The Micro-Macro Link

Edited by
Jeffrey C. Alexander
Bernhard Giesen
Richard Münch
Neil J. Smelser

UNIVERSITY OF CALIFORNIA PRESS
Berkeley · Los Angeles · London

University of California Press
Berkeley and Los Angeles, California

University of California Press, Ltd.
London, England

Printed in the United States of America

1 2 3 4 5 6 7 8 9

LIBRARY OF CONGRESS CATALOGING IN PUBLICATION DATA

The Micro-macro link.

Based on papers given at a conference sponsored by the theory sections of the German and American sociological associations held June 21–24 in Giessen, West Germany.

Includes index.

1. Sociology—Methodology—Congresses. 2. Macrosociology—Congresses. 3. Microsociology—Congresses. I. Alexander, Jeffrey C.
HM13.M53 1987 301.01'8 86–11309
ISBN 0–520–05786–4 (alk. paper)
ISBN 0–520–06068–7 (pbk)

Contents

Preface and Acknowledgments ix

INTRODUCTION

From Reduction to Linkage: The Long View of the Micro-Macro Link
by Jeffrey C. Alexander and Bernhard Giesen 1

PART ONE
MICRO AND MACRO: GENERAL APPROACHES

1. The Individualistic Tradition in Sociology
by Raymond Boudon 45
2. Contrasting Theoretical Perspectives
by Peter M. Blau 71
3. To Unpack Micro and Macro: Link Small with Large and Part with Whole
by Dean Gerstein 86
4. The Evolutionary Differentiation between Society and Interaction
by Niklas Luhmann 112

PART TWO
RATIONAL ACTION AND MACROSTRUCTURE

5. Collective Phenomena and Rational Choice
by Reinhard Wippler and Siegwart Lindenberg 135

6. Microfoundations and Macrosocial Behavior
by James S. Coleman 153

PART THREE
INTERPRETIVE ACTION AND MACROSTRUCTURE

7. Complexity and Behavior Structure, Planned Associations and Creation of Structure
by Hans Haferkamp 177

8. Interaction Ritual Chains, Power and Property: The Micro-Macro Connection as an Empirically Based Theoretical Problem
by Randall Collins 193

9. Between Macro and Micro: Contexts and Other Connections
by Emanuel A. Schegloff 207

PART FOUR
AFFECTIVE ACTION AND MACROSTRUCTURE

10. Psychoanalysis as the Macro-Micro Link
by Edith Kurzweil 237

11. Micro Pathology and Macro Normality
by Karl Otto Hondrich 255

12. Depth Psychology and the Social Order
by Neil J. Smelser 267

PART V
SYNTHETIC RECONSTRUCTIONS

13. Action and Its Environments
by Jeffrey C. Alexander 289

14. The Interpenetration of Microinteraction and Macrostructures in a Complex and Contingent Institutional Order
by Richard Münch 319

15. Beyond Reductionism: Four Models Relating Micro and Macro Levels
by Bernhard Giesen 337

CONCLUSION

Relating the Micro and Macro
by Richard Münch and Neil J. Smelser 356

Index 389

CHAPTER FIVE

Collective Phenomena and Rational Choice

Reinhard Wippler and Siegwart Lindenberg*

1. INTRODUCTION

Behind the many controversies that rage in sociology, general agreement on a minimal program seems to exist: The central task of sociology consists of showing how social behavior and collective phenomena (such as belief systems, institutional arrangements, and structural patterns) are socially determined. Physical or psychic characteristics and other "non-social" factors are thus ruled out as relevant causes. How, then, can collective phenomena be explained? This question is often phrased in terms relevant to the conference on which this book is based: How can macrosocial phenomena be explained? This is the master question behind many interpretations of the so-called micro-macro problem. Unfortunately, within the minimal program there is no agreement on the micro/macro distinction, except that "micro" always refers to smaller units than those implied by "macro." We will argue that the various meanings attached to this distinction have generated micro/macro problems that stand in the way of an adequate solution of the master problem.

One can find at least four different specific senses in which this distinction is used. First, the micro/macro distinction refers to the *scope* of the phenomena studied. Although there are no clear cut-off points, interacting individuals are clearly micro whereas the value system of a society, for example, is clearly macro. In accordance with the minimal sociological program, the micro level in this view is constituted by interaction

*The sequence in which the authors are listed was decided by flipping a coin.

and not by individuals, because individuals are said to belong to the domain of psychology (Mayhew 1980) or because paying attention to individuals on the micro level is believed to lead to psychological reductionism (Knorr-Cetina 1981). The micro/macro problem, then, consists of combining theoretical and empirical statements about micro-level and macro-level phenomena. The current proposals describing how to realize such a combination, however, are not satisfactory. Neither the decomposition of statements about macro-level phenomena into statements about micro-level phenomena nor the aggregation of micro-level phenomena for the purpose of arriving at macro-level statements has yet resulted in even approximately satisfactory explanatory theories. Similarly, the attempt to conceptualize regularities at the macro level as being actively construed within microsocial action (Cicourel 1981) has only led to reformulations of the phenomena at different levels without adding to the explanatory power of macrosocial theories.

