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Chapter 2

The Comparative Method: Two Decades of Change

David Collier

"And what should they know of England who only England know?" Rudyard Kipling¹

*"Nations can be understood only in comparative perspective."
Seymour Martin Lipset²*

The idea that comparison is a "good thing" is built into our intuitive sense of how we understand the world. Comparison sharpens our powers of description and can be an invaluable stimulus to concept formation. It provides criteria for testing hypotheses and contributes to the inductive discovery of new hypotheses and to theory building. Harold D. Lasswell, in the lead article of the first issue in 1968 of the journal *Comparative Politics*, argued that comparison is so central to good analysis that the scientific method is unavoidably comparative.³

Within the political science subfield of comparative politics, a concern with techniques of comparison is very much alive and well, and the expression "comparative method" is often used to refer to the partially distinctive methodological issues that arise in the systematic analysis of a small number of cases, or a "small-N." This concern with analyzing few cases appears to derive in part from the types of large-scale political phenomena commonly studied by scholars of comparative politics—such as revolutions, national political regimes, and the evolution of nation-states. A small number of cases is studied either because these phenomena occur relatively infrequently or because, even if they are more common, it is believed that they are best understood through the close analysis of relatively few observations.⁴ The practice of focusing on

few cases has been reinforced during the past decade with the rise of the school of "comparative historical analysis," in which countries are studied over long periods. This intensive scrutiny of each case limits the number of cases a scholar can consider.⁵

Choosing to study relatively few cases confronts the analyst with the problem of having more variables to analyze than cases to observe, or the quandary of "many variables, small-*N*," as Arend Lijphart put it.⁶ The quandary has stimulated much writing on how to analyze relatively few cases most productively. Such writing extends well beyond the subfield of comparative politics, drawing on insights from and being applicable to a broad spectrum of work in the disciplines of political science, sociology, economics, psychology, and statistics.

The late 1960s and early 1970s saw a boom in writing on comparative method as it applies to international studies.⁷ This literature established a set of norms and practices for small-*N* research, drew attention to questions of how to conduct such analyses, and created a baseline of understanding that has played an important role in the ongoing practice of comparative politics. In a book such as this prepared for the twentieth anniversary of the journal *Comparative Politics*, it is appropriate to assess issues of comparative method that have been debated since the journal first appeared and to consider their implications for future research. This chapter takes as a point of departure Arend Lijphart's "Comparative Politics and Comparative Method," published in 1971.⁸ Among the studies of that period, Lijphart's piece stands out for its imaginative synthesis of basic issues of comparison and of the relationship between comparative method and other branches of methodology. The present discussion reviews Lijphart's perspective and uses it as a point of departure for exploring new developments in the intervening two decades.

A central theme which emerges is that the small-*N* comparativist is pulled in two directions. On the one hand, in important respects the value of quantitative and statistical approaches in addressing the substantive problems of comparative politics is more in doubt today than it was two decades ago, and the growing interest in "interpretive social science" reflects the conviction that the close, qualitative analysis of few cases is the most fruitful approach. On the other hand, innovations in the research designs and statistical techniques available for small-*N* analysis have created new opportunities for doing quantitative research with relatively few cases. The lesson drawn from these contrasting trends is that the most fruitful approach to the field of comparative politics is eclectic, one in which scholars are willing and able to build upon both sets of developments.

SYNOPSIS OF LIJPHART

Lijphart defines the comparative method as the analysis of a small number of cases, entailing at least two observations, but less than about

twenty. A central goal of his article⁹ is to assess the comparative method in relation to three other methods—experimental, statistical, and case study—and to evaluate these different approaches by two criteria: (1) how well they achieve the goal of testing theory through adjudicating among rival explanations, and (2) how difficult it is to acquire the data needed to employ each method (see Figure 1).

The experimental method has the great merit of providing strong criteria for eliminating rival explanations through experimental control, but unfortunately it is impossible to generate appropriate experimental data for most topics relevant to international studies. The statistical

Figure 1. Situating the Comparative Method as of 1971: Lijphart's Scheme

Case Study Method	Comparative Method	Experimental Method
Merit: Permits intensive examination of cases even with limited resources Inherent Problem: Contributes less to building theory than studies with more cases Types of Case Studies: 1. Atheoretical 2. Interpretive 3. Hypothesis-generating 4. Theory-confirming 5. Theory-infirming (i.e., case studies that weaken a theory marginally) 6. Deviant case studies	Defined as: Systematic analysis of small number of cases ("small-<i>N</i>" analysis) Merit: "Given inevitable scarcity of time, energy, and financial resources, the intensive analysis of a few cases may be more promising than the superficial statistical analysis of many cases" (Lijphart, p. 685) Inherent Problem: Weak capacity to sort out rival explanations, specifically, the problem of "many variables, few cases" Potential Solutions: 1. Increase number of cases 2. Focus on comparable cases 3. Reduce number of variables a. Combine variables b. Employ more parsimonious theory	Merit: Eliminates rival explanations through experimental control Inherent Problem: Experimental control is impossible for many or most topics of relevance to field of comparative politics Statistical Method Merit: Assesses rival explanations through statistical control Inherent Problem: Difficult to collect adequate information in a sufficient number of cases, due to limited time and resources

method has the merit of assessing rival explanations through the weaker but still valuable procedure of statistical control, but it is often not feasible to collect a sufficiently large set of reliable data to do this form of analysis. The case study method has the merit of allowing the scholar with relatively modest time and resources to assess at least one case with care, but the opportunities for systematically testing hypotheses are far more limited than with the other methods. Yet case studies do make a contribution, and Lijphart offers a suggestive typology of the different ways case studies can be used in forming and testing theories.

The comparative method, as defined by Lijphart, has an intermediate status on both of his criteria. It provides a weaker basis than the experimental or statistical method for evaluating hypotheses, specifically because of the many variables, small-*N* problem. Yet it offers a stronger basis for evaluating hypotheses than do case studies. Even with the problem of having more variables than cases, the comparative method allows systematic comparison which, if appropriately utilized, can contribute to the assessment of alternative explanations.

