding circumstances. Rodell provides an example of an emphasis

*Wallace Mendelson, for example, portrays Frankfurter as a believer in judicial self-restraint and as one who follows this and his other declared principles.⁸⁰ At the same time, however, Black is described not only as an adherent of his professed judicial activism, but also as a man biased by feelings that do not find expression explicitly in his opinions, such as partiality toward workers and the poor and support for government action against business. Mendelson does not hold that all Justices automatically express in their opinions all their true motives, nor does he assume that Frankfurter does so and Black does not: this is what he sets out to prove.

on actions as opposed to words; McCloskey's article shows a special attention to surrounding circumstances. The theory implicit in this kind of scholarship is that all apparently relevant data should be taken into consideration before one draws conclusions, and a wide range of data is considered to be relevant. Clearly this is more satisfying than the assumption of unsophisticated scholarship, and is a principle by which responsible inquiry in other fields of the social sciences proceeds.

Nonetheless, even the sophisticated studies are not altogether satisfactory. For two reasons we must express misgivings about them and ask whether our discontent can be remedied. First, there is so much information which may be construed as pertinent to the attitudes of the Supreme Court Justices, that the selection process necessarily brings the prejudices of the individual scholar into play. Even if two persons choose the same data as source material, different interpretations are possible because of emphases on different aspects of the data. And second, the gap between source material and conclusions is almost never filled by the scholar in his writings: he rarely displays all his sources to the reader in the first place, but, if he does, he still

omits most of the reasoning which has conveyed his mind from the original information to the final evaluation. Most likely the scholar himself knows neither the entire range of his sources nor the process by which he interprets them; there is so much latitude for the operation of subjective elements that we need not be surprised when Rodell and Jacobs, for example, reach somewhat different conclusions about Frankfurter's attitudes. Thus the reader is unable to check the reasoning to see whether he would arrive at the same conclusion, given the same facts, and is unable to examine the facts to discover whether, in his opinion, there are any serious errors of omission or any undue emphasis. The reader can only survey what sources and what reasoning are given him, and decide from these whether the scholar's conclusions seem reasonable. These criticisms are not unique to the study of the Supreme Court: they are relevant to practically all investigation throughout the social sciences and the humanities. We might take them for granted, instead of treating them as disappointments, were it not for the appearance of a new movement within the ranks of the students of the Court, aimed specifically at the defects just mentioned. This is the behavioralist school; its

members study not "constitutional law", but "judicial behavior"; and quantitative methods are among their principal tools.

IV

Scaling

Quantitative methods have been used to study many aspects of the Supreme Court, since C. Herman Pritchett pioneered in their use in 1948.⁸¹ The summary decision-making of the Court has been quantitatively analyzed; the relation of Justices' behavior to their previous backgrounds and affiliations has been studied; the content of opinions has been mathematically analyzed; the statics and dynamics of intra-Court politics have been the object of much attention; and this is but a partial list.⁸²

The attitudes of the Justices have been treated by quantitative methods perhaps more than has any other topic. Three principal methods have been used for this purpose: content analysis, Guttman scaling, and multivariate analysis. Content analysis has been comparatively rarely employed, mostly by one scholar, and it represents not a very radical departure in theory from

non-quantitative methods, so we shall exclude it from consideration. For reasons to be explained below, we shall exclude also multivariate analysis. The remaining method, Guttman scaling, also known as cumulative scaling, is by far the most widely used and well established quantitative method for the investigation of Justices' attitudes, but, because of its theoretical and practical difficulties, its use for this purpose is often attacked. Scaling thus provides an ideal subject for our attention. As we indicated above, we shall study first the theory of scaling and then its operation in practice.

The theory of scaling is rooted, not in an esoteric mode of thought, but in common sense. The fact that the judicial process is based on the adversary system itself suggests that judges might think about their cases as problems of choice—each alternative being to favor one of two parties over the other. When precedent and the belief in rule by law rather than by men are firm, the choices involve deciding what precedents, laws, and constructions of law should apply to the facts of the case, as well as what facts should be taken into consideration. It is not unreasonable, then, to believe that judges translate the inter-party conflicts that they

face into conflicts between values, in an effort to assuage the impingements of their own arbitrariness on the course of justice. Thus it is quite conceivable that the Justices of the Supreme Court regard many of their cases as contests between two values. Obvious examples of such conflicting pairs include individual freedom versus national security, protection for workers versus economic freedom for management, and decision on Constitutional dilemmas by the politically semi-representative and semi-accountable Court versus by the popularly elected Congress.

Suppose, then, that some of the cases before the Court are viewed by all of the Justices as involving only, or predominantly, conflicts between pairs of values. If we can isolate a group of these cases involving conflicts between the same two values, then new possibilities for analysis should be opened. On the one hand, it should be possible to rank the Justices according to the intensity of their favoritism toward one value over the other. If in a certain case one Justice votes for value A and another for value B, we immediately know who is more willing to favor A over B. By making several such comparisons we can order all nine Justices,

from the most fervent partisan of A over B to the most avid supporter of B over A.

In precisely the same fashion we can rank the cases as well. It is common to conceptualize that one of the values in a case makes a claim against the other. Thus, if a certain Justice supports value A over value B in one case, but gives his vote to B in another case, we can conclude that for this Justice, with his particular attitude toward A and B, A's claim on B in the first case was mild enough to earn the Justice's support, but A's claim became more severe in the second case—so severe, in fact, that the Justice was no longer willing to support it. A series of comparisons can be made between cases, if we consider that a claim supported by a Justice is less severe than one denied by the same Justice. In this way we can rank the cases according to the severity of the claim of A on B.

It follows from what we have said that a Justice with a strong partiality toward value A will vote for A in more cases than will a Justice with cooler feelings toward A in comparison with B. And in a case in which A's claim on B is mild, A will get more votes than in a case where the claim is severe. It also follows that,

given a group of cases conforming to our specifications*, the clearest way to express our conclusions is to construct a diagram, in which the Justices, ranked, lie on one axis, and the cases, also ranked, lie on the other, and in which, at each point of intersection between a Justice and a case, the Justice's vote in the case is recorded. Such a diagram is named a "scalogram". A model of a perfect scalogram is shown in Table 1.

Case:	C1	C2	C3	C4	C5	C6	C7	C8	C9	C10
Justice:										
J1	x	x	x	x	x	x	x	x	x	-
J2	x	x	x	x	x	x	x	x	-	-
J3	x	x	x	x	x	x	x	-	-	-
J4	x	x	x	x	x	x	-	-	-	-
J5	x	x	x	x	x	-	-	-	-	-
J6	x	x	x	x	-	-	-	-	-	-
J7	x	x	x	-	-	-	-	-	-	-
J8	x	x	-	-	-	-	-	-	-	-
J9	x	-	-	-	-	-	-	-	-	-

Table 1

Model of a Perfect Scalogram

Symbols: x = vote for claim - = vote against claim

*That is, all cases viewed by all of the Justices as two-value conflicts, involving the same two values for every Justice and every case.

In this scalogram, the cases have been ranked from the one with the least severe claim on the left, C1, to the one with the most severe claim on the right, C10. The Justices have been ranked from the one most sympathetic to the claim at the top, J1, to the one least sympathetic to it on the bottom, J9. As is seen, for each Justice and for each case there is a "breaking point". Each Justice has voted for the claim in all cases left of his breaking point, and against the claim in all cases to the right. In each case, all the Justices above its breaking point have voted for the claim, and all those below the breaking point have voted against the claim. The breaking point of a Justice represents the most severe claim that he will support. We have shown that, if the Justices vote on a group of cases in accordance with their attitudes toward the conflict between two certain values, we can construct with the voting data a perfect scalogram. In practice, however, we do not begin with the Justices' motives and conclude from them a scalogram. It is the voting data that we are given, and with which we can construct a scalogram, and from this we seek to discover the attitudes of the Justices. However, it does not necessarily

follow that, if we can construct a perfect scalogram, we can also make firm conclusions about the Justices' attitudes. The reason is that there are other possible causes of the existence of a perfect scalogram than the fact that our assumption about the Justices' voting is correct. Even by pure chance the votes might form a pattern that could be perfectly scaled, as we shall see later. Therefore, in investigating attitudes by means of scaling, we must ~~rename~~ as our hypothesis what has heretofore been our basic assumption about the way the Justices decide how to vote.

