Mixing It Up: The Role of Theory in Mixed-Methods Research

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Mixing methods is about using both qualitative and quantitative techniques and connecting them in an analytically meaningful way. Such an approach can serve to bridge the two principal civil war research communities, represented by Kaufman (2001) and Tilly (2003) on the qualitative side, and by Collier and Hoeffler (2001), Hegre, et al. (2001) and Fearon and Laitin (2003) on the quantitative side. Like Wood (2003), Kalyvas (2006), and Weinstein (2007), all four of the doctoral dissertations featured in this symposium capture a dynamic aspect of intrastate conflict, and do so by mixing quantitative and qualitative methods.

Ana Arjona examines variation in the relationships between armed groups and civilians in irregular warfare, with a particular focus on their strategic interactions. She combines game theory, statistical analysis of original survey and existing quantitative data, a controlled-comparison study of six cases, and an in-depth analysis of interviews. Jai Kwan Jung studies the conditions under which post-conflict democracy is more likely to emerge and survive. He pairs case studies of Bosnia and Mozambique with large-N analysis, with a focus on the time horizons of political actors.

Martin Austvoll Nome's doctoral dissertation examines the mechanisms connecting transnational ethnic affinities and third-party interventions in civil wars. He extends Gerring and Seawright's (2007) pathway case selection technique through a two-step procedure. Nome first runs a large-N cross-national analysis of third-party intervention to establish a baseline probability. He then adds data on transnational ethnic affinities and identifies the change in baseline probability of intervention. Those countries that experienced the greatest change in the probability of military intervention are then chosen for process-tracing analysis. Abbey Steele's dissertation is about civilian displacement in civil war. She combines statistical analyses, interviews, and process-tracing case studies of six communities. Each of these projects offers a dynamic perspective on some particular aspect of civil conflict that significantly contributes to our understanding of civil war more generally.

My comments are structured as follows. I begin with a general discussion that applies to all four contributions; these comments stress the central role of theory for understanding or interpreting causal relationships. Then, I discuss how mixed methods can help build theory; problems of measurement error and model specification are emphasized. The analytical distinction between theoretical explication and evaluation or testing is a point that I stress.

The Importance of Theory

Mixed methods offer a number of advantages, and I applaud these efforts to integrate approaches. Nonetheless, I want to emphasize the limits of any methodology. Theory must take primacy over method. Theory offers the perspective through which we can interpret empirical observation, quantitative or qualitative.

Without strong theory–and I would argue that we lack a solid theoretical basis for understanding civil war–sophisticated statistical analyses become problematic. Complex simultaneous equations, factor analysis, and covariance structure models have become increasingly commonplace in various areas of political science. In most respects, this increasing complexity is well and good; however, one costly side effect is to multiply the number of difficult, and often arbitrary, specification decisions upon which any empirical result depends. Too often, we lack the strong theory necessary to specify clearly how observable indicators are related to latent variables, or which variables in a structural equation are exogenous and which are endogenous (Bartels and Brady 1993: 140-41).

By theory, I mean explanations about how a phenomenon varies in space and time. Furthermore, strong theory is defined by clear and explicit theoretical explanations–indeed, by a "near-obsessive concern with clarity and explicitness" (Elster 2007: 455). Rigorous models, especially formal ones, "force clarity about assumptions and concepts; they ensure logical consistency, and they describe the underlying mechanisms that lead to outcomes" (Granato et al. 2005: 5; see also Powell 1999). I do not think it matters whether the theories come from a rational choice tradition or not, but I do think modelling rigor is important. Sound statistical analysis depends on strong theory.

Substituting methods or mixing methods does not allow us to escape the need for theory (see also Checkel, this symposium). The questions asked in an interview and the interpretation of events in a process-tracing case study are shaped by theory. The conceptualization of the events that compose a civil war and the phenomena related to it are shaped by our theories. Indeed, how we define a civil war stems from theory. We call civil war an event, but it is actually a series of associated events composed of armed combat; recruiting, organizing, and mobilizing armies; establishing and moving bases; occupying and attempting to control territory and associated populations; etc. Moreover, each of these events can be further subdivided.