Although the data requirements of the comparative method are much greater than for case studies, they are far less demanding than for experimental or statistical research. Lijphart therefore views the comparative method as suitable in research based on modest resources, and he suggests that studies using the comparative method might often serve as a first step toward statistical analysis. Lijphart states that:

If at all possible one should generally use the statistical (or perhaps even the experimental) method instead of the weaker comparative method. But often, given the inevitable scarcity of time, energy, and financial resources, the intensive comparative analysis of a few cases may be more promising than a more superficial statistical analysis of many cases. In such a situation, the most fruitful approach would be to regard the comparative analysis as the first stage of research, in which hypotheses are carefully formulated, and the statistical analysis as the second stage, in which these hypotheses are tested in as large a sample as possible.¹⁰

In addition to triangulating among these different approaches, Lijphart proposes solutions to both sides of the dilemma of many variables, small-*N* entailed in the comparative method.¹¹ With regard to the small number of cases, even if researchers stop short of a statistical study, they can nonetheless increase the number of cases and thereby enlarge the scope of comparison that can be used to assess hypotheses. With regard to the large number of variables, he suggests two approaches. First, analysts can focus on "comparable cases," that is, on cases that (1) are matched on many variables that are not central to the study, thus in effect "controlling" for these variables, and (2) differ in terms of the key variables that are the focus of analysis, thereby allow-

ing a more adequate assessment of their influence. Hence, the selection of cases acts as a partial substitute for statistical or experimental control.¹² Second, analysts can reduce the number of variables either by combining variables or through theoretical parsimony, that is, through the careful elaboration of a theory that focuses on a smaller number of explanatory factors.

Thus, Lijphart provides a compact formulation of the relationship between the comparative method and other methodologies and offers possible solutions to problems posed by the small-*N* analysis entailed in the comparative method.

INNOVATIONS RELEVANT TO THE COMPARATIVE METHOD

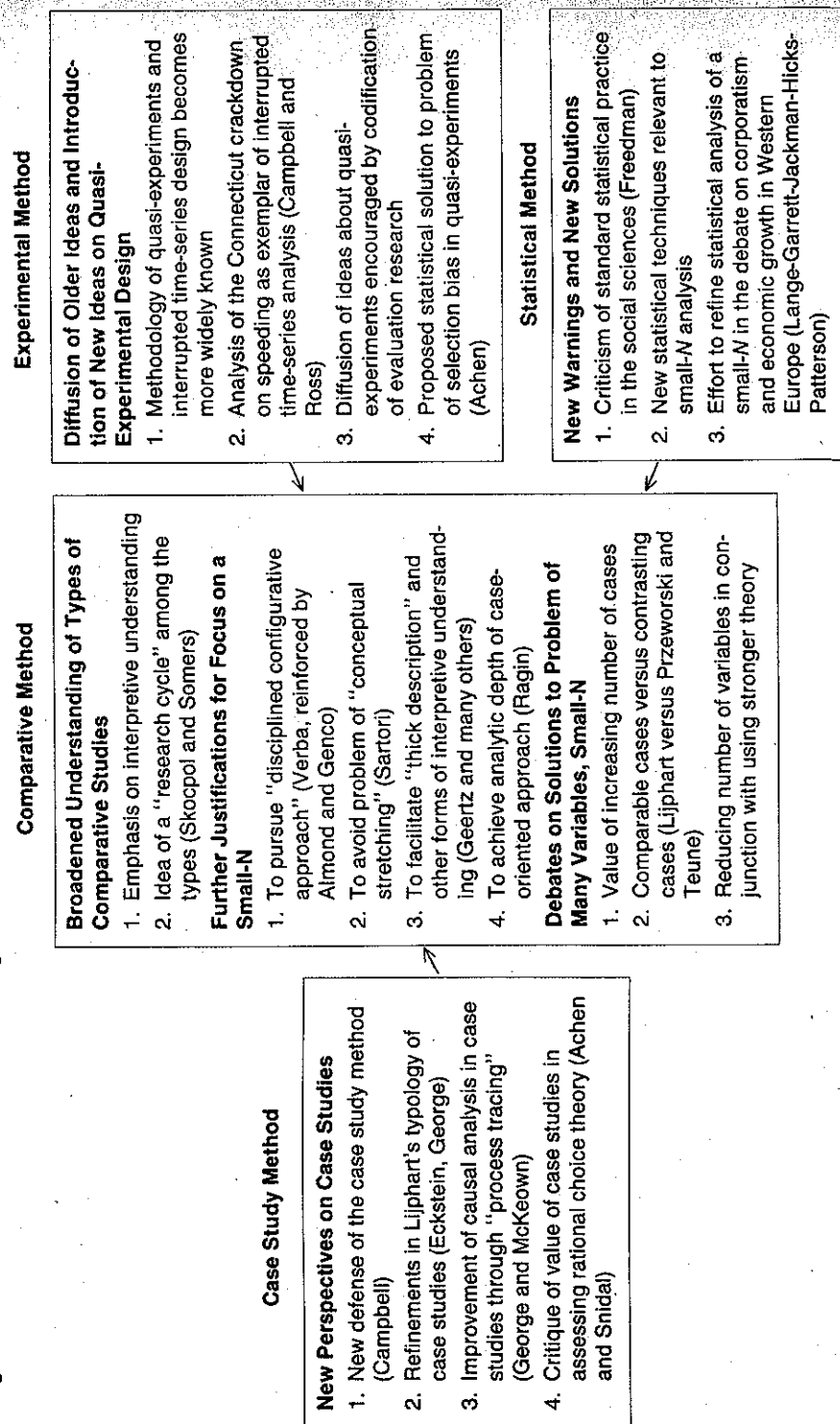
The two decades following Lijphart's study have seen a number of innovations in the comparative method, as well as a renewed focus on methodological alternatives already available before he wrote his article. Though many of these innovations appeared in work concerned with small-*N* comparison, others appeared in writing on the experimental, statistical, and case study methods. The result has been an intellectual cross-fertilization of great benefit to the comparative method. Figure 2 provides an overview of these innovations. The arrows in Figure 2 suggest the potential contributions of work in other methodologies to the comparative method.

Innovations in the Comparative Method

Innovations in the methodology of small-*N* comparison can be discussed in terms of the issues introduced above, encompassing the goals of comparison, justifications for focusing on few cases, and the problem of many variables, few cases.

Different Uses of Comparison A criterion in evaluating any methodology is how good a job it does in assessing rival explanations. One direction that discussions of the comparative method have taken is toward broadening the criteria of assessment. Perhaps the most striking formulation is Skocpol and Somers's discussion of three types of comparative analysis.¹³ The first is concerned with the systematic examination of covariation among cases for the purpose of the *generation and testing of hypotheses*.¹⁴ The second is the examination of a number of cases with the goal of showing that a particular set of concepts or a particular model usefully illuminates many cases. No real test of the theory

Figure 2. Innovations Relevant to the Comparative Method



occurs, but rather the goal is the *parallel demonstration of theory*. This use of comparison plays an important role in the process through which theories are elaborated in international studies. The third type of comparison is the examination of two or more cases in order to highlight how different they are, thus setting the framework for interpreting the way different processes of change play out within each context. This *contrast of contexts* is central to the more interpretive side of the social sciences and reflects yet another way that comparison is, in fact, frequently used.

