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DECONSTRUCTING THE CONVENTIONAL DISCOURSE OF METHODOLOGY

Quantitative Versus Qualitative Methods

For sociology the question of the relation between quantitative and qualitative analysis is an immediate and timely one, because the insights which mediate between statistical methods and their adequate applicability to specific contents are to a great degree qualitative ones. (Frankfurt Institute for Social Research 1972, p. 122)

The preceding reconstruction of the research program of critical theory was incomplete in an important respect: It did not fully explicate the practical methodological implications. To do so first requires opening up the question of the role of quantification in social science and the role of empirical analysis in theory construction. At this point it is thus necessary to make a fundamental distinction—and division—between the methodological problems of strategies of theoretical inquiry based on *statistical modeling* or *variable analysis* and those oriented toward *social theorizing* and concerned with interpretive-structural interpretations and generalizations, or what Mills called "classic social analysis" (Mills 1967, p. 21). Although the strategies are not

completely mutually exclusive, they typically do have distinct research interests that often are characterized, somewhat misleadingly, by the distinction between "quantitative" and "qualitative" research, or in other contexts, between "theory" and "empirical research".[1] Indeed the terms *empirical research* and *quantitative research,* based on variable analysis, are often simply equated as if historical and ethnographic research was not "empirical." This distinction also must be deconstructed if the full methodological implications of the research strategies most central to critical theory are to be clarified.

An important implication of this argument is that the gulf between these two research strategies is so fundamental that there is virtually no prospect that the otherwise laudable goal of improving quantitative research designs can ever achieve the illusory goal of reconciliation, even though in certain cases "multimethod" approaches and "triangulation" may be possible. The problem is greater than that of social theorists and methodologists getting together to resolve their differences, as if their differences were a mere product of the division of academic labor. More realistic is a better understanding of their distinctive contributions and problems and the occasional bases for constructive mutual interplay.[2]

Despite its critique of positivism generally, critical theory has no basis for a priori rejection of any particular methods or techniques as such, even if some have pronounced misleading blanket rejections of "number crunching." As we have seen, methodological pragmatism does not justify such a conclusion, given its essential pluralism. But critical theory does require a *critical* pluralism in that it directs attention not only to how the type of theoretical problems shapes the choice of methods but also to the political and ideological contexts of methodological choices as part of the process of non-empirical argumentation (Beardsley 1980). As Galtung argues in characterizing "methodology as ideology," the structure of society tends to determine the selection of methodologies: "Far from universal, a methodology even contributes to the definition and maintenance of a certain social structure by being compatible with it, or to its downfall and replacement by another by being incompatible with it" (Galtung 1977, p. 13). The prevalence and manner of use of existing techniques can be attributed to a significant extent to the relationship

between social statistics, the state, and the system or production, as opposed to their intrinsic merits for understanding social reality (Irvine et al. 1979).[3]

Accordingly:

> There is no such thing as a general, universal methodology. . . . To work with any methodology, hence, is a political act . . . the choice of a methodology is implicitly the choice of an ideology, including the mystifying, monotheistic ideology that there is but one methodology—the universal one. To the extent that we are *conscious* the choice is for us to make, not to be made for us, and to the extent that we are *free* for us to enact. (Galtung 1977, p. 40)

It is important to stress that this thesis regarding the relationship between social processes and the selection of methodological techniques is not deterministic, nor does it posit some kind of invariant relationship that assumes a certain type of theorizing automatically requires a particular type of method. We return to this point in the conclusion of this chapter.

This chapter attempts to deconstruct various aspects of the contemporary discourse on sociological methods, especially as reflected in the quantitative/qualitative methods distinction, and then goes on to reconstruct a methodological typology that we consider to be more adequate. We want to present a critical view of the conventional discourse on social research in contemporary sociology. The first objective will be to set up an argument we wish to make regarding a way of thinking and speaking about methodology that we consider to be more sophisticated, as well as more continuous with the concerns of critical social theory. To that end, we first describe the ways methodology is discussed and, more importantly, taught within the social sciences. We then critique the nature of this discourse and point toward a more viable reconceptualization.

The Conventional Methods Discourse

Although there have been many challenges to the positivist paradigm, the fundamental opposition between so-called "quantitative" and "qualitative" methods remains. For example, it is

not uncommon to find the terms used to title methods courses in sociological programs at North American colleges and universities. We would contend that the use of this dichotomy serves as the rhetorical means of typification, whereby forms of social research and sociologists themselves become located. The distinction has become the primary axis of methodological discourse. We argue that the discourse ought to be aligned along a quite different, though more substantive, axis.

Those who identify themselves with one category appear to assess the other negatively on the grounds of some inadequacy. Notwithstanding many efforts at synthesis, quantitative sociologists often tend to view qualitative research as imprecise, biased by researcher subjectivity, and effective for neither prediction nor generalization. At the same time, qualitative sociologists tend to view quantitative research as grounded in a naive objectivity, ineffective for the interpretation of insider actions, and generally unable to describe the social construction of reality. In the language of Weber, one is charged with inadequacy in terms of causal explanation (*Erklären*), while the other is charged with inadequacy in terms of interpretive understanding (*Verstehen*).

Despite the conventionalized character of the debate surrounding the established opposition between quantitative and qualitative methods, the argument can be made that this discourse, as it is structured, favors the former over the latter. Conceptual oppositions are rarely, if ever, neutral. One term has, within given social contexts, a more positive loading than the other. This is particularly clear in those instances where one term is defined as the absence of the other. The main conceptual distinction in our methodological discourse displays the positive understanding of quantitative research against the relatively negative understanding of qualitative research. Although qualitative researchers are no doubt critical of quantitative methods, the prevailing language of the discipline reminds us that quantitative sociology *is* our dominant culture.