The second meaning refers to the place of micro- and macro-level phenomena in empirical analyses. Often the *indicators* for constructed variables refer to observable units that are smaller than the constructed units. For example, the indicators for a value system (macro) are statements made by individuals (micro). In this case the micro/macro problem is seen as a technical one of appropriate measurement models. Solutions to this technical problem, however useful they may be for empirical studies, leave unsolved the theoretical problem of explaining macrosocial phenomena.

A third meaning of the micro-macro-level distinction is related to a theoretical strategy advocated by Homans. It is controversial among sociologists precisely because it is considered by some to fall outside the minimal sociological program (e.g., Mayhew 1980). Homans argues as follows: Statements about lawlike regularities are indispensable in scientific explanations. There are virtually no lawlike propositions about collective phenomena (macro) in sociology, however, and thus sociologists should borrow their most general propositions from psychology if they are not willing to restrict themselves to purely descriptive work. The micro level of sociological analyses is hence reserved for *psychological propositions* furnishing the mechanisms that make social processes work. Homans's theoretical strategy is an important step toward a theoretically anchored sociology, but this is a result more of his concern with scientific explanation than of his treatment of the master problem. The use of this strategy worked best when applied to spontaneous groups (i.e., to phenomena considered micro by many authors) and when it did

not result in the explanation of macrophenomena in historical settings or in nontrivial predictions about macroprocesses.

A fourth meaning of the micro-macro-level distinction can be derived from distinctions common in *economics*. This version somewhat resembles the third because the core of microeconomics is composed of rational choice theory. The two differ in at least one respect, however: Whereas the behavioral units of Homans's micro level are exclusively individual actors, the decision-making units in microeconomic analyses may be not only individuals but also social systems such as households and firms. Have economists arrived at a theoretically satisfactory solution to the master problem? As far as we know this problem has not yet been solved (see, for instance, Weintraub 1979).

None of these micro/macro distinctions has generated a theoretically convincing answer to the question of how macrophenomena can be explained. Could it be that the problem was not adequately conceived? Does the couching of the micro/macro distinction in terms of levels prevent solutions that could lead to a theoretically meaningful macrosociology? It is to this question that we will now turn.

2. ANALYTICAL AND THEORETICAL PRIMACIES

Let us rephrase the minimal sociological program in the following way: Social conditions are always influenced by social conditions, and as a consequence society (in the wide sense in which Simmel uses the term) should always have analytical primacy for a sociologist. Thus a sociologist should be interested in how society works, and an analysis (be it an explanation, description, or interpretation) should be considered sociological only if it points to the influence of social conditions (be it on human cognitions, human actions, or social conditions themselves).

As long as one applies the minimal program to situational descriptions (e.g., Cicourel), conceptual analysis (e.g., Parsons), orienting statements (e.g., Marx), and empirical generalizations (e.g., Rogers and Shoemaker 1971), there is no need to make it theoretically more elaborate. If the program is applied to the establishment of sociological propositions, however (e.g., Zetterberg 1965), a serious complication arises. When sociological propositions are tested, assumptions about uncontrolled variables (boundary conditions) have to be made (e.g., Blalock 1974). This problem is as severe as the instability and variability of the boundary conditions. If boundary conditions are stable and uniform, then the hypothesized regularity will not be disturbed. If, conversely, these condi-

tions vary with different time-space coordinates, they will render the proposition true at one time or locality and wrong at another. For sociology the latter is typically the case. Sociological boundary conditions are institutions and social structural conditions. They differ widely and change considerably over time, which is exactly why there is a task for sociologists and why sociological propositions are bounded by historical periods and places. Thus boundary conditions are very significant in sociology. If they could be specified, they could be added to the propositions themselves and, if technically possible, controlled for in tests of the proposition. How could we begin to get a systematic handle on these conditions? There is nothing in the minimal program that would help us in this task. The program must be expanded, but how?

In the philosophy of science there exists a formal way of dealing with this problem of boundary conditions: the inclusions of a theoretical level for which boundary conditions are more stable and more uniform. Popper (1972) calls it the search for *depth*. What could this level be in sociology? In the preclassical period (especially in the time of Hume and Adam Smith), the answer was *human nature*. There is an invariant core to human nature, so that propositions about human nature are less subject to the disturbing influence of changing boundary conditions than are propositions about social conditions. Given that human beings are involved in everything social, this seemed to be a straightforward suggestion.

In our time Homans was the first to drive this point home. He argued that only psychological propositions are general—that is, not bounded by historical periods. Therefore, we should always link social conditions to variables in general psychological propositions. What varies historically or by locality is this link. Take, for example, one of Homans's general propositions about human nature: "Men are more likely to perform an activity, the more valuable they perceive the reward of that activity to be." A sociological proposition would truly hold generally if the reward values of particular social conditions remain constant and are the same everywhere. As this is not the case, we must systematically control changing boundary conditions, and the psychological proposition tells us where to look in order to do this: For any given time and place, investigate the reward values of social conditions.