In addition to providing a more multifaceted account of the goals of comparison, Skocpol and Somers suggest the intriguing idea of a "research cycle" among these different approaches. This cycle occurs because the inherent weakness of each approach may stimulate work that employs the other approaches. Thus, a "parallel demonstration" scholar may introduce a new theory and show how it applies to many cases. A "hypothesis-testing" scholar, seeing that the theory does *not* fit certain cases, may go on to formulate and test hypotheses about where it fits and where it does not. In turn, a hypothesis-testing study that too brashly compares disparate contexts may stimulate a "contrast of contexts" scholar to examine more carefully the meaning of the difference in context. It is thus useful to move beyond an exclusive focus on the role of comparison in testing explanations to a broader understanding that encompasses the different elements in this research cycle. This is not to say that assessing hypotheses does not remain a paramount goal of comparison, and many scholars insist that it is *the* paramount goal. Yet this broader perspective offers a valuable account of how comparative work proceeds within a larger research community, pointing usefully to the interaction between hypothesis-testing studies and those with a more interpretive emphasis.

Justification for Small-N A second trend is toward a more elaborate justification of a focus on relatively few cases. Lijphart's rationale, though incisively stated, seems in retrospect rather modest, in that it emphasizes only the problem of inadequate resources and treats the small-N comparison as a way-station on the route to more sophisticated statistical analysis.

A very different defense of working either with a small-N or with case studies had previously been available in arguments favoring a "configurative" approach,¹⁵ and this perspective was expressed in a more interesting form a couple of years before the publication of Lijphart's analysis in Sidney Verba's advocacy of the "disciplined configurative approach."¹⁶ In evaluating Robert A. Dahl's *Political Oppositions in Western Democracies*,¹⁷ Verba points both to the sophistication of the hypotheses entertained in the book and to the difficulty of assessing them adequately, except through a close command of the

cases, leading him to advocate this disciplined configurative mode of research. Verba's formulation is appealing because he is concerned with systematic hypothesis testing and theory building, and yet he links this priority with a more explicit appreciation of how hard it is to test hypotheses adequately and how useful properly executed case studies can be in providing subtle assessments of hypotheses.

It could be claimed that this issue of adequately testing hypotheses ultimately derives from the problem of limited resources. If enough talented researchers worked long enough, they could do a *Political Oppositions* study for many dozens of countries. Yet the problem is somewhat different from the one emphasized in Lijphart's initial formulation. It is not so much that resources are limited, but that research problems have proved more intractable than had often been thought in the 1960s and early 1970s in the initial days of enthusiasm for comparative statistical research. Among these problems, that of creating indicators that validly and reliably measure important concepts across diverse contexts of analysis has proved especially vexing.

Another key step in elucidating these problems of validity and in justifying a small-*N* focus is Giovanni Sartori's article on "Concept Misformation in Comparative Politics," the major ideas of which are greatly elaborated in his later book *Social Science Concepts*.¹⁷ Sartori suggests that the temptation to apply concepts to a broader range of cases can readily lead to conceptual "stretching," as the meanings associated with the original concept fail to fit the reality of the new cases. The concepts that can most easily be applied to a broad range of cases are often less interesting, highly abstract, and less worthy of scholarly attention. Thus research employing the most interesting concepts may do well to focus on relatively few cases.

Since 1970 the growing interest in interpretive social science, which is concerned with deciphering the meaning of behavior and institutions,¹⁸ has strengthened the justification for advancing cautiously with relatively few cases. In his term "thick description," Clifford Geertz provides a brilliant label for the concern with unraveling the underlying meaning of political phenomena and with seeing how this meaning is rooted in particular contexts.²⁰ This focus has appeared in many guises relevant to the practice of comparative politics, including Almond and Genco's²¹ analysis of "Clouds and Clocks" and Skocpol and Somers's category of contrast of contexts, encompassing studies that use comparison to richly contextualize research findings. Charles Ragin's *The Comparative Method*²² explores another facet of these concerns in his analysis of the holistic orientation of what he calls case-oriented research and the complex problems of "conjunctural causation," that is, causal patterns that vary according to context—to which configuratively oriented scholars are typically far more sensitive.

Finally the great intellectual success in recent years of the school of comparative historical analysis has played an important role in legitimizing a focus on a small-*N*. This approach was pioneered by Reinhard Bendix²³ and Barrington Moore,²⁴ and it has been extended by such writers as Jeffrey Paige,²⁵ Theda Skocpol,²⁶ and Gregory M. Luebert.²⁷ The particular form of analysis in these studies varies considerably, as suggested by the typology of Skocpol and Somers noted above, ranging from systematic hypothesis testing to carefully contextualized interpretation that is placed within a comparative framework. Overall, however, these studies have in common a commitment to *systematic* qualitative comparison that often involves a number of nations and evaluates each national case over a number of time periods. This tradition of research thus combines carefully thought-out comparison with an appreciation of historical context, thereby successfully responding to a broader concern with finding new ways to "historicize the social sciences."

Indeed, this tradition has made a major contribution in terms of demonstrating the viability of comparative analysis based on relatively few cases. These studies have shown that truly comparative work can be sensitive to diverse contexts of analysis, and that systematic procedures of small-*N* comparison can be used to very good effect. Efforts to codify these procedures, such as that in Ragin's *Comparative Method*, have further reinforced the plausibility of insisting on the viability of small-*N* analysis as a middle ground between case studies and statistical studies.

Solutions to the Problem of Many Variables, Small-*N* Proposed solutions to the problem of many variables, small-*N* are increasing the number of cases, focusing on matched cases, and reducing the number of variables. Important debates and innovations have emerged under each of these headings.

Increasing the Number of Cases One of Lijphart's original suggestions for addressing the small-*N* problem was to increase the number of cases. Given the several new justifications for analyzing relatively few cases, how should this recommendation now be evaluated? In part due to the changed intellectual climate already discussed, analysts have not tended to move on to ever larger case bases. Correspondingly, more recent research has not met the earlier expectation that studies employing quantitative data on large numbers of countries would become a more predominant mode of analysis. Robert Jackman²⁸ has usefully insisted that comparative statistical research has had more success than is recognized, and Lijphart's own recent work has indeed moved in this direction.²⁹ Yet there can be no question that, for better or worse, quan-

titative cross-national research within the field of comparative politics and quantitative international politics, or QIP, within the field of international relations have not come to occupy as dominant a position in their respective subfields as many had expected.

