Social Action Systems: Foundation and Synthesis in Sociological Theory

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PRAEGER

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For Irene

Contents

Preface

My hope is that this book will help theoretical sociologists to better understand their own tradition in its classical, postclassical, and recent phases. The book is written in what I call the spirit of unification, emphasizing conceptual foundations and generalized theoretical synthesis. Throughout the book I employ a process orientation that I acquired partly through reading Alfred North Whitehead and other process philosophers, but also through my own efforts to specify the process orientation at the level of theoretical methods and models. Unlike many of my prior publications over the past four decades, this book is largely free of formal representation, even in the final part, in which two recent theoretical strategies are discussed that employ formal methods and models.

I am grateful to Charles Camic for reading and commenting on the first four chapters, and to Victor Meyer Lidz for a close reading and detailed commentary of the entire manuscript. In both cases, and especially the latter, the published version is stronger insofar as I was able to be responsive to their suggestions and concerns. Of course, any remaining deficiencies in this book are my responsibility.

Chapter 1

General Theoretical Sociology in Context

INTRODUCTION

Aim and Scope of the Book

This book presents an interpretation of general theoretical sociology as a tradition with three phases: classical, postclassical, and recent. The interpretation is undertaken in the spirit of unification, a value commitment to foster efforts of theoretical integration that are grounded in earlier work and that contribute to the clarification of the conceptual foundations of sociology. The study employs a process philosophical perspective as an intellectual tool to unearth deeper structures of conceptual consistency amid surface differences.

The core of the study is the postclassical phase, bracketed on one side by a relational process interpretation of classical foundation ideas and on the other side by a presentation of two recent theoretical strategies for "coping" with the current theory situation. The strategies, rational choice theory and generative structuralism, are best understood in terms of their emergence out of the postclassical phase of general theoretical sociology. Within the postclassical phase, my focus is on two key theorists: Talcott Parsons and George Homans. Why Parsons and Homans?

One reason for centering attention on these two theorists is that they each present a general account of the *foundations of sociology* as a science. In the present climate of retreat from a scientific commitment in the pursuit of general theory in sociology, the retrieval and highlighting of their efforts is an important antidote to the anti-science rhetoric that pervades much of sociology. As I shall argue in Chapter 4, each of them accepted the general

epistemological position that Parsons called analytical realism. This position, grounded in the process philosophy of Alfred North Whitehead, has enduring relevance for theoretical thought in sociology.

A second reason for a focus on their shared theoretical foundation project is that it represents a common *goal of theoretical synthesis*, which was fostered in a common environment at Harvard in the 1930s (as discussed in detail in Chapter 3). Drawing upon classical ideas and empirical studies, as well as new ideas and studies as these emerged during their lifetimes, they each formulated an explicit aspiration that guided their theoretical work throughout their careers.

Third, perhaps more than they themselves recognized, in their early work, Parsons and Homans produced very similar modes of analysis of the *dynamics of social systems*, including the use of a highly similar mapping of sociological concepts into dynamical system ideas (as I will indicate in later chapters). Today, efforts to create models of complex social dynamics may benefit from a reconsideration of these pioneering contributions. I aim to illuminate the nature of these and other shared, as well as divergent, aspects of their work, including theory construction strategies that each developed in response to perceived problems in carrying forward the project of creating theoretical foundations for sociology.

Finally, a fourth reason for the focus on Homans and Parsons is that their specific contributions are still relevant to us today. Each of them formulated a position as to the *key theoretical and presuppositional problems* in sociology. For instance, what shall we assume about human action? In particular, how is rationality to be treated in a general action framework? The issue relates to the connection between social theory and economic theory. Homans and Parsons each formulated positions on these matters, not only in metatheoretical terms, but also in some analytical detail in their theories.

Fifth, and as a consequence of the previous point, key aspects of recent, more formal theoretical strategies emerged out of their appreciative but also critical response to the ideas of Homans and Parsons.

In short, there are at least five good reasons for a close reexamination of the theories of Talcott Parsons and George Homans, namely, their relevance to our common concerns pertaining to (1) the foundations of sociology as a science, (2) generalized theoretical synthesis of diverse ideas and empirical findings, (3) the creation of models of the dynamics of social systems, (4) the formulation of provisional solutions to key theoretical and presuppositional problems of sociology, and (5) the emergence of recent theoretical strategies that are responsive to the perceived strengths and shortcomings of these postclassical theories.

Overview

This introductory chapter will go on to set out some of the main distinctions that are presupposed in what follows, essentially setting out my perspective on sociological theory in both its historical and systematic aspects. Part I of the book then follows and consists of two chapters dealing with the process worldview in the context of the envisagement and analysis of social reality. Chapter 2 sets out a relational process interpretation of the classical sociological tradition that provides a theoretical background for the subsequent chapters. In Chapter 3 the focus is on the process philosophy of Alfred North Whitehead and the general theoretical sociology of Vilfredo Pareto, each of whom is of particular importance for understanding the theoretical presuppositions and frameworks of Parsons and Homans.[1]

Part II of the book presents an extended analysis of the theories of Parsons and Homans, each guided by a common lifelong synthesizing aspiration as well as a common commitment (so I argue) to the development of theoretical sociology on an analytical realist foundation. In Chapter 4, the discussion opens with Parsons's elucidation of two types of conceptual schemes, one which is focused on the delineation of the structure of a type of empirical system and another which is focused on setting out an analytical theory that explains the behavior of such systems. The chapter then analyzes Parsons's early work in terms of the way the synthesis aspiration is implemented in a thesis of the convergence of several classical theorists to a common model of the structure of social action systems. Chapter 5 then picks up on the second of Parsons's two types of conceptual schemes, with its focus on creating an analytical theory—namely, Homans's early theory of the human group as a social system. Thus, these two chapters (4 and 5) together present the first stage of the contributions to general theoretical sociology of Parsons and Homans in such a way that Homans is interpreted as taking up where Parsons left off in his early work, namely attempting to develop an analytical theory of social systems.

The following chapters then treat the later phases of the work of these two theorists, each of whom is interpreted as shifting theory construction strategy relative to their early efforts while retaining the fundamental aim of theoretical synthesis. Chapter 6 is a study in the logic of the structural-functional theory of social systems that Parsons developed before he went on to create his four-function framework. Chapters 7 and 8 then turn to the four-function paradigm. After discussing Parsons's defense of the strategy of functional analysis, Chapter 7 draws upon Homans's system theory and his case studies to initiate an explication of the four-function model of social systems. Chapter 8 discusses the four-function model of the general action system, drawing upon the relational process interpretation of Mead that I present in Chapter 2. This chapter also deals with additional topics

in the application of the four-function paradigm before it concludes with an extended assessment of the work of Parsons.

Chapters 9 and 10 treat the later phase of Homans's theoretical work, pertaining to the shift to behavioral theory. Chapter 9 treats the foundations of the theory, its methodology and its principles. Chapter 10 shows how the theory is applied to explain group processes and, after discussing how it can be employed in a micro-macro mode to explain Durkheimian relationships among social facts, the chapter concludes with an assessment of Homans's theoretical standpoint in the context of the ideas of Mead and Parsons.

Part III presents two theoretical strategies emerging in the recent phase of theoretical sociology. In Chapter 11 the focus is on the strategy of rational choice theory, with special attention to the foundations of social theory put forth by James Coleman. I interpret his theoretical aims and methods by reference to antecedent developments in theoretical sociology treated in this book, namely the ideas and methods of Parsons and Homans, and also those of Peter Blau. In this way, this recent foundation project is located within the tradition of general theoretical sociology and is assessed in relation to it.

Finally, concluding the book, Chapter 12 presents a strategy of recursive theoretical integration in which the outcome of any one integrative episode enters into future such episodes. While retaining the aspiration to advance the theoretical foundation of sociology, this approach is adapted to the present-day condition of extreme diversity of theoretical frameworks of sociology. The cognitive values implied in this approach are indicated by the phrase "the spirit of unification," while its orienting strategy of *generative structuralism* implements this spirit in the context of recent developments in social theory. In particular, the strategy is illustrated by showing how some of my own formal-theoretical work can be integrated with key ideas of Pierre Bourdieu and other theorists. Yet, the conclusion is not what these authors suppose, that their work is far removed from that of Parsons. On the contrary, the various conceptual linkages discussed in the closing chapter suggest quite a different conclusion, however tentative.

Taken as a whole, this study does not pretend to be an exhaustive treatment of all the key developments in general theoretical sociology through its phases. Nor does it aim to treat, in its final part, all existing theoretical efforts relating to the theoretical foundation problem in sociology.[2] However, by its intensive focus on a few writers and their common project of creating a general theoretical foundation for sociology, it aims to elucidate the aspirations of the field and some of the key theoretical frameworks created within the tradition.

As indicated above, this chapter sets out the main distinctions that are presupposed and employed throughout the study. First, general theoretical sociology is treated as only one component of sociological theory. Second,

general theoretical sociology is treated as a scientific tradition. This means that it can be given a phase description, with its first phase emerging in the classical tradition of sociology. It also means that it can be given a systematic formulation in terms of components. At a minimum this entails a distinction between general theoretical frameworks and theoretical models that presuppose them. Finally, the scientific aspirations of theoretical sociology imply that it should be assessed in terms of a variety of appropriate standards, some general to science and some specific to the tradition in terms of its key problems, both as to theoretical content and to metatheoretical presuppositions. The remainder of this chapter elucidates these aspects of the approach taken in this study.

THE HISTORICAL PHASES OF SOCIOLOGICAL THEORY

By common understanding, the classical tradition in sociology refers to a body of heterogeneous writings produced largely in the nineteenth and early twentieth centuries. Sociologists differ on which particular writings are "classical," but there is agreement that the tradition includes Marx, Weber, and Durkheim, at a minimum. Wide agreement can be obtained on adding Simmel and Mead, and, with somewhat less consensus, Pareto. In any case, in this chapter, when I refer to the classical tradition in sociology, I am referring primarily to these authors.

One problem with the interpretation of the classical tradition is that the sheer diversity of sociology today has created a climate bordering on despair as to the very idea of "sociological theory." The classical tradition itself initiated this diversity, although the subsequent divergence of intellectual interests and styles goes beyond that found in the classics. An analysis of the classical tradition must start from some conception of sociological theory relative to this diversity.

But, despite this diversity, it is important to appreciate the elements of continuity in sociology. One way to do so is to think of sociological theory in historical terms as the product of an evolving nexus of writers who attend to earlier writers as well as to each other. Treating this historically evolving nexus only in terms of certain leading theorists involves abstraction from the real and enormously complex character of that nexus. It makes no claim to be a fully detailed historical account of the evolution of sociological theory. I treat this evolution in terms of two phases beyond the classical tradition, dividing what is usually called "contemporary sociological theory" into a postclassical phase and a recent phase that I take to begin in about the mid-1970s.

The Synthesis Aspiration of the Postclassical Phase

The key theorists in the postclassical phase are those who explicitly promoted the view that the classical tradition provides the ingredients for a

theoretical synthesis. However, their differences from each other—at least as perceived within the field—were substantial enough to give rise to divergent subtraditions during the postclassical phase.

Who were these postclassical synthesizers?

Parsons (1937) made the case for synthesis through his thesis that leading classical theorists had converged on the same generalized depiction of social action systems. With his social system treatise (Parsons 1951) he went on to become the leading theorist of the functionalist subtradition of the comprehensive tradition of sociological theory.

Homans (1950: Ch. 1) writes quite directly of a classical tradition and of the aspiration of "reaching a sociological synthesis." His objective is to create a social system theory of the human group. In doing so, Homans analyzes classical empirical case studies and builds up a theory that owes much to the classical tradition, especially the ideas of Pareto and Durkheim. When he went on to try to explain the central hypotheses of this theory, Homans (1974 [1961]) developed a theory of social behavior as exchange. Blau (1964) defined the problem of micro-macro linkage, attempting to derive complex societal processes by starting from the elementary level of interaction treated by Homans. This body of work, by Homans and Blau, is recognized as central to the exchange theory subtradition.

Blumer (1969) initiated a synthesized perspective by reference to an explication of the ideas of philosopher George Herbert Mead, although he made it clear that he regarded the outlook as common to a number of other classical authors, including Cooley, Thomas and Weber. His work gave birth to the symbolic interactionist subtradition.

In *The Social Construction of Reality* (1966), Peter Berger and Thomas Luckmann refer in the introduction (p. 18) to two sets of classical "marching orders" for sociology. On the one hand, Weber directs sociology to attend to the social world in terms of the interpretation of complexes of subjective meaning. On the other hand, Durkheim directs sociology to analyze "social facts as things." Their own work, as they see it, makes these seemingly contradictory statements consistent, starting from the social phenomenology of Alfred Schutz. This body of work, along with other developments (e.g., ethnomethodology), is central to social constructionism as a subtradition.

Dahrendorf (1959) revised and generalized Marxian categories of social analysis. Opposing interests and differential power to shape society in terms of those interests were the key ingredients of this "conflict" approach. This work is central to a tradition often called "analytical conflict theory" that was systematized in *Conflict Sociology: Toward an Explanatory Science* (1975) by Randall Collins. The latter book, however, is actually a broader synthesis that combines elements of the Durkheimian tradition in sociology with the analytical conflict theory subtradition

This short survey shows that the most influential works of the postclas-

sical phase, in terms of initiation of subtraditions of the comprehensive tradition of sociological theory, were inspired, at least in part, by some notion of generalized theoretical synthesis grounded in the classical tradition.

The Recent Phase: Fragmentation and the Spirit of Unification

The most general characterization of the recent phase is that no one theoretical subtradition enjoys a dominant following. Leading ideas of the postclassical phase have been carried forward, sometimes in mutated form, sometimes in new combinations. Much of theoretical commentary is directed back to the classical writers. Networks of researchers and scholars carry forward some mode of theoretical orientation that guides their work, with some elements of continuity with the earlier phases but often with eclecticism in regard to the theory subtraditions. Moreover, these networks overlap in membership, so that some individuals may participate in a number of new developments. From the perspective of many sociologists, the situation is conceived as one of fragmentation of the field.

Some theoretical research programs have been explicitly intended to help overcome or at least counteract such fragmentation through the creation of linkages among otherwise separate theory developments. This work is undertaken in what I call "the spirit of unification" in Chapter 12. This is the recent version of the synthesizing aspiration of the postclassical phase of sociological theory, but adjusted to the current theory realities of enormous diversity in the outpouring of ideas and empirical studies. Theoretical integration takes place through a time-extended, collective process consisting of episodes in which there is an element of recursion: the current integrative episode—inevitably only partial and limited—becomes an element in some later such episode. The general effect is to counterbalance the otherwise ever-expanding proliferation of theoretical proposals and programs that, taken alone, yield chaotic growth rather than cumulative knowledge.

Relative to the above short list of postclassical theoretical synthesizers, this book is focused on Parsons and Homans, both of whom always emphasized generality and synthesis. My aim will be to show how their work was inspired not only by this common goal of "a new sociological synthesis" (Homans 1950: 2), but also that a set of common intellectual influences led to similar conceptual means in their earliest phase of synthesizing theoretical analysis. In the second phase of their respective theoretical development, however, they adopted different theory construction strategies. Yet, the recent state of commentary on the state of sociological theory tends to overemphasize differences relative to shared goals and means. For those who share the spirit of unification, the projects of Parsons and Homans are a shared cultural tradition. As such, their work can be admired not only for its cognitive value commitment to general theoretical coherence in so-

ciology, but also for their keen grasp of some of the difficult details of analytical theorizing in our field.

THE THREE COMPONENTS OF SOCIOLOGICAL THEORY

In the prior section, the perspective on sociological theory was historical, viewing it as a product of a time-extended process with a phase structure. From its inception, however, much of sociological theory has been an empirical mixture of discrete orientational elements that differ in their goals. Any one corpus of theory, such as the writings of a particular classical theorist, may be viewed as a blend of such elements. Different works or different parts or aspects of any one work may be weighted differently in terms of these orientational components. In turn, this can give rise to considerable confusion about what it is that "sociological theory" is supposed to be.

Following the procedure of the prior section, I put forth a triangular model with three components that can be called general theoretical sociology, world-historical sociology, and normative-critical sociology. Any instance of sociological theory maps into a point in the interior or boundaries of the triangle, reflecting a judgment about the relative emphasis upon the three components.

The General Theoretical Component

The goal of creating a general theoretical sociology was clearly set out by postclassical theorists, especially Homans and Parsons. A natural science model is adopted in terms of the understanding of theory, both as to its structure and its function. The language is abstract so that it can be applied or instantiated in an unlimited number of historical and cultural settings. The aim is to formulate general explanatory principles such that, when taken in conjunction with initial conditions holding in some particular social setting, an explanation of phenomena in that setting can be given. The synthesis aspect of their work draws upon and integrates, for instance, ontological and methodological ideas from the classical phase of sociology. As we shall see, similarities and differences in their theories reflect differential attention to the various classical directives for the creation of a science of sociology.

The World-Historical Component

The classical writers, however, provided another focus for sociological thinking in terms of the transition to industrial, modern society. In contrast to the general theoretical component of their work, this component is in "instantiated form." That is, it is couched in a language appropriate to the

description of historical particulars, whether events, groups, or tendencies. For instance, Marx analyzes capitalism as an historical social system differing from other such systems. Weber seeks to account for the major features of modern social and cultural life in terms of an historical process of rationalization. Durkheim thinks of human social history in terms of its evolution from simpler to complex societies whose "solidarity" was undergoing major changes due to increasing social differentiation. Although Durkheim's language is that of general theoretical sociology, his focus on trends in history is unmistakable. All these and similar examples illustrate the orientational component of world-historical sociology that we find in the classical phase of sociological theory. Similarly, in the postclassical phase, Parsons is not just a general theorist. Indeed, much of the critique of Parsonian sociology in the 1960s and 1970s was directed to "modernization" as an interpretive construct for historical change. Note that when theorists turn to the empirical world, not any instantiation of their general ideas counts as "world-historical." What makes an historical analysis deserve the implied kudos of "contributing to sociological theory" seems to be the scale or breadth of the historical events and trends analyzed. In this sense, much of sociological theory, as an empirical fact about the content at each phase of its history, is "world-historical" in orientation. Today, the modernization focus of much of postclassical theory is replaced by a globalization focus.

The Critical Component

But the various phases of sociological theory exhibit not only these general theoretical and world-historical elements, but also a third orientational component. The social world is not just analyzed; it is critically assessed in some sense. For Marx, such critique is built into the very nature of social scientific theory: its aim is not just to comprehend the world but also to change it and the latter requires a step beyond description or explanation. For Weber, a sharp distinction exists between existential and normative claims. Sociology is very definitely defined in the direction of the existential, as an empirical science that in itself can provide none of the ultimate ends required in the conduct of life. However, in his writings, later sociologists find an aspect that they characterize as "realism" and "pessimism," highlighted by the recurrent reference to his "iron cage" metaphorical characterization of modern capitalist society. Hence, whatever Weber's intentions, the tradition of sociological theory includes a depiction of him as having made an important and influential assessment of the world-historical situation and not just an explanatory account of it. For Durkheim, similarly, the differentiation process that leads to increasing individuation has some dark consequences. Taking the point of view of the social physician, Durkheim sees a society that is not in a normal, healthy state. The sickness is

excessive egoism, fueled also by elements of anomie, in which self-regulatory aspects of societies have failed to keep up with the steady advance of the division of labor. Tomorrow will be better, however, because the promised organic integration of the advanced, complex society eventually will bring the social organism back into a healthy state. The point is that the writings of Marx, Weber, and Durkheim, among other classical theorists, include a third component, a normative-critical assessment of the world-historical situations they attempt to explain.

Similarly, postclassical and recent sociological theory includes a normative or ideological component, although often in a muted form. It is important to regard the entity under analysis—for instance, some particular theorist's writings—as a weighted combination of the three components. This general model allows for special cases in which the work analyzed has a virtual "zero" on some components. For instance, the social behavioral theory of Homans can be modeled as a weighted combination with "zero" for the world-historical and normative-critical components. It is a work of pure general theory. Perhaps for this reason many sociologists—expecting these other components—are inclined to ignore it and to regard it as marginal to the continuation of the classical tradition.

Relationships among the Components

What can be suggested in terms of pairwise relationships between these three components of sociological theory? From the standpoint of a world-view grounded in the process philosophy to be discussed in Chapter 3, there is a kind of "world-historical" component even to the physical sciences. This has been called cosmology, concerned with the origins and development of the physical universe. The linkage between theoretical physics and cosmology turns out to be rather deep: the high-energy physics of elementary particles is deployed to deal with the Big Bang, for instance. Also, the laws of physics emerge with the physical entities. The link between cosmology and theoretical physics becomes deep, dealing with the evolution of the physical world. Similarly, we might think of the link between world-historical and general theoretical sociology in an analogous way as dealing with what Parsons called "action evolution." For instance, as I shall discuss in the next chapter, Mead's theoretical interests are truly evolutionary at the level of explaining the emergence of the human mind, self, symbolism and society.

If social evolution is the linkage between world-historical and general-theoretical sociology, what links each of these to normative-critical sociology? If we look at the work of Habermas (1984, 1987), the foremost representative of critical theory in the recent phase of sociological theory, we find all three components. But in what relationships? Without pretending to an exhaustive analysis of his complex writings, let me suggest that

Habermas is formulating a general theoretical basis for grounding his normative project, drawing upon both classical and postclassical theoretical resources. General theory is the component of his work that deals with society as both a system and a lifeworld. This suggests, more generally, that the critical orientation be *informed by* general theory so as to become critical *theory*. However, Habermas's real interest is in modern society and its tendencies. Capitalism thereby comes to play a large role in his work. This suggests, more generally, that the world-historical orientation provides the *subject-matter focus* for the critical orientation.

As framed, these linkages are a bit asymmetric. A critical theorist would want to add that without the critical orientation, general theory lapses into scholasticism with loss of its emancipatory meaning. Similarly, a critical theorist would argue that without the critical orientation, the study of world-historical phenomena lapses into a hodgepodge of disconnected analyses lacking a theory of history. My own viewpoint is one of favoring autonomy of the three components. In agreement with many sociologists, I have doubts that there can be a viable theory of history that is not ideological. At the same time, I think that a critical interest tends to push the selection of phenomena to be explained in a purely world-historical direction, thereby unduly narrowing the scope of general theoretical sociology if solely normative-critical interests guide the latter. In addition, I worry that the normative orientation of critical theory would tend to undermine the search for general theoretical knowledge. At the same time, it is true that sociology, like economics, can pursue normative as well as positive theory.

In sum, the actual corpus of writings regarded as "sociological theory" not only has a three-phase description but also a three-component description. Although such a model is a simplification of the actual history and content of sociological theory, it provides a basis for understanding the intellectual environment for the particular type of theoretical work that I will emphasize as my argument unfolds. This is general theoretical sociology.

Another Three-Component Model

Very relevant to this component of sociological theory is another three-component model can be sketched briefly that applies to any modern science, not only sociology. Namely, any modern science X has three functional components: empirical X, theoretical X, and computational X. Viewed as corners of a triangle, the linkages may be thought of as explanation (of empirical findings by theoretical reasoning), simulation (of theories, using computational methods), and data analysis (in which empirical data are put in intelligible form by the use of computational methods). The traditional conception of sociology includes the empirical and the theoret-

ical components, but only recently has the role of computation become significant enough to warrant its inclusion as a third key functional element in sociology (Hanneman 1988; Heise 1995).[3]

As cumulative developments occur in a field, specialization with respect to these three functions occurs. Distinct roles emerge under the pressure of mastering a growing body of knowledge in a broad sense that includes not only explicitly framed ideas but also various techniques and tacit understandings. For instance, the process of cognitive problem solving yields differentiated types of methods that prove effective: empirical methods, theoretical methods, and computational methods. When this occurs, a partial autonomy will exist at each corner of the triangular structure. In particular, and now applying this notion to sociology, *theoretical sociologist* can emerge as one role among others in an integrated structure of roles for the pursuit of a commonly valued enterprise. Theoretical work then can be pursued with some independence, exploiting theoretical methods to construct and study theoretical models, although the triangular image of three components reminds us that explanatory and simulation efforts will or should at some point tie the work to the empirical and computational domains, respectively. Thus, the "inner" problems of theory development acquire some momentum of their own, engaging people to devote themselves to the advance of their field by specialization in its body of theory, thought of as both tradition and frontier. These efforts involve the construction of superordinate theoretical frameworks so as to generate structures of theory.