Homans thus changed the minimal program for sociology to include investigation of the link of social conditions to variables in psychological propositions. In other words, *he added to the analytical primacy of society the theoretical (or explanatory) primacy of the individual* (i.e., of human nature).

Few, if any, sociologists had made this distinction between analytical primacy and theoretical primacy. Homans himself was not very explicit on this point. To many it seemed as if Homans had actually suggested giving analytical primacy to the individual, attempting to "reduce" sociology to psychology. Small wonder that many sociologists rejected this standpoint as a complete contradiction of the minimal program of sociology. They were reinforced in this belief by the fact that Homans had concentrated his own work on small groups, leaving to others the task of showing how more complex social conditions could be linked to psychological propositions. The micro/macro problem as one of connecting levels of theory was thus explicitly introduced into sociology. Some actually tried to solve it linguistically (e.g., Hummell and Opp 1971); others, through creating macro analogues for micro problems (e.g., Blau 1964); still others, through deductive hierarchies (e.g., Hummell 1972). A controversy followed (e.g., Spinner 1973), and somehow the whole thing remained in limbo—never resolved, never truly vital for what most sociologists actually did, and yet nagging. Quite a number of sociologists who had at first followed Homans's program enthusiastically turned away and embraced the so-called unadulterated minimal program all the more longingly (foremost among them being Peter Blau).

Why did Homans's attempt to enlarge the minimal program meet such a fate? Was it wrong to assume that the individual level of human nature was more stable than the social level? Or was it wrong to assume that boundary conditions could be explored by inclusion of the individual level even if it was more stable? There are sociologists who maintain that the social level is indeed more stable than the individual level and that therefore one is ill-advised to expect an improved grasp of boundary conditions from inclusion of the individual level. As evidence for this belief, they point to the fact that social regularities often show only in aggregated data (i.e., when one abstracts from the chaotic pattern of individual accidents). Some patterns do not even emerge by aggregation but only by looking at longer historical developments, in which the individuals involved are merely pawns of sweeping historical forces. Thus even if the individual level was more stable (which it seemingly is not), it would not help us to come to grips with social boundary conditions. In this functionalists and Marxists could find common ground against the so-called reductionists. Unintended consequences of human action had already been used by Marx and Engels to combat the view that human intentions had an explanatory standing in the social sciences (see Marx [1873] 1981).

In other words, if there is any need to elaborate the minimal program

of sociology (so the argument goes), it consists of adding explicitly that for sociology not only the analytical primacy but also the *theoretical (or explanatory) primacy lies with society.*

2.1. THE FAILURE TO DISTINGUISH BETWEEN INDIVIDUAL$_1$ AND INDIVIDUAL$_2$

Much confusion has surrounded the stability arguments on both sides. Although it is true that we often gain stability by aggregation, this says nothing against the assumed stability of human nature. Given that social conditions are not identical for individuals but are distributed in a certain way in a population, it is obvious that we may find considerable differences when looking only at some concrete individuals but a pattern when looking at a large sample.

The idea that individuals are pawns of sweeping historical forces is similarly confusing. If this means that at every point in time individuals are constrained by the status quo and that therefore history is unlikely to take certain random turns, it merely states that we do not expect individuals to react randomly to given social conditions. This does not speak against a constant human nature, nor does it indicate that knowledge of human nature is superfluous for the explanation of why history shows certain long-term developments. Similarly, unintended consequences point to the fact that it would be unwise to assume that individuals are not interdependent. They say nothing about the explanatory status of intentions. There are many convincing examples in the literature (for example, Merton 1957:421–434; Schelling 1971; Boudon 1977) that show intentions to be relevant to the explanation of unintended consequences.

The confusion is on both sides, however. Homans was right, in our view, in tackling the problem of incomplete sociological propositions by insisting that the sociological program must be expanded. He was also right in maintaining that the individual should have theoretical (or explanatory) primacy for sociologists. He was wrong, however, in equating the kinds of propositions needed with psychological propositions, thereby inviting the view that somehow there was a micro (psychological) level that had to be linked to a macro (sociological) level. For psychologists (and especially behavioristic psychologists) both the analytic and the theoretical primacy lie with the individual. Focus and language of psychological theories are not meant to deal with the influence of social conditions; rather, they are meant to show uniformities irrespective of

social conditions. This renders them cumbersome or even useless for the job Homans had intended. This is the kind of individual level many sociologists have in mind when they reject "individualistic" explanations. In order to distinguish it from other meanings of the term, let us give it an index. "Individual$_1$" refers to concepts and theories about the individual within a framework for which both the analytic and the theoretical primacies lie with the individual.