As commonly occurs, the reaction may have gone too far. Comparative politics specialists may be less well trained to do quantitative analysis today than they were twenty years ago, and the quantitative approach was doubtless set back as many scholars discovered how extraordinarily time-consuming it is to construct appropriate data sets, often far out of proportion to the professional rewards that seem to be forthcoming. In addition, the quantitative comparative approach was hurt by the publication of too many studies in which concepts were operationalized with dubious validity and which employed causal tests that were weak, unconvincing, or inappropriate.³⁰

However, the failure to seize good opportunities to do quantitative research could certainly be viewed as being as much of a mistake as premature quantification. The outstanding debate on corporatism and economic growth in Western Europe discussed below is an example of how statistical methods can effectively address major analytic issues. Further, the availability of new statistical techniques (also discussed below) has made it far more productive to do quantitative analyses with as few as twelve to fifteen cases. Consequently, the option of increasing the *N* to that level is still worth pursuing, and it probably should be pursued more often.

Focus on Comparable Cases The recommendation that analysts focus on carefully matched cases has been both reinforced and challenged. In the mid 1970s Lijphart explored further the trade-off he had noted in 1971 between the goal of increasing the number of cases and the goal of matching cases as a substitute for statistical control.³¹ Obviously if a researcher is to select cases that are "really" similar, however that similarity is defined, the number of appropriate cases is likely to become limited. In the face of this trade-off, Lijphart opts in favor of the more careful matching of fewer cases, and he goes so far as to restrict the application of the term comparative method to analyses that focus on a small number of carefully matched cases. This emphasis parallels a much earlier perspective on the comparative method referred to as the method of "controlled comparison."³² More recently, Arthur Stinchcombe's advocacy of the method of "deep analogy,"³³ that is, the comparative analysis of very few, extremely closely matched cases, has pushed this approach even further.

The opposite strategy has been advocated by Przeworski and Teune.³⁴ They suggest that even with careful matching in a "most simi-

lar" systems design, there remains a problem of "overdetermination" in that this design will fail to eliminate many rival explanations, leaving the researcher with no criteria for choosing among them. They prefer instead a "most different" systems design, based on a set of cases as diverse as possible in which the analyst traces similar processes of change.³⁵ Przeworski has more recently suggested³⁶ that the strength of this design is in part responsible for the great success of the recent literature on democratization, such as the work of O'Donnell, Schmitter, and Whitehead.³⁷ Przeworski maintains that this literature addresses such a broad range of cases that analysts were forced to distill out of that diversity a set of common elements with great explanatory power.

This debate can be placed in perspective by recognizing that notions of "similar" and "different" are relative. Two cases which from one perspective are closely matched may contrast sharply from another perspective. My own recent work³⁸ combines the two strategies by starting with a set of eight Latin American countries that are roughly matched on a number of variables. Among the eight countries, I proceed to analyze pairs of countries that are as different as possible. The overall matching assures at least partially similar contexts of analysis, and the paired comparison places parallel processes of change in sharp relief because they are operating in contexts that are in many respects quite different.

The debate on most similar versus most different systems designs has major implications for the status of area studies, and here again the debate pulls in two directions. Dankwart Rustow³⁹ argued some time ago in favor of moving beyond an area studies approach, and many scholars agree that cases should be selected in response to the specific analytic requirements of particular research projects, rather than on the basis of geographic proximity.

However, for a variety of reasons area studies are a booming business today. Important analytic issues do present themselves in countries that cluster together within a region, as with the experience of successful export-led growth in East Asia and of the bureaucratic-authoritarian states of Latin America, and work on these issues can reinforce an area studies emphasis. An important and legitimate role is played by the demands of language preparation and by the intellectual leverage gained when individual scholars develop, over many years, a cumulative and well contextualized understanding of a particular region. The impressive funding by U.S. foundations of area studies in the late 1970s and 1980s has certainly played a role, as does institutional momentum. In any case, the debate over area studies versus comparative studies continues, and attention to the issue of most similar versus most different systems designs could usefully sharpen the debate.

Reduce the Number of Variables The last solution to the small-*N* problem is to reduce the number of variables, either through combining variables in the spirit of "data reduction" or through using stronger theory that focuses the analyst on a more parsimonious set of explanatory factors. In the quest for theoretical parsimony, perhaps the most interesting development is the emergence of a variety of rational choice and strategic interaction models that have precisely this purpose: To use strong theory that serves to reduce the number of explanatory factors that must be considered.

Interestingly, the availability of stronger theory may help address not only problems of small-*N* analysis, but also problems of quantitative statistical work. Statistical models of complex phenomena such as reciprocal causation may require assumptions that are sufficiently precarious that analysts might well prefer instead to invest more in new assumptions on the side of theory. They may thus be able to provide a theoretical basis for simpler causal models that do not strain the statistical techniques as much.⁴⁰ If this is in fact productive in quantitative studies, there is reason to hope that it might be helpful in small-*N* comparative studies as well.

A related need is for more work on concept formation. Apart from the major, sustained contribution of Giovanni Sartori, older work by McKinney and Kalleberg, and a more recent article by DeFelice,⁴¹ this is a relatively neglected topic. Comparative politics specialists do not devote enough attention to thinking through how well or poorly concepts and categories are serving them and therefore may have insufficient ground for knowing if they are making appropriate choices to achieve theoretical parsimony.

Fortunately, the field of cognitive science has recently provided insights into processes of categorization and model formation that may be useful in refining analytic techniques in the field of comparative politics. An important source of such insights is George Lakoff's massive synthesis of recent developments in cognitive science.⁴² An example of how they may be applied is the challenge to "classical categorization" of the kind used in Sartori's work on categories and concepts. Sartori frames his discussion in terms of the defining properties of concepts and the trade-off between a concept's "intension" (meaning) and "extension" (range of cases referred to).⁴³ Cognitive science suggests that this form of concept analysis fails to capture how concepts actually function and that the analysis of concepts is more effective when it focuses on: the cognitive model underlying the concept; the tendency for concepts to be "graded," rather than having sharply defined boundaries; and the closely related role of "exemplar" cases in anchoring concepts. More effective modes of concept analysis will almost certainly entail a syn-

thesis of these two approaches, and that synthesis remains to be worked out.

