

STRATEGIES, THEORIES, AND MODELS\*

Joseph Berger and Morris Zelditch, Jr.

Stanford University

Working Paper No. 100-6

August 1993

\*We gratefully acknowledge research support to J. Berger by the Hoover Institution, Stanford University.

## Abstract

Wagner and Berger (1985) uncovered a good deal of growth in sociological theory by distinguishing orienting strategies and unit theories from their concept of a theoretical research program -- the former because they grow so slowly, the latter because they grow only with respect to theory-data relations while theoretical research programs grow in several different ways. The resulting multidimensional model of theory growth has itself subsequently grown in three ways. (1) The elements of orienting strategies have been differentiated with respect to roles in, rates of, and reasons for growth. Working strategies play directive roles in growth and grow reciprocally with the growth of theories. Foundations, although fundamental to all inquiry, play a less immediate role in growth, grow only slowly, and are much less responsive to assessments of theory. (2) Theory-theory relations have been refined and elaborated, especially with respect to theory integration. (3) Theory-based empirical models have been differentiated from both theories and the empirical outcomes of theoretical and applied research. Such empirical models may be highly controlled, simple, and abstract (as they are in theoretical research) or less controlled, complex, and concrete (as they are in applied research). In either case, they typically combine elements of a number of the theories of a theoretical research program and are the links between these theories and empirical outcomes of

theoretical and applied research. The present paper describes all three changes in the multidimensional model of theory growth. These changes lead to changes in the conception of a theoretical research program that should make it a more powerful instrument for understanding the growth of theories that is currently taking place in our field.

## I. INTRODUCTION

The present paper has two goals. The first is to bring together in a single, comprehensive statement a number of scattered developments in the understanding of theoretical research programs. The second is to reformulate our definition of such programs in the light of some of these developments.

Building on the pioneering work of Imre Lakatos (1968, 1970), we have argued in a series of previous formulations that the theoretical research program is the most appropriate unit for the analysis of the growth of theory (Berger 1974; Berger and Zelditch 1993; Wagner 1984; Wagner and Berger 1985; Wagner and Berger 1986). A theoretical research program (TRP) was defined by Wagner and Berger (1985) as a set of interrelated theories, together with a body of theoretical research that tests, refines, and extends these theories and a body of applied research grounded in them. TRP's are a distinct level of theoretical analysis. They differ both from individual theoretical arguments, such as Emerson's theory of power-dependence relations (Emerson 1972a, b) or Davis and Moore's theory of stratification (Davis and Moore 1945), which Wagner and Berger called unit theories, and from overarching metatheoretical structures such as Parsons' theory of action (Parsons 1951) or Alexander and Colomy's neofunctionalism (Alexander and Colomy 1990), which Wagner and Berger called orienting strategies. The distinction was made for the purpose of understanding differences in roles in

and rates of growth. Orienting strategies appear to be relatively stable. If one is looking for growth of theory, to focus on such strategies obscures the amount of growth taking place in a field. Unit theories do change, but attention to growth at this level focusses largely on theory-data relations. Growth occurs at this level, but it is only one kind of growth. There are other kinds of growth that arise from theory-theory relations. Furthermore, even at the theory-data level it is widely understood that change depends on theoretical alternatives (Popper 1959; Lakatos 1968, 1970). That is, growth again depends on a context of theory-theory as much as theory-data relations. For both reasons, theory-theory relations are important to understanding growth. But Wagner and Berger (1985) pointed out that there are several different kinds of theory-theory relations that grow in different ways. Hence, they proposed a multidimensional model of growth. It is this multidimensional model of growth that is formulated by the concept of a TRP. It differs both from the unidimensional, cumulative model of growth of positivism (e.g., Hempel 1965; Nagel 1961; Popper 1959) and models of discontinuous change of such post-positivists as Kuhn (1962, 1970).

But the multidimensional model of growth has itself grown since originally formulated. First, there have been substantial changes in the way we think about orienting strategies and their relation to theory growth (Berger, Wagner, and Zelditch 1989, 1992; Berger and Zelditch 1993; Zelditch 1991, 1992). Second,

there have been refinements in our understanding of theory-theory relations (Berger and Zelditch 1993). Third, there have been changes in the way we think about the relation of theories to relevant bodies of theoretical and applied research (Berger and Zelditch 1985; section iv of the present paper). It is the fact that this work is fragmented and scattered in so many places that motivates our first goal, to bring it together in a single comprehensive statement. It is the fact that our understanding of the relation of theory growth to metatheory-theory and theory-data relations has changed so much that motivates our second goal, which is to redefine the concept of a TRP. Section ii of the present paper describes changes in our thinking about metatheory-theory relations; section iii describes refinements in our understanding of theory-theory relations; section iv describes changes in our thinking about theory-data relations; finally, our conclusion (section v) offers a reformulated definition of a TRP. Throughout, because of our deeper knowledge and understanding of the case, we draw heavily, though not exclusively, on examples from the development of expectation-states theory. We believe, however, that our results apply more generally to TRPs that currently are being developed in the different areas of sociology.

## II. ORIENTING STRATEGIES AND GROWTH

Orienting strategies, such as functionalism, social behaviorism, rational choice theory, or postmodernism, are sets

of metatheoretical concepts, presuppositions, and directives that guide the construction of theory and the conduct of inquiry. The elements of orienting strategies range from very broad, general presuppositions such as ontologies and epistemologies to specific, concrete prescriptions such as Durkheim's doctrine of emergence (Durkheim 1951) or the Hempel-Oppenheim-Popper paradigm of explanation (Hempel 1965; Popper 1959). Although they are fundamental frames of reference in terms of which specific theories are constructed, Wagner and Berger (1985) did not include orienting strategies in theoretical research programs. Wagner and Berger's goal was to analyze growth. Orienting strategies appeared to be very stable. In particular, ontologies, epistemologies, and such other elements as the fundamental aims of inquiry seemed to change only very slowly, if at all. Including orienting strategies in TRP's therefore tends to obscure the amount and nature of theoretical growth in a field.

But closer study of the elements of which orienting strategies are made up suggests that they differ in nature, function, and rates of growth (Berger, Wagner, and Zelditch 1989, 1992; Berger and Zelditch 1993; Zelditch 1991; Zelditch 1992). Some are quite stable, as the fundamental aims of inquiry, ontologies, and epistemologies appear to be. But some change frequently, even grow, as the concept of a "state-organizing process" grew with the evolution of expectation-states theory (Berger, Wagner, and Zelditch 1989, 1992), or as the concept of a

theoretical research program itself has grown (Berger, 1974; Wagner and Berger 1985; Berger and Zelditch 1993). What are these elements?

Anatomy. From the point of view of their nature, function, and rates of growth it seems most useful to distinguish the very broad, abstract presuppositions which constitute the foundations of orienting strategies from the specific, concrete directives of the working strategy that more immediately guides the actual construction of theory, conduct of inquiry, and theory growth. From the point of view of the relation of the elements of orienting strategies to each other it is useful further to distinguish aims from presuppositions and directives, and substance from method. Together, these distinctions yield an anatomy of orienting strategies made up of five kinds of elements. (See Figure 1.)