THEORY STRUCTURES AND COGNITIVE STANDARDS

Elsewhere (Fararo 1989b) I have suggested that we can draw upon the writings of philosophers and historians of science to characterize levels of an evolving science, especially its theoretical component. In particular, the following discussion draws upon Toulmin (1953) and Laudan (1977) to set out a "philosophical model" that characterizes structures of theory in scientific research traditions. It also sets forth a set of cognitive standards before turning to the application and extension of these ideas in the context of theoretical sociology.

A General Philosophical Model

In what follows, the term "tradition" is used to highlight the historical character of the theoretical component of a science. More than one tradition may be part of a science and, on the other hand, more than one science may be part of a tradition.

In these terms, a theoretical framework with broad ontological and methodological commitments characterizes a scientific tradition. For instance, quantum mechanics, psychoanalysis, Darwinism, generative-transfor-

mational linguistics, and rational choice theory are examples of traditions. Such a scientific tradition can be viewed as the mid-level of a three-level hierarchical model. At the upper level is a *worldview* that is more general than the particular tradition, so that it may include other scientific traditions with varying theoretical interests and frameworks. At the lower level are specific theories or *theoretical models* that are implementations of the commitments of the given tradition. Because the tradition is broader than the theoretical models, instances of the latter can be modified or even rejected while the tradition continues without change. But successes and failures in theoretical model building do have consequences for the tradition, perhaps leading to anomalies that resist solution and thereby undermine the survival of the tradition. Similarly, a worldview can survive the birth and death of numerous research traditions and their frameworks.

A scientific tradition, then, is characterized in this philosophical model by a *worldview*, a *theoretical framework* that presupposes that worldview, and *theoretical models* that presuppose that framework. In addition, what I call *invariants* are statements of uniformities, including laws, lawlike statements, and constants. Such statements may be derived from theoretical models and when they are, the model shapes their very meaning. In my earlier treatment (Fararo 1989b: Ch. 1) I treated such invariants as a fourth level of a scientific tradition, but here they may be regarded as adjuncts to the third level with its relative specificity as contrasted with the framework and worldview levels.

To emphasize the interrelatedness of these components, we need to add *problems* and make explicit their relational linkage to the other components of a tradition. Figure 1 depicts the various interlinked components.

We see from the figure that the framework is instantiated or applied in two distinct modes. In one mode it shapes but does not fully determine the construction of a theoretical model through the application of theoretical methods. In the other mode it shapes but does not fully determine data through the application of empirical methods. The problem or problems— which are shaped by and help to shape the framework—also contribute to the determination of the theoretical model and the data. Given the model and the data, when the model's abstract terms are instantiated to the empirical situation under analysis, an empirical hypothesis is obtained that may be compared with the properties of the data. The latter properties are known through the application of computational methods. And other computational methods may be employed to yield properties of the model through simulation studies. The key difference between the properties of the data and the corresponding properties of the model are not that the former are free of all conceptual determinants but that they include something completely external to the conceptual structure. Namely, the very meaning of "data" is that the framework, as applied, provides only the

Figure 1
Frameworks, Problems, and Models
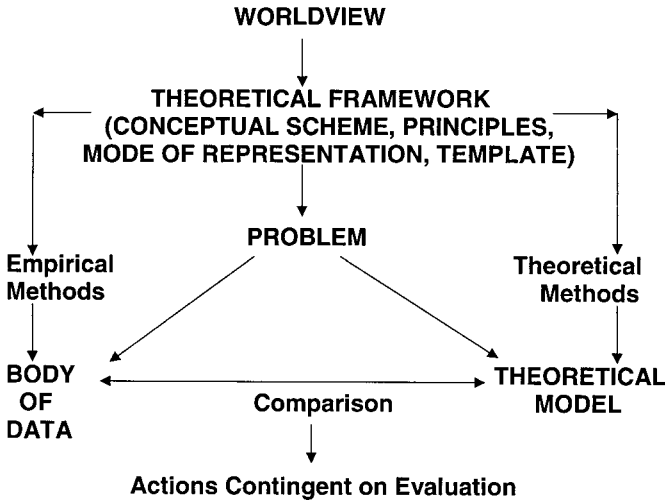
generic aspect of a datum with its particular value dependent upon the actual entities whose nature and behavior has come under investigation. Thus, the function of the contrast of derived empirical hypothesis and empirical data is to form a judgment as to degree of agreement and its significance for the structure of the scientific tradition.

In one class of cases, the agreement may be too small. The resulting contingent actions form a kind of menu. A choice has to be made as to reactions to the discrepancy, ranging from minor alterations to major overhauls in the uppermost controlling components of the structure of the theory employed in the given tradition:

• Revise the way the hypothesis was obtained from the model
• Revise the theoretical model
• Revise the way that the empirical methods were applied to obtain the data
• Revise the empirical and/or theoretical methods as such
• Revise the problem definition
• Revise the framework
• Rethink the worldview

At the ultimate level involving worldview, there will be metaphysical, epistemological, ethical, and logical assumptions that are likely to be resistant to change, if only because they may not even be objects of cognition as contrasted with modes of (deep) cultural orientation. Nevertheless, the

point is that there is an element of feedback in a series of such confrontations between the implied hypotheses of a structure of theory and the world as observed in terms of that structure. These episodes of empirical evaluation should lead, if the judgments and actions are governed by scientific values and norms, to increasing correspondence between the underlying mechanisms proposed in the theory and the actualities studied from its perspective.

Amid such cases of discrepancy, there will be other cases in which the agreement between hypotheses and observations is excellent. One action that might result is a generalization of the problem, so that a wider class of cases can be studied and this would entail an analogous generalization of the theoretical model. In turn, this might require new or revised empirical methods to acquire the appropriate data. Eventually, the framework itself might be generalized to cover a still larger scope of cases. In short, the successful application or test, no less than the unsuccessful, has dynamic consequences for the evolving structure of theory, presupposing a context of scientific values and norms.

These contingent actions relate to the activity of scientific criticism. Self-criticism is implied in the nexus of theory and data depicted in the diagram of components. But, in addition, peer criticism is involved in two modes. In the first mode, the critique stems from within the tradition, while in the second mode, it stems from outside. In turn, the latter location can be from within the same worldview or from an alternative worldview. These are analytical distinctions, so that a particular critique can be from a combination of standpoints.

Among the scientific norms employed in this process, one set pertains to the comparison with observations, as noted above. The criterion of testability is important here: "the importance of being wrong" as Lave and March (1975) put it. This means that a theoretical model should lead to empirical hypotheses that can be shown to be wrong. If, despite such efforts, it turns out that an hypothesis seems not be wrong, all the better. This criterion relates to the other set of norms, pertaining to the structure of theory itself. Wagner (1984, 1994) has described four such "structural" standards for such assessment[4]:

- *Clarity*. A theory is better, the more explicit it is.
- *Generality*. A theory is better, the more general it is.
- *Completeness*. A theory is better, the more complete it is.
- *Precision*. A theory is better, the more precise it is.

Note that the implication is that the assessment of a structure of theory is in terms of a multiplicity of standards, no one of which plays a uniquely significant role: each contains the tacit qualifier, "other evaluations equal."

Without a doubt, clarity is important. But it is contextual. For instance, an innovative theory may be unclear to readers steeped in an older tradition whose tacit background assumptions are cast aside in the new theory. Generality is best thought of in linguistic terms. A term such as "status-role" is more general than a term such as "gang leader." The latter is an instance of the former and might be a term included in a theory of gangs, while the former might be a term included in a theory of social systems. Completeness is with respect to some class of phenomena in terms of explaining how they arise, how they persist and how they change. Precision pertains to what is excluded by a theoretical claim, thereby relating to the falsifiability or testability of the theory, as stressed by Popper (1959). For instance, the claim that x and y are related is less precise than a statement of the form of that relation. By virtue of increasing precision, other things equal, the theory becomes more testable, more vulnerable to being wrong. If, despite the high a priori chance of its being wrong, it seems to agree with observations, that is a point very much in its favor. Think of the derived formulas in theoretical physics: why should we believe them? One reason might be technological, "they work," but this usually follows upon empirical tests in which their very precision exposes them to high a priori chances of being wrong. When they turn out to fit the data extremely well, the theory from which they were derived gains in credibility.

An evolving theoretical framework of a scientific tradition can exhibit what Wagner calls a process of *elaboration* in which its structure is improved through episodes of theoretical activity that have one or more of the following consequences at the framework or theoretical model level:

- Increasing clarity
- Increasing generality
- Increasing precision
- Increasing completeness

In addition to these kinds of standards, beauty is also a general standard that emerges with increasing theoretical activity in a science. Lave and March (1975) provide a fascinating discussion of this "art" aspect of theoretical model building. Beauty is a matter of simplicity of assumptions coupled with extensiveness of interesting or surprising logical consequences. This statement involves, then, three specific standards of beauty:

- *Simplicity*. The fewer the assumptions of a theoretical model, the more beautiful the model.
- *Fertility*. The larger the number of logical consequences per assumption, the more beautiful the theoretical model.

- *Surprise*. The less obvious the derived consequences of the assumptions, the more beautiful the theoretical model.

Efforts to enhance the scientific quality of a tradition, then, might employ theoretical methods that aim to produce models that are enhancements relative to these criteria of beauty. These standards of beauty all presuppose that theoretical models have some sort of deductive structure. That is, the model is defined by a set of assumptions, and then logical reasoning leads to consequences. When structural standards and standards of beauty are employed together, along with empirical assessment, a scientific tradition has the best chance of producing cumulative knowledge.

Application of the Philosophical Model to Sociology

How does this conception of a tradition as characterized by an evolving theoretical framework embedded in a worldview and enabling a plurality of theoretical models apply to sociological theory? My own earlier argument (Fararo 1989b) was that there is a "comprehensive" tradition in sociology with a superordinate process worldview such that within it various subtraditions have emerged. The subtraditions share the worldview and perhaps even some very consensual ontological and methodological commitments, but they are sufficiently general in their own right to be considered traditions, within each of which a time-extended process of constructing and applying theoretical models occurs.

The common process worldview is not unique to sociological theory. Today, all the sciences can be said to be "historical" or "evolutionary" in the sense of presupposing that the types of actual entities they deal with are not given in any ultimate sense but emerge in some process. The primacy of process means that, although a tradition will feature types of objects in its ontology, the controlling worldview will imply their contingent existence within a world in which "becoming" is the only true ultimate invariant.

The emphasis on process is evident in the classical phase of sociological theory. Here, because the comprehensive sociological tradition is in its earliest stages, we can refer to the worldview of particular theorists. In Chapter 3 I argue that Mead, Marx, Durkheim, Weber, and Simmel each presupposed some version of a process worldview. When we come to the post-classical phase of sociological theory, the comprehensive tradition has begun to take shape in the form of a common appeal to the core initiators of the discipline and to its most general framework elements. The post-classical synthesizers try to wield diverse strands of the tradition into a sense of a science with a single general framework within which explanations can be couched. In the case of Homans and Parsons, there is an appeal to the philosophy of Alfred North Whitehead, the most prominent process

philosopher of the twentieth century, as I will discuss in Chapter 4. Blumer (1969) not only initiates symbolic interactionism as a synthesis of certain lines of classical thought, but also in rebellion against types of research and concept formation that he interprets as ignoring human agency in the form of self-indications that guide action. He explicitly adopts an ontology of action under the rubric "joint action" as the construct that enables sociologists to analyze collective phenomena. Berger and Luckmann (1966) not only create what they tell us is a synthesis of Weberian and Durkheimian "marching orders" for sociology, they enter a protest against what they see as the errors of functional systems thinking in sociology. Dahrendorf (1959) not only revises Marx, he criticizes Parsons for proposing a one-sided consensus and integration model of a two-sided society that also needs analysis in terms of coercion and conflict.

Thus, the postclassical phase exhibits the diversification of the comprehensive tradition into subtraditions that communicate with each other through shared presuppositions stemming from both the shared process worldview and the shared common background of the initial phase of the tradition. Because these subtraditions are so much embedded in the comprehensive tradition, they never acquire the neatness that textbook writers want to impose on them. Instead, research is oriented by a more eclectic mix of ideas drawn from diverse writers, often blending elements from different subtraditions. Theoretical sociologists, responding to the diversity and feeling the tension of inconsistency at points, produce new works that exhibit new syntheses (Ritzer, 1990) as the recent phase of sociological theory emerges. All the while, specific theoretical models are being formulated, more or less as application of one or another framework or some combination of them.

A related point requires discussion here because its ramifications are of great significance in this book. Namely, two types of analytical frameworks permeate sociological theory that should be distinguished and yet that require integration for effective explanations: action and system. On the one hand, there is the *actor-situation frame of reference* in which a single human being or a collectivity is modeled as acting in relation to its situation. Within a pure actor-situation framework, when a collection of actors is treated, the aggregate model is made up of a collection of independent actor-situation units with no representation of relations among them. What is absent in the model is the connection between the action process of any one unit and that of others. In terms of an idea to be discussed in the next chapter, what I will refer to as Mead's action holism fails to be realized: there is no nexus of interactions comprising an organized social act with ingredient sub-acts.

This does not mean that the actor-situation frame of reference is inherently flawed. That is not the point. Rather, a second conceptual scheme is needed, the *system-environment frame of reference*. A system is composed

of units that are interrelated and is embedded in an environment. The system has properties that emerge out of the interactions among its units and which are "macro" relative to the properties of its units, which are "micro." For instance, in Marx's theory, the class structure of a society is a macro property, while the position of an individual in the social relations of production is a micro property.

When both frames of reference are employed, we may use the term *social action system*. Its units are actions of multiple actors and a system of these is analyzed in a context involving an environment. Throughout this book, then, I interpret the work of theoretical synthesis to be a matter of effective specification of a theoretical system that connects the two frames of reference in the analysis of social action systems. For instance, in my treatment of Homans's later theory in Chapters 9 and 10, the first of these two chapters treats principles dealing with the act of an actor in a situation, while the second employs these principles to treat phenomena emergent in social interaction (i.e., in a social action system featuring face-to-face contacts among the actors).

What about standards of assessment? It would be foolhardy to attempt to assess the comprehensive tradition as a whole in terms of the various standards cited above. Its mixture of orientational components and its diversification into plural subtraditions make such a task formidable. Instead, I reserve assessment for the material explicitly covered in this book. In particular, two evolving frameworks will be examined in detail: that of Parsons and that of Homans. Each exhibits two stages and the claim made more or less explicitly by each of them is that elaboration has occurred, in the sense indicated earlier. That is, the later framework is claimed to be better in terms of some combination of clarity, generality, completeness and precision. Standards of beauty of theoretical models also may be invoked in assessments.

When I turn to the rational choice strategy in the recent phase of theoretical sociology, the same set of standards may be employed. Coleman's theory can be evaluated in terms of the structural standards of clarity, generality, completeness and precision, and some of his theoretical models are subject to assessment in terms of standards of beauty (i.e., simplicity, fertility, and surprise). Empirical assessment is also relevant.

Key Theoretical and Presuppositional Problems in Sociology

Structural standards and standards of beauty are so general that they apply to *any* structure of theory. But the existence of a comprehensive tradition is associated with some general problems and how a theoretical framework addresses them in a more or less satisfying way is an important additional criterion of evaluation.

In Fararo (1989b: Ch. 2) I set up a correspondence between four key

problems of general theoretical sociology and aspects of the analysis of nonlinear dynamical systems models. The problems all have to do with social structure, by which one usually means a relational pattern among a set of acting units. In brief, in my reading of the key writings in the comprehensive tradition, the problems are:

- How do social structures emerge and what forms do they take?
- Under what conditions is a given social structure stable, so that it can endure under those conditions?
- How do social structures vary as given conditions vary?
- How do social structures change, either smoothly or abruptly?

I also argued that there were grounds for noting a still more specific version of this problem within the tradition, in which the relevance of social structure pertains to the problem of social integration. Terms such as "cohesion" and "solidarity," as well as "community," point in this direction. Debates about consensus versus conflict and values versus domination that were played out in the postclassical epoch of sociological theory also seem to point in this direction. To connect to such issues, I treated "stable social structure" as one version of "social order." Thus, the first of the two key problems, taken in conjunction, define the key problem of social order. Thus, in later chapters, I will be making reference to this set of content problems in assessing theories. The relevant standard may be put in the form:

> *Key Problems in the Theory of Social Structure*: A theory is better, the more of the four key problems of social structure it is able to address within a single theoretical framework. It is still better if the problem of social integration is treated.

There are two further criteria that relate to what Jeffrey Alexander (1981–1983) calls "presuppositional problems" in the comprehensive tradition of sociological theory. They deal with action and social order, respectively.

The problem of action has to do with the place of rationality in social theory. Economics has been the home base of an approach to theory that employs a rational choice principle. Producers and consumers make rational decisions, represented in formal terms by some sort of optimization, such as expected utility. Weber, Durkheim, and Pareto, among other classical phase theorists argued for a more general approach to human action, invoking nonrational elements such as value commitments and sentiments. But, recently, there has been a resurgence of interest in a rational choice approach in sociology, making Alexander's presuppositional problem of considerable interest. Coleman (1990), for instance, has advocated the the-

ory construction strategy of adopting a single principle of action, to be applied to both market phenomena and apparently "irrational" collective behavior, while Alexander has argued for a "multidimensional" approach in which both rational and nonrational elements of action are included in sociological theories. Alexander's approach follows the strategy favored by Parsons, as we shall see. Thus, in later chapters, I will be discussing how the theories I examine deal with action.

The problem of order, as framed by Alexander, pertains to two approaches he sees in tracing out the history of modern social theory. One approach argues that to explain social order, a collective phenomenon, one must employ collective-level concepts. The argument rests on some concept of emergence. In Durkheim it took the form of arguing that social facts can only be satisfactorily explained by other social facts. This may be called *methodological holism*. By contrast, another approach argues that collective phenomena are to be explained by reference to how they arise, persist or change through concatenation of individual actions. This is *methodological individualism*. Alexander again argues that only a multidimensional approach makes sense. For instance, individuals are social beings; their very capacity to engage in social relations is a consequence of the existence of collectivities in which they are socialized. Homans and Coleman, on the other hand, have been strong advocates of methodological individualism in sociology. The association of rational choice thinking with methodological individualism is a fact about the history of social theory, so "rationalistic individualism" becomes a target of critique by theorists who view social life in more holistic and organic terms. Once again, in this book, the analysis and assessment of the theories treated will include a reference to this second presuppositional problem. The relevant standards for assessment may be put in the form:

> *Presupposition as to Action*: A theory is better, the more it is explicit as to its principles concerning rationality and nonrationality in the treatment of human action.

> *Presupposition as to Order*: A theory is better, the more it is explicit as to its methodology in relation to individualism and holism in the treatment of collective phenomena.

In sum, assessments of the theoretical syntheses examined in this volume will be undertaken in terms of a variety of cognitive standards:

- Standards of theory structure as to clarity, generality, completeness, and precision.
- Standards of theoretical model beauty as to simplicity, fertility, and surprise.
- Standard of coverage of key theoretical problems as to the emergence, stability, comparison, and change of social structures.

- Standard of explicit position as to presuppositional problems of action and order.
- Standard of empirical adequacy as to agreement between empirical implications of theoretical models and bodies of data.

SUMMARY

The structure of sociological theory today exhibits all the strands of ingredients that have been discussed in this chapter. It is a tradition with three phases: classical, postclassical and recent. At every phase, it has never been homogeneous but rather a mixture, even in single works, of three ingredient intellectual orientations: general theoretical, world-historical and normative-critical.

The evolution of sociological theory involves not just a single tradition, but also a comprehensive tradition with various communicating subtraditions growing out of the classical and postclassical phases. In this book, the focus is on the general theoretical aspect of the comprehensive tradition and, more specifically, the focus is on *foundation and synthesis* as set out by two key postclassical theorists, Parsons and Homans. The analysis of the programs of these two theorists (Part II) is bracketed by, on one side, the classical foundations of theoretical sociology (Part I) and, on the other side, by recent theoretical strategies pertaining to foundation and synthesis (Part III).

Within the overarching comprehensive tradition with its variant subtraditions, theorists construct theoretical frameworks and implement them through the formulation of theoretical models that are constructed to address problems defined within the subtradition through the application of its theoretical methods. These models, when translated into specific terms appropriate to specific empirical data gathered through applying the framework via empirical methods, are subject to assessments grounded in the comparison of data and hypothesis. In this way, changes in the specific theoretical models and/or the state of a theoretical framework occur. Criticism, within and between subtraditions, fuels the process of proliferation of frameworks and models, as does the emergence of problems that resist solution within any one framework.

However, cognitive standards for the assessment of theories are not limited to those pertaining to agreement with observations. First, there are structural standards that relate to the clarity, generality, completeness and precision of theoretical frameworks and models. Second, there are standards of beauty in theoretical model building manifested in simplicity of assumptions and the fertility and surprise value of derived consequences. Finally, to these general scientific values, we can add more domain-specific standards that pertain to the key problems in the comprehensive tradition of general theoretical sociology. Some of problems pertain to the theory of social structures (and especially social integration) and some pertain to pre-

suppositional problems of action and order. A tradition of theorizing exhibits improvement to the extent that enhancements occur with respect to any combination of these various types of standards.

Given the growing heterogeneity of these frameworks and models, theorists respond with integrative work that tends to blur the distinctions among frameworks while creating still other frameworks: "the many become one, and increase by one." Thus, the comprehensive tradition is structurally integrated, to some degree, by the shared concepts and problems that permeate the ever-shifting array of frameworks created within subtraditions, both older and newly forming.

Nevertheless, the general feeling among sociologists today is one of uncertain resignation to a foundational dissensus said to be characteristic of the "postmodern condition" of knowledge (Lyotard 1984). The feeling is "uncertain" because there is a sense that the condition is not uniform among the sciences. In particular, the natural sciences, although diverse in their content and aims, share highly general theoretical frameworks that have an integrative function. For instance, the life sciences are unified by the principle of natural selection as the basic explanation of biological evolution. It is not that each and every biological study is approached directly in terms of evolutionary theory. Rather, it is that the various subtraditions of biological research and theory presuppose that the ultimate explanation for living system phenomena is in terms of a natural selection principle. Indeed, a good deal of recent theoretical work in biology amounts to generalizing the Darwinian version of this principle so as to preserve this foundational unity of the life sciences.

No similar principle unifies the social sciences, much less any one of them such as sociology. A basic reason for wide interest in rational choice theory in the recent phase of theoretical sociology is its bid for the role of unifying framework, as in considerable attention given to the foundation project of James Coleman. Precisely on the foundation level, its critics argue, rational choice theory is inadequate because it addresses human action from a conceptually limited and empirically inadequate perspective. The earlier foundation projects of Parsons and Homans, as well as related efforts by Peter Blau, directly pertain to this situation. This book is an effort to outline and assess their theoretical contributions, framed not only within this context of the recent situation but also against the background of the classical foundations of sociology as a science.

NOTES

1. To be sure, neither of the latter employs the sort of *generative* approach to theoretical model-building that I have favored (partly on a Whiteheadian basis) and that I discuss at length in the final chapter.

2. Among recent theorists whose work I do not treat in any depth perhaps most

relevant is Luhmann (1995 [1984]), discussed only briefly in Chapter 12 for reasons given there.