Theory allows us to impose a structure for demarking whether there is or is not a civil war. How we measure, interpret, and conceptualize stems from our theory, whether we employ quantitative or qualitative methods. Understanding patterns of causation come from our theoretical explanations and not from our method.

In his appeal for "nested analysis as a mixed-method strategy for comparative research," Lieberman (2005) distinguishes between model-testing and model-building. However, distinguishing between these two approaches in practice is not so easy. All social science to some degree involves a mix of deduction and induction; model-testing and model-building go

hand in hand. Given the state of theories regarding civil war, model-testing inevitably works to build theory. Ultimately, mixed methods serve to develop theory, whether or not the intention was to test a large-N quantitative model.

The Promise of Mixed Methods

Mixing methods offers a wonderful opportunity to examine "dogs that don't bark." These are cases where our statistical model predicts that we should see the phenomenon that we are investigating, but we do not see it. Like Sherlock Holmes in "The Hound of the Baskervilles," these dogs that don't bark can provide valuable information about causal processes. Take, for example, a cross-national large-N analysis of civil war onset with a dichotomous dependent variable and a statistical technique such as logit. "Dogs that don't bark" would be the cases for which we expect to see civil war, but do not. Depending on how we define civil conflict, Madagascar may be such a case. Our models predict that we should have civil war in Madagascar, but we do not see it.

Lieberman (2005: 445) discusses something similar in the context of a continuous dependent variable in a regression analysis when he invokes an "extreme case," one which is more than two standard deviations from the predicted value. Using qualitative methods to explore such outliers may reveal much about our causal explanation. It might also reveal a good deal about the way our parameters have been measured and operationalized. Indeed, model specification is another problem that can be mitigated through qualitative investigations of outliers, as these may reveal critical missing variables.

Qualitative analyses of cases that are more or less predicted by the large-N analysis are also valuable. Measurement error is a significant problem in quantitative research–one that qualitative methods can help to bound and reduce. The interviews employed by Steele and Arjona, for example, serve as a useful way to check the data collected from large-N surveys. The process-tracing technique employed by Nome and the comparative case studies of Arjona, Jung, and Steele also provide the means for evaluating the measurement and operationalization of quantitative variables.

Mixed methods can also serve to better differentiate between parameters that shape the baseline probability of an event and those parameters that precipitate its occurrence. Most large-N analysis of civil war has been good at identifying those variables highly correlated with civil war. However, our understanding of the role of precipitating factors or shocks–elections, natural disasters, or price shocks–is more limited. Process tracing, in particular, offers significant opportunities for examining how certain events can serve as triggers.

Missing variables, especially missing key variables, is a problem of model misspecification. As Jung demonstrates, certain parameters in civil war–such as the time horizons of political actors–are not measurable; qualitative analysis provides an alternative way to assess them.

A mixed-method approach offers a way to develop and enhance theory. Our understanding of civil war remains underdeveloped. This is partly because only recently has it received significant attention from the academic community, but it is

primarily due to the complexity of the phenomenon. The iterative nature of theorizing, evaluation, and theory refinement, entailing both deductive and inductive procedures, is the state of the field now. Whether we refer to the process as model-testing or model-building, both contribute to the development of theories on civil war. The fact that all the contributors seek to explain only certain aspects of civil war is also to be welcomed; indeed, it reflects a new level of maturity for this area of study.

The micro-foundational aspects of theory and data found in Arjona and Steele's dissertations help with regard to the mixed method approaches they adopt. Working within the rational choice tradition allows them to build upon a large and extensive body of research. Mixed methods allow them to evaluate the assumptions and predictions of their models (Morten 1999; see also Checkel, this symposium).

Research on civil wars has tended to examine how they begin, how they are sustained and what it takes to end them. Lately, more and more effort has been directed to understanding the dynamics of the wars themselves and the processes that lead to the development of a long-lasting civil peace. These four dissertations–through their self-conscious and disciplined use of mixed methods–are contributing to these cutting-edge areas of theory development.