In mainstream sociology quantitative methods are packaged in such notions as objectivity, precision, and standardization; and these are presented as distinctly scientific and, therefore, positive characteristics. How are qualitative methods defined in mainstream sociology? One way to answer this question is to look at

texts given currency within the discipline. For example, consider the way a leading dictionary of sociology presents qualitative as the lack of quantitative:

> Qualitative Analysis . . . refers to analysis which is not based on precise measurement and quantitative claims. Sociological analysis is frequently qualitative, because research aims may involve the understanding of phenomena in ways that do not require quantification, or because the phenomena do not lend themselves to precise measurement. (Abercrombie et al. 1988, p. 200)

Earl Babbie, who has written one of the most commonly used undergraduate introductory methods texts, appears to present the distinction in much the same manner:

> One of the most basic divisions within the field of social research is the one separating quantitative from qualitative research. Essentially, quantitative research involves numerical analysis, whereas qualitative does not. (Babbie 1983, p. 85)

At the very least we are left with no sense of what qualitative research might be, aside from its non-quantitative nature. In contrast we are given specific defining characteristics of quantitative: It is precise, and it makes certain kinds of claims. Thus the discourse is structured in such a way as to make the quantitative research the standard for comparison, and this, we would like to emphasize, is quite arbitrary.

Again we are not attempting here to set up a critique of either quantitative or qualitative methods as such. This discussion should not be taken as a critique of particular forms of sociological research, regardless of their labels. Rather it should be taken as a critical assessment of the overall discourse itself in which both terms are implicated.

From a semiotic perspective it is clear that the two terms are reciprocally defined; each must refer, at least implicitly, to the other in order to establish its own meaning. The sense of 'quantitative' is lost without a contrasting sense of 'qualitative,' just as the sense of 'qualitative' is lost without a contrasting sense of 'quantitative.' The semiotic opposition is, at root, an opposition in the ambitions of sociological practice. Continuing the German

methodological dispute (*Methodenstreit*) from the earlier stages of the human disciplines, the quantitative community seeks to establish sociology as a discipline along the lines of the natural sciences, in part, by eschewing the use of natural languages. Correspondingly the qualitative community seeks to establish sociology as a discipline along the lines of the humanities, in part, by eschewing the use of formal or numeric languages. Both communities identify themselves in terms of their opposition to the other's mode of representation. Thus, although the use of the opposition might suggest two sociologies, the mutuality of its use for self-definition reminds us that both are united in a common discourse.

The arguments presented here are addressed from outside that conceptual opposition on the basis of the reconstruction of the relationship between interpretation and explanation developed in critical social theory. Despite their apparent differences, both positions together present a common way of speaking and, therefore, thinking about social scientific methods. The present discussion is a critique of the background assumptions that unite these terms as part of the common discourse of a language game, to use Wittgenstein's metaphor. By now it should be clear that our concerns are more immediately theoretical than practical. We are concerned here with how methods are conceptualized in general, rather than with how specific methods are practiced. The acceptance of the qualitative-quantitative distinction by sociologists in general serves to draw attention away from theoretical questions associated with the ontology of social life. *The consequence of this distortion is a methodology that is not atheoretical, but that is theoretical in undeclared ways.* At stake is the extent to which the theoretical foundations of social research are open to critique. The solution is to make such theoretical differences explicit by reformulating the way we speak of methods.[4]

A number of characteristics currently are used within the discipline to construct and differentiate between so-called quantitative and qualitative approaches to social research.

Quantitative Methods

For the most part, three characteristics define quantitative research in the conventional discourse: aggregation of units, meas-

urement of variables, and statistical-causal analysis. Central to the so-called quantitative approach is its use of *aggregate analysis*—that is, the notion that we do not study individuals as such, but rather aggregates of individuals or other social entities. It is important to note here that such aggregates do not necessarily represent social groups in the strong sociological sense. Rather the analysis deals in the notion—not specific to sociology—of populations to be described, for example, the population of those with a criminal record in Canada. The members of such a population to a large extent do not interact with one another. In other words, such a set of individuals would constitute a legitimate aggregate for the purposes of most quantitative analysis in sociology, but it clearly would not constitute any level of social organization from a theoretical perspective.

The fact that in much quantitative research the aggregates do not constitute social groups proper is not problematic because the relations to be considered are not social relations. Instead, to the extent that the quantitative analysis is statistical, the resulting *correlational analysis* pertains to studying relations between variables, rather than people. Information is collected about relationships between varying individual attributes or, more simply, variables. Such information typically is collected in survey research by asking people to respond to a highly structured set of questions. The purpose of the survey instrument is to collect data efficiently for statistical analysis. It is necessary, therefore, that the questions asked of people during a survey be standardized and quantified.

Within quantitative sociology the most commonly practiced view of "cause" is borrowed directly from the natural sciences. According to this view, causation is understood in terms of how an antecedent condition necessarily (or probabilistically) leads to a particular outcome. Moreover, it also is understood that cause, in this sense, is to be revealed in patterns of statistical covariation; for example, Does age variation account for income variation? The search for causality becomes a matter of searching for nonspurious relationships between variables (not social relationships). In ideal situations we strive to construct parsimonious models that are both simple (based on a few correlations) and strong (have a high predictive capacity).