Innovations Suggested by Work on Other Methods

Innovations in the Experimental Method The experimental method is a superb set of procedures for adjudicating among rival explanations, yet these procedures seem of little relevance to most research in the field of comparative politics. However, writing on variants of the experimental method contain important new ideas that may improve small-*N* comparative analysis. Certainly the most influential work has been Campbell and Stanley's⁴⁴ classic discussion of how the logic of experimental design can be applied to "quasi-experiments," that is, to "observational" studies that include some event or choice that has a form analogous to an experimental intervention, but that occurs in a "natural" setting. An example would be the initiation of a new public policy whose impact one wishes to assess—an analytic task that entails many pitfalls.

Campbell and Stanley underline the great value in quasi-experiments of the interrupted time series design, in which the analyst looks at a long series of observations over time, so that the values of the observed variables are examined not only immediately before and after the policy change or other innovation, but also well before and well after. They present a remarkable figure⁴⁵ that shows the large number of different situations in which observations at two proximate points within a long series may appear to indicate an ordered pattern of change. Yet if one looks at the full time series, it becomes clear that the pattern of change suggested by the two observations is extremely misleading. Causal inferences about the impact of discrete events can be risky if one does not have an extended series of observations.

The continuing widespread use over many years of Campbell and Stanley's book in methodology courses has played an important role in diffusing their sensible advice. Their influence has been important to specialists in small-*N* analysis in comparative politics, who continually ask questions about the impact of discrete events, ranging from wars, revolutions, and military coups to specific public policies.

Two developments further diffused these ideas. Campbell and Ross's⁴⁶ subsequent analysis of the impact on traffic fatalities of the Connecticut crackdown on speeding in the 1950s provided a stunning exemplar of the imaginative application of a quasi-experimental design to a problem of public policy analysis. Indeed, Przeworski has argued that the practice of research is influenced far more by exemplars than by for-

mal attempts to "legislate" correct methodology.⁴⁷ The reprinting of Campbell and Ross's article in a reader on social science methodology⁴⁸ made it widely available to political scientists.

The case considered by Campbell and Ross appears to be a simple one: When the State of Connecticut initiated strict enforcement of the vehicular speed limit in the 1950s and traffic deaths dropped sharply, the cause and effect relationship seemed obvious. Yet Campbell and Ross do an impressive analysis of the potential threats to the "internal validity" (was that really the cause in Connecticut?) and the "external validity" (can the finding be generalized?) of this study. No sensitive analyst can read this article without acquiring a more sober view of the problem of determining the impact of a policy innovation.

A second development that encouraged the diffusion of ideas about quasi-experimental and interrupted time series design was the emergence of a large body of writing on evaluation research. This includes work on political development which usefully codified procedures for using "experiment-like" designs in natural settings.⁴⁹

Although much writing on quasi-experiments appears to offer helpful guidance and practical advice, to small-*N* analysts, Christopher H. Achen's excellent *The Statistical Analysis of Quasi-Experiments*⁵⁰ may leave them feeling that the methodological challenges posed by quasi-experiments are simply too great to deal with. A core problem is the lack of randomization in who gets the "treatment" and who does not, which may be referred to as "selection bias." For example, it rarely occurs that a new public policy is applied at random to some citizens and not to others. Rather, it is applied according to criteria that may be correlated with some of the hypothesized impacts of the policy, which are the central object of analysis. This causal riddle is best solved by constructing a model of how citizens got "into" the category of being recipients of the policy. This model then becomes a building block in the analysis of what impact the policy really has, in that these prior considerations can be "factored out" of the assessment of the impact. Achen shows that this type of analysis requires what is called two-stage least-squares regression analysis. Without this technique, the riddle is hard to solve.

The implications of Achen's book might seem discouraging. It may be an interesting exercise to think about these research problems as quasi-experiments, but when one gets down to serious solutions to the lack of randomization, one is forced back into a form of statistical analysis which—although straightforward for the scholar who has the appropriate data—is hard to carry out with a small data set. However, a somewhat more hopeful view might be that the literature on experiments and quasi-experiments at least provides valuable warnings about the perils of analyzing discrete events as if they were true experiments.

In the absence of sophisticated data sets, the researcher must exercise as much common sense as possible in making causal claims. There are no easy solutions.

Innovations in Statistics Recent work on statistical analysis has provided both new warnings about the risks of statistical studies and new opportunities for doing meaningful statistical work with relatively modest case bases. The statistician David Freedman has launched a major assault on the use of multivariate quantitative analysis in the social sciences, which he claims fails because the underlying research design is generally inadequate and because the data employed fail to meet the assumptions of the statistical techniques.⁵¹ His criticism may bring considerable satisfaction to those who have been skeptical about statistics all along and who take comfort in the greater "control" of the material they feel derives from analyzing relatively few cases through more qualitative techniques. Further, it is realistic to expect that we may go through a period of greater questioning of the use of statistics in the social sciences. However, as with the rejection of quantitative cross-national research discussed above, it would be unfortunate if a reaction against quantitative studies went too far.

The emergence of new statistical techniques that are helpful in the analysis of relatively few cases makes such a blanket rejection particularly unfortunate. One example is the development of the "bootstrap" and "jackknife," sometimes referred to as "resampling strategies."⁵² These techniques use computer simulation to take a small initial sample and artificially create a large sample on which statistical tests are conducted. The tests of statistical significance that result are not as vulnerable to violations of distributional assumptions as are more conventional tests, and hence they are less prone to some forms of error that can be a problem in small-*N* analysis. They may be especially useful for providing better estimates in cross-national comparisons where there is great heterogeneity among units.

The development of "robust" and "resistant" statistical measures⁵³ is promising in much the same way. These are measures that are relatively unaffected by extreme or deviant values and can therefore help overcome the problem in small-*N* analysis that findings may be seriously distorted by a single observation that is greatly in error.

Another set of techniques concerned with this same problem is "regression diagnostics."⁵⁴ These are tests used in conjunction with conventional regression analysis to assess whether unusual values on particular observations, called influential cases, have distorted the findings. The advantage of regression diagnostics over robust and resistant statistics is that one can employ them with the familiar coefficients associated with regression analysis.

The use of regression diagnostics is nicely illustrated in the recent Lange-Garrett-Jackman-Hicks-Patterson debate on the relationship between corporatism and economic growth in Western Europe.⁵⁵ The starting point of this debate is an inventive article by Lange and Garrett—whose model, based on small-*N* analysis, includes an interesting “interaction term” intended to capture the interplay between the organizational strength of the labor movement in the labor market and the political strength of the left in the electoral and governmental arenas. In an analysis of their article, Robert W. Jackman employs regression diagnostics to examine certain influential cases that he believes distort their findings.⁵⁶ An ongoing scholarly debate in a series of journal articles by these authors brings together an important substantive problem, a high level of area expertise and knowledge of specific cases, the interesting use of a relatively straightforward statistical model, constructive criticism based on regression diagnostics, and a sustained process of cumulative knowledge generation through the scrutiny of a shared data set. Just as the Campbell and Ross article on the Connecticut speeding crackdown is an exemplar of a quasi-experimental design, this debate should stand as an exemplar of a methodologically sophisticated effort by several scholars to solve an important problem within the framework of small-*N* quantitative analysis.