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Co-Variation and Causal Process Tracing Revisited: Clarifying New Directions for Causal Inference and Generalization in Case Study Methodology

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Alexander George and Andrew Bennett's *Case Studies and Theory Development in the Social Sciences* (2005) and John Gerring's *Case Study Research: Principles and Practices* (2007) are among the best examples of the dramatic increase in methodological reflection that we have witnessed in recent years in case study research. In our elaboration, we will concentrate on what we perceive as problems and weaknesses of the two books. It is important to stress our conviction that both have contributed tremendously to the improvement of the understanding of case study research (not only for the development of the typology which we will present below) and deserve a central place in every case study methodology course (which they actually have in the courses we teach). The review itself is set up in a manner that reflects our own work on doing (comparative) case study research. We first sketch our own typology of styles of case study research, and then discuss the two books with reference to this typology.

We believe that it makes sense to differentiate between three styles of case study research. We labeled the three styles according to their main technique to generate "inference" from concrete empirical observations to abstract explanatory propositions for the *cases under study*: The first style is accounting for *co-variance* among independent and dependent variables. The second one is *tracing processes* in order to identify causal mechanisms on a lower level of analysis, or in order to identify causal configurations based on complex in-teractions and/or necessary context factors. Process tracing involves stressing the temporal unfolding of causality, and it is based on a holistic ontology in which the basic unit of analysis is not an individual variable, but a multi-level model or a configuration of densely linked causal factors. The third style is intensively reflecting on the (non) *congruence* between a broad range of concrete expectations, which can be deduced from coherent abstract concepts (theories) and empirical findings. The latter is based on an understanding of theory as an interpretative framework (without the radical constructivist assumption that theory fully determines our empirical findings). The relevance of theoretical frameworks can be tested empirically by checking how many coherent meanings they can generate for understanding and explaining specific cases.

The three styles are not exclusive categories. Especially the last style has areas where it overlaps with the first two. Nevertheless, they vary strongly in the emphasis on what the necessary preconditions are to draw valid conclusions for the cases under study (see Table 1).

The differences are even more pronounced if we consider the understanding and direction of *generalization*–understood as drawing conclusions *beyond the cases under study*–which logically corresponds to the three techniques of drawing inferences (see Table 2). The co-variance style strives for "statistical generalization" (Yin 2003: 10): drawing conclusions from the findings of cases studied about the average contribution of a causal variable in explaining an outcome within a wider population of similar cases. The findings from process tracing are not used to draw conclusions for a population of cases but for a set of potential causal configurations or for multi-level causal models. The function of case studies here is mainly to show exactly whether and how a specific configuration of causal factors (potentially including context factors) or whether and how a causal mechanism leads to a specific outcome. Additional case studies would not strive to prove that this causal configuration also works within other cases, but they would try to find out whether other combinations of causal factors can also lead to the same or a similar outcome. We followed George and Bennett's labeling and called it "contingent generalization." We call the logic of generalization which corresponds to the congruence analysis "*abstraction*." Here, our emphasis is not on drawing conclusions from the "specific" (co-variation within the studied cases) to the "universal" (covering lawlike proposition for a specified population), but from the reality of "concretes" (observations) to the relevance of "abstracts" (concepts, theories and paradigms). The orientation is not horizontal (as in the co-variational approach), but towards "the vertical organization of knowledge" (Sartori 1984: 44). The various understandings and directions of generalization lead to different preconditions and consequences for case and/or theory selection (see Table 2; further elaborations can be found in Blatter and Blume 2008).

Based on this brief sketch of our typology specifying three styles of case study methodology, we now turn to the two books which have already become the authoritative sources for doing and teaching case studies in Political Science and beyond.

Although it is the more recent book, we turn first to John Gerring's *Case Study Research: Principles and Practices* because it is much easier to categorize, describe and evaluate. It represents a highly sophisticated and impressively clear-cut and consistent co-variational approach to case study research. Gerring develops his definitions and suggestions for making inferences within case study research on the basis of an "ex-