Qualitative (and Historical) Methods

Similarly three characteristics also define qualitative research in the conventional discourse: *case study design,* interpretation of action (*Verstehen*), and *thick description.* Research that we conventionally refer to as qualitative tends to involve a case study design; this simply means that we examine a single case or a limited set of cases during the research, in marked contrast to the large aggregate approach discussed above. For example, the analysis of one person's autobiography would be a case study, as would an ethnographic analysis of a single community or the historical analysis of a single society.

Central to the notion of qualitative research in the conventional discourse is the non-use of formal quantitative representations in favor of natural language. It could be argued that at all levels of qualitative analysis (individual, organizational, historical) there is a reliance on the *natural language accounts* of actors concerning their actions or the actions of others within their social field. Even in historical analysis we are concerned with accounts left to us by actors and with the perspective of the so-called historical actor. Implicit, then, in the emphasis on natural language is an interest in the local interpretation of action. Furthermore it is accepted in qualitative sociology that action and its local interpretation are always imbedded within the social world of the actors themselves.

Such analysis is taken to be *idiographic.* In other words, rather than attempting to make statistical generalizations concerning a limited set of variables, the concern in a case study is with comprehending the rich complex of factors that define the case at hand—be it individual, organizational, or societal. The social context of action and interpretation, along with the emphasis on natural language, leads much qualitative research to be concerned with layers of social reality, thus requiring a depth or *thick description* of the case at hand (Geertz 1983). The basis of qualitative analysis as interpretation theory, according to the conventional discourse, is the determination and representation of meanings (Little 1991, pp. 68-86).

Critique of the Discourse

We contend that the predominant distinction between quantitative and qualitative methods in sociology serves primarily to conceal and confuse theoretical positions. This distinction focuses our attention on the *techniques* through which social life is represented in the course of research, as opposed to the process of representing social reality. As we will see, the strongest critique of accepting the quantitative-qualitative distinction as the primary way of organizing our experience of social inquiry is that it conceals another, more fundamental, distinction. Here we refer to the theoretical distinction between recognizing a set of individuals as a social group and defining a set of individuals as a sociological aggregate.

The arguments can be presented in four stages. First, the quantitative-qualitative opposition, as such, presents a false dichotomiation of actual social research practice. Second, we remind the reader that the quantitative-qualitative opposition, although appearing to reference data languages, in practice actually refers to specific analytic strategies. Third, we argue that these strategies are not simply different ways of examining the same social phenomena, but are ways of making a set of individuals into two different kinds of phenomena. Fourth, we contend that behind these different kinds of social phenomena lies an important theoretical distinction and that this distinction is revealed inadequately by the language of qualitative-quantitative.

A False Dichotomy

To begin, the dichotomy set up by the distinction between qualitative and quantitative methods lacks face validity. To the extent that it rests on the difference between the use of formal and natural language modes of representation, the dichotomy is obviously false. Simply put, nothing about qualitative research, regardless of the form it takes, necessarily precludes the use of quantitative representations or nonquantitative formal methods (Braybrooke 1987, pp. 60-66). Ethnographers and historians can and do count things. Moreover, the activities of research design, data collection, and analysis in quantitative social research

necessarily are based on the interplay of constructed meanings. To imagine an appropriate question for a statistical survey is to engage in the natural language employed by both the analyst and the subjects of the research. The language of research is not an adequate criterion for a major differentiation of research forms.

Specific Analytic Strategies

The practices conventionally associated with the terms *qualitative* and *quantitative* do represent quite distinct analytic strategies. We argue that it is necessary to acknowledge these fundamental differences, rather than the more illusory language difference, in order to begin comprehending the major divisions within empirical social science.

The main underlying factor that needs to be made explicit in this regard is that for the most part quantitative research in sociology is statistical in the strong sense of bivariate and multivariate statistical modeling. Yet quantification means many different things. For example, studies may be referred to as "statistical," with the implication that they involve a specific form of theoretical analysis. So when we read that "French sociologist Pierre Bourdieu has reported on quantitative empirical research that shows . . . that there are coherent social class differences in the consumption of culture" (Hall and Neitz 1993, p. 117), we would be misled to think that Bourdieu has drawn on statistical-causal analysis. In fact, the research in question is based tangentially on surveys that are used to demonstrate striking differences (expressed in percentages) in the tastes of different occupational groups. In fact, Bourdieu explicitly rejects what he labels the "multivariate fallacy" as a theoretical strategy because "the techniques sociologist generally use to establish and measure relations implicitly contain a philosophy that is at once analytical and instantaneist . . . the structures sociology deals with are the product of transformation which, unfolding in time, cannot be considered as reversible except by a logical abstraction, a sociological absurdity" (Bourdieu and Passeron 1977, p. 88).[5]

We must ask, then, how is *statistical modeling* different from other forms of quantitative analysis in sociology. As mentioned earlier, the strategy of statistical analysis is to model the social world in terms of causal relations—understood as nonspurious

correlation—between an observed system of variables. The key term here is that of "relations between variables." This term is to be contrasted with the concern of much mathematical and qualitative efforts to reconstruct social structure and processes. In other words, nonstatistical approaches in sociology—qualitative or quantitative—take as their strategy the comprehension of relations obtaining between social actors and other forms of social organization. For example, to describe the structural relationship between two social classes in a society involves a quite different epistemology than describing the statistical relationship between education and income for members of the same society.