Thus, the existence of a perfect scalogram may tend to confirm our hypothesis for the particular group of cases that is scaled. It is rare, however, that a perfect scalogram, such as in Table 1, can be produced from the real voting data of the Court, because of several characteristics of these data. It may be that two or more Justices have the same voting record, or that in two or more cases the same Justices voted for the claim and the same Justices against. In such a situation it is impossible to rank those Justices with the same voting record or those cases which elicited the same response from the Court. We are not justified in saying

that they are of the same rank: their breaking points may indeed differ. We know about each breaking point only that it lies somewhere in the region between the last positive and the first negative vote. Depending on the particular cases and Justices to whom these votes belong, the region of indeterminacy may be large or small, i.e. include a large or small variation in severity of claims and sympathy of Justices. If we cannot rank two cases, we shall never be able to rank them, for no new data will ever appear about the votes in those cases. If we cannot rank two Justices, however, there is still hope that in the future a case will arise whose claim splits the Justices, revealing who is more sympathetic to the claim.

The most serious reason for the frequent impossibility of constructing a perfect scalogram is that the votes cannot be arranged in such a way that every Justice has a breaking point which divides all his positive votes from all his negative votes. Some Justices have positive votes surrounded by negative ones, or vice versa: these are called by the scalars "inconsistencies". In order to eliminate the inconsistencies of one Justice, it would be necessary to re-arrange the cases in such a way that

inconsistencies would arise for other Justices. The presence of even one inconsistency forces us to re-examine our hypothesis that all of the Justices voted in all of the cases in accordance with their attitudes toward the conflict between one pair of values. Inconsistencies require the modification of this proposition, in one or more ways. One modification is to hypothesize that a Justice with inconsistencies in a scalogram changed his attitude toward the values at some time. If such a change is suspected, one can divide the group of cases into those decided before and those decided after the date of the alleged change, and then scale the two groups separately. If this operation does not work, however, and it becomes necessary to assume several changes of attitude in order to eliminate the inconsistencies, it then becomes reasonable to believe that the values about which the Justices' attitudes are being considered were not the only values affecting the votes. We are then led to conclude that there was more than one influential question in the minds of some of the Justices, making perfect scaling impossible. Another possible modification of the proposition tested by scaling is the addition of subjectivity. It is easily

conceivable that all the Justices could consider that a certain group of cases raised only one significant question and could all have a fixed attitude on that question, yet not vote in a scalable manner. All that is necessary is a difference in the severity of the claim perceived by one Justice from that perceived by another.

If, for a particular group of cases, the scalogram turns out to contain a large number of inconsistencies, we must conclude that the hypothesis is simply disproved for this group of cases. If, however, the number of inconsistencies is small, i.e. the scalogram is almost perfect, we can make it compatible with our hypothesis if we modify the hypothesis in one of the ways described above. We can also use a comprehensive, less specific modification, by making our hypothesis: the Justices in this group of cases voted generally, but not invariably, according to their attitudes toward the conflict between one pair of values. As long as there are only few inconsistencies, it is reasonable to consider this hypothesis, because the probability of a near-perfect scalogram occurring by chance is exceedingly small. In order to have some rule for deciding how imperfect a scalogram may be and still be considered helpful as an

almost perfect scalogram, scalers have established arbitrary criteria to decide whether a group of cases is scalable. The most sophisticated of these criteria is the coefficient of scalability, abbreviated "S", and it is equal to the fraction of the potentially inconsistent votes that is consistent. The commonly accepted minimum value of S for scalability is 0.60 or 0.65. In other words, if at least 60% or 65% of all the votes which might have been inconsistent (when nine Justices vote there is a maximum of four possible inconsistencies in each case) are consistent, the pattern is considered scalable. Another criterion is the coefficient of reproducibility (CR). This is the fraction of all votes cast that is consistent. If at least 90% of the votes recorded in the scalogram are consistent, the CR is 0.90 and the votes are considered scalable. The coefficient of scalability, the coefficient of reproducibility, and all other formulae for the measurement of scalability contain biases which become important when the given group of cases is characterized by one or another kind of voting pattern, such as many 5-4 votes. But our main concern is with the validity of the scaling process, and for our purposes the issue of the precision of the

indicators of scalability can be neglected.

Until this point we have discussed only one type of scalogram: that in which the same Justices voted in all of the cases in the group being scaled. Barring non-participations, such a scalogram contains a record of a vote at every available position in the diagram. Such completely filled scalograms are exceptional, however. Most groups of cases selected for scaling stretch over a period of time encompassing changes in the membership of the court or include cases in which not every Justice cast a vote. The result is a scalogram in which there are no indications of a vote at several positions, namely the intersections of each Justice with the cases decided when he was not on the Court or not participating. We may group these two situations together and call the result an unfilled scalogram. Unfilled scalograms have some different characteristics from filled ones and are worthy of separate consideration.

In discussing filled scalograms, we hypothesized that, according to scaling theory, a case presenting a more severe claim should bring fewer votes in support of the claim than a case in which the claim is milder. This principle is not valid for unfilled scalograms, however.

The claim in one case may receive more votes than the claim in another for the simple reason that one or more Justices sympathetic to such claims occupied positions on the Court during the one case, and less sympathetic Justices filled those positions during the other case. In fact, it may very well happen that a claim that receives many votes at one time is more severe than one receiving few votes at another time. Another principle used in constructing filled scalograms was that a Justice who gave more votes to a claim was more sympathetic to the claim than one who gave it fewer votes. This principle does not hold for unfilled scalograms, because Justices belonging to the Court at different times can be expected to vote on questions involving claims of different severities. Therefore the breaking point of a Justice is not related to the proportion of his votes that he gives to the claimant, but only, in accordance with the original definition, to the most severe claim that he supports and the mildest claim that he rejects. It is not even possible to locate exactly every Justice's breaking point in an unfilled scalogram, because the most severe claim voted for and the mildest one rejected by a Justice may be separated by several cases with inter-

mediate claims, on which the Justice did not vote at all. Since there is no way to determine how he would have voted in those cases, his breaking point cannot be defined, except by saying that it lies somewhere in the region between the most severe claim supported and the mildest one denied.

Unfilled scalograms not only have these special characteristics, but they also have a special value not possessed by filled ones. The value lies in the fact that unfilled scalograms bring together for comparison cases decided by different Justices, and Justices who decided different cases. Thus an unfilled scalogram can be used to support the hypothesis that one case raised a more severe claim than another case, even though an entire turnover in Court membership occurred between the two. Likewise, one Justice may be said to be more sympathetic to a certain kind of claim than another Justice, even if the two never shared a day on the Court. How such comparisons may be made is illustrated by the hypothetical scalogram in Table 2. For the sake of brevity, only a five-man Court has been assumed in Table 2, but the case of a nine-man Court is perfectly analogous. The cases are lettered in chronological order of decision,

Case:	C	B	F	G	E	K	I	H	A	D	J
Justice:											
J1									X		
J8			X	X	X	X	X	X		X	-
J4	X	X							X	-	
J10						X	X	-			-
J11						X	-				-
J7			X	X	X	-	-	-		-	-
J5	X	X	X	X	-				-	-	
J9			X	-	-	-	-	-			-
J6	X	X	-	-	-			-		-	
J2	X	-							-		
J3	-	-							-		

Table 2
Hypothetical Unfilled Scalogram

and the Justices are numbered in order of date of retirement from the Court. Among the many possible comparisons, it appears that case J raised a more severe claim than case A. We can say this in spite of the fact that they were decided by two entirely different Courts. The scalability of the voting pattern gives support to our general hypothesis. According to the hypothesis, case J presented a more severe claim than case D, because Justice J8 was willing to grant the claim in D but not in

J. And case D involved a more severe claim than did case A, since Justice J4 voted for the claim in A but denied it in D. If the claim in J was more severe than in D, and the claim in D more severe than in A, the claim in J was obviously more severe than the claim in A. Similarly, we can conclude that Justice J10 was apparently more sympathetic to the claim in question than was Justice J5, even though there was not one case on which they both voted, and even though J5 gave the claim 57% of his relevant votes and J10 gave it only 50% of his. The possibility of drawing such conclusions shows the special analytical power of unfilled as opposed to filled saalograms.