By contrast, in the social sciences and certainly within sociology, we need "individual" in a different sense. "Individual$_2$" refers to concepts and theories about the individual within a framework within which the analytic primacy lies with society and the theoretical primacy with the individual. This is the meaning of *methodological* individualism (as opposed to, say, psychologism). What is the difference? In order to qualify for the label "individual$_2$" a theory must satisfy at least the following conditions (see Lindenberg 1983):

1. It must not require much information about each individual to which it is applied.
2. It must allow us to model institutional and social structural conditions as defining intermediate goals and constraints of action (i.e., it must allow the analytical primacy of society).
3. It must allow psychological (including physiological) theories to influence its assumptions. For example, the information-processing capacities of individuals must not be fixed by axiom.
4. It must allow us to express our degree of ignorance explicitly. Thus it must allow us to introduce simplifying assumptions in such a way that they can be replaced with more complex assumptions as our knowledge increases (method of decreasing abstraction).
5. It must be well corroborated as a theory that explains behavior of human beings in the aggregate, inclusive of resourceful behavior.

Let us briefly elaborate each point. First, good psychological theories of behavior may exist that require so much information about each individual that they are useless for a science that is interested in the behavior of aggregates. Take, for example, theories of clinical psychology. They were meant to deal with concrete individuals and require much information about each case. The same is true for many learning theories that ideally require the entire learning history of each concrete individual. For the social sciences the *direct* application (see point 4) of such theories is a misuse of such theories.

Second, a theory of social action for the social sciences must allow us to integrate the social and the individual *on the same level.* It must thus allow direct integration of our concerns: the analytic primacy of society and the theoretical primacy of the individual. For example, profit maximization must not be seen as a motive (i.e., individual$_1$) but as an intermediate goal created by certain institutions given resourcefulness of human beings (individual$_2$). Given that psychological theories serve a different purpose, they make it impossible to model the interrelation of the social and the individual on the same level, except in very simple cases. The fact that Homans restricted his own work to small groups with initially no institutional context simply reflects the difficulty of using an individual$_1$ theory for individual$_2$ purposes.

Third, given that individual$_2$ theories are still theories about human nature, advances in individual$_1$ theories must be capable of having an impact on individual$_2$ theories. This is possible only if the individual$_2$ theories meet requirement 4; namely, the explicit possibility to replace certain simplifying assumptions by more realistic ones. Requirement 4 is also essential for dealing with requirements 1 and 2. Its importance can hardly be overrated. Social conditions can be very complex and can affect social action in complex ways. Without the ability to simplify we would be trapped in a vicious circle: We would have to know what we are trying to find out. Conversely, without the ability to make our assumptions more realistic as we understand social conditions and human nature better, we could not improve our theories. Requirement 4 thus stipulates a process of theorizing in which we successively approximate reality. Although sociologists traditionally have been attuned to the task of simplification through ideal types, they have not been accustomed to this method of decreasing abstraction because ideal types do not allow the successive replacement of simplifying assumptions by more realistic ones.

The fifth requirement stipulates that the action theory capture human nature to such a degree that it actually works for predictions and explanations on the aggregate level. For this task it is essential that the theory accommodate not only the influence of social conditions (requirement 2) but also the possibility of creative or resourceful behavior. Many institutions exist only because human beings are also resourceful agents. For example, institutions dealing with problems of control are resourceful solutions to problems created by resourceful behavior (see North 1981). Because people do not always behave the way they are told, institutions are developed or adopted in order to induce people to follow the expectations or to neutralize the effect of their "deviance."

2.2. RATIONAL CHOICE THEORY VERSUS INDIVIDUAL$_3$

The only theory to date that can be made to meet all five requirements is the theory of rational choice in various forms of elaboration. The *homo oeconomicus* most sociologists associate with the term "rational choice" is a construction of a phase in economics in which requirements 1 and 4 seemed more important than the rest. This led to violations (or partial violations) of requirements 2, 3, and 5. Durkheim and Weber reacted against this version of *homo oeconomicus* rather than against a theory that could meet all five requirements. They also reacted against psychological theories that, even if much improved since then, violate requirements 1, 2, and 4.

Eventually sociologists created their own *homo sociologicus* (in two versions; see Lindenberg 1983), which was supposed to remedy the shortcomings of *homo oeconomicus* and of psychological theories. They thus came up with yet another meaning of "individual": the individual as a thoroughly social product. This "individual$_3$" was meant to accommodate the analytic and theoretical primacy of society. It achieved integration of the individual and the social (as opposed to Homans, who worked with individual$_1$) but at the price of abandoning a theory of action and without being able to demonstrate that a theory of action is unnecessary. With individual$_3$, requirements 4 and 5 are totally violated, whereas requirements 2 and 3 are partially violated. Only a very limited selection of institutional and social structural constraints is recognized (namely, those that make for conformity), and only a limited set of psychological assumptions are admitted (namely, those that explain socialization).

The irony of individual$_3$ is that it also prohibits the proper analysis of institutions, although it was devised to facilitate just that. As mentioned earlier, many institutions are the resourceful response to resourceful behavior; individual$_3$ cannot possibly accommodate this kind of behavior. Another irony is this: "Individual$_3$" creates a problem of scope (micro/macro)—namely, the question of how the analysis of interaction, situations, and small groups should be linked to the analysis of large social and cultural systems. At the same time, "individual$_3$" makes it impossible to erect an explanatory structure in which these different kinds of analyses could be integrated, as it neglects the explanatory importance of theories of action.