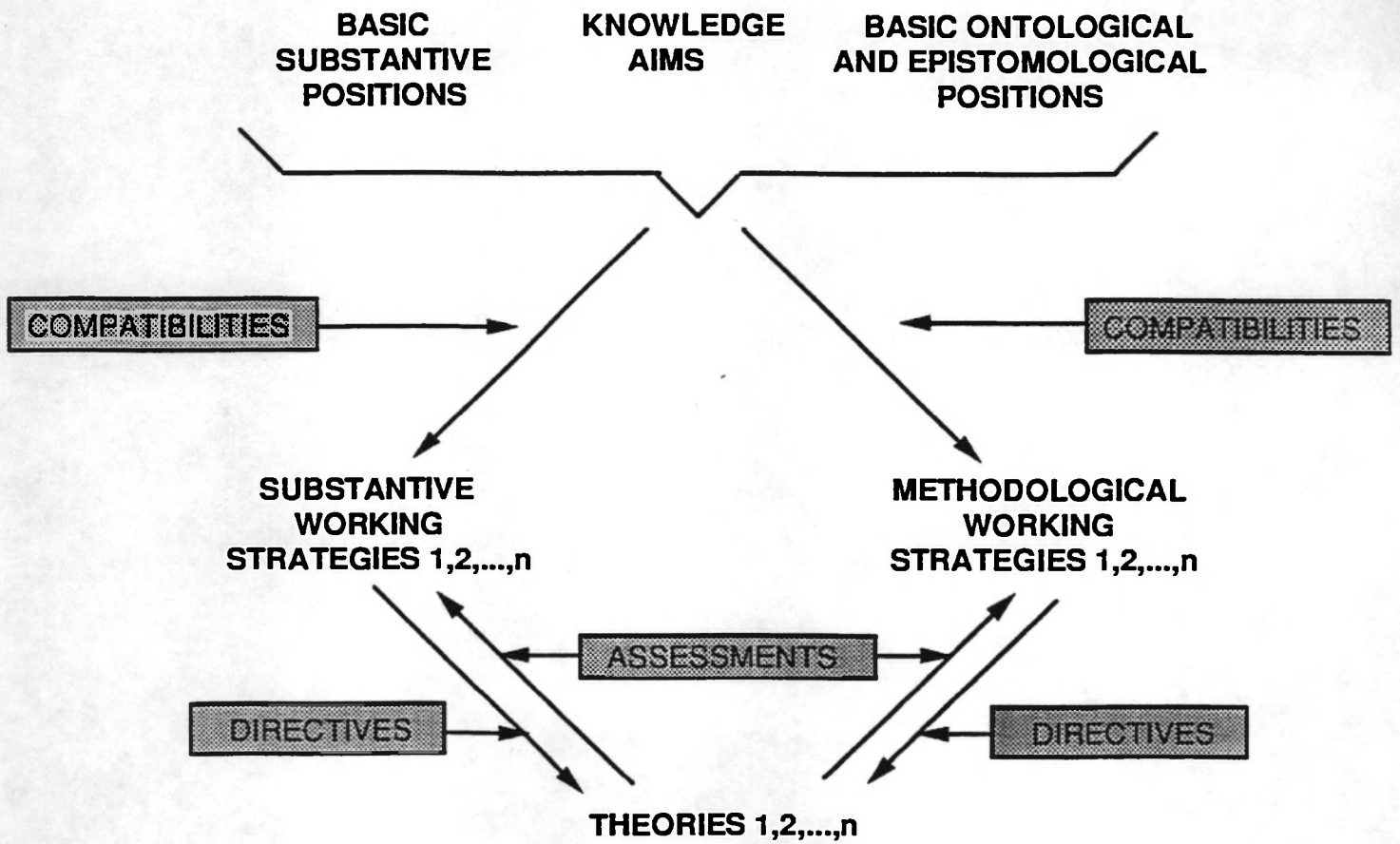
[insert Figure 1 about here]

The foundations of a strategy include its fundamental aims and its methodological and substantive presuppositions, which we will refer to as methodological and substantive foundation positions. The aims of a strategy include both its substantive objectives, for example the focus of expectation-states theories on interactor theories (Berger, Eyre, and Zelditch 1989), and its methodological objectives, for example expectation-states theory's generalizing orientation (Berger, Zelditch, and Anderson 1972). Its methodological foundation positions are the most



Figure 1

**ELEMENTS IN AN ORIENTING STRATEGY \***



\*Taken from Berger and Zelditch, 1993.

general, abstract methodological presuppositions of a strategy. They typically consist of basic assumptions about what there is, i.e., ontology, and how we know what there is, i.e., epistemology. Substantive foundation positions are the most general, abstract substantive presuppositions of a strategy. They typically consist of basic assumptions about the nature of the actor, action, and social order, such as the agency of the actor, the rationality of action, and the relation between consensus and coercion.

Working strategies, on the other hand, are much more specific and concrete. Methodological working strategies are more specific, concrete concepts and principles dealing with the nature of theory, of empirical inquiry, the logic of explanation, criteria for assessing theory, and the nature of theoretical growth. The Hempel-Oppenheim-Popper paradigm of explanation (Hempel 1965; Popper 1959) is a methodological working strategy, as is Blumer's naturalistic method of symbolic interactionism (Blumer 1969). So is the more specific methodological strategy, underlying expectation-states theory: Ideas such as the importance of abstraction (from diverse particular instances); the search for unitary processes through simplifying the complexity of concrete particulars in order to achieve the regularity desired by a generalizing orientation; the use of formalization to increase the analytic power of theory; and of experiment to increase the power of theoretical research to test, refine, and generalize theories.

Finally, substantive working strategies are more specific, concrete concepts and principles dealing with the what, rather than the how to, of theories. They conceptualize the basic nature of actors, action, and society in more concrete terms and direct the investigator to solvable problems and the concepts and principles that will solve them. Fararo and Skvoretz's E-state structuralism (Fararo and Skvoretz 1986), Merton's paradigm of functionalism (Merton 1949), Lawler, Ridgeway, and Markovsky's structural social psychology (Lawler, Ridgeway, and Markovsky 1993), and expectation-states theory's "state-organizing processes" (Berger, Wagner, and Zelditch 1989, 1992) are all substantive working strategies of this kind. See also Turner 1993, which illustrates the combination of both substantive and methodological working strategies, and Willer and Markovsky 1993, which illustrates both kinds of working strategy in combination with the development of a TRP.

Roles in Growth. The elements of orienting strategies differ not only in nature but in function. Working strategies direct in an immediate sense (see the bottom of Figure 1). For example, the substantive working strategy underlying expectation states theories conceptualizes social interaction as a state-organizing process (Berger Wagner, and Zelditch 1989, 1992). Because interaction is a process, the strategy directs an investigator using it to ask how and under what conditions a process is activated. The answers to questions of this kind constitute the

theories of a program. In status characteristic theory a valued, collective task is one of the (several) features that activates the status generalization process (Berger, Cohen, and Zelditch 1966; Berger, Fisek, Norman, and Zelditch 1977). The task or goal of co-oriented action is thought of as a critical element defining the situation of action. But the state-organizing strategy distinguishes the situation of action, such as goals, from the larger social framework, i.e., enduring, trans-situational, consensual elements, such as pre-given norms, values, beliefs, social networks, and social categories, within which situations of action occur. By this distinction theorists using this kind of working strategy are directed to also ask what elements of the pre-given social framework enter into the particular process in question and how and under what conditions the elements of the social framework are accessed. Diffuse status characteristics constitute the social framework in the theory of status characteristics. Referential structures are the social framework in the theory of distributive justice (Berger, Zelditch, Anderson, and Cohen 1972). How they are accessed is described by salience principles in the theory of status characteristics (Berger, Fisek, Norman, and Zelditch 1977), by spread of status value principles in the theory of justice (Berger, Zelditch, Anderson, and Cohen 1972). Additional directives derive from the fact that behavior in state-organizing processes is governed by situationally stable states that evolve in the course of interaction, but, once evolved, are relatively

stable so long as the conditions of the situation do not change. Hence, a theorist using the working strategy is also directed to ask what behaviors are and are not determined by the states and how the states, once formed are translated into observable behavior. In the status characteristics theory, the states are self-other expectation states, the behaviors are the action opportunities, performances, reward actions, and influence that make up the observed power prestige order, and the theory formulates principles such as that of organized subsets to describe how information about status valued characteristics of actors in the situation combine to define expectation states and the basic expectation assumption to describe how states are translated into behavior (Berger, Fisek, Norman, and Zelditch 1977).