Another example of solutions to a complex problem, within the framework of small-*N* studies, is seen in relation to the issue of “average effects” in regression analysis. The results of regression analysis, the most widely employed multivariate statistical technique, represent an average of the strength of causal relations across the cases being studied. For the coefficients produced by regression analysis to be meaningful, it is necessary that these causal relations be the same, or at least similar, among the cases. Yet Charles Ragin,⁵⁷ among others, has argued that, given the complex forms of conjunctural causation often encountered in comparative politics and comparative sociology, this assumption commonly does not hold.

However, solutions to this problem are available. John E. Jackson⁵⁸ addresses this issue by suggesting a statistical technique for detecting the presence of varying effects. A study by Ruth Berins Collier⁵⁹ provides a straightforward example of how one can estimate varying causal effects by using two separate regression equations even in the context of a relatively small number of cases. In her study of the relationship between voter turnout and the degree of electoral dominance of a leading party in the new states of tropical Africa, although there was no statistical relationship between these two variables among twenty-six countries, this average effect concealed positive and negative relationships among subsets of cases that corresponded to former colonial groupings. The separate analysis of the subsets thus produced a very different result from that derived from the analysis of all twenty-six cases.

Innovations in the Case Study Method When Lijphart wrote his 1971 article, he apparently felt some hesitation about including a discussion of case studies in an assessment of the comparative method,⁶⁰ but it is fortunate that he did. His helpful typology of the uses of case studies in hypothesis testing and theory building set the stage for further efforts to show how case studies can and should be integrated into comparative research.

The most engaging subsequent analysis of this topic is perhaps that of Donald Campbell.⁶¹ Campbell dramatically recants the bold assertion he made in his 1963 book with Stanley that “one shot” case studies are “of no scientific value.” He shows instead that case studies are in fact the basis of most comparative research, that they offer many more opportunities than people realize for falsifying the researcher’s main hypotheses, and that much can be learned from making explicit the important comparisons that are often implicitly built into case studies. In addition, any given hypothesis about a case has implications for many facets of the case. By using the procedure of “pattern matching” to discover if these implications are realized, the analyst can multiply the opportunities, within what may initially have been viewed as a “single” case, to test hypotheses.

Harry Eckstein⁶² and Alexander George⁶³ have refined the typology of how case studies can be linked to broader comparison and theory testing. George and McKeown’s⁶⁴ thoughtful discussion of the procedure of “process tracing,” which is related to Campbell’s notion of pattern matching, provides a much clearer intellectual rationale for one of the most important approaches to case study analysis: that which supplements hypothesis testing based on the overall evaluation of the case with a close processual analysis of the unfolding of events over time within the case. The scholar thus assesses whether the dynamics of change within each case plausibly reflect the same causal pattern suggested by the broader appraisal of the case in relation to other cases.

Overall, these articles, along with works such as Robert K. Yin’s *Case Study Research*,⁶⁵ offer a new systematization of case study procedures that provides a valuable point of reference for scholars concerned with small-*N* analysis. At the same time, the debate continues on the proper role of case studies in assessing and building theory. An interesting recent phase of this debate, published as a special issue of the journal *World Politics*, focuses on the contribution of case studies to evaluating a branch of rational choice analysis, that is, rational deterrence theory in international relations. The opening article by Achen and Snidal⁶⁶ argues that the case studies employed by many international relations specialists do not adequately address the central ideas of this body of theory, thereby raising an issue perhaps not often enough considered in discussions of the comparative method: How can the methodological concern with executing good comparisons be linked to

the key analytic issues posed by the particular theories that are to be evaluated? Achen and Snidal also note the problem of selection bias in case studies of deterrence theory, that is, the problem that case studies usually focus on deterrence failure, whereas much or most of the time deterrence in fact works. The issue of the journal includes a series of articles by scholars closer to the case study tradition who debate the questions raised by Achen and Snidal. Although the articles do not offer a decisive resolution of the debate, they constitute an excellent attempt to do something that needs to be done much more: to think through how case studies have functioned in relation to the assessment of a particular body of theory. In this debate on deterrence theory, the intellectual tension recurs that has been noted throughout this article, that is, the tension between analyses that seek to achieve a general understanding, based on relatively few variables and encompassing many cases, as opposed to analyses that seek to draw out the complexities of particular cases.

CONCLUSION

This discussion points in two directions. On the one hand, the inclination of many comparativists to stick to relatively few cases has been reinforced by several developments: the rise of interpretive social science, the success of comparative historical analysis, the systematization of case study procedures, the continuing intellectual and institutional strength of area studies, and skepticism about quantitative and statistical analysis among small-*N* specialists and among some statisticians. The earlier contention that insufficient resources were a major constraint on the number of cases has been replaced or supplemented by the belief that the analytic problems are more intractable than originally thought by some scholars. For many scholars, the idea that small-*N* analysis is a step toward studies based on more sophisticated statistical analysis is thus unconvincing or irrelevant.

On the other hand, quantitative techniques employing a moderate number of cases can successfully address important substantive questions. This approach merits revitalization in light of the new statistical tests suitable to small-*N* analysis and the success of such exemplary efforts as the Lange-Garrett-Jackman-Hicks-Patterson debate. If scholars use these new techniques in conjunction with good quantitative analysis, area studies skills, and sensitivity to context, then they may well succeed in showing that insights derived from case studies and from more qualitative comparative work can, after all, serve as a stepping-stone on the path toward statistical analysis.

Both of these intellectual tendencies will persist, and perhaps the key question is how well they can be linked. The tradition of research

on Western Europe provides an encouraging model in that the findings of quantitative comparative scholars (Cameron, Hibbs, Lange and Garrett, Schmitter, Wilensky, and others) are routinely taken seriously and cited by those who do other kinds of research on Western Europe. In research on Latin America, by contrast, quantitative comparative work often receives considerably less attention from mainstream scholars. Yet it is precisely the kind of two-way pressure found in the West European field that may ultimately produce the best research. With good communication, country specialists and experts in qualitative small-*N* comparison will push the comparative quantifiers toward more carefully contextualized analysis; and the comparative quantifiers will push the country specialists and experts in qualitative comparison toward more systematic measurement and hypothesis testing. A central goal in the field of comparative method must be to sustain such communication.