With this sketch of the theory of scaling as relevant to the Supreme Court, we turn to the ways in which this theory has been applied. We must pay the most attention to the work of Glendon Schubert. He has been the leading scaler of the Court, and many of the achievements of scaling, as well as most criticisms of it, are due to him.

One of Schubert's favorite techniques is to scale several groups of cases dealing with different variations

of the same subject. For example, he scaled all the cases involving aliens between 1950 and 1957, then scaled the ones between 1950 and 1953 (the Vinson Court) separately from the cases between 1954 and 1957 (the Warren Court), and finally separately scaled over the entire period those cases involving Communist and those involving non-Communist aliens. Each time, the resulting scalogram had an acceptably low number of inconsistencies by the conventional criteria. Naturally, the information contained in one scalogram could be translated into many paragraphs of verbal description, so the scaler must selectively interpret his scalograms for the reader. One thing noticed and called to the reader's attention by Schubert was that the Vinson Court was highly polarized, with four of the Justices voting for a large majority of the aliens and five Justices voting against the aliens almost every time. The scalogram for the Warren Court shows no such sharp division: the Justices were apparently rather evenly distributed over the continuum of attitudes toward the claims of aliens against the government. Regarding the possible differential treatment of aliens who were Communists, the scalograms showed no substantial difference, but Schubert observed that

it is entirely possible that part of the differences noted in comparing the Vinson and Warren Court periods may be attributable to the fact that a majority of the alien cases decided by the Vinson Court, but only four of the twenty decisions of the Warren Court, involved Communists. It would be necessary to make an independent scalogram analysis of all cases involving alleged Communists, decided by the Supreme Court during the period of the 1949-1956 Terms, in order to be more confident as to which of the two alternative interpretations should be preferred.⁸³

The rank of Frankfurter in attitude toward aliens is specifically noted by Schubert. Frankfurter, in both Courts and toward both Communists and non-Communist aliens, was the third most sympathetic to their claims, below only Douglas and Black.⁸⁴

Another topic subjected to scale analysis by Schubert was the right to counsel.⁸⁵ He found that right-to-counsel cases decided between 1940 and 1957 were scalable. He also managed to scale separately the sub-group of cases involving capital punishment and the cases in which lesser punishments were given, in order to test whether there was a difference in the Justices' attitudes toward the right to counsel in these two kinds of cases.

Examining cases involving alleged unconstitutional search and seizure,⁸⁶ Schubert scaled all of the cases between 1937 and 1957 and found enough inconsistencies to

make the scalogram only barely acceptable according to the coefficient of reproducibility. Then he separated the cases involving acts by Federal authorities from cases of search and seizure under states. When these groups were scaled separately, scalability was improved. Frankfurter was found to be the strongest supporter in the Court of protection against improper Federal search and seizure,⁸⁷ but to be relatively less enthusiastic about voting against alleged improper state search and seizure.⁸⁸

Schubert tried to scale "federal tax cases involving government-taxpayer conflicts decided during the 1953-1958 terms", but the resulting scalogram was unacceptable. He succeeded, however, with the subset including only the cases involving criminal charges.⁸⁹

When a selected group of cases proves to be scalable, the scaler usually concludes that the Justices voted on the cases according to their attitudes toward the claim which has been used as a criterion for choosing the group by the scaler. Thus S. Sidney Ulmer's studies of civil liberties cases in the 1956 and 1959 terms of the Court have concluded that the members of the Court voted on these cases according to "one dominant operating vari-

able....: deprivation of a claimed civil liberty."⁹⁰

Schubert has indicated that a high degree of scalability for the alien cases would be "persuasive evidence" for the consideration by the Justices of alien status itself as an important claim.⁹¹

Schubert has summed up the conclusions drawn from scaling as follows:

The research done thus far in cumulative scaling indicates that there is a high degree of consistency in the attitudes of Supreme Court justices toward the recurrent issues of public policy that characterize their work load. This consistency of response in individual judicial voting in such an area of public policy as civil liberties claims appears to provide a much better general explanation of how and why the Court makes its policy choices than does the alternative traditional theory of stare decisis, that consistency in the manipulation of precedential legal rules and principles is a function of legal craftsmanship.⁹²

Such conclusions are typical of scalers, and they are in contrast with what non-scalers usually conclude.

Those who use non-quantitative methods, whether unsophisticated or sophisticated, generally hold that a Justice's attitudes toward a few legal principles will go a long way in explaining his votes. Some, however, like Rodell, believe that the forces motivating the Justices are not few, but infinite, and not legal, but of diverse kinds. It might be anticipated that the users of quantitative

methods, supposedly on the frontier of political research, would represent an extension of the "realism" typified by Rodell. Such is not the case. The scalers view judicial behavior as explainable by few, not many, principles, and only some of these are non-legal, such as attitude toward aliens, while others are legal, e.g. attitude toward state versus Federal search and seizure. Thus, in their conclusions, the scalers tend to embody some of both Rodell and Mason.

The process of scaling and drawing conclusions from scalograms used by Schubert, Ulmer, and others is fraught with fallacies. We shall display this process in more detail as we expose the errors that it contains. One of the major faults lies in the manner in which scalograms are constructed from raw voting data. Scalers refuse to recognize the important differences between filled and unfilled scalograms, and use one set of rules for constructing both kinds. The only published comprehensive set of rules for scaling Supreme Court decisions⁹³ is too long and complicated to be described here. What is important is that these rules, in an apparent effort to conserve objectivity by eliminating any possible differ-

ences in the treatment of the same material from one investigator to another, elaborately specify how to arrange the cases and Justices in order, given any distribution of votes. In order to accomplish this arrangement, many arbitrary rules are employed. These have the effect of ordering cases according to the number of votes received by their claims, a principle which we have shown to violate scaling theory itself when applied to the construction of unfilled scalograms. The rules also redefine the breaking point of a Justice to be the most severe claim supported, i.e. the left end of the region of indeterminacy mentioned above, and the Justices are ordered accordingly. This procedure, too, violates scaling theory, by extracting from the voting data information more precise than the theory permits.

When these rules are applied to the construction of filled scalograms, the result usually (but by no means always) is the arrangement of cases and Justices which produces the least possible number of inconsistencies. Scaling theory offers no reason why a scaler should punish himself by making any arrangement that increases the number of inconsistencies, and yet such an increase is often the result of the construction of unfilled

scalograms with Schubert's rules.