Foundations play a less immediate role in the construction of theory. What they do is provide the premises that justify working strategies, which, in turn, realize these premises at a more concrete level. Thus, the experimental methods of expectation-states theory are justified by premises derived from the aims and presuppositions of a generalizing orientation to sociology. The aim is lawlike understanding of social behavior. It is presupposed that such lawlike understanding is general. This implies that laws have multiple interpretations. For example, that a status characteristic created in the laboratory, if it satisfies the same criteria of definition as race, gender, and occupation, should behave in the same way as race, gender,

and occupation. Therefore, it should not matter to understanding the principles of the theory of status characteristics what status characteristic one studies. A choice of a situation in which to test the principles of the theory is therefore a pragmatic question of how to achieve the most control and most precise measurement conditions. Experimental methods would be difficult to justify without the aims of a generalizing strategy or the presuppositions that abstract knowledge is possible, or that wholes are dissoluble into parts that are relevant and parts that are not, or the presupposition that in tests of theories it is the general principle that is important rather than any particular, concrete effect (Berger, Zelditch, and Anderson 1972).

Rates of Growth. But from the point of view of understanding the growth of theory, the most important way in which foundations differ from working strategies is in their respective rates of and reasons for change. Foundations seem to change very very slowly, if at all. It is true that new ones appear all the time, e.g., post-positivism (Alexander 1982; Kuhn 1962), post-structuralism (Foucault 1972), and post-modernism (Lyotard 1984; Rorty 1979). But often they do not seem to displace or even modify old ones. And such changes as do take place do not seem to be responses to the assessment of theories. Working strategies, on the other hand, change relatively rapidly and changes seem to respond to the assessment of theories.

Thus, the state-organizing conception of a social framework defining a situation of action, and its distinction of the social framework from the situation of action itself, only gradually emerged in expectation-states theory. The concept was in fact present in even the earliest expectation states theory, the evaluation/expectations theory (Berger 1958), but in a very simple form (among the conditions defining the scope of the theory) and without any recognition of how general an idea it was. In the theory of status characteristics (Berger, Cohen, and Zelditch 1966; Berger, Fisek, Norman, and Zelditch 1977), a social framework, the diffuse status characteristic, was the most important concept of the theory, but still without recognition that some form of social framework defines any state-organizing process. A social framework appears again, in the form of the referential structure, in the theory of distributive justice (Berger, Zelditch, Anderson, and Cohen 1972), but again without explicit recognition of how general the importance of a social framework is. It was relatively late reflection on these three theories in the course of further extension of the strategy of the program to other phenomena that led to the abstraction, generalization, and explication of the idea of a social framework as a fundamental element of any state-organizing process (Berger, Eyre, and Zelditch 1989; Berger, Wagner, and Zelditch 1992).

Nor did we begin with a concept of a theoretical research program anything like the present concept. In fact, expectation-states theory as a program began with the goal of cumulative

growth as it was commonly understood in the fifties. It had a rather simple linear modal of growth in mind in which a sequence of theoretical arguments grows ever more empirically adequate and ever more comprehensive in scope, later theories therefore displacing earlier theories. But this model was consistent neither with our own experience of theory growth nor with our reading of the experience of other sociologists. Our model of growth therefore began itself to undergo growth. The first change was to recognize that "expectation-states theory" was not a theory, but a theory program consisting of a number of interrelated theories (Berger 1974). But this first reformulation focussed attention only on the anatomy of programs, without differentiating different patterns of growth. A multidimensional model of growth did not emerge until Wagner and Berger 1985, undergoing further change ever since (Berger, Wagner, and Zelditch 1989, 1992; Berger and Zelditch 1993; Zelditch 1991, 1992).

But "growth" may include changes in the use of, as well as reformulation of, a strategy. A notable case of a strategy that has been widely quoted but seldom used is Merton's paradigm of functionalism (Merton 1949). Possibly this is because it is difficult to realize empirically Merton's directive to formulate the net balance of functions. (There are functional theories, such as Davis and Moore 1945, but they do not realize Merton's directive to formulate the net balance of functions.) Contemporary functionalisms, such as Alexander's



neofunctionalism, seem altogether to have abandoned Merton's paradigm (e.g., Alexander and Colomy 1990). But abandoning a working strategy because it cannot be realized in actual theoretical products is a form of growth.

It is important not to be misled by the fact that some elements of metatheory do change in response to assessments of theory. We do not mean to argue that the relation of working strategies to data is like the relation of theories to data. Working strategies are as metatheoretical, and hence as irrefutable, as foundation positions are. They do not change and grow because they are directly assessed by such criteria as corroboration, precision, generality, and analytic or instrumental power. Such criteria are used to assess theories, not strategies. Working strategies grow not because they are directly assessed by the same criteria as theories but because they are more or less fertile and their uses in the construction of theories are more or less fruitful. They cannot be assessed directly. But they can be assessed indirectly, in terms of their utility as directives in constructing theories. It is because they are used to construct theories, and because theories can be assessed by criteria like corroboration, precision, generality, and power, that working strategies change and grow. The experience of using them affects but is also reciprocally affected by the successes and failures of the theories they are used to construct.

That foundation positions and working strategies differ in

roles in, rates of, and grounds for change suggests a need to rethink Wagner and Berger's (1985) sharp separation of orienting strategies from TRP's. Their purpose was to define a unit most appropriate for understanding the growth of theory. For this purpose, foundation positions do in fact appear unsuited. The broadest, most general aims, concepts, and presuppositions of orienting strategies, though they play a fundamental role as the foundations of all inquiry, play a much less immediate role in the growth of particular theories, they change very very slowly, if they change at all, and such changes as do occur do not seem to be responses to assessments of theory. On the other hand, working strategies play an immediate directive role in, and grow reciprocally with, the growth of theory. One would therefore like to conclude that foundation positions should be excluded but working strategies included in a unit defined for the purpose of understanding growth. But this more differentiated treatment of orienting strategies would not be feasible if orienting strategies were tightly integrated systems of thought. We therefore need to consider the nature of the relations among the elements that make up orienting strategies.