To summarize, it is useful to distinguish three different meanings of the term "individual" in three different contexts. Individual$_1$ is used in a context in which the analytical and theoretical primacy lies with the

	individual$_1$	*individual*$_2$	*individual*$_3$
analytical primacy	individual	society	society
theoretical primacy	individual	individual	society

FIG. 5.1

individual; individual$_2$ is used in a context in which the analytical primacy lies with society and the theoretical primacy with the individual; and individual$_3$ is used in contexts in which both analytical and theoretical primacy are given to society (see fig. 5.1).

If individual$_1$ is used for sociological purposes, the problem of *theoretical levels* (micro/macro) arises because individual$_1$ theories are unable to integrate the individual and the social. In this sense the level problem is the result of the misuse of a theory, and from that we cannot expect much regarding the solution to this problem.

If individual$_3$ is used for sociological purposes, the problem of *scope* arises as a micro/macro problem. This problem cannot be solved, however, because there is no explanatory structure to integrate micro- and macroanalyses. In other words, without laws we are unable to explain anything, and if we are unable to explain, the problem of scope (micro/macro) can at best be a linguistic problem.

Only individual$_2$ allows both: the integration of the social and the individual on one level *and* explanation. Progress in this context is the shift from problems that lead to a dead end to problems the solution of which contributes cumulatively to our knowledge. Shifting from individual$_1$ and individual$_3$ to individual$_2$ constitutes such a progressive problem shift, in our view. What kinds of theoretical and methodological issues *do* arise through this shift?

3. ISSUES INTRODUCED BY THE USE OF INDIVIDUAL$_2$ FOR SOCIOLOGICAL PURPOSES

Given the analytical primacy of society and the theoretical primacy of the individual, two problems must be dealt with in order to move in the direction of a solution to the master question (i.e., how to explain macrosocial phenomena). The first is called the "bridge problem" (Lindenberg 1981) and the second, the "problem of transformation" (Lindenberg 1977). We will explicate both problems and sketch some solutions. In addition, from a methodological point of view the structure of deductive arguments for the explanation of collective phenomena will be briefly analyzed.

3.1. THE BRIDGE PROBLEM

The central point about individual$_2$ is that the social and the individual are linked at the same level. For this purpose some bridges must be built, and we have just argued that rational choice theory allows this to happen in such a way that we do not lose sight of either the influence of social conditions or the fact that individuals can be the focus of initiative.

Rational choice theory has basically three elements: wants, subjective probabilities, and alternatives. The bridge problem consists of formulating propositions about the influence of social conditions on these three elements and of formulating propositions under which conditions they are subject to individual initiative. For example, it can be argued that individuals have basic *wants* but that institutions and the social structure provide the "production function" (see Becker 1976; Lindenberg 1984) for these wants. In other words, social conditions determine what individuals are materially striving for. In this vein Adam Smith distinguished three classes: landowners, entrepreneurs, and laborers. Although the basic wants for individuals in all three classes are the same, they strive for different (and possibly conflicting) goals because of the institutions existing in Britain at the time: landowners maximize rents, entrepreneurs profit, and laborers wage. Similarly, Downs (1957) argued that politicians in democracies, no matter what their convictions, must maximize votes. An example of social influence on *subjective probabilities* is given by Olson (1965); rising group size diminishes the subjective probability that the individual contribution to the production of a collective good has a noticeable effect. The question here is not whether these propositions are true as stated but that they exemplify what is meant by bridge propositions. *Alternative courses of action* are obviously influenced by social conditions. For example, certain alternatives are approved and others disapproved, which affects their price. Laws, norms, income, networks, technology—these social conditions affect the set of feasible alternatives, and propositions about this influence are needed to explain social behavior.

One can easily see that the so-called structuralism (although often thought to be an alternative to rational choice theory) consists of the formulation of certain bridge propositions for a (mostly unstated) theory

of action. Any rational choice theory applied in sociology would require such structural assumptions, but these assumptions are not enough. Individuals are also clever in discovering opportunities created by the structural constraints; that is, they are endowed with the ability to enlarge the set of structurally given feasible alternatives. For example, certain entrepreneurs perceive the potential of a technological invention for increasing their profit. Others are ingenious in finding tax loopholes; still others create religious organizations that draw large followings.

Bridge propositions, together with rational choice theory, thus explain individual behavior as *social* behavior in two senses: (*a*) socially constrained behavior and (*b*) resourceful behavior that is made possible by certain social conditions. Given the analytical primacy of society, the formulation of bridge propositions is the main task in explaining social behavior. Rational choice theory only provides the vehicle by which this is made possible.