Constructing Social Phenomena

The focus on variable relations sets the logic of statistical research at odds, to a large extent, with the focus of contemporary social theory and with that of critical theory in particular. To comprehend this point, we need to go back to the earlier description of the subjects of research. In tune with the concerns of theoretical sociology, nonstatistical research attempts to describe a society by referring to the systemic and social relations that constitute it. Subjects are subjects in *relations* with others and with forms of social organization. To study individuals in this paradigm is necessarily to study them as participants in communities, classes, institutions, and cultural discourses. In contrast, statistical-correlational research has less of a natural affinity with theoretical sociology. It does not assume at all that its analysis of variables is based on a population of subjects who interact with one another through communities and the like. It is assumed, however, that members of the sample used are inde pendent of one another. Statistical analysis constructs a certain kind of "subject" within sociological discourse—the member of an aggregate—whereas more theoretically oriented analyses construct the "subject" as the participant in one form of social organization or another.

Theoretical Inadequacy

This incongruency with theoretical sociology is due to the fact that *statistical analysis is not a sociological method.* It is not

an approach developed within sociology as a tool for its theoretical inquiries. Rather it is a tool that has been incorporated into the discipline of sociology from the natural sciences despite the incongruity with basic sociological concepts, such as the group, and basic theoretical concerns, such as the nature of social relationships constituent of a society. For this reason, Fararo, an astute formalist methodologist, carefully distinguishes between the construction of theoretical models of generative structures from statistical modeling (what he calls the "regression equation model of theorizing"):[6] "*But they are not social theoretical in character* [italics added]. . . . They are not direct instantiations of a mode of representation of the social phenomena of interest. Perhaps we can say that they are statistical theoretical models applying general statistical theory" (Fararo 1989, p. 57).

The popularity of the statistical framework can be traced, we contend, to its affinity with a modern policy- and program-oriented sociology. Statistical analysis is grounded in the values and logic of social engineering (Fay 1975) although this foundation may not be as salient for all those who practice statistical sociology. These have, in turn, come to define the dominant discourse on methods in sociology. Yet this foundation in social engineering has remained largely transparent within the discourse itself, enabling its uncritical reproduction. We would reject the qualitative-quantitative distinction as based on inadequate, misleading, and ideological assumptions.

Further, the predominance of statistical modeling is reinforced by a positivist conception of *formal logic* that presumes that the analytic ideal of formalization is always possible and most appropriate independently of the object of inquiry. It is on this basis that methods texts can outline the formal criteria of scientific explanation and then apply those to "qualitative" research showing how, inevitably, they end up defective even if often useful. What this paradox hints at is the crucial postempiricist distinction between the abstract formal criteria of mathematical logic and the values and standards characteristic of *practical logic* or *reasoning* (the logic-in-use) in a particular domain. If logic-in-use is viewed as a matter of argumentation, then it is possible to differentiate "field-invariant" and "field-dependent" criteria for constructing and evaluating arguments (Toulmin 1958, p. 15). From this perspective it is possible to differentiate the

distinctive aspects—the field-dependent criteria—of the investigative concerns of statistical modeling as opposed to social theorizing.

Disciplinary Interests and Two Research Logics

Having laid out a deconstruction of the dominant methodological discourse, we now seek to rethink methodological discourse in a manner based on the distinction between two types of *disciplinary practice.*

Social Theorizing

One can identify two fundamental disciplinary interests in sociology: world-historical *social theorizing* and the *social engineering* model—that is, the dominant form of variable-based methodology grounded in nomothetic explanations. We argue that these, in turn, provide the normative foundation for particular research logics. An interest in social theorizing, in our view, is expressed in the desire to comprehend and, in some cases, transform (through praxis) the underlying orders of social life—those social and systemic relations that constitute society. From this perspective the *raison d'être* of social theory is to construct a tenable account depicting "the underlying principle of change at work in the emergence and disappearance of the numerous forms of human life and the countless welter of human activities and relationships" (Fay 1987, p. 69). In this respect, social theorizing is interpretive, but also structural. Hence *it cannot be reduced to the ideographic interpretation;* it retains a strong quasi-causal explanatory interest, but one consistent with the nature of social reality. Accordingly we contend that the theoretically driven task of articulating underlying generative structures of social orders requires two distinct yet interdependent research logics: intensive explication and comparative generalization.

Let us first consider the logic of *intensive explication,* a strategy grounded in hermeneutic assumptions. By the term *explication*

we intend the research logic of empirically lifting into view the underlying semantic, sociocultural, and structural relations that are constitutive of historically unique actors, mediations, and systems, respectively (A. Sayer 1992, pp. 236ff).[7] More specifically we can imagine (a) the interpretive explication of the self-identity and social cognitions appropriated by a given actor, (b) the interpretive or structural explication of the social interaction situated within a given mediation, and (c) the structural explication of the political and economic relations comprising a given social system. The term *intensive* implies a case study focus on specific individual actors, mediations, or systems. The logic of intensive explication includes the construction of representations such as ethnographic accounts (interpretive social psychology), componential taxonomies (cognitive anthropology), and formal models (mathematical sociology). Essential to any effort at intensive explication is the desire to discern and elaborate the substantive relations posited in social theory.

Comparative generalization is a logic complementary to intensive explication. Here the strategy is one of comparing the patterns disclosed through intensive explication across a finite set of historically comparable cases (actors, mediations, or systems). This step may be accomplished in order to make limited generalizations regarding identifiable patterns obtaining across several cases at a single point in time or for changes in the pattern of a single case over some duration of time. It is important to recall here that the patterns explicated and compared through these theoretically driven strategies are those found in the cognitive, cultural, or structural constitution of actors, mediations, or systems, respectively.