Relations Among Elements of an Orienting Strategy. But, because of the diversity of the elements of which orienting strategies are composed, one should not expect to find that such metatheoretical structures are tightly integrated systems, and they are not. Clusters of entailment, where they exist, do

create one kind of integration. For example, if one is committed to the aim of general knowledge of social behavior, one is at the same time committed to abstraction, because wholes are unique; to dissolubility of wholes, without which abstraction is not possible; and to the search for regularities, without which lawlike phenomena, hence general knowledge, do not exist. But such clusters of entailment are the exception, not the rule. The more common relation among elements of an orienting strategy might best be described as "compatibility." State-organizing processes, the working strategy of expectation-states theories, are compatible with the aims of a generalizing orientation, but so is exchange theory, one of the working strategies of rational choice theory (e.g., Coleman 1990; Hechter 1987). Compatibility is a one-to-many, not a one-to-one relation. Even compatibility creates a kind of integration, because it has its limits: Some ideas are incompatible. For example, a commitment to empirical inquiry requires that one believe that there is a reality external to the observer, however veiled one's knowledge of it. Any such strategy is incompatible with a radical relativism such as Rorty's (1979) or Maines and Molseed's (1986). But more commonly a one-to-many relation admits many possible combinations of elements. A working strategy may consist of a single major principle, e.g., that actors maximize utility (Coleman 1990; Fararo and Skvoretz 1993; Hechter 1987) or a set of principles, e.g., Merton's paradigm of manifest and latent functions (1949). Where it is a set of principles, they may be more but may also be

less integrated and still constitute a workable strategy. There may be many working strategies compatible with any one particular foundation position. For example, rational choice theory and behavioral exchange theory, though they differ over the status of theoretical unobservables, share a generalizing orientation, as well as a large number of other orientations, in common. (Cf. Coleman 1990, and/or Hechter 1987, to Emerson 1972a, b, and/or Homans 1961.) At the same time, one strategy may easily divide into conflicting versions over a particular foundation issue while remaining very similar in other respects, as Chicago and Iowa Interactionisms did over method. (Cf. Blumer 1969, to Kuhn and McPartland 1954.) And eclectic combinations of foundation elements are common, as for example Parsons' rather unique combination of elements from functionalism and the theory of action (Parsons 1951).

Thus, closer study of orienting strategies suggests a need to differentiate foundation positions from working strategies. Working strategies play so immediate a role in growth and grow so reciprocally with the growth of theory that they should be thought of as elements of TRP's. On the other hand, because they play a less immediate role in growth, change so slowly, and change for reasons that are less responsive to assessments of theories, foundation positions should be differentiated from the concept of a TRP. It would not be possible to reformulate the concept of a TRP in this way if orienting strategies were tightly integrated systems of thought, but they are in fact very loosely

integrated.

### III. SETS OF INTERRELATED THEORIES

The core component of a theoretical research program is a set of interrelated theories. Theories within and between programs are interrelated in many ways. But which kinds of interrelations represent growth and development? This is the problem which Wagner and Berger address in their paper, "Do Sociological Theories Grow?" (1985). On the basis of their analysis of the anatomy of a number of ongoing theoretical research programs, they proposed that we distinguish five types of relations within and between programs -- elaboration, proliferation, variation, competition, and integration that represent different types of theory growth. It is extremely important to recognize that they also represent different types of goals and strategies that are available to the theorist in developing research programs.

Subsequent to Wagner and Berger's research, we have analyzed additional research programs, Berger and Zelditch 1993, and on the basis of this analysis we have further elaborated and refined our conceptions of these inter-theory relations. We present these elaborated conceptions here, making use of examples from the expectation states program. What do each of these inter-theory relations mean?

Elaboration. We say of two theories,  $T_1$  and  $T_2$ , that  $T_2$  is an

elaboration of  $T_1$  if  $T_2$  is more comprehensive or has greater analytic power or has greater empirical grounding than  $T_1$  provided that  $T_1$  and  $T_2$  share the same family of concepts and principles and that they are addressed to the same general explanatory domains.

$T_2$  may become more comprehensive than  $T_1$  by either an expansion of the scope conditions of  $T_1$  or an expansion of the explanatory domain dealt with by  $T_1$ . Both types of growth are to be found in the status characteristics branch of the expectation states program. The scope conditions of the initial status characteristics theory, Berger, Cohen, and Zelditch 1966, 1972, was restricted to two actors discriminated by a single status characteristic. Subsequent formulations, Berger and Fisek 1974, Berger et al 1977, extended the scope of the theory to multi-actor situations in which actors may possess any number of discriminating or equating characteristics or sets of characteristics. Similarly, while the explanatory focus of these theories was originally restricted to the development and organization of power and prestige behaviors, more recent work has extended the explanatory focus to include processes of legitimation and delegitimation and dominating and propitiating behaviors associated with these processes, Ridgeway and Berger 1986.

Increases in the analytic power of the theories in a program is most often realized through formalization of the theory. While the original status characteristics theory was not

formalized, for subsequent versions a graph theoretical formulation has been developed. This allows the analysis of an extremely larger number of different types of status situations, the derivation of general theorems about these status situations, and with the estimation of relevant parameters the generation of interval ordering behavioral predictions in specific status situations (Berger, Fisek, Norman, and Zelditch 1977; Humphreys and Berger 1981). It is also the case that starting with the initial formulation each subsequent formulation has been able to account for an increasing body of empirical results.

Elaboration is a basic form of growth in research programs and is driven by a combination of goals. These include theoretical -- expanding the explanatory domain of a theory and enlarging its scope of application; analytical -- formalizing a theoretical structure and developing models; and empirical -- increasing the empirical consequences of a theory and its corroboration.

Proliferation. We say of two theories,  $T_1$  and  $T_2$  that  $T_2$  is a proliferant of  $T_1$  if  $T_2$  enlarges the range of application of the ideas and principles in  $T_1$  to social phenomena beyond the original domain or the original set of problems (within a domain) addressed by  $T_1$ . Through proliferations, concepts, and theoretical principles from  $T_1$  are carried over to  $T_2$ , often with significant modifications. In addition, new and auxiliary concepts and principles typically are introduced to deal with the

specific issues of the new domain and the new set of problems. Thus while sharing major concepts and principles, proliferants will also differ in the concepts and principles that they employ. Unlike the situation where  $T_2$  is an elaboration of  $T_1$  and where  $T_2$  may be used to predict what  $T_1$  predicts and more, in the case where  $T_2$  is a proliferant of  $T_1$ ,  $T_2$  may make few if any specific predictions about the problems dealt with by  $T_1$ . In this sense, the status characteristics theory and the status value theory of distributive justice, Berger et al 1972, are proliferants. In both theories the notion of expectation is central and while the former is concerned with the formation of expectations for performance the latter is concerned with the formation of expectations for rewards. Key concepts of the distributive justice theory are identical to those in the status characteristics theory including the ideas of the possession, association, and relevance of status elements and the concept of a diffuse status characteristic. But the explanatory focus of the status value theory of distributive justice which is on how actors can determine that the allocation of rewards is just and unjust is different from that of the status characteristics theory. And there are concepts and principles in the former which are not in the latter that have been introduced to deal with the unique concerns of the justice theory.

Proliferants may evolve in different ways -- with one theory spinning off from a second (or two theories each spinning off from each other) as is the case of the status value theory of



distributive justice and the status characteristics theory, or with two or more theories differentiating from some common formulation as is true of the exchange networks branch and the behavioral-structure branch (Cook, Molm, Yamagishi 1993) in Emerson's power and dependence program, Emerson 1962, 1972a, 1972b.

Proliferants represent "theoretical leaps" in the growth of a program. By these theoretical leaps existing concepts and principles in combination with new and auxiliary concepts and principles are used to extend the range of the program in terms of scope and domain.

Variants. We say that two theories,  $T_1$  and  $T_2$  are variants of each other if they employ concepts and principles from the same family of concepts and principles and if they are addressed to similar explanatory problems. Variant theories are closely related and often apply to similar if not identical scope conditions. They differ, however, in that they make use of one or more different mechanisms to describe how the relevant process operates. In the expectations status program a set of status theories developed by Freese and Cohen (1973), Hembroff (1982), and Hembroff, Martin, and Sell (1981) are theoretical variants of status characteristics theories. They use concepts and principles similar to those of the status characteristics theory. They have similar scope conditions, and they have the identical explanatory focus -- both are concerned with how power and

prestige orders evolve and are organized in interpersonal situations. These theories differ from the status characteristics theory in that they propose a balancing mechanism in the processing of multiple items of status information. By a balancing mechanism, actors eliminate status information so that they are confronted with univalent information in forming self-other expectations states (see also Lenski 1966). In contrast, the status characteristics theories proposes that actors combine multiple items of status information in a manner described by the "principle of organized subsets" in forming their expectations (Berger, Fisek, Norman, and Zelditch 1977).