3.2. THE PROBLEM OF TRANSFORMATION

The explanation of individual behavior as social behavior does not yet solve the master problem. Specifically it does not tell us how a particular collective phenomenon, such as an institution, arises from social action. For example, knowing how individuals vote in an election does not tell us the distribution of seats in parliament for the various parties. For that we need to know how the votes are "transformed" into parliament seats. We must know the relevant institutions governing the electoral process. Even voters are often ignorant of these rules, although the rules determine the final outcome in an important way. Obviously this is not merely a technical problem of aggregation; it is a *theoretical* problem (of which the technical problem of aggregation may at best be one aspect; see also Knorr-Cetina 1981). This theoretical problem is not identical to linking levels of analysis, for two reasons. First, the individual and the social levels have already been integrated into the explanation of social behavior (bridge problem); and, second, the transformation of social behavior into certain collective phenomena in nontrivial cases is itself a social process rather than a logical connection of different levels.

In order to take all relevant conditions of transformation into account, very detailed analyses must be carried out (see, for instance, Raub 1984:chap. 4). Given that rational choice theory does not govern the process of transformation, the question arises regarding how to detect

the conditions relevant for solving the transformation problem in a particular problem area.

In our opinion, *background knowledge* plays an important role. Many descriptive sociological studies, especially those in the "qualitative" and ethnographic tradition, form a rich source for attacking the problem of transformation because they focus on rules, procedures, and other relevant conditions. The same holds true for historical and legal studies. That personal experience can also represent an invaluable source of background knowledge is vividly reflected in the history of Lipset's research on union democracy. Lipset's familiarity with the union (Lipset 1964) enabled him to detect several conditions that are crucial for the transformation of democratic activities of members into a democratically functioning union. Background knowledge is similarly useful for solving the bridge problem. In light of this analysis it seems fruitless to search for a *formal* integration of results from, say, ethnographic studies (micro) with so-called macrotheory about societies.

To specify constellations of social conditions under which certain actions do or do not result in a particular collective effect is required for the completeness of deductive arguments in sociological analyses. Specification of such constellations also facilitates the search for changes that must be brought about in order to prevent certain seemingly unavoidable unwanted effects. For instance, one of the examples Merton uses in his analysis of self-fulfilling prophecies refers to the transformation of the actions of depositors intent on preserving their savings into the insolvency of the bank that keeps their saving accounts. Merton suggests that this disastrous transformation of individual actions into a collective phenomenon that results from the working of a self-fulfilling prophecy can be put to a halt by creating "appropriate institutional and administrative conditions" (1957:435–436). Unfortunately, he does not specify which conditions are required; that is, which changes in banking regulations would prevent the insolvency of a bank, even if rumors influence the behavior of its depositors (see Wippler 1978).

Other examples of seemingly unavoidable negative effects that can be clarified by specifying constellations of conditions relevant for the transformation problem are the tendency toward oligarchy in constitutionally democratic organizations (see Wippler 1981, 1982) and the high level of frustration that can be found among groups in exactly those situations that offer individuals many opportunities for the improvement of their situation (see Boudon 1977:especially chap. 5).

3.3. THE DUAL STRUCTURE OF SOCIOLOGICAL EXPLANATIONS

What are the methodological consequences when attention is given to the bridge problem and to the problem of transformation? A two-step argument is required for taking into account both that individual choices are made under institutional and structural constraints and that the transformation of individual actions into collective phenomena is mediated by (often complex) constellations of institutional and structural conditions. This dual structure of explanation has been described in more detail elsewhere (see Lindenberg 1977; Lindenberg and Wippler 1978; Raub and Voss 1981). Here we restrict ourselves to a sketch of this logical structure.

The first step consists of the explanation of "individual effects" (i.e., the behavior of the actors involved). These effects are derived from general assumptions about human nature (i.e., the principles of rational choice theory) in conjunction with initial conditions (i.e., the results of bridge propositions). The connection of these individual effects with the collective phenomenon to be explained (the collective effect) in the second step requires sentences that yield such a connection. As this deductive step represents the methodological part of the problem of transformation, these sentences are called "transformation rules." In the most simple case a transformation rule consists of a partial definition connecting individual effects with the collective effect. In most interesting cases, however, more assumptions are needed in order to complete the second step. For instance, transformation rules may take the form of mathematical models or statements about institutional rules. They are logically equivalent to the general assumptions about human nature in the first step. Thus in the second step of sociological explanations, collective effects are derived from the transformation rules and a constellation of conditions (boundary conditions) that contain, among others, the individual effects contained in the first step.

Although the dual structure of explanation refers only to a simple building block, theories of sociologically interesting collective phenomena may be quite complex and constructed as a combination of several such building blocks. Social circumstances that are introduced as given in the context of a particular explanation—either as initial condition in the first or as boundary condition in the second step—may in turn form the explananda and vice versa. Collective phenomena can thus be linked in an explanatory way. The explained collective phenomena become, in turn, the conditions that help to explain other collective phenomena. In

short, we need both requirements: full acknowledgment of the analytical primacy of the society *and* explanation.