Thus there are two major objections to the use of these rules in the construction of unfilled scalograms: more precision is claimed than the data warrant, and unnecessary inconsistencies are forced into the resulting scalograms. In illustration of the first objection, consider the following scalogram, constructed by Schubert for a group of Federal search and seizure cases from 1937 to 1948.⁹⁴

Case:			C	D	A	J	M	K	L	E	F	G	H	I	B
Rank:			1	2	3	4	5	6	7	8	9	10	11	12	13
Justice:															
1	12	Frankfurter	x	x		x	x	x	x	x	x	x	x	x	
2	12	Murphy				x	x	x	x	x	x	x	x	x	
3	12	Rutledge				x	x	x	x			x	x	x	
4	12	Jackson				x	x	x	x					x	
5	9	Stone	x	x	x					x	x				-
6	7	Douglas	x	x		x	x	x	x	-	-	-	-	-	-
7	5	Black	x	x	x	-	x	-	-	-	-	-	-	-	-
8	4	Burton				x	-	-	-			-	-	-	-
9	4	Reed	x			x	-	-	-	-	-	-	-	-	-
10	3	Hughes	x	x	x										-
11	3	Butler	x	x	x										-
12	3	Roberts	x	x	x					-	-				-
13	3	Cardozo			x										-
14	3	Brandeis			x										-
15	1	McReynolds	x	-	-										-
16	0	Byrnes								-	-				
17	0	Vinson				-	-	-	-						-
18	0	Sutherland			-										

Table 3
Unfilled Scalogram Constructed by Schubert

This scalogram shows only one inconsistency, and by inspection we can see that it would be impossible to reconstruct the scalogram without at least one inconsistency. The data on which the scalogram is based, however, are not complete enough to justify this arrangement of cases and Justices as the only possible one. There are many ways in which we could re-order them without increasing the number of inconsistencies, and the resulting new scalogram would be just as plausible, in terms of scaling theory, as is the one in Table 3. An example of how the same data could be rescaled is shown in Table 4. A comparison of Tables 3 and 4 will show that the number of inconsistencies has remained constant, but the order of cases and Justices has changed substantially. Case E, for example, is the eighth case in Table 3 and the eleventh in Table 4; case I moved from twelfth to eighth position; G went from tenth to thirteenth. Only two cases retained their positions. The change is more pronounced in the order of the Justices. Among the many changes of position, Brandeis moved from a low fourteenth place to a middle ninth, and, most spectacularly, Black dropped from an upper-middle seventh position to nearly the bottom of the list, at sixteenth place. As can be

Case:			C	A	D	J	M	L	K	I	H	F	E	B	G
Rank:			1	2	3	4	5	6	7	8	9	10	11	12	13
Justice:															
1	13	Jackson				x	x	x	x	x					
2	13	Rutledge				x	x	x	x	x	x				x
3	13	Murphy				x	x	x	x	x	x	x	x		x
4	13	Frankfurter	x		x	x	x	x	x	x	x	x	x		x
5	11	Stone	x	x	x							x	x	-	
6	7	Douglas	x		x	x	x	x	x	-	-	-	-	-	-
7	4	Reed	x			x	-	-	-	-	-	-	-	-	-
8	4	Burton				x	-	-	-	-	-				-
9	4	Brandeis		x											-
10	4	Cardozo		x											
11	4	Roberts	x	x	x							-	-	-	
12	4	Butler	x	x	x									-	
13	4	Hughes	x	x	x									-	
14	3	Byrnes										-	-		
15	3	Vinson				-	-	-	-	-					
16	3	Black	x	x	x	-	x	-	-	-	-	-	-	-	-
17	1	Sutherland		-											
18	1	McReynolds	x	-	-									-	

Table 4
Schubert's Scalogram (Table 3)
Reconstructed without His Rules

seen in the tables, either Black's vote in case J or his vote in case M must be considered an inconsistency in scaling terms. In Schubert's scalogram, the J vote is arbitrarily chosen as the inconsistency, and, in our revision, the M vote is instead chosen. These two alternatives make it possible to place Black almost anywhere between seventh and sixteenth positions. Thus indeterminacy may be an important characteristic of unfilled scalograms, but scalers tend to avoid acknow-

ledging it by injecting an artificial determinacy through their scaling rules.

Our second objection, that scalers include unnecessary inconsistencies in unfilled scalograms, is illustrated by the following pair of scalograms. Table 5 is

Case:			V	Q	U	N	T	P	R	O	W	S
Rank:			1	2	3	4	5	6	7	8	9	10
Justice:												
1	9	Frankfurter	x	x	x	x	x	x	x	x	x	-
2	8	Murphy				x				x		
3	8	Jackson		x		-		x	-	x		-
4	7	Douglas	x	x	x	x	x		x	-	x	x
5	7	Black	x	x	x	x	x	x	x	-	-	x
6	5	Warren	x		x		x				-	-
7	5	Clark	x	x	-		x	-	-		-	-
8	4	Rutledge				x				-		
9	3	Brennan	x		x						-	
10	3	Harlan	x		x		-				-	
11	2	Burton	x	x	-	-	-	-	x	-	-	-
12	1	Whittaker	x								-	
13	0	Vinson		-		-		-	-	-		
14	0	Minton					-	-	-			-
15	0	Reed				-	-	-	-	-		-

Table 5
Unfilled Scalogram Constructed by Schubert

Schubert's interpretation of a group of Federal search and seizure cases from 1949 to 1957.⁹⁵ This scalogram contains seven inconsistencies, but one of them is due to the fact that Schubert disobeyed his own rules for an unexplained reason, in calling Douglas's breaking point

seven instead of ten. Even if this error is corrected, however, the number of inconsistencies, now six, can be decreased by rearranging the cases and Justices, as in Table 6, for example. Here the number of inconsistencies

Case:		V	Q	T	P	R	N	U	S	W	O
Rank:		1	2	3	4	5	6	7	8	9	10
Justice:											
1	10	Murphy					X				X
2	10	Frankfurter	X	X	X	X	X	X	-	X	X
3	9	Douglas	X	X	X		X	X	X	X	-
4	8	Harlan	X		-			X		-	
5	8	Black	X	X	X	X	X	X	X	-	-
6	7	Warren	X		X			X	-	-	
7	7	Rutledge					X			-	
8	7	Brennan	X					X		-	
9	4	Jackson		X		X	-	-	-		X
10	3	Clark	X	X	X	-	-	-	-	-	
11	2	Burton	X	X	-	-	X	-	-	-	-
12	2	Minton			-	-	-		-		
13	1	Reed		-	-	-	-		-		-
14	1	Vinson		-		-	-				-
15	1	Whittaker	X							-	

Table 6
Schubert's Scalogram (Table 5)
Reconstructed without His Rules

has been reduced from six to four. A few substantial changes of position have also taken place, such as of case U and Justices Harlan and Jackson.

The two illustrations above attempted to show that the potential value of unfilled scalograms has been largely negated by the substitution of arbitrary rules

for reasonableness in the scaling process.

Until this point, we have discussed some reasons why the model of a perfect scalogram in Table 1 cannot usually be reproduced in practice, and some failings in the ways in which scalers cope with the resulting imperfections and uncertainties. Even if all of these practical difficulties in constructing scalograms were eliminated, however, and every scalogram in practice turned out to be a perfect one, the conclusions drawn from them would still be open to doubt. In describing the theory of scaling, we noted one basic implication: if the Justices all vote on each of a group of cases in accordance with their fixed attitudes toward one question (the proper extent of the claim of one value on another), then a scalogram without inconsistencies can be constructed for that group of cases. In describing the conclusions drawn from scaling, however, we have seen that the scalers assume that the reverse implication, too, is valid. In fact, as we noted earlier, it is not. The scalability of a group of cases in no way implies that the cases were voted on with one and the same question in the minds of the Justices. If votes for each Justice are assigned at random to the cases in a group, there is a

certain chance that the group will be scalable without inconsistencies, and there is a greater probability that it will be scalable with few enough inconsistencies to meet the criteria for scalability used by most scalers. If the number of cases is large enough and/or the scalogram is sufficiently filled, the probability of a scalable voting pattern arising by pure chance is indeed small, but it is still there.

Moreover, if the voting of the Court on a certain group of cases is scalable, there is a greater probability that the votes of any single Justice would fit into the scale pattern, even if those votes were assigned to him at random, because of the small number of votes involved. The probability is especially great if the Justice was on the Court for only a part of the group of cases. In Table 6, for example, three of the Justices cast votes in only two cases each, and only one out of four possible combinations of votes, i.e. a negative vote left of a positive vote, could have produced an inconsistency for any of these three Justices.