Variants are often constructed by theorists in an effort to get more precise knowledge of how a process works. This strategy involves constructing theories so that, for specified conditions, they generate conflicting predictions. This has occurred in the case of the controversy over whether status information is combined or balanced. (See Webster and Driskell 1979, Hembroff 1982, Berger et al 1992. For a general analysis and assessment of these variant status theories, see Balkwell 1991.)

The outcome of research on variant theories may be that one theory displaces the other or an integration is formulated that describes the conditions under which each holds. In either case there is an advance in theoretical knowledge. Thus variants contribute to theory growth by providing precise knowledge on alternative conceptions of a specific process that are formulated within a single family of concepts and principles.

Competitors. We say two theories  $T_1$  and  $T_2$  are competitors if their structures involve different concepts and theoretical principles and if at some point they address the same explanatory problems.

Competitors may differ in fundamental ways, focussing on different behaviors, different explanatory factors, and being addressed to distinct explanatory phenomena. However, if for some particular explanatory problems they confront each other with conflicting predictions, their relations to each other can be important to theory growth. Within the expectation states program competition with status characteristics theories have appeared in a number of cases. This is particularly true in the competition between dominance theories represented by Mazur (1985) and Lee and Ofshe (1981) and the status characteristic theory dealing with status cues (Berger et al 1986) and that dealing with legitimation processes (Ridgeway and Berger 1986). These theories differ in concepts and principles with the former focussing on mechanisms of competition, stress, and deference-demanding behaviors while the latter focuses on the role of expectation and status value processes in accounting for the attainment of power and prestige positions.

Conflicts between competitors normally are more difficult to resolve than those between variants and competitors can exist side by side for long periods of time. This is due not only to their differences in conceptual structure but also to the fact that they often address disparate problems in addition to those

they have in common. Nevertheless resolutions can occur. For specific explanatory problems one theory may come to dominate the second, and it is also possible that concepts and principles from each theory are rendered into some third formulation as part of a theoretical integration (see below). Thus competitors contribute to growth of theory by providing knowledge on alternative conceptions of some specific process or of some specific set of theoretical problems where these conceptions are drawn from different families of concepts and principles.

Integration. Integration is a relation between three theories,  $T_1$ ,  $T_2$ , and  $T_3$  where  $T_3$  "consolidates many of the ideas found in  $T_1$  and  $T_2$  in a single formulation, usually suggesting interrelationships between these ideas" (Wagner and Berger 1985).

We can distinguish different types of integration. To begin with there are integrations of variants and integrations of proliferants where in both cases the theories are from the same family of concepts and principles. In the case of variants a common mode of relating the theories to each other is through conditionalization, which involves specifying conditions under which the process described by each variant operates. While no such formulation currently exists within the expectation states program, it is reasonable to imagine that one can be constructed which integrates the variant balancing and combining status theories by stipulating conditions under which actors balance multiple items of status information, e.g., those involving high

levels of social-emotional activity, and conditions under which actors combine such information, e.g., those involving strong emphasis on task and goal oriented activities.

A common mode of integrating proliferants is to describe the interrelation of the different processes described by each of the theories involved. In the expectation states program, this is done in the theory of reward expectations (Berger et al 1985) which partially integrates status characteristics theories and the status value theory of distributive justice by describing how both expectations for performances and expectations for rewards are formed simultaneously in status situations.

We also distinguish integration of competitors and, following the analysis of Fararo and Skvoretz (1993) what we may call the integration of "independents," where in both cases the theories differ in their basic conceptual structures. In the former case, the two theories also compete on common explanatory problems; while in the latter case the explanatory problems of the theories are fully distinct, and they do not compete on common problems. Since competitors and independents employ concepts and principles from different conceptual families, a major task in the integration of such theories is to render ideas and principles from the two different theories into the common language of still a third theory. Just this type of rendering of ideas from competing theories takes place in Jasso's integration of equity theory (Adams 1965; Homans 1961) and the status value theory of distributive justice (Berger et al 1972) that leads to

her formulation of a specific justice evaluation function (Jasso 1978). Using a similar strategy that involves independent theories, Fararo and Skvoretz (1987) have integrated Granovetter's theory of weak ties, 1973, and Blau's theory of differentiation, 1977, in terms of biased net theory.

Integrations represent major steps in theory growth. However, it is important to recognize that they may also entail losses in that ideas and principles in  $T_1$  or  $T_2$  may not be captured in  $T_3$ , but may yet be useful for other purposes. Thus, the reward expectations theory (Berger et al 1985) in the expectation-states program, though it integrates some ideas from the theory of status characteristics and the theory of distributive justice, does not incorporate ideas on the "spread of status value" which are an important part of the latter theory. (The same is true of Jasso's integration of equity theory and status value theory of distributive justice.) As a consequence, the status value theory of distributive justice is not fully replaced by the theory of reward expectations. More generally, this suggests that there may not always be "strict replaceability" when later theories build on earlier theories in the growth of a research program (Laudan 1976, 1977). In turn, this fact stresses the importance of treating the theoretical research program as the unit of analysis in understanding growth.

#### IV. THEORY BASED EMPIRICAL MODELS

Wagner and Berger (1985) did not distinguish between

empirical models based on the theories in a program and the results of empirical research involving these models. One of the ways in which programs are evaluated is on the basis of their theory based models. Therefore to understand their growth (or non-growth), it is necessary to conceptualize these models as distinctive components of programs. The empirical outcomes of research involving these models, however, have significance across different programs and therefore are not distinctive components of a program.

The theories in a program are often abstract and general in nature, and simple in structure. Theory based empirical models are constructed to apply these abstract and general theories to describe and explain specific events and phenomena in specific situations.

Typically, the construction of theoretically based empirical models involves a number of critical identifications and stipulations. To begin with, their construction involves the identification or interpretation of abstract elements in the different theories of the program with particular aspects of the situation and phenomena that is being modeled, e.g., gender as a diffuse status characteristic. Second, their construction involves the specification of theoretically relevant special conditions, under which the model holds, e.g., the nature of prior expectations in the situation. Third, their construction involves the identification of one or more sets of observational techniques and procedures that will provide information that is

necessary in the application of the model. A fourth feature of such models, which is of interest to us, is that their construction often involves the interrelation of theoretical elements from different parts of a research program (or from parts of different programs), because of the complexity of particular situations.

A Model for Power and Status Processes. We illustrate these features of a theoretically based empirical model by considering one that is based on the expectation states program that has recently been formulated by Michael Lovaglia (1992). Lovaglia was interested in how power and exchange behaviors are transformed into status relations in interpersonal situations. The interrelation for power and status is of course an old and very general problem in sociology. Lovaglia, however, restricted his research to a set of highly specific contexts. This he did by formulating the problem as that of describing how power and exchange behaviors as studied in the standardized Cook-Emerson et al situation (1983) are transformed into status relations as these are studied in the standardized experimental situation developed within the expectation states program, Berger et al (1977).

Lovaglia argued, putting it in briefest terms, that a pattern of power and exchange behaviors, in the Cook-Emerson situation, that is consistent in its outcomes over a given number of decision trials and that is consistent with initial



differences in power positions will lead to the formation of performance expectations which coincide with these power differences. These performance expectations in turn are transferred across task situations and become the basis of status relations as studied in the standardized experimental situation.