4. CONCLUSION

Usually the question of how to relate microphenomena and macrophenomena in sociological theory is treated as a problem of levels. Depending on the meaning that is given to the micro/macro distinction, the proposed solutions reduce this theoretical problem factually to one of language use, to a technical problem of indicators, or to the logical problem of reduction or aggregation. None of these solutions has led to a theoretically meaningful macrosociology. We therefore maintain that the problem has not been stated adequately. We propose to conceive the problem differently, starting with the distinction between the analytical primacy of the social (in accordance with the minimal sociological program) and the theoretical primacy of the individual (in accordance with the requirements for explanations).

Reference to individuals in the context of sociology may take different forms; which form it takes depends on the context in which individuals are placed. In a context in which both the analytical and the theoretical primacy are given to the individual (individual$_1$), theories are unable to integrate the individual and the social. In a context in which both primacies are given to the social (individual$_3$), theories are unable to explain anything. Only when analytical primacy is given to the social and theoretical primacy is given to the individual (individual$_2$) is it possible to integrate the social and the individual on one level *and* to explain.

Using individual$_2$ makes it clear that the explanation of collective phenomena should be a two-step explanation in which the first consists of the *social* explanation of human behavior (the bridge problem) and the second consists of showing how social behavior is transformed into collective phenomena (the problem of transformation). Although much remains to be learned about both steps, it is sufficiently apparent that they jointly constitute an answer to the master problem of how macrosocial phenomena can be explained without getting sidetracked into a seemingly barren concern with the integration of micro and macro levels of analysis.

The problem shift we propose also implies two other shifts. First, the search for general *sociological* laws that are meant to hold independent of institutional and under structural changes is fruitless (a similar point is made by Boudon 1984). It only leads to the ill-conceived problem of

levels. Second, background knowledge (whatever its source) is of crucial importance for solving the bridge problem and the problem of transformation in nontrivial cases. Generally, descriptive studies are thus much more relevant for sociology as an explanatory enterprise than current journals and university curricula would have us believe.

REFERENCES

Becker, Gary S. 1976. *The Economic Approach to Human Behavior*. Chicago: University of Chicago Press.

Blalock, Hubert H., Jr. 1974. Beyond Ordinal Measurement: Weak Tests of Stronger Theories, pp. 424–456 in *Measurement in the Social Sciences*. London: Macmillan.

Blau, Peter M. 1964. *Exchange and Power in Social Life*. New York: John Wiley.

Boudon, Raymond. 1977. *Effets pervers et ordre social*. Paris: Presses Universitaires de France.

———1984. *La place du désordre, critique des théories de changement social*. Paris: Presses Universitaires de France.

Cicourel, Aaron V. 1981. Notes on the Integration of Micro- and Macro-Levels of Analysis, pp. 51–80 in Karin Knorr-Cetina and Aaron V. Cicourel, eds., *Advances in Social Theory and Methodology*. London: Routledge & Kegan Paul.

Collins, Randall. 1981. On the Microfoundations of Macrosociology. *American Sociological Review* 86:984–1014.

Downs, Anthony. 1957. *An Economic Theory of Democracy*. New York: Harper & Row.

Gadenne, Volker. 1979. Die Unvollständigkeit sozialwissenschaftlicher Hypothesen. Eine Analyse des Problems der Exhaustion, pp. 95–116 in Hans Albert and Kurt H. Stapf, eds., *Theorie und Erfahrung*. Stuttgart: Klett-Cotta.

Hechter, Michael, ed. 1983. *The Microfoundations of Macrosociology*. Philadelphia: Temple University Press.

Homans, George C. 1974. *Social Behavior: Its Elementary Forms* (1961). New York: Harcourt.

Hummell, Hans J. 1972. Zur Problematik der Ableitung in sozialwissenschaftlichen Aussagensystemen. Ein Plädoyer für Formalisierung. *Zeitschrift für Soziologie* 1:118–138.

Hummell, Hans J. and Karl-Dieter Opp. 1971. *Die Reduzierbarkeit von Soziologie auf Psychologie, eine These, ihr Test und ihre theoretische Bedeutung*. Braunschweig: Friedrich-Vieweg & Sohn.

Knorr-Cetina, Karin D. 1981. The Micro-Sociological Challenge of Macro-Sociology: Towards a Reconstruction of Social Theory and Methodology, pp. 1–47 in Karin Knorr-Cetina and Aaron V. Cicourel, eds., *Advances in Social Theory and Methodology*. London: Routledge & Kegan Paul.

Lindenberg, Siegwart. 1977. Individuelle Effekte, kollektive Phänomene und das Problem der Transformation, pp. 46–84 in Klaus Eichner and Werner Habermehl, eds., *Probleme der Erklärung sozialen Verhaltens*. Meisenheim: Hain.

———. 1981. Erklärung als Modellbau. Zur soziologischen Nutzung von Nutzentheorien, pp. 20–35 in W. Schulte, ed., *Soziologie in der Gesellschaft*. Bremen: Zentraldruckerei der Universität Bremen.