The logic is parallel to that found in structuralist linguistics. In that discipline one strives to disclose the internal orders and properties underlying the construction and transformation of meaning through explication and comparison of discourses. In the broader theory of society context, we extend this approach to include the social cognitions of actors, the sociocultural properties of mediations (collectivities, as well as discourses), and the structural properties of societal systems. In the case of both explication and comparison, we may find it useful for heuristic purposes to model such properties and processes through formal languages such as mathematics. And in some cases we may wish

to base comparisons on certain variables. But these do not substitute for the more fundamental activity of theory construction. Taken together, intensive explication and comparative generalization are carried out in the context of intensive research designs oriented toward case studies and nonstatistical comparative analysis—a topic discussed further in the next chapter.

Social Engineering and Causal Modeling

In contrast, statistical-causal modeling is the primary technique employed in extensive research designs based on aggregating large numbers of individuals or processes. Here comparison also takes place but involves a fundamentally different "comparative method." Hence it would be incorrect simply to equate interpretive comparative generalization with the logic of statistical causal modeling.[8] First, statistical modeling is based on associations between standardized variables for a large aggregate of cases—individuals, mediations, or systems. Recall that the logics of explication and comparison outlined thus far are concerned with internal relations constitutive of actors, mediations, or systems, and with the reproductive relations linking micro and macro phenomena. As an approach, statistical modeling assumes that the cases comprising a given aggregate are independent of one another. The relations in questions are those obtaining between selected variables—a much more abstract logical operation. This difference, we would suggest, creates a problematic situation of mixed logics for analysts working from a critical sociology perspective. Whereas the research logics of explication and comparison can be linked directly into the language of a critical theory of society—one concerned with processes of social reproduction and transformation—the logic implicated in the modeling of statistical associations has a less obvious linkage with this kind of theoretical discourse.

In principle it would require some sort of logical somersault to transform the empirical statistical associations between variables into theoretical social relations between actors and within or between mediations. We are concerned that such logical gymnastics are not made explicitly, or are even well understood. This problem is compounded by the nomothetic requirements of statistical analysis that data be collected (a) in terms of standardized

variables and (b) across larger aggregates. Many instances of sociological inquiry may involve questions concerning phenomena not readily standardized, such as meaning systems, or may involve cases sufficiently unique that there are only a few comparable cases.

None of this is to argue that statistical causal modeling is completely nappropriate for the purposes of theorizing or never in the interests of critical sociology, but it is to say that the affinity between statistical research and social theory is not at all straightforward. The primary reason that the conventional status of qualitative analysis as a *heuristic* (facilitating discovery but not its fundamental basis) for the ideal of statistical generalization should be reversed: *Mathematics is, at best, a heuristic tool for social research whose conceptual language is necessarily grounded in explicative interpretations and structural generalizations.*[9]

We would suggest that this lack of clear affinity finds its sociological source in the interest of social engineering that has shaped, to some extent, the discipline of sociology in the latter part of this century. The normative interest of social engineering is distinct from the normative interest of social theorizing as we have outlined it. Social engineering is interested in empirical descriptions in order to conceptually reproduce, rather than to reveal or transform, given social orders (Habermas 1970; Fay 1975). The function of research in this institutional practice is to inform state and, in some cases, corporate policy and programming. In this rationalized milieu the "program" becomes the means to realize a "fit" between individuals and collectivities, on the one hand, and the state, on the other hand. The evaluation of policy decisions is based on the probability that a given individual or collectivity will demonstrate some positively defined attribute as a consequence of programming initiatives and expenditures. In this context the social relations obtaining between actors and between mediations are virtually irrelevant. What is relevant is the ability to predict outcomes on the basis of various inputs. Hence statistical causal modeling becomes appropriated as the logic of choice.

The fact that the capacity of a social science to produce such knowledge oriented toward technical control may have been greatly exaggerated by earlier critical theory does not alter,

however, the basic critique. Indeed it calls for an explanation of *why* control-oriented social science has not lived up to its promise. In many countries the loss of faith in the technical contributions of social science have led inevitably to decline in research funding. Explanation of this anomaly is immanent in Habermas's theory of communicative action and explicit in Giddens's theory of structuration: The decontextualized analysis of controlling variables touches only on the surface of the generative causal mechanisms of social relations and cannot be translated readily into long-term, effective interventions.

We would suggest that as a consequence of the "publics of sociology"—especially state interest in social engineering—a strong sense of legitimacy arose for statistical analysis in society and, perhaps unfortunately, within the social sciences (Halliday and Janowitz 1992). The rise of statistical modeling as the dominant legitimate logic in modernity may well correspond to the decline in legitimacy of other approaches that were more theoretically grounded, for example, American pragmatism.

A Taxonomy of Social Research Strategies

The distinction between extensive research-oriented correlational accounts of causation on the one hand, and two moments of intensive accounts—individual explication and comparative generalization—on the other, allows a comprehensive typology of research strategies. In particular we wish to differentiate how each of these three types of explanatory focus has different implications for the three analytical moments of social reproduction: (a) the social psychological analysis of individual actors, (b) the systemic analysis of social structures, and (c) the sociocultural analysis of mediations (or "social practices" in Giddens's terms).

Social Psychological Analysis of Individual Actors

The primary *naturalistic* strategy applied to individual actors can be found in various forms of behavioral social psychology,

for example, Skinnerian operant conditioning. We consider to be *individual-level modeling* those forms of research that ideally seek to establish universal covering laws of behavioral processes (e.g., in Homan's exchange theory).