To describe a process by which this occurs, Lovaglia constructs a theoretically based model that makes use of three different formulations in the expectation states program. First, he identifies the power and exchange behavior in the Cook-Emerson situation with the abstract concept of behavioral interchange pattern as it appears in the behavior-status theory developed by Fisek et al 1991. Behavioral interchange patterns, as described by Fisek and his colleagues, emerge from consistent sequences of interaction and lead to status typifications which are behavior based performance expectations. Second, Lovaglia identifies high and low bonuses which are allocated in his study to actors in high and low power positions with the notions of high and low reward levels as they appear in the reward expectation states theory, Berger et al 1985. By arguments described in that formulation, the allocation of such rewards in themselves leads to the formation of high and low performance expectations. Since these rewards are allocated consistent with the exchange outcomes, they serve as additional bases for the formation of performance expectations that coincide with the differences in power positions in the situation. Finally, using the theory on the evolution of status expectations, Berger et al 1989, the

argument can be made that once formed, these performance expectations are transferred to a subsequent task situation and become the basis of a status order in that situation.

It is also to be observed that the model which Lovaglia constructs takes into account some of the special conditions in the situation under which this process is occurring, as for example, that the actors start with no prior history, and therefore, that they hold no prior performance expectations. The model also identifies observational techniques and procedures, those used in the Cook/Emerson situation and in the standardized experimental situation and in the procedures of the semantic differential, which provide information on behaviors and reactions that are relevant to the model.

Status Models of Gender. The Lovaglia research illustrates the construction of a model to describe specific events in specific situations. Other types of models have been constructed that focus on particular phenomena as this phenomena manifests itself across different types of situations. This is particularly true of status characteristic models that have been formulated to deal with race, ethnic, and gender behavior in interpersonal situations.

In a recent examination of status characteristic applications to gender, Wagner and Berger 1993b have shown that these applications consist of distinct theoretical accounts of how status operates to structure gender behavior. Since the

focus of this research is to account for a particular type of phenomena, i.e., variations in gender behavior in interpersonal situations, these accounts are in effect a set of interrelated models with each of the models providing explanations of gender behavior in a different situation. Thus there is a model to describe the emergence of performer and reactor interaction profiles in mixed gender groups, Wagner and Berger 1993b; and a model that describes the construction of social types such as "dominating" and "expressive" persons on the basis of such status based behavioral profiles, Gerber 1992, 1993. There is a model that describes how the gender typing of tasks determines the different status positions that men and women achieve in problem solving status situations, Wagner and Berger 1993b; and Dovidio et al 1988. There is also a model that describes how men and women form different expectations for rewards in distributive justice situations, Wagner 1992a, 1992b; and a model, among still others, that describes the differences in the behavior of men and women in situations where their power and prestige order is legitimated as compared to situations in which it is not legitimated, Ridgeway and Berger 1986; Ridgeway 1988.

Several additional things are worth noting about this type of theory based modelling and related model building. First, as was true in the case of Lovaglia's model, the construction of this set of interrelated models involves the simultaneous use of a number of different formulations in the theoretical research program. In the case of the gender models, these have included,

aside from the core status characteristic theory, the theory of reward expectations (Berger et al 1985), the theory of status cues (Berger et al 1986), and the theory of the legitimation status structures (Ridgeway and Berger 1986), among others. This highlights an important feature that these models have in common. The different parts of a research program provide the theoretical resources that are used in the construction of these theory based models.

Second, as is true of single unit models that are constructed for specific events in specific situations, the individual models in the interrelated set can be evaluated for their empirical adequacy. However, the existence of an interrelated set of models permits additional evaluations. Specifically, it allows us to assess the extent to which the set of interrelated models encompasses the full range of situations that is of interest to us in studying the particular phenomena. Since these models are theory based this criterion also serves as an important basis for evaluating the program within which they are constructed.

Tests and Applications. Theory based models also differ along other important dimensions. Among these is the consideration of how abstract or how concrete are the terms of the theory based model. The terms in a model of power and exchange behavior such as the one we described above are fairly abstract, whereas the terms used to construct a model, say, of mixed gender behavior in

a jury setting would tend to be more concrete. Models also differ in the simplicity and complexity of the situations they represent, and whether these situations are highly controlled or involve little or no control. What is of particular interest is that models that are abstract, and that are of relatively simple and highly controlled situations ("artificial" situations) traditionally tend to be those that are used in tests of the theoretical formulations in a program. On the other hand, models that are concrete, and that are of situations that are highly complex and involve little or no control ("natural" situations) traditionally tend to be those that are designated as applications of the theories in the programs. Without questioning the value of this distinction, our analysis suggests that insofar as these different types of models are based on the theoretical arguments of the program, they each contribute, albeit in different measure, to the empirical grounding of the program.

Programs can be assessed through their models which can be evaluated in terms of different criteria. Among these is their empirical adequacy in representing a specific situation; the range of situations, events, and phenomena to which they can be applied, and their instrumental utility -- how useful they are as a basis for social interventions. Such assessments are an important basis of program growth.

However, our analysis strongly suggests that it is not the only basis and that in fact there are multiple sources of program

growth. Changes in its working strategies through the articulation and refinement of these strategies; attempts to realize its theoretical goals through the formulation of elaborations, proliferations, and integrations; as well as assessments of the empirical adequacy and instrumental utility of its theory based models are each involved in determining the growth of a theoretical research program.

## V. CONCLUSION

One purpose of the present paper was to bring together in one comprehensive statement scattered developments in our understanding of theoretical research programs and their relation to theory growth (Berger, Wagner, and Zelditch 1989, 1992; Berger and Zelditch 1985, 1993; Zelditch 1991, 1992). We will not attempt to recapitulate this statement. But some of these developments call for a reconceptualization of theoretical research programs. They suggest that a theoretical research program is a set of substantive and methodological working strategies, a set of interrelated theories that embody these working strategies, and a set of empirical models based on these theories. This definition differs from earlier definitions (Berger 1974; Wagner and Berger 1985; Berger and Zelditch 1993) in two ways. First, it explicitly incorporates some elements of orienting strategies, though it excludes others. Having differentiated working strategies from foundation positions, we need to incorporate working strategies into our concept of a

theoretical research program if we are to construct a concept appropriate as a unit for analysis of theoretical growth. Working strategies play an immediate directive role in growth and grow reciprocally with the growth of theories. On the other hand, the definition still excludes fundamental aims and substantive and methodological foundation positions because their role is less direct, they change slowly, if at all, and the changes that do take place do not seem responsive to the assessment of theories. Second, it incorporates theory-based empirical models employed in theoretical and applied reasoning while excluding the empirical outcomes of such research. Theory-based empirical models are needed to understand growth because it is through them that the theories of a program are linked to empirical outcomes. On the other hand, the outcomes themselves are excluded because they are not distinguishing features of theoretical research programs. Both modifications of our definition of a theoretical research program are motivated by the objective of defining a unit of analysis most appropriate to understanding the growth of theory. The result extends our previous multidimensional model in a way that we believe will be more useful in conceptualizing the growth of theory that is currently taking place in our field.