3. Mathematical X, for any science X, may be defined as the field of X that specializes in developing and studying the mathematical, or more broadly, formal methods, of theoretical X. Only as the theoretical side of a field "takes off" does the mathematical aspect become closely intertwined with the further development of theory. See Fararo (1973, 1984, 1997) for further pointers to work in mathematical sociology in relation to theory development.

4. See also Wagner and Berger (1985) for a wide-ranging discussion of theory growth in sociology.

Part I

Process and Social Reality

Chapter 2

Classical Foundations

INTRODUCTION

This book is organized in terms of the conception of general theoretical sociology as one of three key orientational components of the comprehensive tradition of sociological theory with its three phases—classical, postclassical, and recent. Talcott Parsons and George Homans are key figures in the postclassical phase and the subject matter of Part II of this book. Their theoretical projects selectively draw upon key ideas that constitute the classical foundations of the tradition. This is one reason for this chapter's focus on the classical phase. But there are several other objectives. First, I want to illustrate some of the distinctions made in the prior chapter in the context of classical foundation contributions. Second, I want to begin to set out the process perspective on theoretical sociology that I find adumbrated both in the classical tradition and in the works of Homans and Parsons. Finally, I want to begin setting out some key theoretical ideas that pervade the book, such as the notion of the intertwining of two frames of reference, actor-situation and system-environment, to constitute a social action system.

   With these objectives in mind, and somewhat unconventionally, I will start with the philosopher George Herbert Mead. Then, in succession, I will analyze aspects of sociological theory in the writings of Karl Marx, Max Weber, Emile Durkheim, and Georg Simmel. I reserve the discussion of Vilfredo Pareto to the following chapter. In each case, I will abstract from their work what I deem to be the key components of their general theoretical perspective as contributions to the foundations of sociological theory, especially in respect to a process orientation.[1] The world historical

and normative-critical aspects will play a far smaller role in my treatment than they often do in other analyses of the classical tradition. I will apply the hierarchical level model and attempt to identify elements at the world-view, theoretical framework, and theoretical model levels along with a key problem motivating the creation of the theoretical ideas. But I will not attempt to characterize the empirical-related components of the work (that is, the empirical methods, the data, and the contrast between data and derived hypothesis).

THE STRUCTURE OF MEAD'S RELATIONAL PROCESS THOUGHT

George Herbert Mead[2] was a philosopher at a time (the late nineteenth and early twentieth centuries) when the distinction between philosophy and psychology was not yet as sharp as it later became. Thus, both Mead's education and his later teaching included immersion in what we now regard as two distinct traditions of thought. In Mead's view, the romantic reaction to the philosophical tradition up to the eighteenth-century Enlightenment—key figures in the reaction were Fichte, Schelling, and Hegel—had highlighted the problem of the relation between the self and the world. Having studied under the major American idealist of his time, Josiah Royce, as well as with leading German philosophers of his time, Mead was sympathetic to their views.

In particular, he interpreted the idealists in terms of the subject-object relation. Consciousness, in the sense of cognitive awareness, is a relation between a subject and the world. An object is anything that the subject becomes aware of in its environment. Taking this relational perspective, we can write aCb to mean that in a given occasion a is conscious of a part of its world, call it b, which thereby functions as an object for a. Thus, an object implies a subject, just as a subject implies objects. From this relational point of view, the distinctive and defining feature of the self is emergent *reflexivity*. Formally, aCa arises. A self is that which has the capacity to be aware of itself as an object in the world.

However, Mead was not satisfied that the idealist philosophy correctly analyzed the nature of this reflexive relation. Having immersed himself in the emergent tradition of scientific psychology, particularly experimental psychology, Mead framed his key problem as in the zone of interpenetration of the two traditions: How can we explain how the self arises?

Mead's Process Worldview

In approaching this problem, Mead presupposed the evolutionary naturalism characteristic of pragmatism. This postidealist philosophical tradi-

tion had as its intellectual program the goal of reinterpreting classical and modern philosophy and science from an evolutionary point of view. In particular, for pragmatism, mind is an aspect of nature that is emergent in evolution. In particular, thinking is instrumental in problem-solving occasions. Science is an evolutionary knowledge process in which variation and selection become self-conscious in the form of hypotheses put to an empirical test.

Indeed, Mead had a certain faith in the rationality of the trial-and-error process in institutional life, seeing democracy as allowing the greatest opportunity for a dynamic society in which social change was guided by different ideas to be tried out in the solution of social problems. A progressive approach to world historical interpretation with a strong endorsement of democratic values thereby characterized Mead's world-historical and normative approaches to the social world.

Mead's worldview also includes a strong process philosophical standpoint shared with Alfred North Whitehead, whose cosmology he drew upon albeit not without criticism of certain of its seemingly non-naturalistic aspects. Since Whitehead's philosophy is also a key aspect of the immediate intellectual environment of Parsons and Homans, I will discuss it in detail in the next chapter. In the present context, the key idea is that the universe is characterized, in Whitehead's terms, as "creative becoming." What this means is that "the actual world" is never a complete entity. Any actual occasion arises in a world of given actualities and becomes one of the many for other such emergent occasions: "the many become one and are increased by one," to employ the Whitehead's (1978 [1929]) cosmological formula. Thus, from such a process perspective, the relation aCb has to be treated in dynamic terms. Both terms of the relation are time-indexed, as it were. Because each actual occasion is a novel entity, the subject a is not identical to the subject in a somewhat later occasion that may continue it in some sense and the same is true of the object b. A relational process is involved and not a static relational state.

What hypothesis about the emergence of the self as a relational process might science offer? The new scientific psychology might provide a theoretical basis for the hypothesis, but it needed to be reformulated in the social direction favored by idealism. Namely, the behaviorist emphasis on the relation of an organism to its environment could be the underlying basis for the dynamic subject-object relation, but first the organism had to be considered in its mind aspect as well as its observable behavioral aspect. In present-day terms, the inclusion of mind implies a psychological element. And the environment or situation had to be populated with organisms that responded to the behavior in a dynamic process. This implies a social element. In short, the type of scientific approach required would have to be a *social psychology* grounded in but transcending behaviorism.

Mead's Theoretical Framework

Thus, the groundwork for Mead's theoretical framework is found in his particular creative synthesis of strands of idealism, pragmatism and behaviorism. The framework level of his thought, in relation to his central problem, features an ontology and a methodology.

Ontology

The basic unit for analysis is the social act. A social act is an organized processual whole composed of acts of distinct organisms. These part-acts fit together, are organized, so as to constitute the concrete composition of the whole process, the social act.

Examples of human social acts are a wedding ceremony, a family dinner, a boxing match, a conversation, a double play in baseball, and a sexual act involving two partners. Because its unit of analysis is such a whole and because this whole is a process of action, I will say that Mead's ontology is characterized by *action holism*.

Methodology

In addition, for Mead "social behaviorism" denotes a methodological commitment to a focus on observable conduct, but it is not limited—as is behaviorism—by the avoidance of the inner or mental phase of conduct. Hence, in addition to acts organized into processual social wholes, Mead postulates unobservable states of disposition that he calls attitudes. When an attitude is activated, a feedback relation between the brain and the other parts of the organism occurs in such a way that a certain form of behavior occurs. Thus, a control relation is involved that is, using a more recent idea, "cybernetic" in character: the attitude guides the behavioral movements into realization of some act that the attitude "represents" in a latent state.

Mead's Evolutionary Theoretical Model

Finally, we come to the application of the framework to the problem of the explanation of how the self, as a form of process, arises in the world. Here we have to distinguish two different versions of the problem.

One version is what I believe is Mead's key problem, based on his participation in the philosophical tradition: How can the self, understood as the reflexivity of the human consciousness relation, be defined and explained in terms of an evolutionary and naturalistic worldview? This is one aspect of the problem of understanding human evolution. The other problem is how one *more* self arises in the world populated by human self-conscious organisms. This latter problem is one aspect of the problem of

understanding socialization. My analysis will give primacy to the first version of the problem.

According to Mead's evolutionary theoretical model, there is an emergent ontology: mind, self, symbol and institution are co-evolutionary emergent aspects of social acts. The argument places special emphasis on symbolic communication as the key to this emergence. Human social acts employ significant gestures or symbols: those that have the same meaning for each of the interactants. This meaning is implied in the interaction process (i.e., the unfolding of the social act). The four co-emergent aspects of human social acts, then, are given an interpretation as follows:

- *Symbols*: significant gestures in the context of social acts
- *Institutions*: common attitudes that control behaviors in social acts
- *Self*: reflexive consciousness
- *Mind*: thinking as communication with oneself using symbols

Mind, self and institutions presuppose symbols, so in a sense the emergence of the capacity for common meanings in the interactive nexus is the key to the evolutionary model. But common meanings imply that in some sense one organism can take the standpoint of the other toward its own conduct. Thus the capacity for adopting an "outside perspective" is the key to the co-evolutionary process. The dynamic consciousness relation now becomes ramified into the communication relation, so that thinking arises as communicating with the self, not just having an awareness of oneself as something in the world. And this communication is the foundation of institutions and the emergent objects implied in them that are designated by symbols. For instance—and here I will use some notation from a formal approach treated in Chapter 12, namely, words in angled brackets refer to institutional categories of actors or objects—in the judicial institution called a jury trial, there are *social objects* categorized in terms of such symbols as <judge>, <jury>, and <defendant>. This superadded feature, relative to the social act without symbolic content, implies a capacity for highly organized social acts. Each actor in the action process has her conduct under the control of the institution (i.e., the shared attitudes that are activated in the generation of the conduct associated with the positions). But, in a similar way, the setting of the trial institution includes definitions of *physical objects* such as <the bench>, appropriate for the spatial position of an actor defined as an instance of <judge>, as well as defined cultural objects, such as <statute>, appropriate to the trial situation.

The use of symbols to designate types and instances of objects, then, is a key feature of institutionalized social action. Anticipating a later development in sociology and in this book, let me indicate that this point of view is built directly and formally into the generative structuralist strat-

egy—set out in Chapter 12 as a type of synthesizing approach in theoretical sociology—that draws not only upon classical foundational statements such as Mead's but also upon postclassical developments that extend and refine them. In this context this refers to the subtradition of symbolic interactionism, both in terms of the postclassical methodological directives of Blumer (1962) that are intended to implement Mead's ideas and also the more structural perspective set out most notably by Stryker (1980).

Returning to Mead's ideas, we can add that because of the mind aspect of institutionalized social acts, the actors communicate with themselves prior to or in the course of exhibiting overt conduct. They can instruct themselves to activate the relevant attitudes that govern their behavior and in selection of particular acts, where options have been symbolically defined, they can communicate with themselves about the possible outcomes. In this way, thinking becomes a key ingredient of institutionalized social acts, and this presupposes that each actor has reflexive self-consciousness.

Mead explicates some of the details of his theoretical model by adopting the subjective point of view of the self-conscious actor. For such an actor, the world consists of "me" and "others," both particular others (individual persons) and generalized others (groups and classes of people). "The I" is the subject for whom the world has this content of objects, each designated by some symbol structure. In other words, "the I" corresponds to the first term in the consciousness relation aCb, where b varies over the objects that "exist" for a in a given occasion, including a as an object in the actual world (the "me"). Since the self is a process, these terms are changing, albeit with continuity. For instance, I enter a classroom as the instructor. I am the instructor. Here "the I" is the cognitive subject and "the instructor" is "the me." Perhaps I lecture in such a way that I now see myself, taking the attitude of the students, as "a very competent professor." This is a transformation, with continuity, of "the me." But it only occurred because I acted as I did, thereby contributing to the production of the student's reaction. Hence, "the I" is an agent of self-transformation, although in conjunction with responses of others. Finally, "the I" of the immediate past is no longer the subject of self-consciousness but an objectified feature of the past world. In Whitehead's (1978 [1929]) terms, Mead's "I" is a feature of *subjective immediacy* in the actual occasion but that, like any other such feature, it can be *objectified* for a later such occasion in a stream of connected occasions comprising the life history of a person.

In sum, Mead's worldview involves evolutionary naturalism and, more generally, process philosophy. His theoretical framework is based on an ontology of action holism and a social behaviorist methodology. This framework is the basis for a theoretical model that attempts to address the problem of the self. It explains the self as one of four co-emergent aspects of social acts, as seen in evolutionary perspective and in the perspective of

action holism. The key element is the emergence of the symbol, implying the capacity to take the attitude of the other in a social act.

THE STRUCTURE OF MARX'S RELATIONAL PROCESS THOUGHT

The heritage of Marx's writings, with Engel, has provided sociological theory with much of its world-historical and normative-critical content, partly through a Marxian tradition and partly through non-Marxist traditions of macrosociology.[3] The centerpiece of the world-historical component of Marx's writings is, of course, the dynamics of capitalism. From the point of view of general theoretical sociology, however, this is a special case of a general theory grounded in the thesis that modes of production shape the institutions of a society and its culture. Marxian theory can accept the distinction between the general theory and the capitalist instance, but its worldview assimilates the general theory to its critical-theoretical orientation. Theory and practice are, in principle, unified. And practice means social action oriented to revolutionary change. But since the latter is to take place in the historical world of today or tomorrow, it presupposes the capitalist instance of the general theoretical ideas. Marxist thought must be admired for its synthesis of numerous strands of thought in the Western intellectual tradition, drawing upon the philosophical tradition in Germany, the political economy tradition in Great Britain, and the socialist tradition in France. Nevertheless, the spirit of Marxism is not fully consistent with the approach taken in this book. Thus, I abstract from Marx's synthesis that component that is of central interest for this book: the general theoretical component.

Marx's Process Worldview

Marxian theory, in common with the Meadian perspective, is based upon a process worldview. Hegel had initiated the strand of process philosophy that Marx drew upon and revised when he criticized Kant's conception of a priori categories. Such categories, Hegel argued, have to be understood as emergent in reality and not as static givens. The entire universe is historicized. Internal "contradictions," moreover, propel change in a dialectical process. The problematic feature of the argument, for Marx, is that Hegelian philosophy gives ideas a primacy in evolution in an unreal way. Instead, Marx adopts the standpoint of evolutionary naturalism also adopted by Mead. This alternative accepts Hegel's historical view of the world—as to both actual things and concepts—but links it with the scientific worldview emergent in the nineteenth century in which human phenomena are located within the broader framework of natural evolution.

Marx's Theoretical Framework

As applied to human beings and society, Marx's evolutionary naturalism is specified further as historical materialism in which the foundation of society is its "mode of production," a concept central to Marx's theoretical framework.

Ontology

The ontology of this Marxian framework treats society as a complex of social relations among social individuals. This primacy of relations enables Marxian thought to avoid the unreal dichotomy of "the individual" versus "the society." There are no real individuals standing outside of and prior to the relational nexus: each becomes a specific individual in and through relations to others. Nor is the society something standing outside of and above the complex of social relations. Avoiding this double "reification" is an important feature of Marxian ontology.

To articulate the social relations to a material basis, the concept *mode of production* is introduced. Modes of production vary in social time and space; even a single national society, for instance, can exhibit more than one mode of production, although one mode may be dominant. Any mode of production is composed of forces of production (means of production and labor power) and social relations of production (based on the distribution of control over the means of production). From the point of view of historical materialism (Cohen 1978) the social relations of production form the economic basis of a society. The "superstructure" of noneconomic institutions and ideas arise out of the economic basis and act back upon it. For instance, laws are not given but are human social creations. Hence, a normative idea's chance of becoming a law varies with the organized power of the individuals supporting that idea. For Marx, the ultimate basis for such power is position in the social relations of production. And those in similar positions form a social class. When such a class organizes and promotes its interests, it puts the existing social relations of production in a legal form that legitimizes them. De facto control is then "ownership." Of course, social classes are only aggregates of similarly located individuals until they organize and the likelihood of organization increases with conflicts among classes. But such conflicts are intrinsic to the class structure—the array of classes associated with a mode of production—rather than incidental.

Let us examine this last point as an illustration of the relational process point of view in Marx's theory. The social relations of production are definite relations among definite individuals. Consider a hypothetical liberal capitalist example. In a given society, there are a certain number of factories. In each factory, there is a set of individuals standing in social relations. These relations can be defined as follows:

R₁: *a* owns the means of production used by *b*
R₂: *a* buys the labor power of *b*
R₃: *a* gives orders to *b* (with respect to production)

It is individuals standing in a conjunction of the three relations,

$$a(R_1 \text{ and } R_2 \text{ and } R_3)b$$

that defines *a* as owner-manager and *b* as worker. Then, considering all the actual and potential such factories, any such *a* is a member of the owner-manager class and any such *b* is a member of the working class. Hence, the classes are a structural feature of the society.

Marx presupposes that this composite relation is one of intrinsic opposition of interests because owner-managers are oriented to making a profit through the creation of surplus value (i.e., getting more out of the workers than paid for in wages). But this opposition may be only latent rather than manifest. Struggles to determine the length of the working day and other aspects of the work situation provide the concrete occasions of potential or actual mobilization of class members to transform from a class "in itself" to a class "for itself," in the sense of organizing to implement shared (class) interests.

Methodology

Marx's methodology applies the process worldview in which any actuality is "a synthesis of diverse determinations" (Sayer 1989: Ch. 4), a concretion or "concrescence" in the terminology of Whitehead (1978 [1929]). Therefore, a theoretical model, to be explanatory, must show how this concretion occurs: it must mirror the actual process in a *process model*. Today, far more than in Marx's day, the formal tools of such an approach are more elaborate and more widely known, even though analytical Marxists have been slow to adopt them, as pointed out by Mayer (1994: Ch. 10).

By adopting the social relational concept of society, Marx's methodology achieves an integration of the two frames of reference discussed in Chapter 1, the actor-situation scheme and the system-environment scheme, yielding a social action system mode of analysis. First, actors are individuals or organized collections of them. Any such actor is "located" in the sense of occupying a position in the social relational complex and that actor's situation includes other actors in their positions. The analysis of action processes is thereby structural. Second, the society is treated as a system of action of actors standing in such social relations. For instance, "class struggle" is decomposable as a concept into a variety of manifestations of conflict between classes, including not only direct economic clashes but also political battles for control over state resources. Changes in social relations

are the implied focus of the dynamical social action system model in the Marxian context: change in who controls the various forces of production and who gives orders to whom. Analytically, productive technology is treated as part of the environment of the dynamical system. Thus, it is exogenous to society and a systemic relation between the technological parameters and the social relational state description is called for. In some modes of production, innovative action is unimpeded so that in such a system the controlling technological parameters may change through feedback from the system. Assuming a social action system or integrated framework of action and system, such systemic language has to be grounded in an action-situation frame of reference so that the system-environment relationship is explicated and explained in terms of the actions of actors in social situations where the actors are connected through social relational processes.

Marx's Theoretical Model of Capitalism

Marx's central problem, not withstanding the general theoretical framework just sketched, is world-historical. In this own phrase, the problem is: What are the "laws of motion" of capitalism?

In my analysis of the structure of Marx's theory in terms of the general philosophical model depicted in Figure 1 of Chapter 1, the answer is given by constructing a Marxian theoretical model. This means applying the Marxian framework to propose a theoretical answer to the problem. The framework is not instantiated to any particular mode of production and hence is "ahistorical" in its conceptual structure even though the abstract concepts are shaped by a relational process worldview. The theoretical model, by contrast, is an instantiation of the mode of production concept to capitalism. Moreover, to be faithful to Marx, the instantiation is not to capitalism in some relatively minor realization in history but to capitalism as the dominant mode of production in the societies of the modern world. In Weber's terms, the instantiation is to "modern rational capitalism." Given the earlier discussion employed the early ("liberal") form of modern rational capitalism as an example, I need say only a little more about the theoretical model.

First, the historical character of capitalism, as understood by Marx, implies that if its inner structure of social relations changes, so must the theoretical model. For example, whatever Marx may have anticipated or not anticipated in his own analysis of capitalism, the separation of the ownership from the managerial function in the twentieth century represents a change in the social relations of production. In terms of relations R_1–R_3 described above, some a's who give orders to some b's (R_3) are not in a position of owning the means of production (R_1). Productive property remains privately owned, however, so this is still capitalism. Theorists such

as Habermas propose distinct historical phases of capitalism, implying some variation in the Marxian theoretical model. But, in turn, this would seem to imply that the preferred Marxian theoretical model account for these transformations of capitalism. In that sense, there would be one theoretical model of capitalism, but with the dynamics of capitalism explaining its own observed transformations. Whether this is really possible is an open question that takes us to the next point.

Second, the emergence of analytical Marxism in recent decades (Mayer 1994) can be seen as an effort to import into the Marxian methodology those analytical tools of theoretical model-building that have proven useful in modern social science (e.g., mathematical models) (Roemer 1986). Such mathematical models, especially if put into the form of a dynamical system, may be able to approach the problem of historical changes in capitalism mentioned just above. Analytical Marxism also imports empirical methods of modern social science into Marxism. Thus, with this development, the diagram of interrelations of components of a theory tradition (Figure 1, Chapter 1) is fully exemplified, including the contrast of hypotheses based on the theoretical model with relevant data (Wright 1986).

In sum, Marx's worldview is another form of the process worldview. Social relations and action processes based on them form the core of his ontology. The fundamental processes are based on the social relations of production and are linked to technological developments. The methodology calls for the construction of dynamic models that mirror a conception of actual things as determined by diverse elements becoming synthesized in novel events and relations. The fundamental problem of the theory is to explain capitalism, giving rise to a dynamic theoretical model-building activity now informed by analytical and empirical tools of modern social science and guided by the idea of comparing the logical consequences of theoretical models with relevant data.

DYNAMIC NETWORKS AND THE STRUCTURE OF DURKHEIM'S THOUGHT

Durkheim's Worldview and Theoretical Framework

In the characterization of Marx's philosophical viewpoint, a similarity to Mead was noted in terms of a shared version of the process worldview, namely evolutionary naturalism. This same standpoint characterizes Durkheim's worldview, reflecting the wide-ranging impact of evolutionary thought in the initial phase of sociological theory in which the universe— and human society within it—is understood as a process of the "becoming" of actual things in a world of incessant change.[4]

Durkheim's naturalism is evident in the way in which he tries to conceptualize mind and society. In his essay "Individual and Collective Represen-

tations," he deftly formulates an interesting analogy (Durkheim 1974 [1898]: Ch. 1) that I will translate into the following modern terms. The brain of the individual organism is a network of neurons. The dynamic relationships among these neurons gives rise to an emergent level of reality. The new level is described in terms of mental facts, not electrochemical or any other physical facts. So there is a "material substratum," to use Durkheim's term, consisting of the network of neurons and the emergent level of reality, the mind as understood in terms of mental facts. Psychology, as a science, is the study of such mental facts, treated as phenomena in the world, as "things," to use Durkheim's term. Psychological explanation of mental facts is in terms of other such facts. No single neuron, taken in abstraction from its embeddedness in a neural network, could be the basis for mind—this requires the element of dynamic association in a network of neurons.

Similarly, Durkheim argues, society has a material substratum: a network of human organisms, each with it brain and hence with a mind. The emergent reality is society as understood in terms of social facts. Sociology, as a science, is the study of such social facts, treating them as phenomena in the world, as "things." Sociological explanation of social facts is in terms of other such facts. As in the case of neurons and the mind, no single human organism, abstracted from its embeddedness in a social network, could be the basis for society—this requires the element of dynamic association in a network of human organisms.

In this way, Durkheim formulates the ontology of his general theoretical framework. It consists of social facts. These are recognized by their externality to any one individual human being, since they are emergent in the social network of associations among a collection of human beings. In addition, such a fact extends throughout the given network and constrains each individual within it. The key type of social fact is that which is instituted by the collectivity as a common way of thinking, feeling or acting. Such a social fact or complex of such facts is an institution. In turn, one key example of an institution is the language of a community, an enduring social network of associated individuals.