We are not suggesting, of course, that any Justice votes by tossing a coin. But whatever the probability that random voting would have had of making a group of

cases scalable, voting on the basis of more than a single question would have at least the same probability of leading to an acceptable scalogram. Therefore, from the scalability of a group of cases we can conclude that they were voted on with one question in mind, but we must always attach the reservation that there is a certain statistically calculable probability that other considerations entered into the voting, perhaps making the scalogram more perfect or less perfect, and perhaps not.

Scalers seem to regard the perfectness or imperfectness of a scalogram as an indication of success or failure. This attitude obscures the fact that we can draw more certain conclusions from non-scalability than from scalability. Although we must make an allowance for chance, i.e. additional influences on the voting, when we conclude the dominance of a single question from the existence of an acceptable scalogram, we can say with absolute certainty, when a group of cases fails to scale, that the Justices' attitudes toward one question did not determine all of their votes. There may be groups of cases on which we would expect the Justices to vote on the basis of one question, and then such a negative conclusion would be quite important.

But if our conclusion is that one question did dominate in a group of cases, our difficulties have not ended when we have made the necessary reservation about chance. We must still ask ourselves what the dominant question was. The answer is by no means obvious, but scalers seem to think it is. Usually the group of cases selected for investigation by scaling is not picked by lot from all of the cases within a certain period of time, but is composed of those cases which, in the view of the investigator, have something important in common. Examples are civil rights cases, freedom of speech cases, and cases testing state regulation of business. If an investigator picks a group of cases according to what seems to him to be a common important characteristic, and if he finds that the votes on the cases in this group are scalable, he naturally tends to conclude that the single question which probably dominated the voting turned upon the criterion by which he originally chose the cases. The conclusion is not valid, because of two possibilities. First, it may be true that the investigator has chosen all of the cases, and only the cases, which share a certain characteristic, but the salient characteristic may be one other than that by which he made the choice.

The second, and more likely, possibility is that the cases selected are part of a larger group, distinguished by a different characteristic.

By looking at any perfect scalogram, it is easy to see that the elimination of any number of cases from consideration would not have any effect on the scalability of the remaining group. Hence the important principle that, if a group of cases is scalable, so is any subgroup thereof. If the group is only imperfectly scalable, but within the conventionally acceptable range, the removal from consideration of cases not responsible for any inconsistencies may leave a scalogram with a larger fraction of its votes inconsistent, and therefore with a poorer coefficient of scalability. In general, however, a subgroup is not likely to be much more or less scalable than the entire group from which it is taken, if that group scales well.

If a group of capital punishment cases proves to be scalable, it may be that the Justices voted according to their attitudes toward the death penalty. But perhaps the larger group of cases involving all criminal convictions would also produce an acceptable scalogram. If this group were originally chosen to be scaled, the

scaler would most likely conclude that the Justices' votes on all the cases, including the capital punishment ones, were based on their attitudes toward criminal defendants versus the state. As another example, Wallace Mendelson notes Ulmer's conclusion that the Justices voted on a group of cases according to their attitudes toward civil rights. But scaling, says Mendelson, can prove several contradictory things: if particular subgroups of the original group are scaled, it can be shown, in the same manner in which Ulmer "proved" his assertion, that the Justices voted on the 25 cases in one subgroup in accordance with their attitudes on Communism, and on the 15 cases in another subgroup according to their attitudes toward homicide.⁹⁶

Our objection to the validity of the conclusions derived from scaling is becoming serious indeed. We have seen that, if a group of cases is scalable, the scalability of a subgroup tells us almost nothing new, since it could be predicted from the fact that the full group is scalable. What must we then conclude if we find that all of the cases decided in one term produce an acceptable scalogram? The scaler would conclude that the Justices voted on all the cases according to some one dominant

question; indeed, this very conclusion is implied when we characterize a Justice as being to a certain degree liberal or conservative. Liberality-conservatism is conceived as a one-dimensional variable encompassing all, or almost all, of the particular policy issues which arise. According to this conception, the Justices can be ordered according to a scale of liberality, and this ordering implies an ordering of the cases as well, so that one case presenting a more severe liberal claim than another will receive fewer votes than the other, those voting for the claim being more liberal than those voting against it. The conception just described is what a scaler would conclude if he found all cases scalable together. And, for at least two terms (the 1936 and 1961), the group comprising all the cases decided within a term has been found to be scalable.

Pritchett described the entire period of 1931-6 as marked by "almost watertight" blocs in the Court, and by a fixed pattern of agreement and disagreement. "Locating the justices along a single attitude scale in terms of relative liberalism or conservatism would adequately account for the judicial disagreements manifested during that period."⁹⁷ Schubert confirmed this statement by

scaling the entire 1936 term.⁹⁸ To discover whether the adequacy of liberal-conservative ratings would apply to a recent term, we scaled the entire 1961 term, which is presented in Table 7. According to both of the standard criteria of scalability, this scalogram is acceptable, although not to as high a degree as the scalogram of the 1934 term.

This finding gives us reason to be very wary of bias on the part of the scaler. Whatever group of cases he picks out to scale, his results add little to our knowledge if the group composed of all cases is scalable. Clearly a reasonable procedure would be to begin by trying to scale entire chronological series of cases, and if these did not scale, to investigate how they might be divided into groups that would produce acceptable scalograms. Scalers, however, begin at once with small groups. They do not select, for scaling, groups comprised of those cases involving litigants one of whose middle names begins with "R", nor groups consisting of those cases arrived at by one or another manipulation of a random number table, for there is no reason even to suspect that such groups might be scalable. Scalers select, instead, groups of cases which have in common an

Case:	A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z																									
Justice:																										
Douglas	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Warren	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Black	x	x	x	x	x	x	-	x	x	-	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Brennan	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x
Clark	x	x	-	x	-	x	x	x	-	x	x	x	-	-	x	-	x	x	x	x	x	x	x	x	x	x
Stewart	x	x	x	x	-	x	x	-	x	x	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-
Whittaker	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harlan	-	-	x	x	x	x	x	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Frankfurter	a	a	a	x	a	a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
White	x	x	a	-	a	a	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table 7
Scalogram of All Non-unanimous Cases in 1961 Term
(Per Curiam Decisions Not Included)

Scalability:

$$CR: 1 - \frac{31}{413} = 0.92$$

$$CR \text{ (Schubert's method): } 1 - \frac{22}{304} = 0.93$$

$$S: 176 + 207 = 0.65$$

Legend:

x/- if the more numerous: voted with Court
if the less numerous: voted against Court

a did not participate

* partial dissent

: position ambiguous

(blank) not a member of the Court at time of decision

issue which the scalers think might well be the dominant issue in the minds of the voting Justices. When the groups scale, it is this issue which is assumed to be the dominant one, and the scalers do not consider the possibility that where the one issue occurred there coincided also another, to which the Justices paid more attention. Thus the scalers' conclusions depend closely on their presuppositions. One allegation as to what these presuppositions might be is made by Mendelson. Cases involving civil liberties, he says, involve also "the distinction between constitutional and statutory construction; between stare decisis in relation to constitutional, as against statutory, decisions; between judicial review of procedure and judicial review of substance—to mention only the obvious." "[O]nly an activist is inclined to ignore" such differences and to lump all civil liberties cases together without further distinction. Thereby "neo-behavioralism" (a term which subsumes scaling) "tends to reflect the dedicated libertarianism of most of its practitioners. Thus it generally applies to the judicial process an essentially political test; namely, the libertarian party line."⁹⁹ For Mendelson, the principal "weakness" of judicial

behavioralism is that "it assumes that every vote in a case that has some connection with civil liberty, for example, is necessarily a vote for or against that liberty."¹⁰⁰ Here Mendelson points to the existence of cases in which several Justices voted against the person claiming a civil liberty for procedural reasons, but simultaneously voted for a principle destined to have a wide pro-civil-liberties effect in the future.

