The book misses other opportunities of this methodologically comparative kind. Particularly, in their various chapters related to process tracing, the authors never mention the influential and widely practiced laboratory and survey-research versions of process tracing. These techniques include specific tools such as computerized information boards, tracking eyeball movements, and instructions to experimental subjects or survey respondents to talk aloud through their thought process while answering a question or making a decision. A careful exploration of parallels and divergences between these forms of process tracing drawn largely from psychology and the more historically grounded versions of process tracing that George and Bennett emphasize has the potential to bring qualitative within-case analysis more centrally into social science methodological discourse. Such missed opportunities point to directions for further work in the growing subfields of research on qualitative and mixed methods.

The book's overall value, largely as a source for essential practical wisdom about social science research but also as a contribution to the methodology of qualitative within-case analysis, far outweighs the occasional distraction resulting from topics that are perhaps overemphasized or discussed in potentially misleading ways. One such topic is equifinality, which the authors define as the existence of "many alternative causal paths to the same outcome" (10). The book routinely treats equifinality as a form of causation for which quantitative analysis is not especially adequate and for which case studies are particularly well-suited (e.g., 9–10, 19–20, 215). But in fact, the potential for discovering equifinality is built into most additive statistical models. In a logit model with two dichotomous independent variables, for example, the result that both variables have very large, positive, and statistically significant coefficients would effectively be a finding of equifinality: the outcome has a quite high probability of occurring if either of the independent variables has a score of 1. So equifinality raises few distinctive issues for quantitative research. By contrast, as George and Bennett point out, equifinality severely limits the validity of case-study research using Mill's methods or related elimination techniques (157–58). Hence, equifinality would in fact seem to be an example of a problem which distinctively challenges case studies, not quantitative methods.

This and other similar minor distractions in no way undermine the very real value of this book for political scientists, especially graduate students and other beginning empirical researchers, regardless of their methodological predilections. We all face issues of theory building, conceptualization, measurement, and building evidence of causation. The treasure trove of wisdom, practical advice, and methodological commentary that George and Bennett provide should improve the ability of most readers to successfully address these shared dilemmas.

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Comparative Historical Analysis in the Social Sciences. Edited by James Mahoney and Dietrich Rueschemeyer. (Cambridge University Press, 2003.)

This is an excellent book that includes thoughtful and readable contributions by some of the leading methodologists and practitioners in the area of comparative historical analysis: Edwin Amenta, Jack Goldstone, Roger Gould, Peter Hall, Ira Katznelson, James Mahoney, Paul Pierson, Dietrich Rueschemeyer, Theda Skocpol, and Kathleen Thelen. I fully share the editors' view that comparative historical analysis is and should be a "leading mode of analysis, widely used throughout the social sciences" (5). The individual chapters and the book as a whole will be of considerable value to anyone interested in better understanding it.

A large number of important questions are addressed in the volume. For me the most interesting have to do with the analytical utility of what is often referred to as "small-N comparison" but what I will call "small-N analysis": To what extent is this type of analysis useful for theory testing? And what role does cross-case (usually cross-country) comparison play? For Mahoney and Rueschemeyer (10–15), a concern with causal analysis (as opposed to description) and cross-case comparison are two of the three defining features of comparative historical analysis (the other is a concern with over-time processes).

My conclusion is that where small-N analysis is most effective at contributing to explanation (causal analysis), cross-case comparison plays no role. Cross-case comparison in small-N analysis is useful mainly for theory building rather than theory testing.

Mahoney's chapter on "Strategies of Causal Assessment in Comparative Historical Analysis" nicely details the principal ways in which small-N analysis can contribute to hypothesis testing. One is what he calls "ordinal comparison." Here cross-case comparison is critical. The analyst performs what is essentially a correlational analysis—rank ordering or scoring the cases on one or more independent

variables and an outcome variable and seeing whether they correlate strongly and in the expected direction. I suspect this is what most researchers initially have in mind when they decide to do a small-N comparative analysis.

This analytical strategy has two significant and well-known limitations. One is the possibility of omitted variable bias. With only a few cases, there may be many potentially relevant causal factors on which the cases are similar. It is thus difficult to feel very confident about the relative importance of any particular one or two or three of them. This leads many analysts to pursue a "most similar cases" design. If the countries share many features but differ on the one(s) of interest to the analyst, omitted variable bias is less likely. For example, the United States might be compared to Canada, or Sweden to Denmark. This is a wise strategy, yet is hardly foolproof; many country experts would be appalled by an assertion that Canada is like the United States or Denmark is like Sweden "in most relevant respects."

The second limitation of ordinal comparison is generalization. Proponents of small-N analysis sometimes argue that their aim really is only to understand the particular cases they are studying. But I doubt this is the objective of most, and a number of the contributors to this book say explicitly that generalization should be a goal. Even if an ordinal comparison yields a strong correlation and there is reason to think there is no omitted variable bias, an N of two or three or four must raise concern about whether the finding applies to other cases.

Because of these limitations, ordinal comparison should be viewed mainly as an exercise in theory building rather than theory testing. (I think much "large-N" quantitative analysis should also be viewed as theory building, but that is an issue for a separate discussion.) Or it can be *part* of a cumulative theory-testing enterprise that consists, as Goldstone suggests in his chapter, of multiple small-N studies of the same hypothesis(es) across, eventually, a larger number of cases.

A second way Mahoney suggests small-N analysis can contribute to theory testing is via elimination of a hypothesized necessary or sufficient condition. If the theory holds that the particular causal factor is always (as opposed to usually or nearly always) necessary or sufficient, a single inconsistent case is enough to invalidate the hypothesis. But here comparison across the cases is of no analytical relevance.

A third is process tracing (also discussed in the chapters by Hall, Goldstone, and Amenta), in which the analyst looks closely at the role of various hypothesized causal factors in one or more cases to see if they appear to have actual causal relevance—in other words, to see if there are perhaps other causal factors that render the correlation spurious. Here too cross-case comparison is not critical. The key is to focus on the details of each particular case.

A fourth is examination of multiple observations within one or more cases. The researcher may conduct what is in effect a time-series analysis for a single country or analyze across subnational geopolitical units (also discussed in Rueschemeyer's chapter). Once again, though, comparison across the cases (nations) plays no role in causal assessment.

Thus, cross-case comparison is useful in small-N analysis mainly when the analytical approach is that of ordinal comparison, but ordinal comparison is very limited for purposes of theory testing. In the most useful small-N theory-testing approaches, cross-case comparison plays no role.

This point has important implications for case selection for those interested in conducting a small-N analysis. If the principal analytical aim is process tracing or testing a hypothesized (always) necessary or sufficient condition, there is no need to worry about whether the cases can be usefully compared. If the aim is theory testing via comparison across the cases, the comparison does need to be justified, and the analyst should make it clear whether she or he wants to draw inferences about only those particular cases (and if so, why) or whether the analysis is intended to be part of a larger cumulative endeavor that will eventually include other cases.

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Necessary Conditions: Theory, Methodology, and Applications. Edited by Gary Goertz and Harvey Starr. (Rowman and Littlefield, 2003.)
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The editors and contributors of this book cogently demonstrate how the fairly simple looking and often misunderstood concept of necessary conditions can generate various intriguing methodological and theoretical consequences for social science research—regardless of the method used and the research topic studied. This book engages everybody in critical self-reflection by showing that—contrary to widespread belief—necessary conditions are not rare in social science theorizing (Goertz in Chapter 4 alone counts more than 150 in the social science literature of the last three decades); they do not imply a deterministic notion of causality which by some is deemed alien to modern social sciences; they do not inevitably require