The use of language as an exemplary institution makes clear the distinction that Durkheim makes in trying to set out his ontology and methodology. Namely, describing and explaining institutions differs from describing and explaining local realizations of them, in time or space. An explanation of language is not the same as an explanation of some particular utterance within it. The latter may draw upon particular motives rather than social facts in its explanatory efforts. Similarly, to explain economic, political and other institutions is not the same as explaining particular events that presuppose them. When a particular market exchange takes place, the explanation takes a form different from the explanation of the market as an institution. When a particular president of a country acts, the

explanation of the act is different from the explanation of the presidency as an institution. When a pair of individuals marries and forms a family, the explanation of it is not the same as the explanation of marriage and family as institutions. In short, in all such cases, the task of sociology is to describe the social facts—not the particular realizations that presuppose and "realize" them—and to explain these facts rather than the particular realizations.

The social network—the concrete individuals and their dynamic associations (interactions)—is the material substrate for the emergence of institutions and other social facts. This is the foundation of Durkheim's ontology. But there is another aspect to the ontology that relates to mind. Each of the human beings in the network is characterized in terms of mental facts. But these facts are not all the same. Some of them have their origin in social association and are "representations" within the sphere of mind of aspects of the emergent social facts. They are acquired through social learning processes. But other mental facts are unique to the particular individual: *personal* ways of thinking, acting and feeling rather than *institutionalized* ways of thinking, acting and feeling. Thus, Durkheim argues, in any individual mind of a member of the social network, the interactions in the network deposit a certain quota of commonness to all the other members while leaving a certain "area" of the mind free for personalized or "individuated" modes of thinking, feeling and acting. The common part is "the collective consciousness" or "the common conscience," alternative translations of Durkheim's French terminology.

In setting out this ontology, Durkheim created a conceptual problem for general theoretical sociology. What exactly is it that is internal as distinct from external? Are these mutually exclusive things? Can a mental fact be social, a social fact be mental? I will return to this issue when I analyze ideas advanced in the postclassical phase of the tradition of sociological theory. Namely, both Parsons and Homans built upon Durkheim's ideas, but it was Parsons, rather than Homans, who tried to gain conceptual coherence in this respect through the idea that cultural patterns—analytically distinguished from psychological and social aspects of action systems—can be both *institutionalized objects of orientation for the actor* and *internalized modes of orientation of the actor*. Laudan (1977) tells us that advances in a scientific tradition occur through solving not only empirical problems, but also conceptual problems. This is one example of the latter sort of progress.

Durkheim's ontology includes a category of entities he calls "collective representations." One interpretation of this concept would be that it refers to the mental facts corresponding to certain social facts, representing the latter in the mind. On this interpretation, this is a new term for the collective consciousness component of the mind. Then the location of collective representations in reality may be said to be in the minds of members of the

community. But another interpretation is possible in which the collective representations have the property that they are entities that are socially created through the association of individuals in the particular network—in the form of symbols external to each of them. Then the location of such collective representations is not in the mind, but in the physical world as embodiments of common meaning. For instance, flags and monuments are collective representations of patriotism. Patriotism is a blend of common ways of thinking, feeling and acting: an institution (or a component of an institution) according to Durkheim's definition. The flag and the monuments are physical things that, for the members, symbolize those common ways of thinking, feeling and acting. Thus, according to this second interpretation, a collective representation of an institution or any other social fact is a cultural symbol of it. It relates to minds in that, although not itself literally a mental fact—the concept of a flag is not the same entity as an actual flag, for instance—it could not exist apart from the minds for which the physical object has the meaning socially assigned to it. In short, "cultural objects" or "cultural symbols" are emergent entities that presuppose a social network of dynamically associated minds.

With this interpretation, we have a threefold ontology: mental facts, social facts, and cultural facts (collective representations). The three are so closely connected that another set of conceptual problems for sociological theory is generated: What is the distinction between "social" and "cultural?" Are social things only particular types of cultural things? When we use the notion of system, what is a cultural system and how does it differ from but relate to a social system? And how do both of these relate to individuals or "psychological systems?" The principle that one element of progress in a theoretical tradition involves the solution of conceptual problems is relevant once again. We shall see that Parsons, in particular, attempted to solve this entire bundle of conceptual problems relating to the mental, the social and the cultural as he pursued the task of theoretical synthesis of strands of theory derived from the classical phase of sociological theory.

Durkheim's methodology is based on his notion that to explain social facts, one must invoke other social facts. Otherwise, he thinks, one is returning to the substrate and has lost one's bearings in terms of the pursuit of a particular scientific standpoint, the sociological standpoint. Sociological explanation, he argues, must distinguish two types of accounts. In one type of account, the explanation is addressed to what produces or causes the social fact to be explained. In keeping with his evolutionary naturalism and his focus on institutions, collective consciousness and collective representations, such causation deals with the genesis or "the becoming" of the institution (or other social fact) to be explained.

For instance, consider the thinking, feeling and acting that characterizes the members of a social network as forming a collectivity. The keynote is

a sense of common belonging. Each member thinks "I am an X," where X is the collective representation of the collectivity in the form of a name. Also, each has a certain feeling or sentiment connected to this symbol, a disposition to regard it favorably and, in some vague sense, as forming part of oneself. Finally, on particular occasions, some ritual form of interaction may be realized that reminds the members of these feelings. Hence, by Durkheim's definition, a collectivity is a particular type of institution in its own right. What explains such an institution? To explain a particular one such institution, some sort of historical account must be given. But to explain the general phenomenon, the very existence of this type of institution as it recurs wherever and whenever dynamic social associations take place, requires some general theoretical model. Thus, in this interpretation, one of Durkheim's key problems is to account for "groups" in this highly specific sense that is associated with his ontology. In recent theoretical sociology, Collins (1988: Ch. 6) has adopted ideas from the Durkheimian strand of classical and postclassical theory to propose a "ritual interaction chain" model to explain how such collectivities arise (see also Doreian and Fararo 1998). The model draws upon Durkheim's model of religion that is also emphasized in the "social creativity" interpretation suggested by Bellah (1973).

For Durkheim, sociological explanation involves a second type of account. In this type, the focus is on the consequences, not the genesis, of the social fact. In particular, for Durkheim, this means that we seek its *function*: the need to the satisfaction of which the social fact contributes. To be sure, he writes, this does not explain how or why it came into existence. So what does it accomplish? Does it even make sense to postulate "needs" for institutions? What entity "has" such needs? Can a network of human organisms have a "need"? Has Durkheim made an error, through his devotion to evolutionary naturalism, of assuming that such a network is a kind of organism that can have needs? So we have still another conceptual problem arising out of Durkheim's framework, this time out of his methodology. And, again, we will find that the postclassical synthesizers attempt to deal with the problem and that a contrasting resolution of the problem emerges: Parsons defends the validity of functional analysis while Homans comes to regard it as deficient in explanatory value.

Durkheim's Theoretical Problem of Morality

In the analysis thus far, I have remarked upon Durkheim's worldview and then examined his theoretical framework in terms of its ontology and methodology. I have mentioned one key Durkheimian problem: to account for the collectivity, defined as a particular type of institution.

Another Durkheimian problem, closely related to the collectivity problem, concerns morality as a type of social fact: the existence of moral values

and norms as emergent aspects of dynamic associations in social networks of human organisms. Durkheim's treatment implements his worldview. Morality is not something outside the realm of science. Rather, the existence of moral values and norms is "natural," that is, emerges in social associations as an element of spontaneous order. Thus, morality consists of "moral facts" or "moral rules"—particular values and norms of a community. As such, moral facts are a subset of social facts.

Durkheim's explanatory account of morality draws upon his evolutionary naturalism and his ontology, namely the common conscience evolves from one form to another due to changes in the division of labor in society. The society with a low division of labor is characterized by a strong and voluminous common conscience, leaving little space for individual choice as to thinking, feeling and acting. According to his argument, the modern type of society with its high division of labor is characterized by a weaker and less extensive common conscience. This leaves far more space for individual choice: "individuation" occurs. The first type of society is a strong collectivity in the institutional sense described earlier: the common sense of belonging, with its thinking, feeling and acting components, is strong. But with the change in the division of labor, diversity of thinking, feeling and acting increases and reduces the strength of this collectivity element. What then holds the society together? Durkheim proposes that although the division of labor did not increase *in order* to produce an alternative mode of holding society together, it has that *consequence*. In Durkheim's own view, this means that the social function of the division of labor is to produce a new form of social integration or solidarity.

This account will be revised in the postclassical and recent phases of general theoretical sociology. For instance, Collins (1988: Ch. 6) treats moral sentiments as produced and reproduced in the same interaction ritual chains that generate and maintain groups. The key point here is that Durkheim's account serves to define another key problem for sociological theory: accounting for the genesis and functioning of moral rules. The problem, as we have seen, ties into the problem of the collectivity as an institution and hence into the nature and modes of social solidarity.

Interrelation of Three Orientations in Durkheim's Sociological Theory

So far, my discussion has addressed some of the key aspects of Durkheim's general theoretical sociology. A few words need to be said about the other two orientations comprising the comprehensive tradition of sociological theory that were discussed in Chapter 1. Namely, I turn to world-historical and normative components in Durkheim's writings and show how they relate to his general theoretical ideas.

The world-historical viewpoint permeates Durkheim's writing in the

form of the social evolutionary perspective. It is particularized under the theme of increasing differentiation. The general theoretical element is the analytical relationship between social differentiation and social integration, but in its world-historical application all the emphasis is on the social fact that the differentiation has been increasing. Thus, the world-historical viewpoint constitutes a gain in empirical relevance at the cost of a loss of generality and a confusion between an empirical generalization about a trend in history and an analytical principle or law.

To appreciate the normative component of Durkheim's approach, it is important to note a point not yet discussed about his framework. Durkheim presupposes that the concept of equilibrium can be employed in the analysis of states of social facts emergent in social networks. Society is a system in which the parts adjust to each other and to their environment. This is the system-environment frame of reference that Durkheim presupposes. Because of the analytical assumption that a system can be described in terms of equilibration of parts, *disequilibrium* becomes one of his basic ideas in the analysis of modern society. From the general theoretical standpoint, a society—in the sense of a network of dynamic associations among human organisms—is a system and this means that the concept of equilibrium states is relevant to its analysis. But empirically, a *particular* given system can be out of equilibrium for extended periods of time. Thus, in the world-historical application of the system-environment frame of reference, what Durkheim is saying is that modern societies are *not* in equilibrium. They have equilibrating processes in the sense of mutual adjustment of parts to each other and to the environment, but as a matter of historical fact they are in a state of disequilibrium.

The basic empirical point is that the social integration to be brought about by the division of labor through the emergence of moral regulation of differentiated activities has not yet occurred. Thus, the increase in the division of labor has produced a society out of equilibrium in the sense that the various components of the state of the society are not fully adjusted to each other. In particular, the moral rules that define and regulate economic functions are not yet in place to control such activity. The result is evident in the existence of forced division of labor, Durkheim's element of recognition of class conflict in industry that he attributes to the absence of appropriate moral regulation. Anomie is another aspect of disequilibrium. The various industries have been cut loose from traditional restraints, so that capitalistic activities are insufficiently regulated by moral rules. Still another aspect of disequilibrium is a component of the increasing suicide rate that is due to a consequence of individuation: increased egoism.

Thus, Durkheim's normative ideas closely link to his general theory. Normatively, he tends to think as a physician who realizes that his knowledge is limited and that, in all likelihood, the organism itself, in its own natural processes, will return to equilibrium. Thus, Durkheim expects a movement

toward an equilibrium of morality and the division of labor. Morality will catch up with the changing division of labor: occupational ethics will develop in various spheres to fight off the disease of anomie; moral education will serve to combat the illness of egoism; the state will act to assure greater justice and equality of opportunity. In short, the institutions of society will become equilibrated and the new "organic" type of society will come into being in which individuals are morally respected and functionally specialized contributors to the collectivity. Members of society will make this happen as they respond to the changing conditions. The sociologist, as an applied scientist, can help in the transition to the new society by the analysis of the current state of ill health and by suggestions of actions that may help foster the changes to be expected.

In sum, in this analysis of Durkheim's writings as a central part of the classical phase of sociological theory, I have applied the ideas of Chapter 1. He shares the worldview of Mead and Marx: evolutionary naturalism. His theoretical framework features a highly explicit ontology that posits social facts, and in particular social institutions, as the key entities comprising emergent social reality. The framework also includes an explicit methodology that is based on the thesis that sociological explanations entail two types of accounts, one dealing with the genesis of the social facts to be explained, the other with their consequences for society, their function. His key problems are: How do we explain, in general terms, how collectivities and moral rules arise and function? Durkheimian theoretical models invoke notions such as ritual interaction and division of labor. There will be more to say about such models in later chapters, first in dealing with the postclassical theorists Parsons and Homans, and then with two strategies of theoretical foundation work in recent theoretical sociology.

WEBER'S SOCIAL ACTION FOUNDATIONS OF SOCIOLOGY

In the work of Max Weber we find an enormous range of sociological thinking in terms of world-historical analysis. Kalberg (1994) has provided the most thorough reconstruction of this component of Weber's writings. His approach shows that Weber can be interpreted as a kind of model-builder, constructing historically specific explanatory accounts relating to the interconnections of economic, political, social, and cultural aspects of the topics he treats. In keeping with the objective of this book, my analysis deals primarily with the general theoretical level of Weber's thought.[5]

Weber's Process Worldview

Clearly, the worldview we find in Weber's writings postulates a world of infinity complexity. It would not be too far from the truth to treat We-

ber's views as in agreement with the Whiteheadian idea that any actuality has the character of an event. This implies that its concrete composition in time and space consists of other events of lesser spatial or temporal scope and that in turn it is embedded in further events of wider breadth in space and in time. This depth of composition and breadth of embeddedness imply that our knowledge of actualities must be understood as necessarily abstract: we cannot possibly give "exhaustive" analyses. Thus, selection is required as to aspects treated and, in turn, this implies a perspective on the actuality as to what it is that we regard as significant. For Weber, this means value-relevance in the choice of topics for scientific study, although the mode of study can be objective in the sense of standards of evidence and the like. In the context of the over-time elaboration of general theoretical sociology, I maintain, the most relevant values are internal to it as a scientific tradition. In Chapter 1, for instance, I set out four key problems in the theory of social structure. Contributions relevant to these problems have cognitive value within the tradition and provide general criteria for choice of topics for empirical and theoretical research. If this internal source of value-relevance is denied, there is the liability that general theoretical sociology becomes too tied to historical particulars or to normative concerns in its specification of problems.

Weber's Synthesizing Approach to Foundational Issues

Weber's contribution to the foundations of sociology can be interpreted as a response to several key issues that were posed in his intellectual environment and that remain with us today. Although framed by Weber in terms of social science as a whole, my analysis specifies the issues to the context of sociology. Three issues, in particular, serve to indicate that Weber's position is a *synthesis* that reconciles but subordinates each of two contrasting positions on each issue. In what follows, I will employ the context of these foundational issues to also set out some of the key aspects of Weber's theoretical framework and theoretical methods.

First, what should be the aim and method of sociology? One answer defines sociology as an explanatory science in which "explanation" means providing a causal account. A contrasting answer defines sociology as an interpretive discipline, in which "interpretation" means explication of subjective and cultural meanings. Weber's own answer is brilliantly framed in his well-known definition of sociology as a science that engages in the interpretation of social action in order to provide causal accounts. The concept "action" specifies a fundamental element of Weber's ontology. Human behavior is action when it is analyzed from the standpoint of its subjective meaning to the actor. The world consists of events and some of these events are those involving the human body. A voluntary body event is a behavior. But a behavior can *mean* different acts, from the standpoint of the actors.

The very term used to describe the behavior is, in most circumstances, an act-term (e.g., "A voted yes" in the context of A's raising her hand in a "show of hands" on an issue "put to a vote"). Here, "raising her hand" is the voluntary behavior, and "voting yes" is the act from the standpoint of its production by the actor. To interpret the raising of the hand as an act of voting in the given context is what Weber means by *observational understanding*. But interpretation of subjective meaning is only necessary, not sufficient, for the definition of sociology as a science. To give a causal account of an act is to ask *why* the act occurs. Why is it that A is voting "yes" rather than "no?" This is *explanatory understanding*, in Weber's terms, and involves human motivation.

Two implications of this foundational element for sociological theory should be noted. First, what is implied by the ontology of action—and in particular, social action as action oriented to the actual or potential conduct of others—is that the subject matter of sociology consists of complexes of social action. For instance, Mead's "social act" is an instance of such a complex: an organized nexus of actions, each oriented to others in that nexus.

Second, what is implied is that theoretical models in sociology should be based upon theoretical methods that implement the ontology of social action complexes. This means that models of even large-scale and seemingly impersonal entities should be based upon the principle that in every case we are analyzing a complex of social actions. And this implies that an actor-situation frame of reference must be employed in the construction of theoretical models even when these deal with complex systems. An issue arises about the appropriate theoretical methods and this constitutes the third issue defined below.

But, first, a second foundational issue is: What are the key causal determinants of social phenomena? One response, as in Marx's theory, points in a sociological materialist direction to the economy. The contrasting response points in a sociological idealist direction to culture. Taking religious ideas as a key instance of culture, if Weber were a sociological idealist his famous Protestant Ethic thesis would be that the spirit of capitalism could be explained by the rise and then secular transmutation of this antecedent religious ethic. But that is not his argument. Rather his argument is that this religious ethic is one significant element in a complex of conditions accounting for the rise of rational capitalism in the West. On the other hand, if Weber were a sociological materialist, he would interpret human history as primarily a story of class struggle rooted in modes of production. He certainly makes conceptual space in his framework for class relations and conflicts, but insists on the significance of status groups with their own culture. Thus, Weber subordinates each causal orientation to a more comprehensive and synthesizing perspective. For some explanatory accounts, economic causes may predominate; in others cultural causes may take pri-

macy. The *general* character of such causal models, however, does not assume that one or the other inevitably has primacy in every case.

We arrive at the third fundamental issue: What sort of theoretical methods are appropriate for sociological theory? If the second issue relates to economy and culture, this issue relates to economics and sociology. As a scholar trained in, and teaching, economics, Weber was acquainted with the rise of neoclassical economic theory (Swedberg 1998). This type of theory employed an action-situation frame of reference to explain market outcomes. Since a market is a complex of social actions, from a formal point of view neoclassical economic theory makes a successful transition (Coleman 1990) from the micro level of the acting individual in a situation to the macro level of the social action system of multiple actors. The approach is deductive and nomothetic. The neoclassical theorist uses the deductive method to postulate idealized producers and consumers—types of actors in types of situations—to logically derive theorems about market outcomes. The economic theoretical model of a market economy, then, treats this economy as a complex of economic actions of idealized actors. In particular, an idealized economic actor is treated as rational in a well-specified sense involving, for instance, consistent preferences.

By contrast with this deductive-nomothetic response to the issue is the response of many of the contemporaries of Weber who were, like him, scholars in the area of economic history. For them, the idiographic approach was essential. Because human history consists of events involving concatenations of particular acts by particular individuals in unique circumstances, any explanatory account must be framed directly in terms of *those* actors in *those* situations. The economic historians and the economic theorists could share the actor-situation frame of reference and the ontology of action complexes but still part company on the issue of theoretical method. In the subsequent history of economics, this division would remain in the form of neoclassical theorists who ignored the historical concreteness of economic phenomena and institutionalists who decried the use of abstract and idealizing deductive models.

Weber's response to the issue is his ideal type methodology. There had been considerable debate within the scholarly community of Weber's time concerning the methodology of economics. Weber's use of the "type" concept may have been drawn from the methodological writings of Menger (1996 [1883]).[6] For Menger, a "type" is contrasted with a concrete particular. "Tree" is a type concept and the particular is the entity perceived and treated as a tree. Thus, "types" are built into the conceptual structure of language. However, economic theory has to construct its *own* type concepts and apply them to relevant particulars. "The consumer" is such a type. Moreover, as endowed in the theory with certain properties, this type is not identical with the concrete human being treated as a consumer. That is, the type concepts of economics and any other science are idealizations

or ideal types. For instance, the concept of a competitive market economy is an idealization of a real economy. In physics, one can say that "a two-body gravitational system" is an ideal type concept that applies to such particulars as the earth–moon system and the earth–sun system. Here, too, because other forces (from other objects in space) are neglected, the relationship between concept and reality involves a model of the real system that provides a more-or-less good approximation to it.

Note that the term "concept" in these economics and physics examples refers to a complex conceptual entity that is specified in a process of theoretical model building. And this process has a deductive core: assumptions are set down that define the type of system in idealized terms and then deductive logic (including mathematical reasoning) is applied to describe further features of this system. The peculiar and important feature of this type of usage of the notion of "ideal type concept" is that it thereby includes what in this book are called theoretical models.

I believe that this idea permeates Weber's foundations of sociology. If social action is its subject matter, this requires that ideal type concepts applicable to this domain be defined. As in the case of economics and physics, at least some of the ideal type concepts of sociology could be very complex internally. They could be specified by axioms or assumptions that specify the nature of the social action complex under analysis, with derived further properties.

This interpretation of Weber's ideal type methodology is based upon the approach defined in Chapter 1 of this book. It includes the use of deductive theoretical methods oriented to the production of idealized theoretical models whose application to empirical cases yields a contrast of theory and data. However, I am not claiming that Weber's own uses of the ideal type methodology exhibit any deductive component. Generally they do not. For instance, his ideal type bureaucracy is specified through a list of properties, corresponding to a set of axioms or assumed propositions. But he does not attempt to state these in such a way as to derive logical consequences. Yet the distinction remains between statements about the ideal type bureaucracy and statements that contrast this model with properties of actual organizations.

To return to the third issue to which the ideal type is Weber's response, he incorporates into this idea another variant that is closer to historical particulars. Namely, some of his concepts, such as "Protestant ethic" and "the spirit of capitalism" are ideal types of historical particulars, linked to each other in models of historical processes. They arise by abstraction from a more complex and variable content that the analyst is aware of. The concept reduces this complexity and enables analysis to be undertaken in a rigorous mode where, once again, there is a distinction between propositions within the model and propositions about the relationship of this

model to the historical particulars. As I indicated earlier, Kalberg (1994) sets out this aspect of Weber's work in great detail.

An important debate in recent sociological theory concerns rational choice theory in sociology. I will deal with the issues in this debate later in the book. At present I note the following remarks about the ideal types of action that Weber specifies. They do not constitute a classification of human actions. Rather each is a member of a family of models: rational-instrumental action, value-rational action, affectual action, and traditional action. Weber specifically recommends the use of the rational-instrumental type for first approximations. Its role in the models of neoclassical economic theory suggests how fertile, in the deductive sense, such a type of action model can be. At the same time, Weber notes that the value-rational type is of great significance even though comparatively few concrete actions are well approximated by it.

In sum, Weber's contribution to the foundations of sociological theory implies a process worldview in which the actual world is a spatiotemporal nexus of events of infinite complexity. Scientific knowledge is based on explicit abstraction and employs idealization to define and study the properties of models. For sociology, the events of interest are those that involve complexes of social actions. These events are behaviors with subjective meaning, thereby calling for interpretive understanding in order to provide causal explanations. In formulating a model, neither a one-sided sociological materialism nor a one-sided sociological idealism is adequate. Both economic factors and cultural factors are intertwined aspects of any complex of social actions and we cannot say in advance which factors will have causal priority. To anticipate the language of Talcott Parsons to be treated later in this book, economic elements and cultural elements are analytically interdependent.