There is evidence to support Mendelson's charge. On the trivial side, there is the fact that scalers use a language which seems to reflect, or which could easily lead to, the mode of thought that is alleged. Votes for the civil liberties claim or the civil rights claim or the individual's claim against the state or a business are invariably denoted as positive, and opposite votes as negative. And the term "inconsistency" is a very unfelicitous one, which, if not understood from a purely technical standpoint, implies the correctness of the proposition which scaling is designed to test, even before the results of the testing are known. It also implies that, if a Justice votes on a different basis from his fellow Justices, he does not vote according to any principle at all.

The crux of the question lies in the way in which scalers draw their conclusions. Mendelson is wrong in saying that scalers assume the irrelevance of jurisprudential, as opposed to political, principles. Such an assumption is not logically inherent in the scalers' work, nor, as we have seen, do scalers even conclude that legal principles are completely extraneous. Rather, the scalers combine an inattention to the implications of their own theory with a lack of rigor in their procedure, with the result that they are able to achieve almost any conclusions they might want, and they usually conclude, to a certain extent, that which Mendelson says they have assumed all along.

In order not to exceed the bounds beyond which scaling theory does not extend, scalers must choose one of two alternatives. They may select for investigation only those groups of cases which they wish, according to criteria of their own choice; then, when these groups prove scalable, the scalers may conclude, with a margin for the effect of probability, that the votes were based on a single issue, but the scalers have absolutely no basis for any speculation as to what that issue was. The second alternative is to scale every conceivable group of

cases, including groups randomly compiled. Then, if the scaler concludes from the scalability of, for example, a group of alien cases that the votes were based on relative sympathy for aliens, he must draw with equal certainty the conclusion that the Justices' attitudes toward some single question also decided their votes in any other group of cases that is scalable, whether the question is visible to the scaler or not. As stated, of course, this second alternative is impossible to follow, requiring as it does the construction of an infinite number of scalograms. In practice, what is called for is the open-minded, impartial scaling not only of groups of cases that are expected to be scalable, but also of groups expected not to be scalable, such as randomly selected groups and entire terms. Scalograms of the latter are necessary because what is important is not how scalable the cases involving, let us say, Communists are, but how much more scalable they are than any group of cases selected by lot. The scalers have followed neither of the alternatives outlined above. They have chosen groups of cases with the discretion of the first alternative, and drawn conclusions with the breadth allowed by the second.

Basically, the error of the scalers seems to have arisen from a misconception about the function of the scaling process. Scalers assume that a successful scalogram is a proof of something. It is really, however, nothing more than the expression in orderly form of an observed regularity. The name of this regularity is scalability. When we find that the votes in a certain collection of cases are characterized by this regularity, we may be inspired to formulate a hypothesis that would explain the regularity. Then it is our task to conduct further investigations, in such a way that our hypothesis is either proved or disproved. Scalers have fallen into the error of neglecting this last step. Instead of observing the regularity, making a guess about its cause, calling this guess a hypothesis, and proceeding to test their hypothesis, the scalers observe the regularity, guess as to its cause, but call their guess a definite explanation, and see no need to subject this explanation to any tests.

Not all scalers, of course, adhere to the procedure described above: some use more care at times, and some use less. Schubert notes, for example, that in one article¹⁰¹ Ulmer constructed a scalogram in which changes

in Court membership were handled by putting new Justices in the attitudinal positions of their predecessors.¹⁰² In the terminology of this paper, what should have been an unfilled scalogram was converted to a filled one by pretending that outgoing Justices and their successors were one and the same person. Clearly Ulmer was injecting a complicating question into the object of inquiry: Do Justices tend to vote according to the same attitudes toward the same questions as their predecessors? At a time when scalars are still struggling to prove that Justices vote on the basis of attitudes toward single questions in certain types of cases, the addition of another proposition to the burden of proof of scaling is premature.

On the side of greater prudence, some scholars of the behavioralist school do not always commit the fault noted above of taking a scalogram for a final explanation of the votes involved. Instead they use scaling as an indicator, to discover cases and particular votes worthy of more detailed examination. In one article,¹⁰³ Ulmer first scaled a group of civil rights cases and then looked non-quantitatively at those cases which evoked inconsistent votes and those which provided the breaking

points for the Justices. Similarly, Harold Spaeth scaled a group of cases and examined the contents and the written opinions of those cases which elicited inconsistent votes.¹⁰⁴

To at least two studies Mendelson's accusation is absolutely inapplicable, because scaling itself is used to test whether the principle of judicial self-restraint, believed by Mendelson to be supremely relevant, is really at work. In one article¹⁰⁵, Spaeth isolated, by a content-analytical process, 52 cases appearing to have been decided principally on the basis of Supreme Court activism versus self-restraint. He scaled the entire group, divided it into five subgroups, and scaled them. Although all of the scalograms were acceptable, scaling by subgroups reduced the total number of inconsistencies, suggesting that attitudes toward self-restraint differed with the kind of case, even if self-restraint was apparently the principal issue in all the cases. Spaeth tried to explain remaining inconsistencies by hypothesizing an attitudinal change by one Justice at a certain time and effects of other, intruding issues. Spaeth then, however, considered cases of the same time period which included, but were not dominated by, the issue of

self-restraint. In cases focusing on state regulation of business, for example, Douglas, Black, Warren, and Brennan, the activists in pure restraint cases, exercised deference to state power. Spaeth's conclusion was that, depending on the kind of case, the issue of self-restraint was treated as a first-, second-, or third-order consideration relative to the substantive issues involved.

Joel Grossman has taken fellow scalers to task for their superficial treatment of Frankfurter's voting on civil liberties, and has offered, through a more thorough investigation by scaling, his own interpretation.¹⁰⁶ The scalograms, said Grossman, that led other scalers to decide that Frankfurter was an anti-libertarian, were inconclusive. It was necessary to consider Frankfurter's own explanation of his voting behavior, but other scalers had cast this explanation aside at the outset. Grossman presented and analyzed Frankfurter's stated reasons and, on this basis, defined a new value, "denial of judicial responsibility", or DJR. To discover whether this value was relevant to Frankfurter's voting, Grossman scaled all the cases in the 1958 and 1959 terms in which DJR, as defined, was explicitly raised as an issue. Frankfurter

was the only Justice with a perfect pro-DJR voting record. Then Grossman scaled all the civil liberties cases in those two terms, in two groups: those in which DJR appeared as an issue, and those in which it did not. In the group involving DJR, Frankfurter voted against the civil liberties claim every time, that claim being in every case incompatible with the claim for DJR. In the civil liberties cases which did not involve DJR, however, Frankfurter voted sometimes for and sometimes against the civil liberties claim. In the scalograms for these cases, Frankfurter appears more sympathetic to civil liberties than Harlan and Clark in the 1958 term, and than Harlan, Clark, and Whittaker in the 1959 term, with 22% and 19%, respectively of his votes cast for the claim.

Grossman warned, in his conclusion, that Frankfurter could have raised the issue of DJR in some cases where he did not do so, but it seemed that he voted according to DJR where that issue was raised. If so, decided Grossman, Frankfurter indeed was more, but only slightly more, libertarian than his votes would suggest if the issue of judicial self-restraint were ignored by the analyst.