## REFERENCES

- Adams, J. Stacy. 1965. "Inequity in Social Exchange." Pp. 267-299 in Advances in Experimental Social Psychology, Vol. 2, edited by L. Berkowitz. New York: Academic Press.
- Alexander, Jeffrey. 1982. Theoretical Logic in Sociology. Vol. 1: Positivism, Presuppositions, and Current Controversies. Berkeley, CA: University of California Press.
- Alexander, Jeffrey, and Paul Colomy. 1990. "Neofunctionalism Today: Reconstructing A Theoretical Tradition." Pp. 33-67 in Frontiers of Social Theory: The New Syntheses, edited by George Ritzer. NY: Columbia University Press.
- Balkwell, James W. 1991. "From Expectations to Behavior: A General Translation Function." American Sociological Review 56: 355-369.
- Berger, Joseph. 1992. "Expectations, Theory, and Group Processes." Social Psychology Quarterly 55: 3-11.
- Berger, Joseph. 1974. "Expectation States Theory: A Theoretical Research Program." Pp. 3-22 in Expectation States Theory: A Theoretical Research Program, edited by Joseph Berger, Thomas L. Conner, and M. Hamit Fisek. Cambridge, MA: Winthrop. Reprinted Lanham, MD: University Press of American, 1982.
- Berger, Joseph. 1958. "Relations Between Performance, Rewards, and Action-Opportunities in Small Groups." Unpublished doctoral dissertation. Harvard University.
- Berger, Joseph, Bernard P. Cohen, and Morris Zelditch, Jr. 1972.



- "Status Characteristics and Social Interaction." American Sociological Review 37: 241-255.
- Berger, Joseph, Bernard P. Cohen, and Morris Zelditch, Jr. 1966. "Status Characteristics and Expectation States." Pp. 29-46 in Sociological Theories in Progress, Vol. 1, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Boston: Houghton-Mifflin.
- Berger, Joseph, and Thomas L. Conner. 1969. "Performance Expectations and Behavior in Small Groups." Acta Sociologica 12: 186-198.
- Berger, Joseph, Dana Eyre, and Morris Zelditch, Jr. 1989. "Theoretical Structures and the Micro/Macro Problem." Pp. 11-34 in Sociological Theories in Progress: New Formulations, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Newbury Park, CA: Sage.
- Berger, Joseph, and M. Hamit Fisek. 1974. "A Generalization of the Theory of Status Characteristics and Expectation States." In Expectation States Theory: A Theoretical Research Program, edited by Joseph Berger, Thomas L. Conner, and M. Hamit Fisek. Cambridge, MA: Winthrop; reprinted Lanham, MD: University Press of America, 1982.
- Berger, Joseph, M. Hamit Fisek, Robert Z. Norman, and David G. Wagner. 1985. "The Formation of Reward Expectations in Status Situations." Pp. 215-261 in Status, Rewards, and Influence: How Expectations Organize Behavior, edited by Joseph Berger and Morris Zelditch, Jr. San Francisco:

Jossey-Bass.

Berger, Joseph, M. Hamit Fisek, Robert Z. Norman, and Morris Zelditch, Jr. 1977. Status Characteristics and Social Interaction: An Expectation States Approach. NY: Elsevier Scientific.

Berger, Joseph, David G. Wagner, and Morris Zelditch, Jr. 1992. "A Working Strategy for Constructing Theories: State Organizing Processes." Pp. 107-123 in Metatheorizing, edited by George Ritzer. Newbury Park, CA: Sage.

Berger, Joseph, David G. Wagner, and Morris Zelditch, Jr. 1989. "Theory Growth, Social Processes, and Metatheory." Pp. 19-42 in Theory Building in Sociology: Assessing Theoretical Cumulation, edited by Jonathan H. Turner. Newbury Park, CA: Sage.

Berger, Joseph, Murray Webster, Jr., Cecilia L. Ridgeway, and Susan J. Rosenholtz. 1986. "Status Cues, Expectations, and Behavior." Pp. 1-22 in Advances in Group Processes, Vol. 3, edited by Edward J. Lawler. Greenwich, CT: JAI Press.

Berger, Joseph, and Morris Zelditch, Jr. 1993. "Orienting Strategies and Theory Growth." Pp. 3-19 in Theoretical Research Programs: Studies in the Growth of Theories, edited by Joseph Berger and Morris Zelditch, Jr. Stanford, CA: Stanford University Press.

Berger, Joseph, and Morris Zelditch, Jr. 1985. "Theory, Tests, and Applications." Unpublished manuscript. Stanford University.

- Berger, Joseph, Morris Zelditch, Jr., and Bo Anderson. 1972. "Introduction." Pp. ix-xxii in Sociological Theories in Progress, Vol. ii, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Boston: Houghton Mifflin.
- Berger, Joseph, Morris Zelditch, Jr., Bo Anderson, and Bernard P. Cohen. 1972. "Structural Aspects of Distributive Justice: A Status Value Formulation." Pp. 119-146 in Sociological Theories in Progress, Vol. 2, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Boston: Houghton-Mifflin.
- Blau, Peter. 1977. Inequality and Heterogeneity. New York: Free Press.
- Blumer, Herbert. 1969. "The Methodological Position of Symbolic Interactionism." Chapter 1 in Symbolic Interactionism, edited by Herbert Blumer. Englewood Cliffs, NJ: Prentice-Hall.
- Coleman, James S. 1990. Foundations of Social Theory. Cambridge, MA: Harvard University Press.
- Cook, Karen S., Robert M. Emerson, Mary R. Gillmore, and Toshio Yamagishi. 1983. "The Distribution of Power in Exchange Networks: Theory and Experimental Results." American Journal of Sociology 89: 275-305.
- Cook, Karen S., Linda D. Molm, and Toshio Yamagishi. 1993. "Exchange Relations and Exchange Networks: Recent Developments in Social Exchange Theory." Pp. 298-322 in Theoretical Research Programs: Studies in the Growth of

- Theory, edited by Joseph Berger and Morris Zelditch, Jr.  
Stanford, CA: Stanford University Press.
- Davis, Kingsley, and Wilbert Moore. 1945. "Some Principles of Stratification." American Sociological Review 10: 242-249.
- Dovidio, J. F., C. E. Brown, K. Heltmann, S. L. Ellyson, and C. F. Keating. 1988. "Power Displays Between Women and Men in Discussions of Gender-Linked Tasks: A Multichannel Study." Journal of Personality and Social Psychology 55: 580-587.
- Durkheim, Emile. 1951. Suicide. Translated by J. A. Spaulding and G. Simpson. Glencoe, IL: The Free Press.
- Emerson, Richard M. 1972a. "Exchange Theory, Part I: A Psychological Basis for Social Exchange." Pp. 38-57 in Sociological Theories in Progress, Vol. 2, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Boston: Houghton-Mifflin.
- Emerson, Richard M. 1972b. "Exchange Theory, Part II: Exchange Relations and Networks." Pp. 58-87 in Sociological Theories in Progress, Vol. 2, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Boston: Houghton Mifflin.
- Emerson, Richard M. 1962. "Power Dependence Relations." American Sociological Review 27: 31-40.
- Fararo, Thomas J., and John Skvoretz. 1993. "Methods and Problems of Theoretical Integration and the Principle of Adaptively Rational Action." Pp. 416-450 in Theoretical Research Programs: Studies in the Growth of Theories, edited by Joseph Berger and Morris Zelditch, Jr. Stanford,

- CA: Stanford University Press.
- Fararo, Thomas J., and John Skvoretz. 1989. "The Biased Net Theory of Social Structures and the Problem of Integration." Pp. 212-255 in Sociological Theories in Progress: New Formulations, edited by Joseph Berger, Morris Zelditch, Jr., and Bo Anderson. Newbury Park, CA: Sage.
- Fararo, Thomas J., and John Skvoretz. 1987. "Unification Research Programs: Integrating Two Structural Theories." American Journal of Sociology 92: 1183-1209.
- Fararo, Thomas J., and John Skvoretz. 1986. "E-State Structuralism: A Theoretical Method." American Sociological Review 51: 591-602.
- Fisek, M. Hamit, Joseph Berger, and Robert Z. Norman. 1991. "Participation in Heterogeneous and Homogeneous Groups: A Theoretical Integration." American Journal of Sociology 97: 114-142.
- Foucault, Michel. 1972. The Archeology of Knowledge. NY: Pantheon.
- Freese, Lee, and Bernard P. Cohen. 1973. "Eliminating Status Generalization." Sociometry 36: 177-193.
- Gerber, Gwendolyn L. 1993. "Status in Same-Sex and Mixed-Sex Police Dyads: Its Impact on Personality." Paper presented in Panel, Expectations States: Basic Concepts, Recent Developments and Future Directions, Martha Foschi (Chair). Panel conducted at the Sixth Annual Group Processes Conference, Miami, August 1993.