The implications for graduate training are clear. New Ph.D.s in the field of comparative politics should have enough training in statistical methods to evaluate quantitative studies that employ old—and new—methods of statistical analysis and to use such analysis when appropriate. Those more oriented toward statistical analysis should have enough background in other methods of small-*N* comparison to understand not only these methods but also the reasoned critique of statistical studies contained within that tradition of research. Compared to current graduate training, both groups should have more exposure to basic writings on the philosophy of science and logic of inquiry that provide the framework in which choices about methodological alternatives must be made. In this way, the foundation could be laid for an eclectic practice of comparative politics that takes advantage of opportunities that present themselves on both sides of what could otherwise be a major intellectual divide.

The other major choice faced by comparativists, which again is best understood in terms of complementarity, is confronted within the set of scholars who do qualitative analysis of few cases. One alternative, the case study tradition, has seen a major advance in terms of the codification of procedures, and the view is widely accepted that case studies remain the cornerstone of comparative research.

The other alternative, the systematic analysis of relatively few cases, is of course precisely where Lijphart began the debate twenty years ago. Lijphart then seemed to suggest that this alternative was simply a way-station on the route to more sophisticated analysis. In the intervening years, by contrast, this alternative has been greatly strengthened, and the systematic comparison of roughly three to ten cases (or occasionally a few more) is an important and routine form of analysis in the field of comparative politics. Thus, today the comparative method, in the sense of small-*N* analysis, plays an important role within the field, though the viability of this form of analysis is increased

to the extent that scholars develop the kind of links with other methodologies that have been explored in this paper.

NOTES

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1. From *Kipling*, James Cochrane, ed. (Harmondsworth, England: Penguin Books, 1977), 95.
2. *Continental Divide: The Values and Institutions of the United States and Canada* (New York and London: Routledge, 1990), xiii.
3. Harold D. Lasswell, "The Future of the Comparative Method," *Comparative Politics* 1, no. 1 (October 1968): 3.
4. Many other domains of analysis are also fruitfully pursued through focusing on few cases.
5. References to work in this tradition are presented below. To the extent that a study is longitudinal, the number of cases can be increased through comparison over time. However, since the goal of many of these comparative historical analysts is to explain overall configurations of national outcomes as they are manifested over long periods, these outcomes often cannot be disaggregated into a series of longitudinal observations. Hence the case base may remain small.
6. Arend Lijphart, "Comparative Politics and Comparative Method," *American Political Science Review* 65, no. 3 (September 1971): 686.
7. For example, Richard Merritt and Stein Rokkan, eds., *Comparing Nations* (New Haven: Yale University Press, 1966); Arthur L. Kalleberg, "The Logic of Comparison: A Methodological Note on the Comparative Study of Political Systems," *World Politics* 19, no. 1 (October 1966): 69-82; Sidney Verba, "Some Dilemmas in Comparative Research," *World Politics* 20, no. 1 (October 1967): 111-127; Neil Smelser, "The Methodology of Comparative Analysis of Economic Activity," in Smelser, ed., *Essays in Sociological Interpretation* (Englewood Cliffs, N.J.: Prentice-Hall, 1968); Lasswell, "Future of the Comparative Method"; Adam Przeworski and Henry Teune, *The Logic of Comparative Social Inquiry* (New York: Wiley, 1970); Giovanni Sartori, "Concept Misformation in Com-

- parative Politics," *American Political Science Review* 64, no. 4 (December 1970): 1033-1053; Richard L. Merritt, *Systematic Approaches to Comparative Politics* (Chicago: Rand McNally, 1970); Amitai Etzioni and Frederic L. Dubow, eds., *Comparative Perspectives: Theories and Methods* (Boston: Little, Brown, 1970); Lijphart, "Comparative Politics and Comparative Method"; Ival Vallier, ed., *Comparative Methods in Sociology: Essays on Trends and Applications* (Berkeley: University of California Press, 1971); Morris Zelditch, Jr., "Intelligible Comparisons," in Vallier, *Comparative Methods in Sociology*; Michael Armer and Allen Grimshaw, eds., *Comparative Social Research* (New York: Wiley, 1973).
8. In the context of this discussion, the parallels between Lijphart's analysis and Smelser's excellent earlier article should be noted. See Smelser, "Methodology of Comparative Analysis of Economic Activity." Smelser elaborated this analysis in *Comparative Methods in the Social Sciences* (Englewood Cliffs, N.J.: Prentice-Hall, 1976).
 9. Lijphart, "Comparative Politics and Comparative Method," 683-85, 691-693.
 10. *Ibid.*, 685.
 11. *Ibid.*, 686 ff.
 12. In the present volume, Susan Eckstein's analysis of Latin American revolutions (Chapter 14) is an example of this approach.
 13. Theda Skocpol and Margaret Somers, "The Uses of Comparative History in Macrosocial Inquiry," *Comparative Studies in Society and History* 22, no. 2 (April 1980): 174-197. This perspective was elaborated by Skocpol in the concluding chapter of *Vision and Method in Historical Sociology* (New York: Cambridge University Press, 1984), and a parallel formulation is found in Charles Tilly, *Big Structures, Large Processes, Huge Comparisons* (New York: Russell Sage, 1984), chap. 4.
 14. Skocpol and Somers refer to this as "macro-causal analysis." Yet comparative historical studies generate and test hypotheses with both a macro and a micro focus, and it does not seem productive to exclude those with a microfocus from this category. Hence this alternative label is used.
 15. Gunnar Heckscher, *The Study of Comparative Government and Politics* (London: George Allen and Unwin, 1957), 46-51, 85-107.
 16. Verba, "Some Dilemmas in Comparative Research."
 17. (New Haven: Yale University Press, 1966).
 18. Giovanni Sartori, ed., *Social Science Concepts: A Systematic Analysis* (Beverly Hills, Calif.: Sage, 1984).
 19. A helpful overview is provided in Paul Rabinow and William M. Sullivan, *Interpretive Social Science: A Reader* (Berkeley: Univer-