FORM AND PROCESS IN SIMMEL'S FOUNDATIONS OF SOCIOLOGY

Simmel's Process Worldview and Theoretical Framework

As we shall see in the next chapter, Alfred North Whitehead, the primary twentieth-century process philosopher, wrote of a universe of "concrescent actual entities," each a dynamic relational synthesis of other actualities that are "prehended" in terms of some their aspects. Similarly, for Simmel, philosopher as well as sociologist, the universe consists of concrete unities—concrescent actual entities—that are processes of synthesis. Such a synthesizing process has both form and content. Living processes, psychological processes, and sociation processes are three exemplifications of the form versus content distinction in the context of dynamic synthesis. In these remarks, I am interpreting the worldview presupposed in Simmel's socio-

logical writings as a process philosophy, albeit one that is intertwined with neo-Kantian modes of thought.[7]

For Simmel, *sociation* is the process of interaction that generates a synthesis of mental processes of distinct individuals. Such a synthesis is not to be identified with any presupposed harmony. Opposition and conflict are intrinsic to the concrete unity. The corresponding psychological unity of an individual shows how true this is, since the experience of a feeling with both positive and negative components, liking and disliking, is not uncommon. Similarly, the unity of a nexus of interacting individuals is not without its interpersonal components of attraction or liking and repulsion or disliking accompanied by agreement and disagreement, and other oppositions that nevertheless are constitutive of the concrete unity forming a group. Indeed, as we will be discussed in Chapter 10, the postclassical formulation of social psychological processes of balance leads to an equilibrium deduction in which there exists a pattern of some opposition in a group. In other words, a social equilibrium or steady state is not necessarily, or even usually, one involving consensus and harmony.

The philosophical level of the idea that a concrete entity is a unity of opposites—an idea also at the core of Hegel's idealism and Marx's materialism—may be termed the *dialectical process worldview*.

Ontology

Simmel developed some of these ideas in response to idealistic historicists who argued that the very idea of sociology is based upon a conceptual error; namely, there is no "society" over and above historically located individuals and their actions. Hence, they concluded, there is no specific subject matter for a "science of society." Simmel's response was to explicate the notion that "sociology is the science of society" by arguing that interaction *is* society, not its cause or effect. Thus, society exists wherever there is interaction, with its form and content varying. Theoretical sociology—formal sociology, in Simmel's terms—abstracts from the content, preserving the form. Its job is to study the pure forms of interaction. It is a kind of geometry of society. Just as the same geometric shape can be realized in different material embodiments, so too the same social form can be realized in different psychological contents involving purposes and interests. For instance, competition is a form of interaction that can be realized in sports and in business. In addition, the same psychological contents can be realized in different social forms. For instance, economic purposes are realized in both cooperation (in production) and in competition (among producers).

Simmel's ontology, then, posits a world of individual human beings and their interactions. Since society is the interaction, individuals are in a certain sense outside society as well as members of synthesized social unities. They are outside in that they are synthesized unities in their own right, each a complex of mental processes with their own forms and contents. The task

of sociology is not the study of pure forms of psychological processes. These are not in the domain of society. Its task is the study of the pure forms of social interaction processes that connect individuals: exchange, conflict, cooperation, competition, superordination, sociability, and so forth.

Methodology

But what is the methodology of the study of pure social forms? Is formal sociology—general theoretical sociology—like geometry in that it defines concepts of pure forms and studies by deductive analysis? Although Simmel suggests the analogy, there is no hint in his writings of the formal element in the present-day sense of symbolic logic and mathematics. Interestingly, as in the case of Weber, we find here that key insights are advanced that provide a foundation for later development. In the case of Weber, I suggested that his general ideal type methodology implies the construction of idealized theoretical models using deductive analysis but that he himself truncated this approach by specifying lists of properties without deductive analysis. In the case of Simmel, I suggest that his notion of a formal sociology that studies pure forms of interaction implies the use of symbolic logic and mathematics in formal representation but that he himself limited his approach to verbal discourse. Such formal methods are of increasing importance in recent theoretical sociology, as will be apparent in Part III of this book.

Simmel's Forms of Sociology

Simmel describes three forms of sociology, as do I, and there is some similarity as well difference. Simmel's formal sociology corresponds approximately to one key aspect of what I call the general theoretical component of sociological theory. What I call the world-historical component of sociological theory he calls general sociology. Simmel's third type of sociology is what he calls philosophical sociology, defined as having a focus on the a priori presuppositions of formal and general sociology. For instance, his famous essay, "How is society possible?" develops a Kantian perspective in posing and addressing that question. In my model—following Laudan (1977) in this respect—philosophical presuppositions would be part of an explicated worldview.

In terms of my category of the normative-critical orientation in sociological theory, Simmel's normative concern is the problem that cultural complexity imposes on the cultured individual in the normative sense. Objective culture, as thematized in present-day discussions of postmodernity, is so vast and so heterogeneous that the possibility of arriving at a subjective synthesis that is life enhancing is diminished. One example is in our own domain: the case of sociological theory as one body of such objective

culture. Its sheer volume as well as the diversity of approaches it exhibits can give rise to alienation on the part of those who might hope to attain their own subjective synthesis of it in order to enhance their scientific and critical grasp of the social world. This book is one response to this alienating situation. It admits the postmodern condition of culture, including the culture of sociology as manifested in the state of sociological theory. But it attempts to present a perspective in which unifying efforts, albeit partial and incomplete, can counteract and balance the strong forces of proliferation that characterize the production of sociology in our time. Hence, perhaps with inner tension, the perspective taken in this book grants a certain validity to postmodernists such as Seidman (1991, 1994) but does not accept their approach to sociological theory.

In sum, Simmel is a dialectical process philosopher whose formal sociology is part of the classical foundations of general theoretical sociology. Relative to the other classical writers, Simmel's conception of a component of sociology that defines and studies forms of interaction in abstraction from their contents is a lasting contribution to the tradition of sociological theory.

SUMMARY

In this chapter, one objective has been to analyze the classical phase of the comprehensive tradition of sociological theory within the context of the postulate that the founders shared a process worldview, although I recognize this is itself an idealized model of their concretely expressed views. The process worldview in its most elaborate and detailed form has not been fully explicated at this point. This will be one task of the next chapter where, among other things, the process philosophy of Alfred North Whitehead is treated in the context of the emergence of the synthesizing efforts of Homans and Parsons in the postclassical phase of the tradition. Nonetheless, aspects of that worldview and particular versions of it are seen in the works of the five writers discussed in this chapter. George Herbert Mead and Emile Durkheim present a version that I have referred to as evolutionary naturalism. Karl Marx and Georg Simmel employ a dialectical process worldview. Weber reveals his process worldview in his discussion of scientific work as necessarily entailing limited analytical schemes that deal with a dynamic concrete reality through idealizations.

A second objective of this chapter has been to employ the hierarchical model described in Chapter 1 and depicted in Figure 1 to analyze the classical phase of sociological theory. I argue that there exists a comprehensive tradition of sociological theory characterized by a process worldview and a series of evolving theoretical frameworks and theoretical models. In the postclassical phase of the tradition, the *generalizing synthesis* aspiration arises. In this chapter basic concepts and principles constituting the various

classical theoretical frameworks that enter into these synthesizing efforts have been set out. In the following brief summary, I emphasize ontology over methodology.

For Mead, the fundamental entity is the social act, defined as an organized interaction among multiple organisms. When the field of interaction gives rise to symbols then mind, self and institutions also emerge. "The individual," in the sense of a socialized organism with self-consciousness, is a consequence and not a presupposition of this emergence.

There is a parallel to these ideas in Durkheim's work. Especially in his later work on the sociological explanation of religion, Durkheim posits an organized social act—the ritual gathering—as the locus of the emergence and reproduction of group life. The discussion conveys a clear image of a material substratum of interacting organisms involved in a Simmelian form of interaction—ritual. Such a form of interaction, such a type of Meadian social act, is generative of group life. What is produced and reproduced in ritual interaction is a set of interrelated social facts, including the institutionalization of the collectivity (as a common way of thinking, feeling and acting as a distinctive supra-individual unit) and its symbolization.

Simmel applies his concept of form of interaction to the analysis of recurrent organized social acts that include a dialectical aspect. Conflict, domination, and superordination, among other such forms, are brought under this Simmelian analytical microscope. Society is interaction. The institution concept stressed by Mead and Durkheim is a form of interaction that abstracts from individual content but preserves what Berger and Luckmann (1966), drawing upon the phenomenological tradition (Schutz 1973), later call the "typifications" of the participants. Pure social forms such as ritual, conflict, and sociability, however, manifest a further abstraction by dropping any such particularity of reference. Sociological theory, at this general level of focus on forms of interaction (and their generative character), is general theoretical sociology.

Marx, obviously, also provides an explicit delineation of the material substrate of social life. Like Durkheim and Mead, his ontology is social: the self-conscious, language-using human individual is a social product. This implies that symbols and self arise in a natural evolutionary process grounded in interactions among organisms. The material basis for life has to be socially produced, and Marx's ontology thereby throws the theoretical searchlight on the mode of production as featuring social relations of production and associated forces of production. Marx's social relational ontology is manifested in this concept of social class, a collection of individuals whose positions within the social relations of production are the same.

Weber starts from the general concept of action, defined as behavior with subjective meaning. Weber's approach, stressing idealization for the sake of sociological explanation, develops the general action approach in terms

of a roster of ideal types. Concepts such as class and community are defined in a series of logical constructions that I have not tried to elucidate in this chapter. The basic idea is that the "stuff" of social life consists in every case of interrelated actions of individual human beings. This conception of the foundations of sociology is merged with the systems model in the early works of Parsons and Homans. In this way, action and system constitute *social action systems* and the project of forging a generalized synthesis based on the classical phase of the tradition of sociological theory is initiated.

NOTES

1. This process orientation will be elaborated over the course of the book. For a general introduction to process metaphysics see Rescher (1996). The Whiteheadian version is discussed in the following chapter.

2. This section presents my own process-philosophical interpretive synthesis of Mead's ideas. It draws especially on his *Movements of Thought in the Nineteenth Century* and *Mind, Self and Society*, and to a lesser extent on *The Philosophy of the Present*. Among secondary interpretations, I have found useful the treatment by Hans Joas, *G. H. Mead: A Contemporary Re-Examination of His Thought* and by Gary Cook, *George Herbert Mead: The Making of a Pragmatist*.

3. This section presents an interpretation of Marx that emphasizes the process-philosophical aspect of his approach to the social world. Sayer's *Readings in Marx* coordinates nicely to this approach. Bertoll Ollman's *Alienation* has influenced my understanding of the philosophical aspect of Marx's thought, while my understanding of the logical structure of Marx's theory reflects the rigorous analytical approach taken by Gerald Cohen in his *Karl Marx's Theory of History*.

4. This section presents an interpretation of Durkheim based upon the essays in *Sociology and Philosophy* as well as upon his major works: *Division of Labor, Rules, Suicide,*and *Elementary Forms*. The excerpts and reviews in Giddens's *Durkheim: Selected Writings* also have been useful. Among recent interpretations, I have benefited from Bellah's "Introduction" to his edited collection and Randall Collins's "microsociological" interpretation of Durkheim's ideas in his various writings, such as Chapter 6 of *Theoretical Sociology*.

5. The interpretation I give to Weber's ideas is based especially on my study of *Economy and Society*, especially Part I, "Conceptual Exposition," and the essays in *Methodology of the Social Sciences*, especially " 'Objectivity' in Social Science and Social Policy." Other writings I have studied are found in two collections edited by Heydebrand and Runciman, respectively. Of course, there is also *The Protestant Ethic*.

6. The importance of Menger for understanding the intellectual environment leading to Weber's methodological thought has been brought out by Fritz Ringer in his *Max Weber's Methodology*.

7. My interpretation of Simmel as a process philosopher as well as process sociologist rests upon a study of his essays in the collection *Georg Simmel on Indi-*

viduality and Social Forms edited by Donald Levine, especially the 1918 essay, "The Transcendent Character of Life" (Ch. 23). Levine's introduction plus the chapter on Simmel by Lewis Coser in his *Masters of Sociological Thought* also have been very useful in grasping Simmel's mode of thought.

Chapter 3

Foundations of Analytical Realism

INTRODUCTION

It will be recalled from Chapter 1 that I am treating sociological theory as a comprehensive tradition with three phases (classical, postclassical, and recent) and three types of foci of interest (general theoretical, world-historical, and critical). In this study, the phase analysis pertains to the general theoretical component of sociological theory. In addition, I also suggested in Chapter 1 that general theoretical ideas are couched at three conceptual levels, namely, worldview, theoretical framework, and theoretical model. Because of the processual phases, these conceptual components do not remain constant. Instead, there are elements of continuity that constitute the over-time endurance of a distinct, albeit highly generalized, comprehensive tradition. In Chapter 2, I employed a process philosophical perspective to interpret the classical phase of sociological theory with special emphasis on the worldviews and frameworks of five writers now regarded as founders of the tradition: Mead, Marx, Durkheim, Weber, and Simmel.

As I indicated in Chapter 1, the key characterization of the major works of the postclassical phase is the aim toward theoretical synthesis. Initially, this aim was indistinguishable from the effort to formulate the theoretical foundations of sociology, especially in the work of Parsons. In the work of Homans the notion of generalized synthesis always pertained as much to explanation of findings in diverse substantive contexts as to drawing upon and integrating classical foundation ideas. Indeed, some of the classical ideas function as bases for conceptual criticism of Homans's ideas, as we shall see. Despite these and other differences between Parsons and Homans,

treating them together, as part of one movement of thought that is directed toward generalized synthesis highlights similarities in their approaches, especially in the early phase of their work. In addition, often what seems elusive in Parsons becomes clear in Homans, with respect to the use of some particular mode of abstraction. On the other hand, what may seem scope-restricted and limited in Homans gains breadth and depth through elaboration in Parsons. To be sure, one cannot neglect some substantial differences, but these may have been overemphasized both by Homans and by commentators on their work.[1]

Sociologists who advocate rigorous theory construction often denigrate any reference to metaphysics. But the absence of an explicit discussion is no sign that implicit assumptions are not pervasive. The philosophical orientation taken in this book is a version of process metaphysics. Rescher (1996: 35) contrasts this type of philosophy with substance philosophy. For instance, he notes that substance philosophy gives precedence to discrete individuality and separateness, while process philosophy emphasizes interactive relatedness and wholeness. A world of substances with properties seems reasonable enough at first glance, but for a process-oriented network thinker it suggests an aggregate of entities, each with its private attributes. Process metaphysics, by contrast, suggests an image of a network of dynamic relations. Within process metaphysics, there are important variants associated with such figures as Hegel, Peirce, James, Bergson, Dewey, and Whitehead.

My own approach is strongly based in the process philosophy elaborated by Alfred North Whitehead (Fararo 1989b: Ch. 1). In this chapter, I want both to explicate this philosophical perspective and to make the case that it is an important part of the common intellectual background of Homans and Parsons. I also want to emphasize how the analytical system ideas of Vilfredo Pareto provide a second common background feature of their theories. Together, process philosophy and analytical systems thinking provide the foundations of what Parsons called "analytical realism." Hence, this chapter attempts to elucidate Whitehead's image of reality as organic and Pareto's image of theory as analytical, and argues that the two together—not exclusively but very importantly—helped to shape the initial intellectual orientation shared by Parsons and Homans. At the same time, the chapter provides an initial overview of some of the key ideas in the theories of Parsons and Homans, ideas that will be treated in more detail in Part II.

THE COMMON INTELLECTUAL BACKGROUND

Whitehead's philosophy emerged as a response to the situation he described in *Science and the Modern World* (1925). The triumph of classical physics had produced a philosophical impasse in which abstractions such

as mind and matter were conceptually juggled in a search for some sort of reconciliation of scientific materialism and human intuitions of value and freedom. In place of such intellectual confusion, Whitehead proposed a viewpoint he termed "organic realism" that he set out in systematic form in *Process and Reality* (1978 [1929]). This is what I have been calling Whiteheadian process philosophy, and I maintain that it functioned as a metaphysical worldview presupposed in the theoretical framework constructions undertaken in the postclassical syntheses of Homans and Parsons as they also drew upon the analytical system ideas of Pareto. In two later sections of this chapter, I will discuss the most significant aspects of Whitehead's philosophy and Pareto's sociology for the purposes of this book. The immediate aim is to show why we need to understand the ideas of Whitehead and Pareto in order to grasp the foundations of the approach taken by our two postclassical synthesizing theorists.

Whitehead, Parsons, and Homans

The influence of Whitehead on Parsons and thereby on some central trends in contemporary sociological theory was both direct and mediated. Whitehead had just published *Science and the Modern World* in 1925 when, two years later, Parsons joined the faculty of Harvard's Department of Economics (which he was to leave to join the newly constituted Department of Sociology a few years later). Very frequent citations to Whitehead's book in Parsons' work throughout his career, as well as his autobiographical statement (Parsons 1977) leave no doubt that it was one of the formative influences on his mode of thought. Victor Meyer Lidz, a former student and later collaborator of Parsons provides testimony to the enduring commitment to a viewpoint on science and reality that Parsons adopted and attributed to his study of Whitehead's works:

> To the end of his life, Parsons assigned *Science and the Modern World* to students as the best single work on scientific knowledge, valid for social science as well as natural science. To graduate students, Parsons recommended several other works by Whitehead and expected students who worked closely with him to know *Process and Reality*. His own methodology may even be interpreted as an effort to develop the implications of Whitehead's organicism and "analytical realism" within the social sciences. (Lidz 1986: 145)

Even more directly, in reflecting on views that influenced him and mentioning Whitehead, Parsons (1959: 624–625) goes on to elaborate on the Whiteheadian point of view and its impact on him as follows:

Three points stand out: first, his strong emphasis on the importance of systematic theory and the special power inherent in a well-integrated theoretical system; sec-

ond, his views of the nature of the abstraction involved in scientific theory, particularly as related to what he called the "fallacy of misplaced concreteness"; third, his view of the continuity of the whole empirical world including both physical and social-behavioral areas. Thus his use of the concept "society" to refer to phenomena of atomic physics seemed to me more than merely metaphorical. Certain "organic" or in some sense "antiatomistic" features of his views on all these levels have appealed to me. I have never been attracted by theories which have tried to build up behavior systems out of discrete isolated conditioned reflexes alone, or social systems out of discrete isolated "individuals" alone. The Whiteheadian views of the importance of relational interconnections in systems, of *organization*, have appealed to me profoundly.

Later in this chapter, I will discuss Whitehead's generalized society concept that Parsons alludes to. As the quotation makes evident, one major idea that Parsons took from Whitehead involves the process philosophical basis for Whitehead's famous reference to "the fallacy of misplaced concreteness." According to Whitehead (1925) this fallacy occurs when an analytical scheme of abstract elements that are realized in a concrete entity is taken as exhausting the content of such an entity. In other words, the fallacy arises through a neglect of the central meaning of abstraction inherent in scientific theorizing: some elements are included, other excluded. Their exclusion from the conceptual scheme does not mean that they are absent in reality. More generally, Whitehead's discussion showed the vital importance of theoretical frameworks in the history of science, denying the validity of any image of science as merely the accumulation of empirical facts.[2]

The direct impact of Whitehead on Parsons was reinforced and mediated through Whitehead's colleague at Harvard, the biologist Lawrence Henderson. Interested in the foundations of social science, Henderson introduced Parsons and others at Harvard to Pareto's writings. Henderson believed that one of the most frequently committed errors arising in social theory stems from failure to treat properly the *organic character* of animals, of society, and of experience, citing Whitehead's critique of scientific materialism as well as his own work in physiology (see Barber, 1970: 178). He urged the adoption of an appropriate complex system model to address this conceptual problem. Very much aligned to Whitehead in this respect, Henderson emphasized that the very meaning of "fact" in science included a conceptual component.

We know from Homans (1962: 5; 1984) that Whitehead and Henderson interacted frequently. Moreover, Homans was a member of the very same seminar conducted by Henderson and attended by Parsons that dealt with Pareto's ideas. Thus with interpersonal contacts between the two young scholars and their elder mentors at Harvard, the beginnings of their views of the nature of science was formed. From direct study of and critical anal-

ysis of Pareto's massive treatise in the seminar, they encountered an example of an attempt to build a general analytical sociology. From personal contact with Henderson as well as exposure to his writings, they received a sophisticated and confident argument for the extension of systems thinking to social science. From Whitehead, both through study of some of his writings and through direct interaction, they took away at least the core of his philosophy of organic realism with its very general formulation of the nature of concreteness and abstraction.

The philosophical position that Parsons (1937) proposed for general analytical theorizing he called *analytical realism*. It was formulated in opposition to alternative views of the relation of scientific concepts to reality. One view he opposed is what he called positivistic empiricism, which is guilty of the fallacy of misplaced concreteness or reification. He also opposed the "fiction view" that abstract scientific concepts do not represent reality, but are useful fictions. As Parsons put it:

In opposition to all . . . these untenable views may be set the epistemological position that seems to be implied throughout this study—analytical realism. As opposed to the fiction view it is maintained that at least some of the general concepts of science are not fictional but adequately "grasp" aspects of the objective external world. This is true of the concepts here called analytical elements. Hence the position here taken is, in an epistemological sense, realistic. At the same time it avoids the objectionable implications of empiricist realism. These concepts correspond, not to concrete phenomena, but to elements in them that are analytically separable from other elements. There is no implication that the value of any one such element, or even of all those included in one logically coherent system, is completely descriptive of any particular concrete thing or event. Hence it is necessary to qualify the term realism with "analytical." (Parsons 1937: 734)

Parsons treats rationality, for instance, as an element in this sense. Rationality is to an act as mass is to a body: a variable taking different values or states in different acts. A rational act is analogous to a heavy body: a type of concrete unit formulated in terms of a range of states of an element, in the action instance, rationality, in the mechanical instance, mass. That there is some degree of rationality in an act is not incompatible with some degree of other elements, such as a duty-bound deliberate adherence to some cultural value. In Weber's terms, a social action might be a combination of two ideal types, instrumental-rational action and value-rational action.

Although no conjunction of such a set of states of analytical elements can exhaust the description of a *concrete* act, it may be adequate for the purposes of analytical theory (Parsons 1937: 35). This is illustrated in mechanics by the description of a unit-part (a particle) of a mechanical system in terms of variables such as velocity and mass. In the empirical identification of the particles, complex enduring entities may be treated purely in

these analytical terms without regard to their complete ontological complexity. This complexity is reflected in the fact that *other* analytical systems (e.g., thermodynamics) may be applied to the very same entities. Furthermore, these same complex entities may be analyzed in more than one way with the same analytical system. Put in terms of this book, the same theoretical framework may be the basis for distinct theoretical models of the very same concrete entity. It seems clear that in formulating this approach, Parsons was reflecting his appreciation of the sophisticated analytical methodology set out by Pareto in some of this writings (Finer 1966: 103–107; see also Fararo 1989b: Sect. 2.6).

A second way that Parsons seems to have implemented a Whiteheadian perspective is in his adoption of the logic of interpenetration (Parsons 1977). In his first major work Parsons (1937) noted that scientific conceptual schemes employ two types of units: parts that stand in structural relations and elements (variables) that stand in analytical relations. In the latter case, the elements are analytically interdependent, as in systems of differential equations. In the former case, involving parts and their relations, interpenetration is a mode of structural integration in which parts share subparts (a definition to be elaborated upon shortly). The significance of the concept of interpenetration in Parsons's writings has been emphasized by Münch (1981) who regards it as "the Kantian core" of action theory. While I would not deny the Kantian aspect of Parsons's worldview, my approach stresses the process philosophical aspect of it and, in particular, what we might then call its "Whiteheadian core."

Today it is almost forgotten by commentators on sociological theory that in his early work Homans was a systems theorist. In *The Human Group* (1950), Homans was attempting to formulate an analytical theory of the human group as a social system, as I will discuss in detail in Chapter 5. The origins of this early methodological orientation can be traced to the same Harvard intellectual environment that so strongly shaped Parsons's worldview and methodology. In particular, not only was there a Pareto influence on Homans, via Henderson, but also a Whiteheadian impact on his early work.