Schubert, too, has at times used an advanced proce-

dure.¹⁰⁷ His analysis then treats scaling more or less as a generator of hypotheses. A group of cases which is thought to be scalable is scaled, and certain inconsistencies arise. The Justices and cases responsible for the inconsistencies are studied non-quantitatively, in an effort to find a second issue which might have been operating, along with the issue originally presumed dominant, to determine the votes. Thus scaling ceases to be used as a test of the proposition that only one issue is significant. It becomes assumed that several issues enter into the votes, and a scalogram becomes merely a representation of the first approximation to reality, based on the most important of the issues. A second issue is hypothesized, and a second, more exact approximation is made. There is no necessary end to the series thus begun. Schubert has successively introduced up to five issues. At each stage, the cases and Justices are ranked on the new issue, in such a way as to help explain the hitherto inconsistent votes.

There are two ways in which this kind of analysis, multivariate as opposed to simple Guttman scaling, can be performed. One way is to cease reliance on the scaling process after the first issue has been studied. When

this method is used, the investigator reverts to traditional, non-quantitative examination. Heavy stress is laid on written opinions as a source of information on the subsidiary issues which have given rise to votes that do not fit in the scalogram. This is the technique used by Schubert in a study of cases involving the question of civilian versus military control.¹⁰⁸ When he scales the cases on the basis of this question and finds inconsistencies, he examines the opinions and concluded that a second issue was influential: stare decisis. Such an analysis, of course, is subject both to the criticisms of non-quantitative methods and to those of scaling, but to a modified degree in each case. Opinions are not accepted at face value, but are weighed along with votes, and the scalogram is not treated as a final explanation, but is supplemented by investigation of the opinions.

The second kind of multivariate analysis uses a different approach from anything so far described. Instead of beginning with a Guttman scalogram and adding issues one by one, the investigator assumes a certain number of issues (most commonly three) and, by a different process, scales the cases with respect to all of these issues simultaneously. When the number of issues

assumed is three, the results are represented as a cube of space, and the cases and Justices, instead of being ordered along one line, are arrayed at various points in the space. This type of analysis, mainly employed by Schubert¹⁰⁹, involves many complexities and problems, and to treat it would require as much space as is here devoted to Guttman scaling. The method is very new in its application to the Supreme Court, the entire literature consisting of two recent articles by Schubert, and it seems reasonable to let such a new method mature somewhat before subjecting it to critical analysis.

We have now reached the point at which an over-all evaluation of cumulative scaling as a method of analyzing Supreme Court Justices' attitudes is possible. For this purpose we must turn to those questions which we originally formulated as guides in this evaluation. We established four criteria for the usefulness of quantitative methods. The first was that the methods must improve knowledge or understanding. On the face, scaling has done so to a great degree. By its use, long-accepted notions about the composition of the Justices' attitudes, and the kinds of attitudes which influence their votes, such as support of judicial self-restraint, stare deci-

sis, and other legal principles, have been challenged, and the Supreme Court's voting patterns have been given quite new interpretations. The scalogram itself is an enlightening form for the presentation of information, even if we disregard the conclusions drawn from it. Some of the results of scaling, if they are accepted, constitute revolutionary additions to, and alterations in, our knowledge of the Supreme Court, while other scaling studies confirm the results of non-quantitative research. We must question, however, the validity of these results.

What is the relation between facts and values in the work done with scaling? Certainly there is nothing so blatant as statements about how Justices should have voted or what attitudes they should have had. Such normative expressions have been effectively excluded. Only more subtle biases, such as the libertarian activism alleged by Mendelson, might be present. We can not be sure, however, that such a bias is active, because the failure to distinguish among legally technical differences and the consequent collection of all civil liberties cases under one heading, while perhaps due to a bias of libertarianism, might also be a result of other things,

such as the belief, not that the Court ought to utilize legal technicalities merely as a tactic to advance ends dictated by values, but that it does so in fact. In other words, scalers may have drawn their conclusions partly because they investigated the facts in ways conducive to the achievement of the results that they expected. If this is so, we have a negative answer to the question whether scaling has eliminated the influence of subjectivity. Furthermore, scalers rarely acknowledge the subjectivity of their findings: it must be uncovered by the critic of the scalers' methodology.

As a further step in deciding whether scaling has added to knowledge or understanding, we must ask whether the method has led to a restriction of the problems or facts considered, or to the neglect of other methods. The most striking part of the answer to this question is the fact, already mentioned, that scaling makes use only of data on votes cast, and finds no room for opinions, nor for the insights offered by conditions surrounding the Court and the cases and by the ensuing effects of particular decisions. Indeed, scaling feeds not even on all votes, as has been shown, but only on those in non-unanimous cases. This severe limitation is prima facie

evidence that scaling is not a self-sufficient tool for the investigation of the Justices' attitudes. We should expect scaling to be one among several methods. Scalors, however, often fail to supplement their scalograms with a substantial amount of any other kind of research before announcing their conclusions. If these conclusions were expressed as hypothetical conjectures to be tested by reference to further scaling and to data inaccessible by scaling, we could only acclaim the scaling process as one fruitful first step in the acquisition of knowledge and understanding of the Court. Only when scalors make use jointly of scaling and of non-quantitative methods—and they often do not—does scaling approach what seems its proper role. There is no apparent quality in scaling which could be blamed for the fact that scalors often ignore the necessity of supplementing scaling with other methods. Not the method, but its users, over-enthusiastic about its value, must be blamed.

We must also ask ourselves whether the presentation of the results of scaling has been obscured by jargon, as critics charge. The potentially confusing word "inconsistency" has already been mentioned. This and all other technical words used in scaling have, however, been

clearly defined by their users, and the careful lay reader should have no difficulty with the terminology. Also, the results of scaling are generally presented in a clear, non-technical manner unlikely to give trouble to any reader. Whatever one's doubt as to the validity of the scalers' conclusions, there need be no uncertainty about what those conclusions are. Thus it is possible to say that scaling has indeed improved our knowledge and understanding of the attitudes of the Justices, but the method has been often mishandled, and as a result only a small part of the potential value of scaling has been realized.

Our second criterion for the usefulness of a method was that it must represent some improvement over other methods. How does scaling compare with non-quantitative methods with respect to the questions just discussed? Non-quantitative studies are in general not free from the influence of the scholar's values. Traditionally, scholars of the Supreme Court have not been satisfied with pure description of and explanation of the Court's behavior; "the dogma of some behavioral scientists, that value judgments are outside the pure stream of research, would be accepted by few legal scholars who had ever

stopped to think about what they do and why they do it.¹¹⁰ McCloskey calls Douglas and Black dogmatists because he is interested in seeing the development of legal doctrine. There is more warmth in Rodell's description of Black as a man motivated by human situations than in his portrayal of Frankfurter as one guided by fear of an imprudent, offensive extension of the Court's concern, perhaps because Rodell believes that Black behaves as a Supreme Court Justice ought to behave. For every influence by values that we can detect, there are no doubt many that are too deeply hidden for our notice. Scholars almost never explicitly warn readers about the values which underlie their work. The reader must do his best to find where facts and values have been confused, and, more often, where values have influenced the way in which the scholar perceived and presented his facts.

The role of subjectivity in fact perception is necessarily great in non-quantitative analysis. In the typical pattern, the belief that votes are cast according to legal principles, the belief that written opinions represent true opinions, and the belief that opinions are consistent, are influential in the conclusions drawn

about Justices' attitudes.

The vexing characteristic of non-quantitative studies is that it is impossible to determine the extent or the manner of the influence of the investigator's subjectivity, just as the influence of his values can never be clearly known. The writer states certain of his values and biases in perception and leaves others unmentioned. In his presentation he is forced to extract a few of the many relevant facts and to emphasize certain ones of those that he mentions. In the end, the reader can not trace the subjective sources of the author's conclusions, but must merely judge on their plausibility. Here lies a very important difference between non-quantitative methods and scaling. Scaling is a thoroughly defined process based on a limited fund of information. Every step in the process can be checked by the reader, and any fallacies can be detected. Furthermore, the reader can put the method to his own use: after deciding how much can be expected from scaling, he can apply its rules to any problem of his own choice. By contrast, no such explicit rules are available for the use of non-quantitative methods. Therefore the common accusation that quantitative findings are made incomprehensible to the layman

might well, in the case of Justices' attitudes, be turned back upon the users of traditional methods themselves. It is precisely because the process by which scalars reach their results is clear, that we have been able to detect the sources of the invalidity of those results and to recommend reforms in the process. No such recommendations could be made for the non-quantitative studies, because their processes are actually the occult thought processes of their authors, rather than an explicit set of rules. It is possible merely to conjecture about the sources of error in these studies. As has been suggested, non-quantitative methods seem characterized by a susceptibility to the intrusion of values and subjectivity, and the process of information gathering and reasoning, being implicit and obscure, is not likely to be immune from carelessness.