Interpretive social psychologies reject the thesis of universal determination even though most acknowledge the importance of external constraints on social action (even if these are ignored by the theory). Indeed interpretive social psychologies can be arranged on a continuum on this basis. Hence a fundamental tension in interpretive sociology is reflected in divergent attempts to reconstruct the logic-in-use of its research practice. Some stress its search for "rules" of action that identify regularities with explanatory significance, hence the continuity and complementarity between naturalistic and interpretive methodologies (Braybrooke 1987, pp. 47ff). Others stress the discontinuity evident from a focus on interpretation as a hermeneutic process:

> This approach is thus *hermeneutic:* It treats social phenomena as a text to be decoded through imaginative reconstruction of the significance of various elements of the social action or event. The interpretive framework thus holds that social science is radically unlike natural science because it unavoidably depends upon the interpretation of meaningful human behavior and social practices. (Little 1991, p. 68)

We account for this discrepancy by distinguishing the two aspects or moments that characterize interpretive accounts of individual focused analyses: *actor explication,* which follows the hermeneutic model in analyzing unique cases, and *actor generalization,* concerned with identifying general rules of individual action in specific causal contexts.

Macrostructural Analysis of Social Systems

System-level modeling is based on the hypothetical assumption of treating social systems as if they were relatively closed. On this basis, statistical techniques for studying collective properties can be imported from the natural sciences. The most common version in sociology is probably *aggregative compara-*

tive research, which attempts to identify crucial variables in systems dynamics on the basis of large samples of cases.

In contrast, *systemic analysis* in interpretive social theory dispenses with the organic analogy, holding that societies are open systems whose regularities are historically changeable and do not often lend themselves to formalization. On the one hand, this definition suggests analyzing systemic properties (those structures that operate behind the backs of actors) in terms of *systemic explication*—that is, defining the processing of social reproduction and contradiction within the specific historical case. On the other hand, such case studies presuppose basic structuralist concepts involving *system generalization* based on certain types of societies. Although these structural rules invoke the assumption of regularity and causality, they do so in a manner that is highly historically contingent.

Sociocultural Analysis of Mediations

Mediation-level modeling attempts the very difficult task of identifying the probabilistic conditions of social change or correlations between aggregate properties of groups and institutional orders. *Mediation-level explication* involves the attempt to identify intensively the crucial points of potential rupture, breakdown, or change in the processes of reproduction carried out at the intersection of systemic and social integration. Again such case studies presuppose *mediational generalizations* of the type associated with theories of collective behavior, social movements, and cultural change.

This comprehensive scheme has the advantage of being related directly to investigative concerns and disciplinary practices, rather than based on the more limited qualitative-quantitative distinction. The use of formal languages does not play a major role in the way we have conceptualized social methodology. Quantification could be used as part of any of the nine identified strategies, and it is certainly used in the six strategies falling under the sociocultural and macrostructural analytic moments. The reader should note, however, that although strategies involving explication and generalization employ formal languages to represent social structure and process (mathematical sociology), those strategies flowing from a social engineering paradigm of

extensive analysis employ the formal language of bivariate and multivariate relationships (statistical sociology). It should also be noted that the use of mathematical models is limited by the extent to which they can be theoretically interpreted. Thus the use of mathematical models is less viable in the context of actor and, to some extent, mediation explication and generalization, which present the analyst with hermeneutic, rather than structural, phenomena.

In general we would argue that *the validity of quantitative methods is a matter of the continuity they can forge with theoretical discourse.* Techniques of a mathematical nature (e.g., network analysis) may be readily linked, as heuristic devices, to theoretical interests in explicating social structure and process. As we have argued, the logic of statistical generalizations has more of an affinity with the interests of social engineering, rather than social theorizing. Whereas the latter is geared toward the intensive explication and comparative generalization of aspects of the social world, the former is geared toward the construction of multivariable modeling intending "prediction" of variances. From a critical theory perspective the fundamental difficulty with using statistical analysis is that it is based on the relations between variables, while explicative and comparative analyses, as we have presented them, are based on discerning structural relations within and between mediations—relations that turn on the dialectic between human agency and social structure.

The Investigative Concerns of Critical Theory

Methodological Choices

At this point we wish to point to the intimate relationship between substantive and methodological choices in critical theory. On the one hand, this does not entail any necessary link, a point that would weaken the argument linking ideology and methodology that began this chapter. It is important to reaffirm, however, that this merely argues that *affinities* exist between certain types of methodological strategies and theories of society, not that this is necessarily so: Intensive methods may be used

to construct knowledge that supports functionalist theories, and extensive methods may be used to provide support for causal propositions congenial to critical theory. Andrew Sayer has formulated this question carefully in terms of the "limits" of strategies

> . . . and some of the assumptions and practices which *commonly accompany* their use . . . structural analysis tends to "resonate" with marxist (and possibly some other) conceptions of society, but not with individualistic theories which portray society as a structureless aggregate of externally related individuals and causal "factors." This latter view resonates more easily with the use of quantitative methods. In noting this, I am not suggesting that structural analysis *entails* marxism or that individualistic theories entail or are entailed by quantitative approaches, but merely that there are "resonances" which encourage the clustering of certain philosophical positions, social theories and techniques. Any adequate critique of social science must go beyond piecemeal criticisms to the understanding of these resonances. (A. Sayer 1992, p. 199)

On the other hand, we would also be wary of any simplistic complementarity thesis. Giddens runs this risk in analyzing the relationship between qualitative and quantitative research. According to Giddens, awareness of the duality of structure undermines the quantitative-qualitative opposition. Although we agree with Giddens that this is a false opposition, we find that he oversimplifies somewhat and exaggerates the complementarity between quantitative and qualitative research. The crucial point is that he is talking about the complementarity of the two as "techniques" or methods, whereas we have stressed their antagonism as methodological strategies—that is, modes of theory construction.