———. 1983. The New Political Economy: Its Potential and Limitations for the Social Sciences in General and for Sociology in Particular, pp. 7–66 in Wolfgang Sodeur, ed., *Ökonomische Erklärungen sozialen Verhaltens*. Duisburg: Verlag der Sozialwissenschaftlichen Kooperative.

———. 1984. Normen und die Allokation sozialer Wertschätzung, pp. 169–191 in Horst Todt, ed., *Normengeleitetes Verhalten in den Sozialwissenschaften*. Berlin: Dunker & Humblot.

Lindenberg, Siegwart, and Reinhard Wippler. 1978. Theorienvergleich: Elemente der Rekonstruktion, pp. 219–231 in Karl O. Hondrich and J. Matthes, eds., *Theorienvergleich in den Sozialwissenschaften*. Neuwied: Luchterhand.

Lipset, Seymour M. 1964. The Biography of a Research Project. Union Democracy, pp. 96–120 in P. E. Hammond, ed., *Sociologists at Work*. New York: Basic Books.

Marx, Karl. 1981. Nachwort zur zweiten Auflage des ersten Bandes des "Kapital," pp. 424–427 in Karl Marx and Frederick Engels, eds., *Ausgewählte Schriften in zwei Bänden*. Band I (1873). Berlin: Dietz.

Mayhew, Bruce H. 1980. Structuralism versus Individualism. Part 1. Shadowboxing in the Dark. *Social Forces* 59:335–375.

Merton, Robert K. 1957. *Social Theory and Social Structure*. rev. and enlarged ed. Glencoe, Ill.: Free Press.

North, Douglas C. 1981. *Structure and Change in Economic History*. New York: Norton.

Olson, Mancur. 1965. *The Logic of Collective Action*. New York: Schocken.

Opp, Karl-Dieter. 1979. *Individualistische Sozialwissenschaft, Arbeitsweise und Probleme individualistisch und kollektivistisch orientierter Sozialwissenschaften*. Stuttgart: Ferdinand Enke.

Popper, Karl R. 1972. *Objective Knowledge. An Evolutionary Approach*. Oxford: Clarendon.

Raub, Werner. 1984. *Rationale Akteure, institutionelle Regelungen und Interdependenzen*. Frankfurt: Verlag Peter Lang.

Raub, Werner, and T. Voss. 1981. *Individuelles Handeln und gesellschaftliche Folgen, Das individualistische Programm in den Sozialwissenschaften*. Neuwied: Luchterhand.

Rogers, Everett M. and F. F. Shoemaker. 1971. *Communication of Innovations. A Cross-Cultural Approach*. New York: Free Press.

Schelling, Thomas C. 1971. Dynamic Models of Segregation. *Journal of Mathematical Sociology* 1:143–186.

Spinner, Helmut J. 1973. Science without Reduction: A Criticism of Reductionism with Special Reference to Hummell and Opp's "Sociology without Sociology." *Inquiry* 16:16–94.

Weintraub, E. Roy. 1979. *Microfoundations: The Compatibility of Microeconomics and Macroeconomics*. Cambridge: Cambridge University Press.

Wippler, Reinhard. 1978. Nicht-intendierte soziale Folgen individueller Handlungen. *Soziale Welt* 29:155–179.

———. 1981. Erklärung unbeabsichtigter Handlungsfolgen. Ziel oder Meilenstein soziologischer Theorienbildung? pp. 246–261 in Joachim Matthes, ed., *Lebenswelt und soziale Probleme*. Frankfurt: Campus.
———. 1982. The Generation of Oligarchic Structures in Constitutionally Democratic Organizations, pp. 43–62 in Werner Raub, ed., *Theoretical Models and Empirical Analyses*. Utrecht: E. S. Publications.
Zetterberg, Hans L. 1965. *On Theory and Verification in Sociology*. 3d enlarged ed. Totowa, N.J.: Bedminster Press.

CHAPTER SIX

Microfoundations and Macrosocial Behavior

James S. Coleman

Much of social theory involves accounting for the functioning of some kind of social system. In most sociological research, however, observations focus not on the system as a whole but on some part of it. In fact, the most natural unit of observation is the individual; and in the development of quantitative methods of research dependence on individual-level data, most often in the form of interviews, sometimes in the form of administrative records of behavior, and sometimes in still other forms, has increased greatly. This has led to a widening gap within the discipline between theory and research: Social theory continues to be concerned with the functioning of social systems of behavior, whereas empirical research—particularly quantitative research—is largely concerned with explaining individual behavior.

This focus on individual behavior as the phenomenon to be explained is not completely misplaced in sociology, nor is it new. For example, in one of the sociological classics, *Suicide*, first published in 1897 (1951), Durkheim attempted to explain suicide rates in different societies and among different population groups within a society. Although he described the suicide rate as a *social* fact and was engaged in a polemic against social psychology, Durkheim was engaged in explanation of individual behavior. The only aspect of this work that made it social was that the explanatory variables Durkheim used were explicitly social: the absence of strong social norms, which he termed the degree of anomie in society, or the degree of social isolation among individuals.

However, given that much of social theory is concerned not with in-