As I indicated earlier, Homans (1984) tells us in his autobiography that he attended Henderson's Pareto seminar along with Parsons. In addition, Henderson and Whitehead were influential in arranging his appointment as a junior fellow of the Society of Fellows. This enabled him to engage in independent study in the period from 1934 to 1939. One early result was a co-authored book on Pareto (Homans and Curtis 1934). His personal contacts with the elder scholars, in connection with his fellowship, included weekly dinners with Henderson, Whitehead, Samuel Eliot Morrison, and other senior fellows. Another former junior fellow of that period, William Foote Whyte (1981 [1943]: 288) notes that Henderson, an apparently formidable personality, dominated these meetings. Nevertheless, says Homans,

Whitehead's *Science and the Modern World* "was one of our bibles" (Homans 1962: 37). The Preface to *The Human Group* cites Henderson, Whitehead and industrial sociologist Elton Mayo as scholars to whom he owes his "chief intellectual debt." Indeed, Parsons (1977: 34) also acknowledges the intellectual influence of Mayo, although with a quite different impact, namely to orient Parsons toward the ideas of Freud.

Systems and Analytical Theory

I maintain that Parsons and Homans derived deep consensual elements from the common background of Henderson, Pareto, and Whitehead. Both Parsons and Homans use the term "analytical element" in the same sense. Homans sees the model scientific theory as a system of differential equations involving such elements (Homans 1950: Ch. 17) wherein every element is related to every in a nexus of processes. Through formulation of this system one studies the "mutual dependence" of elements. By the time Homans had published this first work, Parsons was engaged in writing essays leading up to his second major book *The Social System* (1951). In these essays, it is clear that this differential equation model was part of Parsons' early conception of analytical theory (Parsons 1954: 215).

To clarify this point, by "differential equation model" in this context I mean a mode of theoretical analysis *analogous to* the construction and solution of such a system. A very important set of conceptual correspondences is what gives the system model, in this sense, its significance. Part of this correspondence may be found in the early work of Homans, other parts in Parsons, as we shall see in subsequent chapters of this book.[3] In this way, the early works of Parsons and Homans share a fundamental way of thinking about social structure and process in terms of the mutual dependence of an explicit set of analytical elements. It provided the unified theory construction methodology, grounded in analytical realism, for the development of theoretical sociology.

Initially, then, Parsons and Homans seemed convinced that the differential equation model could accommodate what they agreed was the organic character of social action systems. However, in later works, each shifted position. Although the shift by Parsons involved internal developments over time, its ultimate form acquired far more analogy to theoretical biology than to theoretical physics as will be discussed in detail in later chapters, especially Chapter 7. By contrast, Homans later moved further away from organic conceptions and biological analogues. Even the system concept became suspect. Instead, a vision of theory as a deductive system—not in principle incompatible with a dynamical systems approach—became dominant. This later development in Homans's theoretical foundation project will be treated in detail in Chapters 9 and 10.

MATERIALISM, IDEALISM, AND PROCESS PHILOSOPHY

There is another mode in which Whiteheadian process philosophy served as a worldview for the postclassical phase of sociological theory, namely, as a general scheme for the interpretation of reality. The importance of this level of thought is not confined to the postclassical phase but continues in more recent theoretical debates. Underlying the various sociological pre-suppositional disputes in contemporary sociology are proposed distinctive philosophical foundations of sociology, with their varying and often un-articulated general metaphysical positions.[4]

One metaphysical doctrine is materialism. The prototypical real thing is like a rock: readily seen and touched, impenetrable, enduring in space and time. Relations among such real things are external to the things related and are not constitutive of them. Such real physical things are thought of as simply located in space and time, having various properties. But as Whitehead (1925) summarized the Western philosophical tradition—and as many other philosophers remarked upon before and after Whitehead's discussion—materialism is not as secure a doctrine as it may seem. For instance, the Lockean distinction between secondary and primary qualities, while useful for theoretical physics, cannot withstand critical conceptual analysis.

Another metaphysical position is idealism. The prototypical reality for idealism is the act of human experience. All else is construction within a human world, including nature as an idea created by human experiences. "Things" do not have ultimate reality because they are not themselves centers of experience. Such idealism seems incompatible with natural science in that the latter tells us that human experience is a late arrival on the cosmological scene.

However, idealism need not suppose that the category of experience is limited to human beings. Perhaps it can be generalized and extended, first to all animals and then, second, to constitute the metaphysical implicit definition (in the axiomatic sense) of "actual occasion." This is the strategy adopted by Whitehead in his philosophy of organic realism, in which material objects are explicated in terms of a theory of reality involving a postulated generalized experience concept.

"Things" in the world are analyzed in terms of the metaphysical *framework* through the construction of metaphysical *models*. The framework is couched in completely general terms so as to enable distinct metaphysical models to be so constructed for tentative interpretations of reality. For instance, one model might impute (generalized) experience to any animal organism but to no plant organism and, more generally, to no non-living actuality. What about the paradigmatic physical thing for materialism, a rock? A rock is interpreted in a process metaphysical model as a complex

nexus of actual occasions that is objectified as a single "thing" in our experience.

Thus, this sort of pan-experiential metaphysics should not be confused with the vulgar idea that it attributes feelings, much less consciousness, to such things as trees, rocks and stars. In general, with this generalized concept, experience is not interpreted as equivalent to conscious experience much less to self-conscious experience, both of which are regarded as emergent levels to be explicated in a hierarchical model. Whiteheadian metaphysics, therefore, is not human-centric, even though it is generalized—in the logical sense of "capturing as a special case"—from the only instances of experience that we can directly experience, namely human experiences. The result is a "convergence" of reality as pictured by modern physics and as conceived in such terms.[5]

What is the significance of such metaphysical ideas for the foundations of theory in sociology? Alexander (1981–1983) has clarified this issue. His discussion implies that from metaphysical materialism it is only a short step to what Alexander calls *sociological materialism*, in which features such as technology and economy become the major sources of explanatory ideas. Similarly, from metaphysical idealism it is only a short step to *sociological idealism* in which creativity and culture are the key ideas. I would add that what Alexander calls sociological "multidimensionality"—material and ideal dimensions of human action and society are incorporated into coherent connection in one theoretical framework—needs grounding in a similarly "multidimensional" metaphysics. This is how I view the sociological function of Whiteheadian process philosophy. This philosophy began as a critique of scientific materialism in *Science and the Modern World* and developed into the system set out a few years later in *Process and Reality* that was characterized by Whitehead himself as "a transformation of some of the main doctrines of Absolute Idealism onto a realist basis" (Whitehead 1978 [1929]: xiii). That is, process philosophy is itself a generalized synthesis at the level of the metaphysical presuppositions of scientific theory as well as everyday life knowledge systems.

The following two sections deal with Whitehead and Pareto, respectively, as two figures whose ideas entered into the formation of analytical realism as an epistemological and methodological position shared, so I argue, by Parsons and Homans in the first phase of their programs for the construction of integrative general sociological theory.

WHITEHEAD'S PROCESS PHILOSOPHY

Orientation to the Approach

The point of view of Whitehead on reality may be understood by reference to a problem in theoretical sociology to which it is analogous in

conceptual character.[6] Namely, a social structure that is external and situational for any single actor is, if we shift to the system frame of reference, internal to the system of interacting and interdependent actors. In the first context the social structure is given, not something one can explain in a purely actor-situation frame of reference, while in the second context it can be explained as an immanent outcome of interconnected processes of social interaction. The various problems of theoretical sociology that I specified in Chapter 1—such as the emergence and stability of structure—focus on the second frame of reference. Yet the explanations require reference to the actions of actors and that means some model of how action is generated.

Similarly, in process metaphysics, what is given for the single actual occasion, some form of order, must be explained in terms of a system frame of reference in the sense that the givens are not explicable without considering reality as a system of dynamically interconnected actualities. However, even though no single actual entity can account for the emergent order in actuality as a whole, it is necessary to postulate some model of such an entity. Treating this fundamental unit, the actual entity, as itself a process is the keynote theme of Whitehead's process metaphysics. At the same time this process model of the actual entity has to be considered in the systemic context of accounting for "social order," a term actually employed by Whitehead in a generalized sense. Whitehead's philosophy is a kind of generalized sociology.

One interesting distinction that Whitehead makes is to specify three interrelated features of the world: *occurrence*, *recurrence*, and *endurance*. The basic unit of a process worldview is an actual occasion, an *occurrence*, within which there are things that *recur*, such as particular colors or shapes. Things that *endure* are streams of occurrences in which certain patterns or forms are recurrent despite the possibility that they might *not* recur. The point is that *endurance is problematic if we start from a process worldview.*

In dynamical systems theory,[7] a state of affairs that might not be enduring but nevertheless endures is represented by the notion of an *attractor*—a generalization of the notion of equilibrium that, in turn, relates to the sociological idea of reproduction. An attractor, if occupied, is reproduced amid process: it is the form that is maintained amid the events generated by some concatenation of process mechanisms. A related notion pertaining to reproduction in biology and sociology is autopoiesis (Varela 1979), which generalizes the homeostasis idea of Cannon (1932) that also informed the early work of Homans and Parsons. All these ideas intertwine in complex ways—metaphysical ideas, dynamical system ideas, biological ideas, sociological ideas—and their significance will be elaborated in Part II, where I try to convey how the process worldview and systems thinking is implemented in the theories of Parsons and Homans.

Prehensive Unities

How do we explicate Whitehead's complex but sociologically appealing vision of the nature of things? That is my present task. Let us begin with dynamic relatedness, which for Whitehead is a profoundly important starting point for all his thought. Clearly the reality of and types of relations is a critical feature in metaphysical theories. Hartshorne (1983) regards Whitehead's concept of *prehension* as a major conceptual innovation in the history of philosophy, the key to a sound metaphysical position on relations. Prehension is a dynamic grasping of aspects of entity *b* that thereby are incorporated into the becoming of an arising actual entity *a*. The prehension is internal to *a*, but it is external to entity *b*, since *b* is part of the actual world that is *given* for the novel entity *a*. What this means is that without that prehension, *a* would not be precisely *that* concretion but that the prehended entity *b* is not affected by this later generalized perception. The complete content of *a* is a unity of prehensions. Thinking more of the continuing existent than the actual occasion, Marx's analogous idea is that the concretion *a* is a synthesis of diverse determinations. Similarly, the analogous idea in Simmel's process worldview is that a concrete unity *a* is a process of unification. Where entities in the actual world may have contrary aspects, their prehension to constitute components of entity *a* is an instance of the dialectical feature of unity that Marx and Simmel emphasize. As a preliminary image, think of a dynamic network in which each node, at any moment, is the site of a synthesis of aspects of the whole network as it makes a transition to a new state. In its new state, the node is prehended by the others, thereby contributing to their own transitions to new states.

Whitehead's Theory of Actuality

Three Phases in the Construction and Application of the Theory

In the construction and application of Whitehead's theory of actuality, a metaphysical system of thought, we can distinguish three phases: conceptual generalization, theoretical framework elaboration, and metaphysical model building.[8] The first phase lifts concepts from their standard usage to a more generalized level. The second phase strives for a coherent system of concepts and principles. The last phase addresses general or particular metaphysical problems through application of the general framework.

Consider the *generalization phase* in which the sources are various specialized fields of science as well as common experience. In this phase, we are seeking not precise definitions but intuitive understanding of the origins of some of Whitehead's concepts. In physics, processes in the world are

described in terms of vector transmission of quantitatively characterized bundles of energy. The vector keeps track of where something is coming from and it points to where it is going while energy is the physical aspect of activity of things in the world, as potential or actual. In the generalization of this idea a prehension is described as having a vector character. Dynamic conditions arising in one actual occasion are propagated to become components of later actual occasions through their prehension. The physics starting point is captured through the notion of a "physical prehension," a special case. Whitehead also generalizes from the science of biology, which treats living things as complexes of cells. The cell is the basic unit of the life process. Whitehead's notion of "actual occasion" or "actual entity" is a cell concept of actuality. I will use the term "actuality" as parallel to "life" in its reference to either single cells or complexes of such cells and then say that this is "a cell theory of actuality" that describes a process of being actual that generalizes the process of being alive.

The physical and the biological elements of generalization, in a sense, capture the more "objective" aspects of actuality. What is needed, if the process of generalization is to be comprehensive, is a generalization that enables the treatment of the more subjective aspects of actuality. A particular human in an occasion of experience is a particular instance of an actual occasion. But there would be no such human being without a societal environment. The generalization element here is that societies as complexes of human action are particular instances of *generalized* societies of actual occasions of *generalized* experience. Hence, the principles of the metaphysical framework employ not only generalized physical and biological concepts, but also generalized psychological and sociological concepts.

This gives rise to the following sort of *metaphysical models* of human beings and human societies. At every moment that we act, each of us is an actuality arising from a vast system of ordered other things, an actual world of other actualities both within and without our bodies. The point is that *our bodies are societies of actualities* (e.g., organ systems ultimately composed of living cells) that make these moments possible. Yet the moments are also moments of the whole bodily society. In other words, "organism" is a special case of "society," in this type of metaphysical model. Furthermore, there is also an internal aspect to each of us that is not *given* but is a selective response to the givens, involving a *subjective form* as a component of the prehension relation. There is subjectivity.

Stated in the full generality of the metaphysical framework, each actual occasion is one among the many and yet including the many and reacting to the many in its own way, its "subjective form" of response to its world. By definition, low-grade actual occasions have little in the way of such subjectivity: in a mathematical analogy, a certain metaphysical parameter approaches zero in the model of that occasion. The occasion will still be a concretion of physical prehensions but not much more. In high-grade oc-

casions, by definition and by contrast, there is an emergence of unified feeling at a "control center," with emotional depth of reaction arising from a complex bodily society. When Whitehead wrote, the idea that we now call the cybernetic principle of self-regulation was not available to him. Yet his framework is pervaded by a generalized description of actual entities in terms conveying a sense of the cybernetic element. He writes of an "ideal" that somehow enters into the process, a very difficult idea to convey without the control language of modern cybernetics, where such familiar items as thermostat settings, human purposes, and social norms function as "ideals" in Whitehead's sense.

Principles of the Theoretical Framework

Having sketched some of the sources of Whitehead's generalized concepts, I turn now to the principles of the framework itself. I provide only a brief partial sketch.[9] I will try to convey some of the technical content of the theory through a discussion of a few of its principles, drawn from the more extended set that Whitehead employs in *Process and Reality*. I will assign each a name and paraphrase it rather than duplicate Whitehead's own corresponding statement.

1. *Principle of the Ultimate*. The many become one and are increased by one. The process, by which the many things in the actual world are integrated in an actual occasion, is called *concrescence*.
2. *The Principle of Prehension*. The analysis of an actual occasion into its most concrete elements yields prehensions, each of which is a concrete inclusion of an entity (actual or non-actual, simple or complex) with a subjective form of reception or reaction to that entity.
3. *The Principle of Subject-Object Duality*. Two descriptions are required to characterize an actual entity: one analyzes its own concrescence and the other analyzes its potentialities for objectification in other actualities. The latter refers to its causal powers. The former refers to its constitution as a process of many becoming one, a concrescence.

Given these principles, a little more can be said by way of explication of the categories of existence that the theory employs. As has been emphasized in my earlier discussion, the basic type of existence is the actual occasion. According to the Category of the Ultimate, creativity is the generic invariant constitutive nature of actuality. What this means is that there is no complete set of things called the universe. Each actual occasion *is* the universe from that unifying standpoint at which it arises. The universe as *many* things becomes *one more* instance of the universe as *one* entity. This "dates" the concretion or concrescence, to use Whitehead's term: it is "where and when" in relation to all other actual entities.

Actual entities, in process metaphysics, are occurrences. To deal with

recurrence and endurance, Whitehead introduces a second basic type of existence, *forms of definiteness*.[10] These forms are introduced as elements of all kinds that can *recur* in actual occasions. There are objectifying forms of definiteness of actualities as prehended (e.g., colors), as well as subjective forms as aspects of any prehension (e.g., forms of emotional reaction), as well as mathematical forms.

The analysis of an actual occasion requires two modes of description according to what I am calling the Principle of Subject-Object Duality. One mode of analysis delineates how that concrescent actual occasion then functions in the processes constitutive of other actualities. We trace its effects in the (changing) actual world. The other mode of analysis delineates how that actual occasion is constituted by its own synthesizing unification of other things. According to the Principle of Prehension, the other things are in the perspective of inclusion in a process which unifies them and which has a subjective aspect, in a generalized sense. This corresponds to the dynamic network image in which each nodal synthesis is then an aspect entering into the emergent nodal syntheses elsewhere in the network.

The concrescence is the growth of a single unified complex prehension of the actual world in an actual occasion. In some occasions, the subjective form of the prehension may attain consciousness. Such a conscious prehension has its datum a *difference* between what is and what might be. Other prehensions may involve feelings, sensations and the like, without attaining the level of consciousness in this sense.

An elaboration of social concepts in Whitehead's theory of actuality builds on the concept of a nexus (with plural nexūs). A *nexus* of actual entities is the objectification of those entities in each other by virtue of their prehensions of each other. A nexus has *social order* when a form of definiteness characterizes each actual occasion in the nexus and that characteristic holds in each member of the nexus because of its derivation from others in that nexus. Such a nexus with social order is a Whiteheadian *society*, in the generalized sense discussed earlier. A Whiteheadian society advances or cumulates as actual entities arise that reproduce its defining characteristic. A "single stranded" Whiteheadian society is a special case that is termed an *enduring object*. In this case there is a form of definiteness that is maintained over a cumulative series of actual occasions in which each occasion has the form by virtue of its prehension of its predecessors in the series.

A key point here is that the very existence of enduring things in the world is a matter of what I will refer to as *pattern maintenance*, a concept (in a less generalized usage) essential to comprehending the theoretical sociology of Talcott Parsons. In the latter's Whitehead-informed conception of social order and pattern maintenance, the very existence of both individuals and collectivities is a matter of interpreting them as Whiteheadian societies (i.e., as pattern-maintaining nexūs of actual occasions). In Parsons's more re-

stricted context, the actual occasions are those in which action occurs so that both individuals and collectivities are systems of action.

Carrying over the terminology from his earlier work, Whitehead sometimes called his mature process philosophy "the philosophy of organism," but we see that his dominant categories are informed by a sociological intuition systematized in his generalization of the idea of society. In the model-building phase of his process metaphysics, a biological organism is interpreted as a complex society with coordinated strands of enduring objects and societies (e.g., organs). The organism may or may not possess a strand of centrally controlling actual entities (e.g., it may be a plant rather than an animal).

Note that an animal in any of its actual occasions can be described as both a society and a personality. On the one hand, considering the vast ordered nexūs of actualities that make up the animal body, it is a complex society. On the other hand, considering the strand of ultimately controlling occasions producing integrated behavior *of* the animal body as whole, we have an enduring object, the animal's "personality." These two Whiteheadian societies—or *systems*, to use Parsons's term—*interpenetrate*. The dominant control occasion is one of the many actual occasions comprising the bodily nexus. And the animal body is part of the actual world in any concrescent occasion of the controlling type within the body (i.e., any occasion of the personality). This relation is typical of the *immanence* of things in each other that Whitehead[11] (and Parsons, following him but using systems terminology) makes so much of. The general principle of interpenetration may be phrased in the following way:

> *The Principle of Structural Integration* (Fararo and Doreian 1984): The structural integration of a whole is given by the sharing of subparts by the parts of the whole.

To illustrate: In what is termed bivalent bonding, a molecule (whole) consists of atoms (parts) that share electrons (subparts). In one human social interpretation, a human society (whole) consists of collectivities (parts) that share individual members (subparts).[12]

A process of concretion, a concrescence, is the build-up of a single complex prehension out of lower-level prehensions. In the higher integrative processes, forms of definiteness more and more shift to a static basis. A rock sits there in its apparently obvious message about reality. For human beings, what is initiated as a bodily inheritance of a world of massive energetic activities becomes for visual-based thought a "material world" of physical things with qualities passively on display. Without misplaced concreteness this is not wrong. It is a "transmutation" in which complex actualities become simplified in their bodily reception and then treated in terms of their functioning in relation to human ends. As a consequence,

the humanly perceived "physical world," although it is an abstract edition of the actual world in any actual occasion, is only a fallacy when taken for the ultimate truth about that world. Scientific theory frames models that are explanatory of what we observe by reference to mechanisms that function in actual occasions. Thus, science is intrinsically realist in its approach. In this respect, Whiteheadian process philosophical interpretations cohere with those of the modern realist philosophers of science, such as Harré (1970), Bhaskar (1975), and Hooker (1987).

Parsons and Homans (to a somewhat lesser extent), I maintain, grasped the central thrust of these complex ideas of Whitehead as they began to forge the initial ingredients of their theoretical synthesis projects. In short, they presupposed the philosophy of organic realism. Yet they combined it with a more empirical approach to systems thinking that, in great part, originated in their reading and discussion of the ideas of Vilfredo Pareto.

PARETO'S GENERAL THEORETICAL SOCIOLOGY

Vilfredo Pareto, trained in engineering, subsequently became a prominent economic theorist before the publication in 1916 of a huge and rather disorganized work, *Treatise on General Sociology* (also called *The Mind and Society*).[13] Despite his avowed commitment to a strictly scientific approach, his writing is an intermixture of abstract theory, historical interpretation and normative critique in the debunking mode. His background in engineering orients Pareto toward systems analysis, while his background in economic theory orients him to action analysis. Hence, his framework exhibits a focus on systems of action in which he employs both an actor-situation frame of reference and a systems point of view. My discussion first will focus attention on Pareto's methodology of theoretical analysis and then on his analysis of social action.

Pareto's Methodology

Pareto's writings exhibit a worldview that might be termed critical positivism combined with a process orientation. He advocates a natural science of society based on a combination of reasoning and observation. However, he disavows some of the central tendencies of nineteenth-century positivist social thought, in particular, he criticizes the use of biological analogies, the notion of evolutionary stages, and the idea of progress. In place of these latter notions, Pareto substitutes a form of analysis based on the idea that a dynamic process can give rise to cycles. Although Pareto employs the idea of equilibrium, in his hands, this idea is embedded in the broader context of what today is called dynamical systems. Such systems may have any combination of three types of "attractors," particular states or sets of states to which process tends to gravitate and then reproduce: point attractors, cyclic attractors and chaotic attractors. The process aspect of Pareto's

worldview, then, is exhibited in his stress on the importance of attractors of cyclic form.

The Analytical Point of View

Pareto's theoretical framework is based upon a methodology comprised of two features: the analytical point of view and the use of dynamical systems thinking. The analytical component of his methodology employs the logic of theoretical model building. Elsewhere (Fararo 1989b: Sect. 2.6) I have tried to show how Pareto draws a sharp distinction between models, with their abstractness, and reality, with its concreteness. This implies that the proposition that "X is an S," where X is concrete and S is a model, is not an identity.[14] A branch of science is built upon a mode of abstraction, that is, a mode of inclusion of some elements and exclusion of others present in the concrete reality. The analytical approach is employed in the construction of theoretical models in economics (e.g., the model of the rational consumer or the rational producer). In the application of such models, additional elements may be added to more closely approximate the corresponding real entity.

This argument is almost identical to Weber's argument in regard to ideal types. In Weber's terms, the action orientation of the ideal type consumer is instrumental-rational but the motivational understanding of real consumers is improved if the subjective meaning or orientation is seen to include features of the nonrational types of action, especially habitual action. In Pareto's terms, each such ideal type is an element in action and a model that includes the rational-instrumental element but excludes the habitual (and the affectual) is a first approximation to reality. Both Pareto and Weber are making a case for idealization as a fundamental feature of general theoretical sociology.

For Pareto, the use of models based on analytical abstraction is simply the method of any theoretical science. For instance, Galileo's formulation of a mechanical model dealing with the motion of falling bodies is an abstraction in which air resistance and other sources of friction are omitted. Application of mechanics to the design of parachutes, for example, requires re-introduction of frictional effects. Moreover, such an application involves not only mechanics but also other sciences that can calculate the effects on a human being of striking the ground with a given momentum. Hence, applied areas of science make use of ideas from various theoretical sciences, each of which is analytical and limited in its relationship to the concrete entities and events of interest in the application.