> The idea that there is either a clear-cut division or a necessary opposition between qualitative and quantitative methods disappears. Quantitative techniques are usually likely to be demanded when a large number of "cases" of a phenomenon are to be investigated, in respect of a restricted variety of designated characteristics. But both depend upon procedures methodologically identical to the gathering of data of a more intensive, "qualitative" sort. . . . All so-called "quantitative," when scrutinized, turn out to be composites of "qualitative"—i.e., contextually located and indexical—

> interpretations produced by situated researchers, coders, government officials and others . . . qualitative and quantitative methods should be seen as complementary rather than antagonistic aspects of social research. (Giddens 1984, pp. 333-4)

Giddens is pointing here to the essentially heuristic function of quantification in general and the construction of all data through interpretation. But he does not seem to appreciate the deeper, inherent antagonism between variable analysis and the structuration theory he advocates—that is, between extensive and intensive research designs. One reason is that he tends to equate quantitative approaches with macroanalysis and qualitative with microanalysis: "It is not difficult to see in the conflict between these two positions a methodological residue of the dualism of structure and action" (Giddens 1984, p. 330). As suggested by the taxonomy of methodologies above, we do not find any strong affinities of this type. Statistical modeling is possible and well developed at all three levels: systemic, action, mediational. After all, on the one hand, most of social psychology is concerned with the experimental analysis of microphenomena. On the other hand, the qualitative approach of comparative historical sociology has always been the foundation of macrosociology. We thus would rephrase and qualify Giddens's formulation.

The quantitative-qualitative opposition disappears only in the sense that qualitative approaches use statistics descriptively, and quantitative ones inevitably use interpretive procedures to construct measures. In this general sense it is perhaps possible to speak of complementarity for the purpose of the descriptive uses for social theorizing. But this occasional complementarity does not eliminate the antagonism between some types of quantification (statistically based variable analysis) and interpretive structural theorizing as modes of conceptualizing social reality. As a consequence the relationship between the two in this case is not one of essential or natural complementarity as if they were equally necessary terms. Given that quantitative procedures are heuristic, their complementarity with social theorizing is only occasional and cannot be taken for granted. And these intrinsic antagonisms are reinforced by the social demand for instrumental knowledge that tends to distort the uses of variable analysis, hence draws it away from reconciliation with interpretive sociology.

Investigative Concerns and Analytic Moments

The theory of society underlying critical theory is based on an open-ended model of social and cultural reproduction of the type proposed by both Habermas and Giddens. Unlike older structural functionalist and structuralist Marxist approaches, however, these models avoid strong functionalism and view the attainment of reproduction of a given order as a highly historically contingent process. This analytical focus on the dynamics of stability and change, in turn, defines the investigative concerns of critical research that can for heuristic purposes be broken down in terms of three analytic moments.

Following a number of theorists (Lockwood 1964; Giddens 1984; Habermas 1987a), we can recall again *two investigative concerns* in contemporary critical sociology: questions concerning the phenomenon of *social integration* and those concerning *system integration.* The concern with social integration directs questions to the "immediate nexus of social action," whereas the concern with system integration directs questions to the "reproduction of institutions"—social orders—across time and space (Giddens 1984, pp. 139-44). The concern with questions of social integration is reflected in the various types of social psychology and microsociology (symbolic interactionism, social phenomenology, ethnomethodology, and cognitive sociology), while the concern with questions of system integration is reflected in the variants of macrostructural sociology (neofunctionalism and neo-Marxist political economy). In other words, we see action research and macrostructural research as analytic moments flowing from prior investigative concerns grounded in the intersection of social and system integration.

But we wish to introduce a third moment based on the idea of mediations (Sartre 1963). In other words, we have to incorporate a sociocultural analysis of mediations (what we refer to as *mediational analysis*) that bridges the social psychological analysis of individual actors, on the one hand, and the macrostructural analysis of social systems, on the other hand. Such mediation implies that an analysis flowing from a concern with social integration potentially can be both social psychological and sociocultural, an approach best exemplified in Bourdieu's concept of

habitus. It can involve an analysis of actors (as agents or subjects) and an analysis of mediations (the sites of social agency and institutional reproduction). Similarly this strategy implies that an analysis based on a concern with system integration potentially can be both macrostructural and sociocultural. It can involve an analysis of a social system (as a configuration of mediations, e.g., social classes) and an analysis of particular mediations (the sites of social agency and institutional reproduction). Put otherwise, from a critical perspective, both social psychological and macrostructural analytic moments are implicitly dependent on theoretical and empirical work focused on mediations, or what Giddens would call "social practices," or Habermas, systemic-lifeworld relations.

Conclusion

In concluding, we would like to stress two key points. First, we suggest that the methodological distinctiveness of critical theory as empirical research derives from its particular fusion of an explanatory strategy (intensive analysis) with the overall substantive problematic of an open model of social and cultural reproduction characterized by three analytic moments: systemic integration, social integration, and mediational analysis.

Second, we argue that, for the purposes of a critical theory of society, the types of research developed in terms of variable-based modeling strategies is more often than not either irrelevant or peripheral for the cognitive interests of theory construction and social criticism. To an extent that is difficult to estimate, this high degree of irrelevance may be due to the current practices that happen to guide variable-based research.