Neither non-quantitative methods nor scaling is perfect, either in theory or in practice. Non-quantitative methods are plagued by normative and observational bias; this can be reduced by more careful formulation of procedures and more explicit description of chains of reasoning, but the essence of non-quantitative study is the freedom which the scholar has to let his expert mind

roam over a huge range of information, fix on certain facts as important, and ignore others as trivial. Subjectivity cannot be entirely abandoned without destroying this essence. Scaling is beset by subjectivity also, but it is a product not of the intrinsic nature of the scaling process, but of the abuse of that process. If scaling theory is respected and rigor is added to the scalers' work, scaling can become a very valuable tool, because it will embody the objectivity that is necessarily lacking in non-quantitative work. On the other side of the coin, scaling relies on a small fraction of the information relevant to the Justices' attitudes, and non-quantitative methods are needed to make use of the vast majority of the information.

Two criteria remain to be considered. The third criterion is that the method give us information about interesting or important matters. In other comparisons of quantitative and non-quantitative methods, this criterion might be applicable. Here, however, we have chosen to study a quantitative method that has been used on a subject already of great interest to non-quantitative scholars. Scaling has therefore drawn attention neither toward nor away from the subject of the attitudes

of the Justices.

The fourth criterion is that the method should not be harmful. It is of course impossible to measure the effects of scaling on people's attitudes or on the Supreme Court. No doubt scaling has convinced a certain number of persons that the members of the Court adhere to legal principles far less than they profess. (This conclusion has not been proven by the scalers, as has been demonstrated, but it may nevertheless be true.) We can decide as we wish whether the growth of the opinion that the Court is a political body rather than an applier of the law is a beneficial or a harmful trend. The yardstick theory may give the Court a shield of sanctity against the attacks of those dissatisfied with its decisions, and scaling may be rendering that shield less effective.* As yet, however, scaling is employed by so

*"Let us suppose...that in studying the political process's relationship to the Supreme Court, political science eventually demonstrates..." empirically that "the judge is in fact nothing more than a glorious rationalizer of his own personal values. ...But what then? ...Is it not possible that the 'myth' of the 'objectivity' of the Court and courts is quite functional for stability and/or equilibrium? ...If Charles Black is correct in his opinion that the real genius of American politics has been [sic] in the establishment of the legitimizing and checking functions of the Supreme Court, then such a scientific discovery made, verified, and popularized by political scientists could be positively disastrous."lll

few scholars and is under such heavy attack that it seems unlikely that its effects on public opinion are at all significant. Likewise, there is no evidence that scaling has influenced the behavior of the Court itself. The Court continues to justify its decisions in legal terms, and seems to have made no effort to conform to the behaviorists' notion of consistency as opposed to the lawyers' conception.¹¹² Thus the effects of scaling outside the academic world have probably been miniscule up to now. As for the future, there is no guarantee that scalars will continue to arrive at the same conclusions about Justices' attitudes, particularly if scalars take heed of current criticisms of their methods and if scalars and non-scalars alike come to recognize the value of utilizing both methods coöperatively.

Two conclusions, in the way of advice to scalars and non-scalars, emerge. First, we have seen how extremely limited is the information put into the scaling process; what comes out is also necessarily limited. A non-quantitative scholar, given enough persistence, can discover all the patterns and trends that scaling might reveal (although perhaps not as efficiently). But scaling

has one redeeming quality that sets it off sharply from non-quantitative methods: objectivity. This quality is in part inalienable from the process: biases injected into scaling are discoverable, as they are not when operative in non-quantitative scholarship. But, for the rest, only the user of scaling can retain the objectivity of which the method is capable. If he does, he will make scaling; if he does not, he has destroyed its raison d'être and made the value of its use dubious indeed.

Finally, we have described non-quantitative studies as falling into various strata of methodological sophistication. The reader has perhaps inferred from our description of scaling that studies using this method, too, are sophisticated to different degrees in their methods. In each case, the more sophisticated work is characterized by a wider range of source materials and methods of analysis. Above the three levels of sophistication heretofore presented, there ought to be a fourth, but we have been unable to find any examples of it. A study at the highly sophisticated level would make use of both sophisticated scaling and sophisticated non-quantitative methods. The powerful interpretive skill of the expert mind, working intuitively, and the vast area

of information that mark non-quantitative scholarship at its best require that non-quantitative methods remain the core of study of the Justices' attitudes. The objective presentation of all votes by scaling, the possibility of formulating with complete precision the scaling procedure before it is applied, the convenience and clarity of scalograms, and the almost automatic tendency of scalograms to generate hypotheses—all these qualities should make scaling an almost indispensable aid in any thorough study in the area of Justices' attitudes. Non-quantitative methods and scaling possess nearly complementary features; their use together should produce more advanced knowledge of the Justices' attitudes than has so far been attained. In spite of its limitations and the faults in its application, scaling has been profitably used on the Supreme Court. Some studies, such as those of Grossman and Spaeth, have contribute to our understanding of Justices' attitudes in ways that would have been far more difficult without scaling. Other work with scaling has drawn conclusions that cannot be accepted as having been rigorously reached, but are at least made plausible enough to warrant further investigation. And one of the major contributions of scaling to the field has been to

stimulate reaction on the part of non-scalers, in the form of more detailed re-examination of their own beliefs and the careful defense of those beliefs against the attacks of the scalers.

Rashness, unsystematic procedure, and methodological solipsism have destroyed a large part of the potential fruit of the application of scaling to the Supreme Court, but we cannot therefore call scaling useless in this field of study. Scaling has been used with some profit, even if much of the profit is the by-product of the resulting intra-disciplinary debate. But the greatest contribution to Supreme Court scholarship of the scaling done so far will certainly be that it has laid a foundation for the more mature use of scaling in the future, closely allied to non-quantitative methods and freed from the abuses that have marked its use in the past.

Notes

1. For discussions of what constitutes scientific methods, see:

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7. Mulford Q. Sibley, "The Limitations of Behavioralism". In Charlesworth, op. cit., pp. 70-1.

8. Leo Strauss, "An Epilogue". In Herbert J. Storing (ed.), Essays on the Scientific Study of Politics (New York, 1962), pp. 311-27. See also:

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12. Hayek, op. cit., pp. 44-51.

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14. Ibid., p. 70.

15. Russell Kirk, "Is Social Science Scientific?"

In Polsby, op. cit., pp. 60-4.

16. Strauss, op. cit., p. 312.

17. Ibid., p. 316.

18. Ibid., pp. 311-37.

19. Berns, op. cit., p. 556.

20. Kirk, loc. cit.

21. Strauss, op. cit., pp. 320 & 322-7.

22. Hayek, op. cit., pp. 50-1.

23. Kirk, loc. cit.

24. Wallace Mendelson, "The Neo-Behavioral Approach to the Judicial Process: a Critique". In American Political Science Review, vol. LVII, no. 3 (Sept. 1963), pp. 593-603.

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27. Eulau, op. cit., p. 31.

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H. Douglas Price, "Are Southern Democrats Different?" In Polsby, op. cit., pp. 740-4.

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30. Hayek, op. cit., pp. 94-102.

31. Strauss, op. cit., pp. 318-9.

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79. Ibid., p. 708.
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