- sity of California Press, 1979). A revised and updated edition was published in 1987 as *Interpretive Social Science: A Second Look*.
20. "Thick Description: Toward an Interpretive Theory of Culture," in Clifford Geertz, *The Interpretation of Cultures* (New York: Basic Books, 1973). "Thick description" is sometimes mistakenly understood to refer simply to "detailed description," which is not what Geertz intends.
 21. Gabriel A. Almond and Stephen J. Genco, "Clouds, Clocks, and the Study of Politics," *World Politics* 29, no. 4 (July 1977): 489-522.
 22. Charles C. Ragin, *The Comparative Method: Moving Beyond Qualitative and Quantitative Strategies* (Berkeley: University of California Press, 1987).
 23. Reinhard Bendix, *Nation-Building and Citizenship* (New York: Wiley, 1964).
 24. Barrington Moore, Jr., *Social Origins of Dictatorship and Democracy* (Boston: Beacon Press, 1966).
 25. Jeffrey Paige, *Agrarian Revolution: Social Movements and Export Agriculture in the Underdeveloped World* (New York: Free Press, 1975).
 26. Theda Skocpol, *States and Social Revolutions: A Comparative Analysis of France, Russia, and China* (Cambridge: Cambridge University Press, 1979). This analytic perspective is creatively synthesized in Skocpol, *Vision and Method in Historical Sociology*. A recent example is Ruth Berins Collier and David Collier, *Shaping the Political Arena: Critical Junctures, the Labor Movement, and Regime Dynamics in Latin America* (Princeton, N.J.: Princeton University Press, forthcoming).
 27. Gregory M. Luebbert, *Liberalism, Fascism, and Social Democracy: Social Classes and the Political Origins of Regimes in Interwar Europe* (New York: Oxford University Press, forthcoming).
 28. Robert W. Jackman, "Cross-National Statistical Research and the Study of Comparative Politics," *American Journal of Political Science* 29, no. 1 (February 1985): 161-182.
 29. Arend Lijphart, "The Political Consequences of Electoral Laws, 1945-1985," *American Political Science Review* 84, no. 2 (June, 1990): 481-496.
 30. See Ragin, *Comparative Method*, chap. 4.
 31. Arend Lijphart, "The Comparable Cases Strategy in Comparative Research," *Comparative Political Studies* 8, no. 2 (July 1975): 158-177.
 32. Fred Eggan, "Social Anthropology and the Method of Controlled Comparison," *American Anthropologist* 56, no. 5, part 1 (October 1954): 743-763.

33. Arthur L. Stinchcombe, *Theoretical Methods in Social History* (New York: Academic Press, 1978).
34. Przeworski and Teune, *The Logic of Comparative Social Inquiry*; and Adam Przeworski, "Methods of Cross-National Research, 1970-1983: An Overview," in Meinolf Dierkes, Hans N. Weiler, and Ariane Berthoin Antal, eds., *Comparative Policy Research: Learning from Experience* (Aldershot, England: Gower, 1987).
35. These two types of designs correspond, respectively, to John Stuart Mill's method of difference and method of agreement. See John Stuart Mill, "Of the Four Methods of Experimental Inquiry," in Mill, *A System of Logic* [1843] (Toronto: University of Toronto Press, 1974).
36. Personal communication from Adam Przeworski.
37. Guillermo O'Donnell, Philippe C. Schmitter, and Lawrence Whitehead, eds., *Transitions from Authoritarian Rule* (Baltimore: Johns Hopkins University Press, 1986).
38. R. B. Collier and D. Collier, *Shaping the Political Arena*.
39. Dankwart Rustow, "Modernization and Comparative Politics: Prospects in Research and Theory," *Comparative Politics* 1, no. 1 (October 1968): 37-51.
40. I acknowledge conversations with Merrill Shanks on this issue.
41. Sartori, "Concept Misformation in Comparative Politics"; Sartori, *Social Science Concepts*; and Giovanni Sartori, Fred W. Riggs, and Henry Teune, *Tower of Babel: On the Definition and Analysis of Concepts in the Social Sciences*, International Studies Association, Occasional Paper no. 6 (Pittsburgh: University of Pittsburgh, 1975); John C. McKinney, *Constructive Typology and Social Theory* (New York: Meredith, 1966); Kalleberg, "Logic of Comparison"; and E. Gene DeFelice, "Comparison Misconceived: Common Nonsense in Comparative Politics," *Comparative Politics* 13, no. 1 (October 1980), 119-126.
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43. Sartori, "Concept Misformation in Comparative Politics," and *Social Science Concepts*.
44. Donald T. Campbell and Julian C. Stanley, *Experimental and Quasi-Experimental Designs for Research* (Chicago: Rand McNally, 1963).
45. *Ibid.*, 38.
46. Donald T. Campbell and H. Laurence Ross, "The Connecticut Crackdown on Speeding," *Law and Society Review* 3 (August 1968): 33-53.

47. Przeworski, "Methods of Cross-National Research."
48. Edward R. Tufte, *The Quantitative Analysis of Social Problems* (Reading, Mass.: Addison-Wesley, 1970).
49. See Francis W. Hoole, *Evaluation Research and Development Activities* (Beverly Hills, Calif.: Sage, 1978). For an excellent treatment of experimental design and evaluation research in an introductory textbook on social science methodology, see Earl Babbie, *The Practice of Social Research*, 4th ed. (Belmont, Calif.: Wadsworth, 1986), chaps. 8, 12.
50. Christopher H. Achen, *The Statistical Analysis of Quasi-Experiments* (Berkeley: University of California Press, 1986).
51. David A. Freedman, "As Others See Us: A Case Study in Path Analysis," *Journal of Educational Statistics* 12, no. 2 (Summer 1987): 101-128.
52. Persi Diaconis and Bradley Efron, "Computer-Intensive Methods in Statistics," *Scientific American* 248, no. 5 (May 1983): 116-130.
53. See Frank R. Hampel et al., *Robust Statistics: The Approach Based on Influence Functions* (New York: Wiley, 1987); Frederick Hartwig, with Brian E. Dearing, *Exploratory Data Analysis*, Sage University Paper, Series no. 07-016 (Beverly Hills, Calif.: Sage, 1979); Frederick Mosteller and John W. Tukey, "Robust and Resistant Measures," in Mosteller and Tukey, *Data Analysis and Regression* (Reading, Mass.: Addison-Wesley, 1977).
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56. Jackman, "Politics of Economic Growth."
57. *Comparative Method*, chap. 4.
58. John E. Jackson, "Estimation of Models with Variable Coefficients," paper presented to the Third Annual Political Methodology Conference, 1986.
59. Ruth Berins Collier, *Regimes in Tropical Africa: Changing Forms of Supremacy* (Berkeley: University of California Press, 1982): 63-64, 76-80.
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61. Donald Campbell, "'Degrees of Freedom' and the Case Study," *Comparative Political Studies* 8, no. 2 (July 1975): 178-193.
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65. Robert K. Yin, *Case Study Research: Design and Methods*. Applied Social Research Methods Series, vol. 5 (Beverly Hills, Calif.: Sage, 1984).
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