- Gerber, Gwendolyn L. 1992. "Instrumental and Expressive Personality Traits in Social Cognition: Parallels with Social Interaction." Genetic, Social and General Psychology Monographs 119 (1): 99-123.
- Granovetter, Mark S. 1973. "The Strength of Weak Ties." American Journal of Sociology 83: 1420-1443.
- Hechter, Michael. 1987. Principles of Group Solidarity. Berkeley: University of California Press.
- Hembroff, Larry A. 1982. "Resolving Status Inconsistency: An Expectation States Theory and Test." Social Forces 61:183-205.
- Hembroff, Larry A., Michael W. Martin, and Jane Sell. 1981. "Total Performance Inconsistency and Status Generalization: An Expectation States Formulation." Sociological Quarterly 22: 421-430.
- Hempel, Carl G. 1965. Aspects of Scientific Explanation. NY: Free Press.
- Homans, George C. 1961. Social Behavior: Its Elementary Forms. NY: Harcourt Brace Jovanovich.
- Humphreys, Paul, and Joseph Berger. 1981. "Theoretical Consequences of the Status Characteristics Formulation." American Journal of Sociology 86: 958-983.
- Jasso, Guillermina. 1978. "On the Justice of Earnings: A New Specification of the Justice Evaluation Function." American Journal of Sociology 83: 1398-1419.
- Kuhn, Manfred, and Thomas McPartland. 1954. "An Empirical

- Investigation of Self-Attitudes." American Sociological Review 19: 68-77.
- Kuhn, Thomas S. 1962. Structure of Scientific Revolutions. Chicago, IL: University of Chicago Press.
- Kuhn, Thomas S. 1970. Structure of Scientific Revolutions, revised edition. Chicago, IL: University of Chicago Press.
- Lakatos, Imre. 1970. "Falsification and the Methodology of Scientific Research Programmes." Pp. 91-195 in Criticism and the Growth of Knowledge, edited by Imre Lakatos and A. Musgrave. Cambridge, UK: Cambridge University Press.
- Lakatos, Imre. 1968. "Criticism and the Methodology of Scientific Research Programmes." Proceedings of the Aristotelian Society 69: 149-186.
- Laudan, Larry. 1977. Progress and Its Problems: Towards a Theory of Scientific Growth. Berkeley: University of California Press.
- Laudan, Larry. 1976. "Discussion: Two Dogmas of Methodology." Philosophy of Science 43: 585-597.
- Lawler, Edward J., Cecilia L. Ridgeway, and Barry Markovsky. 1993. "Structural Social Psychology: An Approach to the Micro-Macro Problem." Forthcoming in Sociological Theory.
- Lee, Margaret T., and Richard Ofshe. 1981. "The Impact of Behavioral Style and Status Characteristics on Social Influence: A Test of Two Competing Theories." Social Psychology Quarterly 44: 73-82.
- Lenski, Gerhard E. 1966. Power and Privilege. New York:

- McGraw-Hill.
- Lovaglia, Michael. 1992. Power and Status: Exchange, Attribution, and Expectation States. PhD Dissertation. Stanford, CA: Sociology Department, Stanford University.
- Lyotard, J. F. 1984. The Post-Modern Condition: A Report on Knowledge. Translated by G. Bennington and B. Massumi. Minneapolis: University of Minnesota Press.
- Maines, David R., and Marjorie J. Molseed. 1986. "The Obsessive Discoverer's Complex and the 'Discovery' of Growth in Sociological Theory." American Journal of Sociology 92: 158-164.
- Mazur, Allan. 1985. "A Biosocial Model of Status in Face-to-Face Primate Groups." Social Forces 64: 377-402.
- Mazur, Allan, Eugene A. Rosa, M. Faupel, J. Heller, R. Leen, and B. Thurman. 1980. "Physiological Aspects of Communication via Mutual Gaze." American Journal of Sociology 86: 50-74.
- Merton, Robert K. 1949. "Manifest and Latent Functions." Pp. 21-81 in Social Theory and Social Structure, edited by Robert K. Merton. Glencoe, IL: Free Press.
- Nagel, Ernst. 1961. The Structure of Science. NY: Harcourt Brace.
- Parsons, Talcott. 1951. The Social System. Glencoe, IL: The Free Press.
- Popper, Karl R. 1959. The Logic of Scientific Discovery. NY: Basic Books.
- Ridgeway, Cecilia L. 1988. "Gender Differences in Task Groups:



- A Status and Legitimacy Account." Pp. 188-206 in Status Generalization: New Theory and Research, edited by Murray Webster, Jr., and Martha Foschi. Stanford, CA: Stanford University Press.
- Ridgeway, Cecilia L., and Joseph Berger. 1986. "Expectations, Legitimation, and Dominance Behavior in Task Groups." American Sociological Review 51: 603-617.
- Rorty, R. 1979. Philosophy and the Mirror of Nature. Princeton, NJ: Princeton University Press.
- Stryker, Sheldon R. 1987. "The Vitalization of Symbolic Interactionism." Social Psychology Quarterly 50: 83-94.
- Turner, Jonathan H. 1993. "A 'Pure Theory' Research Program on Microdynamics." Pp. 104-135 in Theoretical Research Programs: Studies in the Growth of Theory, edited by Joseph Berger and Morris Zelditch, Jr. Stanford, CA: Stanford University Press.
- Wagner, David G. 1992a. "Gender Differences in Reward Preference: A Status-Based Account." Under review.
- Wagner, David G. 1992b. "Status Inconsistency and Reward Preference." Under review.
- Wagner, David G. 1984. The Growth of Sociological Theories. Beverly Hills: Sage.
- Wagner, David G., and Joseph Berger. 1993a. "Status Characteristics Theory: The Growth of a Program." In Theoretical Research Programs: Studies in the Growth of Theories, edited by Joseph Berger and Morris Zelditch, Jr.

Stanford, CA: Stanford University Press.

- Wagner, David G., and Joseph Berger. 1993b. "Gender and Interpersonal Behavior: Status Expectation Accounts." Presented at the meetings of the American Association for the Advancement of Science, Boston, Massachusetts, February.
- Wagner, David G., and Joseph Berger. 1986. "Programs, Theory, and Metatheory." American Journal of Sociology 92: 168-182.
- Wagner, David G., and Joseph Berger. 1985. "Do Sociological Theories Grow?" American Journal of Sociology 90: 697-728.
- Webster, Murray, Jr., and James E. Driskell, Jr. 1979. "Status Generalization: A Review and Some New Data." American Sociological Review 43: 220-236.
- Willer, David, and Barry Markovsky. 1993. "Elementary Theory: Its Development and Research Program." Pp. 323-363 in Theoretical Research Programs: Studies in the Growth of Theory, edited by Joseph Berger and Morris Zelditch, Jr. Stanford, CA: Stanford University Press.
- Zelditch, Morris, Jr. 1992. "Problems and Progress in Sociological Theory." Sociological Perspectives 35: 415-431.
- Zelditch, Morris, Jr. 1991. "Levels of Specificity Within Theoretical Strategies." Sociological Perspectives 34: 303-312.