Dynamical Systems Thinking

A second feature of Pareto's methodology is its employment of what in more recent times is called dynamical systems thinking. Along with a clear conception of analytical methods, Pareto's system thinking was a major influence on the postclassical synthesizers Homans and Parsons. As I men-

tioned earlier in this chapter, they attended the Pareto seminar organized by Henderson. Each made not only analytical abstraction but also systems thinking a key feature of their early works. Unfortunately, the relative neglect of Pareto in recent sociology has had the consequence that this link between the classical and the postclassical phases of general theoretical sociology is very often not well understood.

Elsewhere (Fararo 1989b: Ch. 2) I have provided a general explication of the key ideas of dynamical systems thinking and will not attempt to reproduce this detailed treatment here. Pareto's own dynamical system thinking stressed the idea that a dynamic system should be understood as one involving incessant mutual adjustment of its components to changes in each other and in the environment of the whole system. Such adjustments, in Pareto's analysis, lead to cycles of various elements in the complex system of many elements.

For example, economic elements adjust to each other and to their political and social environment. In doing so, they exhibit a cyclic form of over-time behavior involving expansion and contraction of productive activities. Similarly, political elements adjust to each other and to their economic and social environment. In doing so, they exhibit a cyclic form of over-time behavior involving centralization and decentralization of power. Finally, social elements adjust to each other and to their economic and political environment. In doing so, they exhibit cyclic forms of over-time behavior involving conservatism and liberalism.

The postulation of the basic generator or mechanism that explains why the dynamic outcome in each instance is a cycle may be illustrated with the social system of elements. Conservatism emphasizes normative constraint on conduct, while liberalism emphasizes freedom to experiment. These two elements—constraint and freedom relative to given social norms—are connected in a negative feedback loop. An increase in social experimentation produces a conservative reaction emphasizing normative constraints that reduce freedom to experiment. So the upward phase of the freedom-to-experiment element of the social system is followed by a downturn. On the other hand, the increase in normative constraint produces a liberal reaction, reproducing the increased experimentation we began with, but now at a later time. Hence we have a cycle.

Pareto's Analysis of Social Action

In addition to this systems methodology, Pareto's framework employs an action conceptual scheme. This can be framed compactly as follows, using the term "rational" for his term, "logical." There are three elements: ideas (or theories), sentiments, and behaviors. In a model of rational action, the ideas are comprised of empirical knowledge, the sentiments are interests, and the behaviors are those that are grounded in knowledge and in-

terests. In a model of nonrational action, the ideas are nonscientific theories or beliefs and the sentiments are values and instincts. The behaviors are those that express the values and that are rationalized by the nonscientific theories.

This general analytical model of action and the two special models are couched in terms of the actor-situation frame of reference. In the rational case, for instance, the actor employs her empirical knowledge of the situation in making a behavioral choice to realize certain of her interests. Pareto's sociological context then implies a system of action of multiple actors. In this complex system-environment context, the outcomes are generated by the interdependencies of the action elements of all the actors. For instance, a change in the beliefs of some actors may induce a change in the beliefs of others. The rationalization of an action by some actors may lead other actors to take that action by accepting the rationalization, and so forth.

The passage to the system-environment application of the action elements has another aspect involving the element of actor heterogeneity in terms of relative power. Each individual actor has interests that can be represented in the form of a utility function that the actor tries to maximize. A collectivity, on the other hand, has collective goals and interests only in a derived sense, the derivation being mediated by the relative power of the actors to impose their definitions of the collective interest. In the process, the purely logical elements adjust to the nonlogical elements. For instance, if the collective action involves going to war with another group, a certain subset of actors may have interests that are not furthered by war, but their shared nonlogical sentiment of patriotism may lead them to favor war.[15]

In sum, Pareto's sociological theory has a framework given by a theory of social action and an analytical methodology of systems thinking. His application of these framework elements leads him to theoretical models in which cycles are the generated outcomes of the mutual adjustment of elements of the logical and nonlogical types. These foundational ideas will prove to be important in the postclassical phase of sociological theory, especially in the synthesis created by Talcott Parsons. As in the case of the other classical writers treated in Chapter 2, the world-historical and normative components of Pareto's thought have been downplayed in favor of an analysis of those aspects that can be treated as forming a contribution to general theoretical sociology.

SUMMARY

In the early part of this chapter, I discussed the intellectual situation at Harvard in the 1930s in regard to the influences of certain elder and prominent scholars on the young sociologists, Parsons and Homans. Namely, from the biologist Henderson and the mathematician and philosopher

Whitehead they learned about the nature of scientific abstraction and the potential power of the idea of system in the pursuit of scientific theorizing in sociology. In the context of a seminar organized and led by Henderson, they studied and discussed Pareto's general theoretical sociology as an example of a social theorist who managed to avoid the fallacy of misplaced concreteness in the development of analytical theory in the social sciences. Each was to adopt an essentially Paretan methodology for their initial synthesizing works.

In the case of Whitehead, they were exposed not only to the elements of a broad philosophy of science, but also to the most systematic and detailed statement of a process worldview in the twentieth century. Parsons's idea of interpenetration, which looms so large in the context of his analytical distinctions among types of systems of action, seems to have its origins at least partly in this exposure. Through a grasp of Whitehead's process metaphysics we can appreciate the relationship between the analytical and the concrete in Parsons's writings, although this chapter only alluded to this difficult topic at this point.

Because of the importance of Whitehead's theory of actuality for this phase of sociological theory in regard to the epistemological and metaphysical presuppositions of Parsons and Homans it was discussed in some detail in terms of three phases that I called conceptual generalization, framework construction, and model building, all in the context of process metaphysics. In the later part of the chapter I outlined some of the basic ideas of Pareto that, as I indicated earlier, played such an influential role in the initial phase of the theoretical efforts of Parsons and Homans. Taken together, the ideas of Whitehead and Pareto provided them with the foundations of the analytical realist approach that they employed in their efforts of general theoretical synthesis in sociology.[16]

NOTES

1. See Turk and Simpson (1971). For a more recent view, see Alexander (1987).
2. For an elaboration of this and related points, see Lidz and Bershady (2000).
3. A formal approach to process analysis does not necessarily entail the use of differential equations. For instance, one may postulate or derive a set of transition rules on a discrete state space (Fararo forthcoming). The important point is what I have called "set-up in the small" (Fararo 1973: 203) with deduction in the large, corresponding to the integration of the equations or to simulation of the model in the computational sociology context.
4. See, for instance, Benton (1977), Keat and Urry (1982), and Wilson (1983) for sophisticated treatments of varying philosophical foundations of social theory.
5. Sprigge (1983) provides a recent rigorous defense of a neo-idealism of this sort. Hartshorne (1983) defends another such philosophical viewpoint closer to Whitehead's organic realism.
6. This section is based upon my interpretation of *Process and Reality*. White-

head's philosophy is a major focus of the journal *Process Studies* and also has been the subject of numerous expository, critical, or application treatments. For a bibliography, consult the web site of The Center for Process Studies at www. ctr4process.org. Among the many good secondary accounts of Whitehead's philosophy, I recommend the essay by Victor Lowe (1996) that introduces a selection of writings by Whitehead. Donald Sherburne's (1966) rearrangement of the text of *Process and Reality* is also very helpful.

7. See Fararo (1989b: Ch. 2) for an elementary discussion of dynamical systems theory and its relationship to the task of formalization of sociological theories. For a mathematical presentation, linking the modern viewpoint to the classical theory of differential equations, see Hirsch and Smale (1974).

8. I am indebted to the three-phase interpretation suggested by Christian (1959) although the terminology and details about the phases is my own interpretation.

9. Elsewhere I have outlined Whitehead's metaphysical framework (Fararo 1987a) in somewhat more detail.

10. This term is used by Whitehead as equivalent to his neologism "eternal object" that, he later thought, led to misunderstanding of his intended meaning. The term "eternal" does not mean "everlasting." It refers to a non-temporal entity that nevertheless is implicated in process in ways described by the theory.

11. The concept of immanence is employed extensively in Whitehead's later explication of his theory of actuality in *Adventures of Ideas*.

12. The idea can be applied to analytical systems as well. When variables are treated in a system of equations, the equations are the parts of the system (whole) and the variables are the subparts that appear in two or more of the equations in the system.

13. My interpretation of Pareto is based on reading the collection of his writings edited by Finer, as well as the *Treatise*. Both Parsons, in *The Structure of Social Action*, and Homans, in his book with Curtis, have produced useful secondary accounts. Among recent such accounts, I highly recommend the book by Charles H. Powers as well as his simulation paper with Hanneman.

14. Here "concrete" may be interpreted in metaphysical terms as an objectified nexus of actual occasions as comprehended by the analyst standing in an observer relation to it.

15. Some of these ideas recur in mathematical form, without reference to Pareto, in Coleman's recent foundation project to be discussed in Chapter 11.

16. The emphasis on Whitehead and Pareto is not to deny other intellectual influences that helped to shape the presuppositions of Parsons and Homans. Each has written an intellectual autobiography. I have referred to Homans's *Coming to My Senses* and to some of the other figures he mentions both in social science and in its environment. Parsons's "On Building Social System Theory: A Personal History" appears in the 1977 collection of his papers, *Social Systems and the Evolution of Action Theory*. Contact with Joseph Schumpeter, he notes (Parsons 1977: 24), was important in his early years at Harvard and served to reinforce his appreciation of Pareto's analytical approach to theory in social science.

Part II

Two Postclassical Paths of Synthesis

Chapter 4

The Structural Analysis of Social Action Systems

INTRODUCTION

In this and the next several chapters, my aim is to set out the emergence of the postclassical form of general theoretical sociology in the early works of Talcott Parsons and George Homans. The themes are foundation and synthesis. Each theorist was oriented to building on the foundation ideas of the initial phase of the tradition of sociological theory and each under-took to create a general analytical theory addressed to key theoretical prob-lems.

In this chapter, the focus is on the early phase of what I am calling Parsons's first synthesis. The major work of this phase is *The Structure of Social Action* (1937), in itself an integration of themes and analyses that Parsons had elaborated in the papers comprising his "early years," as pointed out by Camic (1991: lxv). I begin my analysis with an examination of two types of conceptual schemes delineated by Parsons. I will go on to explicate how he frames and relates three historical and systematic types of social theory that he calls positivistic, idealistic and voluntaristic, re-spectively. Following these preliminary discussions, I turn to his structural analysis of social action systems that leads to a conception of the nature and scope of *analytical* sociological theory. Then the discussion turns to Parsons's "Sociologistic Theorem" as the outcome of his analysis of the problem of social order. Finally, in the last section, I show how Parsons shifted his approach to theory construction from the aspiration to formu-late a system of analytical laws to a mechanism approach in a specifically structural-functional form. As part of this shift, I will try to show that Parsons's framework implies a conceptual requirement for a set of "pattern

variables." The specification and utilization of these variables becomes a key component of his version of the theory of social systems, to be analyzed in Chapter 6.

CONCEPTUAL SCHEMES

Parsons (1937: Ch. 1), building on Whitehead's emphasis on the role of conceptual schemes in the history of science, initiates his study of the ideas of Marshall, Pareto, Durkheim and Weber with a discussion of conceptual schemes.

Structural and Analytical Conceptual Schemes

He makes a distinction between two types of conceptual schemes. One type may be called structural, the other analytical, to mirror the distinction he draws. Each type has an associated form of general proposition that functions in scientific explanations.

The *structural* type of scheme specifies concepts that refer to the types of units or parts and the relations among them that constitute the generic structure of a category of empirical system within the scope of a theoretical framework. The corresponding general propositions are statements of uniformities in the behavior of concrete parts and relations, as these are conceptualized. Parsons calls such general propositions *empirical generalizations*.

The *analytical* type of scheme specifies analytical elements or variables, the values of which characterize concrete components of the empirical system. The corresponding general propositions are statements of uniformities in the analytical relationships among such elements. Parsons calls them *analytical laws*. An *analytical theory*, finally, is a system of analytical laws.

One important implication of these distinctions is that the formulation of an analytical theory must be based upon an accompanying structural type of conceptual scheme as well as an analytical type. The reason for this is that an analytical law presupposes elements that characterize the various components or concrete entities comprising an empirical system and these components have to be conceptualized in structural terms (i.e., in terms of ideas about the types of concrete units and their relations). It is because of this methodological implication that Parsons exerts so much effort in his early work to provide a general conception of the structure of empirical social action systems that can become the basis for a later analytical sociological theory of these systems.

Example

Let me illustrate these remarks. In neoclassical economic theory, we have the laws of supply and demand as instances of what Parsons means by

analytical laws, each of which states a type of uniformity in the relationship between the price and the quantity of a commodity in a market situation. In this context, price and quantity are analytical elements, but *commodity* is a term that refers to a type of concrete unit that enters into the description of markets. The conceptual nature of the specification of such concrete units is indicated by the fact that in general equilibrium theory—dealing with an entire economy with multiple commodities in an arbitrary number of interdependent markets, as we shall have reason to discuss in detail later in this book—the representation of concrete units as commodities includes elements such as time. For instance, a bushel of oranges on day T is a different commodity than a bushel of oranges on day T + 1. As a bushel of oranges ages it becomes a different commodity. In short, commodity is an example of what Parsons's calls "type-part" concepts that are framed in the structural type of conceptual scheme.

It should be noted that, in analytical economic theory, although the *elements* take *quantitative* values, the *laws* are *qualitative* in form. For instance, they say no more than the greater the price, the lower the demand, without general theoretical commitment to a more precise form of the law as might be standard in a field such as theoretical physics. Taking economic theory rather than physical theory as his standard, it appears that Parsons envisaged social theories that would formulate qualitative analytical laws relating what might or might not be quantitative variables.

The distinction between type-part concepts and analytical elements is very contextual because any concept becomes an element as soon as we interpret it to have a range of possible values. For instance, the various instances in which commodities are identified imply that "commodity" could be considered as a variable, albeit different than an analytical element type. A generalized structural description of type-parts and their relations transcends any instance, so there is a sense in which the generalized concepts are elements. This seems to be what Parsons has in mind in introducing the somewhat obscure terminology of *structural* elements only in a footnote although he uses it extensively throughout *The Structure of Social Action* (Parsons 1937: 35 n.1). In particular, he employs it in arriving at the very notion indicated in the title of the book, "the structure of social action."

Concepts and Models

Parsons's discussion, despite its sophisticated nature, does not seem to articulate the distinction that I made in Chapter 1, between theoretical framework and theoretical model. This is unfortunate, since even at this time, the idea of constructing a theoretical model is not well understood in sociology, and often confused with statistical models. A theoretical model in economics is a logical construction within a theoretical framework of

that field, employing formal methods to work on a theoretical problem in a deductive manner. Different assumed conditions, in conjunction with the principles of the theoretical framework lead to distinct deduced consequences for distinct models. As noted earlier in this book, the procedure includes *idealized representations* of types of empirical systems. Such "model objects" (Fararo 1989b: Ch. 1) are studied to arrive at exact conclusions about the behavior of such systems. Then when a real empirical system of the given type is studied, allowance is made for the difference between the idealized representation and the real world case, a point emphasized by Pareto, as I noted in the prior chapter. Similarly, in economic theory, idealized representations of decisions made by consumers and producers are employed to draw conclusions about, for instance, perfectly competitive markets. Again, in application of the theorems about such model objects, allowance has to be made for the difference between real behavior and ideally rational behavior and between real markets and idealized markets. It is through such idealization that analytical theories relate framework and model in the context of purely theoretical studies. Empirical studies then require the introduction of additional factors, as needed, to bridge the logical gap between idealized model objects and reality. In this respect, Weber's notion of ideal type was in the right direction, as noted in Chapter 2.

Yet Parsons (1937: Ch. 16) is critical of Weber's ideal type methodology. Parsons employs the now familiar conception of a *type* as a cell in the cross-classification table. For instance, if each of two variables takes three values we can form a cross-classification table containing the nine combinations of the values of the variables, nine types in this sense. A general ideal type, in Parsons's understanding of Weber's methodology, is an extreme cell in such a table. Thus, assuming each element has a maximum value, one ideal type is defined by the simultaneous maximum of each element. The problem with Weber's approach, Parsons argues, begins with the fact that his ideal-type methodology does not actually conceptualize the analytical elements that define the full range of combinations of values. The analyst, instead, specifies what element analysis shows to be only certain combinations, the idealized (maximum) values. How, then, could an analytical law stating a uniformity in the variation in the elements be formulated? It could not. Hence, theoretical analysis has lost the flexibility of the element concept and the potential to formulate modes of uniformity in patterns of *variation* of the elements (e.g., as in the price-quantity relations in economic theory). This is a less sympathetic interpretation of the ideal type concept than I presented in Chapter 2 when I discussed Weber's methodology. There I suggested aligning that concept to the notion of a concept defined by a set of axioms. For instance, Debreu (1959) formalizes the concept of a perfectly competitive market economy in a mathematical the-

ory in which the concept is defined by a set of axioms, and then theorems are proved about it.

There is room for both interpretations of the notion of ideal type, so that I would not argue that Parsons's critique of Weber has no merit. In fact, in the context of an analytical theory, his interpretation of the ideal type notion can be quite effective. A good example is provided in the recent work of Collins (1988: Ch. 6). He works directly from Durkheim's discussion of ritual as a mechanism of social integration, but he is also attuned to Durkheim's earlier treatment of two types of solidarity (mechanical and organic). These two types are treated as ideal types in Parsons's sense. The corresponding analytical elements are set out in the context of the conceptual scheme employed in what Collins calls "the interaction ritual model." There are six elements: social density, focus of attention, commonness of emotion, membership symbols, reaction to symbolic violations, and attitude toward nonmembers. Mechanical solidarity is a state of the interaction system in which each variable has a value, or a range of values, that are at one extreme, while organic solidarity is a state of the system of the opposite extreme. Thus, there are two ideal type states of the interaction system so far as solidarity is concerned and these are particular "locked-in" simultaneous values of the elements. But because Collins has a general model of the way these six variables interrelate, the two ideal types are simply analytical special cases. This formulation is valuable if for no other reason than that it exhibits continuity with the classical and postclassical phases of sociological theory as to problems (solidarity), concepts (Durkheim's), and analytical methods (element specification with ideal types as special cases).

Organic Systems

Parsons's discussion of conceptual schemes includes a further feature that is worth noting here, if only briefly. It pertains to the "organic" aspect of certain relational configurations. As Parsons (1937: 32) puts it, "The very definition of an organic whole is as one within which the relations determine the properties of its parts. The properties of the whole are not simply a resultant of the latter. This is true whether it be an organism or some other unit, such as a 'mind,' a 'society,' or what not." We can say that a concrete system of social action can be regarded as a dynamic social network in which the relations (the interactive relationships) determine, to a significant extent, the properties of the parts (the human actors). In a footnote to the above remark, Parsons adds: "The works of Professor Whitehead contain the most extensive analysis of the general concept of the 'organic' which is known to the author." The footnote is evidence that Parsons attended to more than the scientific methodology aspects of Whitehead's writings. As discussed in Chapter 3, for Whitehead the nexus of interacting actualities generates the time-varying properties of those actu-

alities because the momentary process constituting any such enduring entity—an actual occasion—is a prehensive unity, a synthesis of diverse prehensions of aspects of other actualities.[1] Parsons makes use of this idea in his analysis of the structure of social action systems, with frequent references to the organic character of systems of action throughout *The Structure of Social Action*. One can add that in some recent theoretical writings a similar idea is framed in a polemical mode, namely in opposition to "essentialist" modes of thought grounded in substance-attribute metaphysics. This is contrasted with the relational process metaphysics that I am maintaining in this book is the presuppositional basis for the general theoretical syntheses produced by Parsons and Homans.[2]

POSITIVISTIC AND IDEALISTIC TRADITIONS OF SOCIAL THEORY

In the history of social theory as analyzed in his first synthesis, Parsons (1937) delineated two major traditions of pre–twentieth-century social thought, positivism and idealism. If the social sciences are envisioned as bounded on one side by the natural sciences and on the other by the humanities, positivist social theory looked in one direction for methodological guidance while idealist social theory looked in the other direction. The former seeks causal explanation, the latter interpretive understanding.

However, Parsons uses the category "positivistic social theory" in a more specific sense that goes beyond this methodological orientation. Namely, positivist social theories, in his specific sense, regard non-scientific ideas as simply mistaken forms of cognitive belief. Not taking them seriously, they simply push them into a residual category of "ignorance and error." Pareto and Durkheim, both emerging out of traditions of positivistic social thought, overcame the resulting scope limitations of positivistic social theory. Pareto gave considerable attention to nonscientific beliefs and their empirical significance in the explanation of social action phenomena. Durkheim's focus on social integration led him to a deep analysis of religion as a system of beliefs and practices relative to sacred things. Whatever the view of the analyst, for the believer such nonscientific ideas have profound significance. Thus, for scientific purposes of explanation of social action phenomena, nonscientific beliefs must be analyzed both in terms of their causes and consequences.

The other main type of social theory emerging prior to the twentieth century is idealistic. Such theories emphasize cultural elements in the sense of symbolic expressions with meanings to be interpreted. Idealistic social theorists (e.g., Hegel) tended to envision process as the realization of collective ideas energized by common values. Another aspect of idealistic social theory is its rejection of the methodology of analytical theory construction on the grounds that this type of abstract analysis is not compatible with

the organic wholeness and uniqueness of sociocultural systems. Although idealistic social theory was very much a part of the background for Weber's sociological writings, Parsons shows that he overcame its limitations. Weber's very definition of sociology, as I noted in Chapter 2, incorporates the erstwhile opposing orientations of causal explanation (positivism) and interpretive understanding (idealism). Thus, Parsons concludes, it is Weber who plays the critical role of explicit bridge-builder between the two traditions.

Applying the Whiteheadian idea of the fallacy of misplaced concreteness, Parsons argues that the history of social theory has been in a debilitated state because theorists have not recognized the abstract character of theory. They have assumed that their versions of the elements of action provide *the* analysis of the corresponding systems of action. Parsons uses the term *empiricism* for the tendency to commit the fallacy of misplaced concreteness in the analysis of the empirical world. The two traditions in the history of social theory are two forms of empiricism. Weber's action foundations created a synthesis, building a *bridge* between these two erstwhile polar antitheses. On the one hand, an action is an *event*, a spatiotemporal process, and on the other hand, the event has *meaning*. This synthesis deletes the tacit or explicit empiricist claims with their dichotomous orientations. Such a synthesized framework exemplifies what Parsons calls voluntarism.

VOLUNTARISM AND THE ACTION FRAME OF REFERENCE

For *voluntarism*, human beings are creative, active and evaluating organisms. The implication is that the description of human behavior must include subjective meaning, just as the idealists had emphasized. Such meanings may not be consistent with scientific knowledge, but as Weber had argued, for the purpose of correct causal interpretation of action, they must be taken into account. Thus, as in the work of Pareto, Durkheim and Weber, social theory can be extended beyond the scope limitations of traditional positivistic social theory while repudiating the anti-analytical stance of idealistic social theory.

In a series of papers published before *The Structure of Social Action*, Parsons had discussed voluntarism in terms of the idea that *agency* is a philosophical presupposition of the action framework.[3] That is, human behavior is a process in which the actor's intended effect on a future state of affairs—the end element—enters into the process and therefore, in general, has some magnitude of effect on outcomes in the world that might have been different without the intervention of the actor. Parsons could have gained encouragement for insisting on this idea through his exposure to Whitehead's process metaphysics among other, no doubt various, influ-

ences. In any case, voluntarism is at once one of the ontological as well as methodological starting points of the action frame of reference.