To summarize our account of critical methodology in this and preceding chapters, we would point to the following conclusions:

- A conception of methodology grounded in terms of an antifoundationalist epistemology—that is, the theory of argumentation, which adequately takes into account the non-empirical aspects of method (reflexive, normative)

- A rejection of the qualitative-quantitative distinction as a way of differentiating methodologies and substituting the distinction between intensive as opposed to extensive research designs
- The claim that the typical research problems posed by critical theory (forms of structural analysis that acknowledge the knowledgeability of agents) lead to the general preference for intensive research designs
- The overall objective of intensive research designs in the context of critical theory is the construction of a theory of social and cultural reproduction
- Stress on the way all research is part of a process of social production in which particular logics-in-use specific to scientific communities come to define knowledge; hence the insistence that the history and systematic aspects of research cannot be completely severed
- The contention that given the societal demands for knowledge that can produce technical control, there has been a dominance of extensive methods under conditions that have tended to tolerate or even sanction their problematic use

The next three chapters elaborate in more detail the kind of methodological strategies implied by intensive research designs in the context of critical research. First, we consider the nonempirical, reflexive assumptions of such research (Chapter 9), followed by a discussion of some of the issues involved in deploying methods in intensive research (Chapter 10)[10] and a review of representative examples of research that touch on the analytic models of systemic integration, social integration, and mediational analysis (Chapter 11).

Notes

1. "Nowhere else is the notion of 'method' so patently out of place as in its application to sociological *theories*. . . . It is also a technical difficulty that confronts the teaching of methodology from the outset" (Baldamus 1976, p. 9). As Baldamus notes this is because *social theorizing has distinctive, implicit methods, much as methods involve distinctive, implicit forms of theorizing.*

2. Here we have in mind the kind of discussion prompted by Stanley Lieberson in *Making It Count* (Lieberson 1984) and the lament that the book would be used as ammunition for those opposed to quantification in the social sciences (Arminger and Bohrnstedt 1987). We would read it simply as a rationale

for a nonquantitative approach on the grounds that analysis of variance is difficult to reconcile with answering fundamental questions about social processes: "The focus on explained variance has had a major effect on the choice of problems to study within sociology. . . . Many, if not most, fundamental sociological questions, however, involve macrolevel, structural forces in which there is little or no variation. These problems cannot be addressed through this type of analysis (Singer and Marini 1987, p. 380). For a provocative, non-empiricist attempt to connect measurement with the study of structural mechanisms, see Pawson 1989.

3. As Baldamus argues, contrary to the usual assumption that the ideological content of theories makes them a good indicator of social change, empirical methods lend themselves more readily to study by the sociology of knowledge, "provided due attention is paid to the 'implicit theorizing' that shapes and controls the application of empirical procedures. . . . To use empirical methods instead of theories as a mirror of changes in social reality has the additional advantage that the former are much more compact and less fluctuating than the latter" (Baldamus 1976, p. 151).

4. Thus we are not making the same critique of quantification presented by Cicourel in his *Method and Measurement in Sociology* (Cicourel 1964). That argument involved an assessment of the degree to which arithmetic measures could be applied to the nonmaterial "dimensions" of social reality. Although we are essentially in agreement with Cicourel on the limits of measurement in this regard, it is not our purpose here to critique quantification per se. Rather it is our intention to question the priority given to the more basic distinction between qualitative and quantitative approaches to social research and the invidious characterization of qualitative theory as falling short of the quantitative ideal.

5. Many forms of analysis can be referred to as quantitative, of which statistical procedures represent only a part. The field of mathematical sociology, with its interest in modeling social structures and processes, covers the range of quantitative and formalized analysis not addressed by even the most advanced statistical techniques (Fararo 1989). We would argue that some of the approaches found in mathematical sociology are actually theoretically compatible with much of what we called "qualitative sociology" (e.g., network analysis).

6. Fararo (1989, pp. 53ff) thus rejects existent positivism (based on variable analysis and the covering law model) in favor of a realistic position oriented toward the construction of generative structuralist models concerned with formalized general sociological theory as opposed to the world-historical sociology and normative social theory of concern here.

7. We consider in greater detail the nature of *intensive,* as opposed to *extensive,* research designs in Chapters 9 and 10.

8. This is the basis of the important distinction between statistical and nonstatistical comparative research: "While it is true that the logic of social science is continuous from one subdiscipline to another, the peculiarities of comparative social science make it an ideal setting for an examination of key issues in methodology. . . . The most distinctive aspect of comparative social science is the wide gulf between qualitative and quantitative work. It is wider in comparative social science than in perhaps any other social science subdiscipline. In part this is because its qualitative tradition is dominant, the opposite of the situation in most other fields" (Ragin 1987, p. 2). We would argue, however,

that Ragin fails here to differentiate clearly between the field-invariant and field-dependent aspects of the logic of social science.

9. For a rigorous defense of this thesis, see Wilson (1987), who concludes: "Mathematics cannot play the same role as a vehicle for expressing fundamental concepts and propositions in the social sciences as it does in the natural sciences. The reason for this is that the basic data of the social sciences, descriptions of social phenomena, are inherently intensional in character: the social sciences cannot insist on extensional description without abandoning their phenomena. This, however, does not mean that mathematics has no place in social science; rather, that *mathematics play a heuristic rather than a fundamental role in the study of social phenomena* [italics added] (Wilson 1987, p. 402).

10. Although this also would be possible (though more difficult) to do with respect to extensive methods, that would require a very technical treatment of how to link measurement techniques to the study of causal mechanisms, a project that we leave to others (e.g., Pawson 1989).