As a process, then, human behavior includes the element of agency. This mode of treating human behavior is presupposed in economic theory, for it would be difficult to understand how action can be rational without some reference to its goals or purposes and their potential efficacy in contributing to the flow of events. Thus, economic theory is embedded in the action frame of reference. However, the conceptual scheme of action, as both Weber and Pareto had indicated, needs to be generalized beyond the scope-restriction to rational action. Parsons builds on their work to propose the outline of a generalized conceptual scheme in which the element of rationality is one among a system of elements.

The Structural Analysis of Action: Elementary Units

Applying the process worldview, Parsons avoids the specification of a unit that is a Whiteheadian enduring object in favor of a *process unit* called *the unit act*. It is not enduring actors that are the elementary units of the action frame of reference, but acts. The *actor* is treated as one analytical aspect of the act, along with the *end* element. Two further elements in the unit act arise in the analysis of the situation of action. First, some aspects of the situation function as *means* in the actor's efforts toward goal attainment. Second, other aspects of the situation function as *conditions*, "givens" that constrain action. Ends, means and conditions are related through some *normative orientation*. For instance, a certain end is regarded as noble or the employment of some available means for the attainment of a given end is regarded as morally wrong. Thus, noble ends and immoral choices of means are aspects of action reflecting normative orientation. Obviously, these terms "noble" and "immoral" are from the subjective point of view of the actors in the action system under analysis. This is another key feature of the action frame of reference, carried over from Weber's framework.

A classification of means and ends is proposed that provides the basis for a subsequent focus on the general structure of action systems. First, an end may be empirical or it may be nonempirical. A nonempirical end is one that transcends empirical observation. For instance, "going to Heaven" is a nonempirical end. Secondly, the relation of means to end may be intrinsic—Pareto's "logical" relation—or it may be symbolic. For example, a religious marriage ceremony is undertaken so as to create a bond "in the eyes of God." Note how subjective meaning that may depart from scientific understanding is built into the framework.

The Structural Analysis of Action: Relations

To begin to specify the general structure of social action requires the introduction of concepts that deal with relationships among unit acts. A

basic type of relation is that the end in one act is a means in another act. For instance, "get a degree" is an end in the act of attending a course of higher education. Getting a degree is also an intrinsic means to "obtaining a good job." In turn, "obtaining a good job" may be an intrinsic means to "owning a nice home," "providing well for my children," and "making a contribution to society." Parsons interprets rationality as a normative element that pertains to this intrinsic linkage insofar as actors attempt to realize their empirical ends through means that are intrinsically relate to their ends.

A sequence of acts connected by the intrinsic means-end relation is called an intrinsic means-end chain. Parsons assumes that such chains are finite so that each chain has a first act and a last act. In the first act, the means are not the end of some other act but are *ultimate* means. In the last act, the empirical end is not the means in another act but instead is an *ultimate* empirical end. In one aspect, then, the structure of social action consists of intrinsic means-end chains, each with its ultimate means (and conditions) and ultimate ends.

In turn, these single-stranded chains intersect. "Any concrete act may constitute a point of intersection of a number of such chains so that the same act is at the same time in different respects a means to several different ends. Similarly a given end may be served by many different means" (Parsons 1937: 229).

The model is filled out by reference to the nonempirical ends and the symbolic means-end relation. The latter relation is realized in rites, a topic treated by Durkheim in his analysis of religion. Following Durkheim, as well as Malinowski (1948 [1925]), Parsons distinguishes magical from religious rituals. In the former, the ultimate end is empirical; in the latter it is nonempirical.

Even with these added aspects, however, the general structure of social action is not yet completely analyzed because relations among ultimate ends have not been treated. These ultimate ends may be clear principles or they may be vague value-attitudes, in Parsons's terms. A set of such ultimate ends and values, standing in various relations, is a *value system*. Most importantly for the analysis of the structure of social action is a *common value system*.

For instance, patriotism is a value-attitude that is an aspect of the institutionalization of a national collectivity. Such value-attitudes relate to common empirical ends, such as the desire to instill this sentiment in children, which, in turn, is implemented by means of aspects of elementary school activities. Here institutional rules are specified as means to realize the sacred values. In turn, these activities often have a ritual aspect, such as performing a pledge of allegiance and singing a national anthem.

Parsons's analysis of the classical writers has as its objective to assimilate their innovations within the synthesizing conceptual scheme he is construct-

ing. Obviously, the specification of such structural elements as sacred values, rituals, and institutions is the Durkheimian contribution to the analysis of the structure of social action. Similarly, apart from the action foundation itself, Weber's contribution includes such elements as charisma and legitimation.

Emergent Properties

These classical contributions relate to a conceptual point that Parsons emphasizes. There are "emergent properties" that arise in the context of social action systems. They are distinguished from the elements of the unit act itself or elementary relations among unit-acts, such as a chain of several acts. Moreover, this feature of action systems constitutes their *organic* character in the sense discussed earlier in this chapter. The general idea is that unit acts combine to form more and more complex systems of action that have properties that cannot be found in conceptually isolated unit acts (Parsons 1937: 743).

Two emergent properties arise in consideration of rational action in social action systems. In the intermediate sector where immediate ends are means to further ends, there are two emergent properties, economic rationality and coercive rationality. The economic rationality element pertains to the normative orientation to the choice of most efficient allocation of scarce means to various ends. The coercive rationality element pertains to the most effective control over the choice of actions by one or more others as a means toward attainment of one's ends. Parsons also calls this the *political* element in social action.

Another emergent property arises out of the sociological extension of the scope of action theory. It is specified by a cluster of structural elements in Parsons's analysis of the classical phase of the tradition. These all relate to the nonrational aspect of action in that they refer to ultimate ends and values that are not, for the actors, only means to further ends. The fundamental idea that such ultimate ends and values stand in relations to each other leads Parsons to a *value-integration* structural element.

On the one hand, there is *individual*-value integration. In this case, the various values of any one individual relate to each other in such a way as to form a system, presumably with some order or integration. For instance, an individual system of preference relations in a given domain may have such properties as transitivity that together comprise an ordering that justifies a numerical representation in terms of a utility function.

On the other hand, and most importantly for sociological theory, there is *common*-value integration. The various ends and values of individuals do not simply vary at random but to some degree relate to each other to form a *common value system*, presumably with some order or integration. For instance, in science, the standards cited in Chapter 1 constitute aspects of a common value system in which clarity, precision, generality and the

like are shared cognitive values. More clarity is preferred to less, more precision to less, more generality to less—all with the qualification "other evaluations equal." The existence of differentiated common value systems—economic values, political values, social values and so forth—plays a critical role in the development of Parsons's theoretical sociology, as we shall see.

In itself, the *property* of common-value integration does not necessarily imply consensus because it is a structural *element*, a variable, not an empirical state of affairs. It could be named *commonness of values*. Under some conditions, there might be little commonness of values; under other conditions, there might be extensive commonness of values. This element resembles Durkheim's concept of collective or common conscience in this respect and probably should be thought of as a generalization of that idea. Moreover, since a social action system may be expected to contain a variety of collectivities, each will have its own level of common-value integration or commonness of values.[4] However, in his systematic writings, Parsons does prefer to stipulate what in my terms is a model object in which there simply are certain common values with an unspecified level of commonness.

As Parsons sees it, the special contribution of Durkheim and Weber was to have given specificity to the analysis of the ultimate value sector of the structure of social action systems and to the common-value integration feature. Namely, their works deal with such aspects of social action systems as the moral element in motivation to comply with norms, attitudes toward sacred things, charismatic embodiments of values, ritual actions, modes of expression (norms of taste, gemeinschaft), and common systems of normative rules.[5]

Summary Form of the Structural Analysis

Parsons's broader thesis is that not only Durkheim and Weber, but also Pareto and the economic theorist Marshall, exhibited in their works a *convergence* on this generalized conception of the structure of social action.[6]

Figure 2 provides a depiction of this structure, simplifying the inner complexity of each sector. Summing up, the structure of a general social action system consists of three sectors that form what Parsons will later call a normative control hierarchy (as one looks downward from the ultimate value sector) and a conditions hierarchy (as one looks upward from the ultimate means and conditions):

- The *ultimate value sector* with the emergent properties of individual-value and common-value integration.
- The *intermediate means-end sector* with the emergent properties of economic and coercive rationality.
- The *ultimate means and conditions sector*, whose properties are given for action in general.

Figure 2
The Structure of Social Action
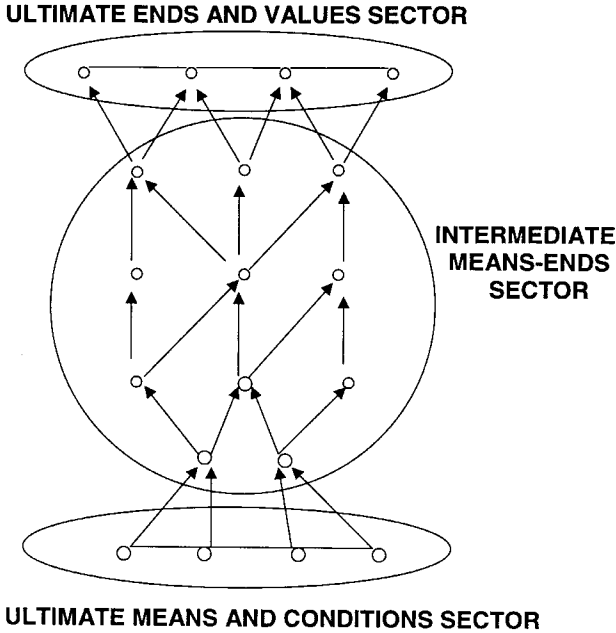
Note the existence of ultimate conditions as well as ultimate means. We can interpret these as biophysical invariants that are given for human action systems. It is a matter of empirical science, employing an appropriate conceptual scheme, to discover what these ultimate conditions may be.[7]

Before continuing, I pause to note that Parsons's analysis of social action systems is consistent with Whiteheadian process metaphysics. Corresponding to the unit act as the fundamental unit of action process is Whitehead's actual occasion as the fundamental process unit of actuality. The organic relations of actual occasions—aspects of other occasions are prehended so as to be included aspects of the arising occasion—are mirrored in the interpenetration relations constituting the web of intersecting means-end chains. Corresponding to Whiteheadian societies, emergent nexūs of actual occasions in which forms or patterns endure, are systems of action made up of organic relations among unit acts and having emergent properties.

THE BRANCHES OF THE THEORY OF ACTION SYSTEMS

What is, or should be, the scope of sociological theory? Parsons's main point, reiterated on numerous occasions throughout his career, is that so-

ciological theory emerges—historically and logically—as one branch of the theory of action systems. This theory consists of the action frame of reference with its voluntarism presupposition implemented in a conceptual scheme that specifies the skeletal structure of social action systems.

Within this framework, three analytical theories are scope-defined in terms of the outline of the three-sector structure given just above:

- *Sociological theory* is the analytical theory treating the emergent property of *common-value integration* in the ultimate value sector of the structure.
- *Political theory* is the analytical theory treating the emergent property of *coercive rationality* in the intermediate sector of the structure.
- *Economic theory* is the analytical theory treating the emergent property of *economic rationality* in the intermediate sector of the structure.

This scope-defined analytical interpretation of sociological theory was never really understood by most sociologists.[8] Moreover, Parsons tended to reformulate his conception of the scope of sociological theory to accommodate changes in the overall structure of his thought. Nevertheless, there is a strong continuity between this initial statement of the scope of sociological theory and the later conceptions of it, as we shall see.

Parsons more briefly discusses three other conceptual schemes that are grounded in the action frame of reference in that they are systems of action with emergent properties: the social relationship scheme, the personality scheme, and the group scheme. These schemes vary in what they take to be the units of analysis. Each of them is a descriptive tool appropriate to certain systems of action because of their respective emergent properties and each, in principle, is reducible to the general action scheme in which the unit-act is the fundamental unit. I will make a few remarks on each of these schemes.

Social Relational Scheme

When two or more individual action systems are "coupled," so as to be repeatedly *interacting*, we can speak of social relationships. These tend to acquire relatively constant properties and this is the basis for the specification of a social relational conceptual scheme in Parsons's later work as he seeks to define an interrelated family of parameters to characterize roles (as I will begin to discuss toward the end of this chapter and in more detail in Chapter 6).

Personality Scheme

Another type of conceptual scheme has to do with the actor element of the unit act. Within the action framework, an enduring actor is treated as a mode of relation among unit acts. All the unit acts with the same actor interpenetrate in respect to the actor component and constitute what is

meant by a person, an individual or *personality*, "the totality of observable unit acts described in their context of relation to a single actor" (Parsons 1937: 746). A personality, in accordance with the organic character of systems of action, will have emergent properties and the science of this type of action system is psychology, which is treated as one of the analytical sciences of action.[9]

The Group Scheme

Finally, another type of conceptual scheme treats a system of action as comprised of a number of persons in relation to each other and together comprising a group with the persons as members (Parsons 1937: 746–747). Groups have emergent properties that are not derivable from the properties of persons treated in conceptual isolation, the idea that Durkheim had insisted upon. But it does not follow that a person cannot belong to multiple groups. In fact, the entire personality is not involved in any one group. In addition, Parsons adds that the group scheme is to be regarded as secondary to the action schema in the sense that there are no properties of groups that are not reducible to properties of *systems* of action. Hence, there is no analytical theory of groups that cannot be translated into terms of the theory of action.

Two points may be added here to relate Parsons's ideas to those of Weber and Whitehead, respectively. First, Parsons is building on Weber's approach, in which the *foundation* of sociology starts with the social action concept but then proceeds to *logical construction* of concepts that refer to action complexes, such as (in Weber's work) social relationship, community, association and the like. Parsons argues that the advantage of the less primitive conceptual schemes, relative to the action scheme, is that they provide a useful and indeed necessary "shorthand method" for the analysis of phenomena that would be impossible to treat directly by delineating all the relevant acts and their relations. In *The Social System* (1951), as we shall see in Chapter 6, he takes on the task of such logical construction, making a transition from the conceptual scheme of general action to a conceptual scheme that is focused on social relations. This step embeds social system analysis within the general action frame of reference and treats personality systems as interpenetrating with, but not included within, social systems, in accordance with the above arguments.

Second, we also can see a parallel to the Whiteheadian approach. Recall from Chapter 3 that Whitehead's theory of actuality posits actual occasions as the fundamental *process units* of actuality, but he goes on to conceptualize composite actualities as patterned or ordered nexūs of actual occasions, the Whiteheadian societies. At the level of composite actualities, we have endurance based on recurrence, whereas at the fundamental level we have occurrences. Similarly, Parsons posits unit-acts as the fundamental *process units* of action systems and then goes on to conceptualize systems

of action with their emergent properties, including personalities, social relations and groups.

THE PROBLEM OF SOCIAL ORDER

The Nature of the Problem

The above discussion noted that economic and political theory deal with the sector of intrinsic means-end chains in terms of the emergent properties of economic and coercive rationality, respectively. Rationality of action is the broader category that is inclusive of these two elements. Drawing upon Parsons's (1937: Ch. 2) discussion, let us define "utilitarianism" to refer to a generic type of social theory characterized by two features:

- First, it is a rational choice theory. This means that it analyzes action in terms of ideal-type rational unit acts. Put another way, it constructs theoretical models via the idealization that actors make rational choices.
- Second, in Parsons's usage, it excludes the emergent elements in the ultimate value sector. Each act has its end, but the various ends are not treated in terms of the emergent property of value integration. Parsons describes this feature as a "randomness of ends" that is implicit in the omission of the value integration element.

These two features of utilitarianism are employed by Parsons to define the problem of social order arising in political theory through a reconstruction of Hobbes's formulation. The argument is as follows, presupposing the utilitarian type of social theory. Given the general feature of scarcity of things that people desire, the attainment of an actor's ultimate empirical ends requires at some point resources controlled by other actors as means. Hence, one immediate end of each actor's action is coercion of other actors. With rationality as the only normative orientation of action, coercive rational acts become common, so that there is a state of "war of all against all."

Let us put this in the context of a scientific situation corresponding to Figure 1 in Chapter 1, inclusive of a framework, a problem and a theoretical model. The *theoretical framework* is the action frame of reference. The *theoretical problem* is: How can we provide a general account of social order in action systems? The two features of utilitarian theory define the *theoretical model*: rational choice theory without inclusion of elements in the ultimate value sector of the overall structure of social action. This "Hobbesian" theoretical model implies, we have just seen, the conclusion of a war of all against all. Comparing this conclusion with the data of wide social experience, the outcome is an inconsistency between theoretical model and empirical facts.

Parsons, implicitly, now activates what I have called the menu of possible

actions (by the theorist). The data are not disputed: in the world, social order exists. We must turn to the theoretical origins of the discrepancy and solution to the problem (i.e., the explanation of social order). For Parsons, utilitarian social theory has no conceptual resources for such a solution. Suppose, for instance, one argues that the actors have a common interest in peace and that this will lead them to rational exchange of resources—a Lockean economic solution to the order problem (Parsons 1937: Ch. 3). The difficulty is that, although this is consistent with rational choice, it smuggles into the model a concrete *common* empirical end, violating the second feature of utilitarian theory. Hobbes's own solution—actors voluntarily agree to submit to a sovereign who provides security—seems to presuppose a level of trust that is contrary to rational self-interest. Where does this trust come from?[10] Why would the sovereign not act like any other utilitarian actor to employ available means to attain its *own* interests rather than some supposed common interest? And is not the latter, if it exists, another violation of the assumptions of the Hobbesian theoretical model?

Parsons discusses a number of other proposals that have other difficulties, including abandonment of the action framework. The solution, he argues, *must* take into account the common-value integration element. That is the lesson of the classical tradition of sociological theory, as he sees it. For example, in Durkheimian theory (Collins 1988: Ch. 6; Durkheim 1995 [1912]), a ritual process is defined in which shared feelings and ideas of common belonging arise and are maintained. Such ritual actions are symbolic in regard to the means-end relation, hence nonrational. Utilitarian theory is not "wrong" or "false" in its omission of such an element in the ultimate value sector of social action systems *if* it is understood as an analytical theory. In this use of analytical realism to interpret the theoretical situation, utilitarian theory has a limited scope but that in itself is a feature it shares with all the analytical sciences of action. Even within the framework of more recent rational choice theory, it is difficult to reconcile the focus on emotional contagion that one finds in Collins's reformulation of Durkheim's theory with the instrumental (thus, intrinsic means-end relation) presupposed in the standard rational choice models.

It is important to note that Parsons is not denying the idea that in some sense conflict is "natural," a consequence of the scarcity of things that people desire. The problem is not to explain the actual or potential existence of conflict. This is taken as a given by Hobbes *and* by Parsons. In fact, he applauds Hobbes's formulation of the problem with its presupposition of inherent sources of social conflict. But the problem is not to describe social conflict processes in which groups with opposing interests confront each other in the arena called society. For how can we account for groups in the first place? Groups are instances of endurance of form in a nexus of social actions. Their emergence and stability are instances of the

key problems of social structure described in Chapter 1. In short, the general theoretical problem is to explain how such observed social order is even possible. What conditions are necessary for social order?

The Sociologistic Theorem and Analytical Sociological Theory

Parsons formulates the core of the direction of his proposed solution to the social order problem in what he calls "the sociologistic theorem," which I will phrase as follows.

> *The Sociologistic Theorem*: A necessary condition for social order is that the ultimate ends of action of the various actors form, to some degree, a common value system.

In Parsons's later work, the theorem seems to function as an ontological and methodological directive for the construction of an analytical sociological theory. Such a theory, as indicated in the prior section, is one that has its focus on the emergent element of common-value integration. We now see that sociological theory has a core problem: to provide a *generalized* solution to the problem of social order. For Parsons, this means spelling out the full implications of the Sociologistic Theorem. One immediate implication should be noted. It is often thought that social order contrasts with empirical change, so that the common value element is seen as tilting social theory toward an overly static view of social systems. Yet this interpretation ignores the flexible character of analytical theory. The common values, for instance, may *encourage* change. Parsons (1937: 671) is very clear on this point in a discussion of the common value element as he finds it in the works of Durkheim and Weber. Whereas, he writes, in Durkheim "the empirical role of the value element was confined to sanctioning the institutional *status quo*. . . . Weber, on the contrary, through his theory of prophecy and of the processes of routinization of charisma shows still another side of the picture." This other side is clearly social transformation. Earlier (p. 670) he had noted that Weber "definitely takes a sociologistic position. For one of his most fundamental results is that of the dominant social role of religious ideas and value attitudes . . . which are *common* [italics in original] to the members of a great social movement or a whole society." Note that the entity characterized by common values need not be a total society, since it can even be a social formation usually thought of as "dynamic," a social movement. The movement has its own type of social order and its own version of some set of common value-attitudes that help to bind the members to it.

In sum, the direction that Parsons sets for himself (and for the discipline of sociology) has these features as to theory:

- The theory will be an *action theory*. It will be grounded in the action frame of reference with its presupposition of agency.
- The theory will be an *analytical theory*. It will specify variables and put them into relations of interdependence.
- The theory will be *sociological*. It will pertain to the emergent common-value component of the structure of social action, as justified by the Sociologistic Theorem, as an essential feature in the explanation of social order.

This is the direction he will follow for the remainder of his career as a theorist. Parsons begins within a few years to introduce variables pertaining to the common-value element, although the theory construction strategy will be shifted away from the ideal of a system of analytical laws. A transition to structural-functional theory takes place.

TRANSITION TO STRUCTURAL-FUNCTIONAL THEORY

The Concept of the Institutionally Integrated System

In 1940, three years after the publication of *The Structure of Social Action*, Parsons presented a conference paper called "The Motivation of Economic Activities" (Parsons 1954: Ch. 3). It introduces some key concepts of the next phase of his first theoretical synthesis. The main aim of the paper is to interpret the idea of "rational pursuit of self-interest" that has been the hallmark of neoclassical economic theory within the broader context of the structure of social action systems.

The basic methodological device that Parsons employs is the analysis of the problem in terms of the concept of an *institutionally integrated social system*. In such a system, moral sentiments and self-interested sentiments are intertwined in support of the prevailing institutional structure. This is explicitly introduced as an idealization, with the recognition that actual social systems vary in terms of the degree to which elements of moral and self-interested sentiments are integrated in this way. It functions in the ideal type mode. On the one hand, key theoretical statements are framed concerning such a type of system. In terms of the interpretation of Weber's ideal type method described earlier, these statements would be logical consequences of the axioms that define the concept. Parsons's arguments, although informal, approximate this aspect of the use of idealizations in theoretical science. On the other hand, the type functions as a baseline and first approximation in the analysis of actual systems.

The key concept is the element of moral sentiment in motivational orientation toward a normative pattern that defines expected conduct in social situations.

By *institutional pattern* Parsons means a normative pattern, a component of culture that satisfies the following two conditions:

- The normative pattern is widely supported by common moral sentiments. Thus, one element involved in compliance with it is a sentiment that the expected conduct is *desirable*.
- The normative pattern is not utopian. That is, ordinary members of the society are expected to live up to it.

Recall that this element of moral sentiment in support of norms was one of those that Parsons derived from his analysis of the works of Durkheim and Weber and included within the context of the emergent property of common-value integration. This sort of value orientation is manifested in spontaneous moral indignation (to others' departure from such norms) and in a sense of obligation (in relation to one's own conduct in roles). These sentiments form what Parsons calls the *disinterested* element in motivation.

Motivation also contains elements of *self-interested sentiment*. The satisfaction of such sentiments also motivates the actor's conduct in relation to norms. Parsons specifies five elements of this type: self-respect, recognition, interest in activities to satisfy wants, pleasure, and affection from others.

In an institutionally integrated social action system, the element of moral sentiment and the elements of self-interest play into each other to maintain the normative pattern. Actors who do not comply with the norms meet with disapproval. This has an impact on self-respect and the moral respect of others, recognition, as well as on the other elements of self-interest. Thus, in addition to a disinterested moral sentiment in support of the normative pattern, it is in the actor's own self-interest to comply with it. Conversely, approval for acting in accordance with the pattern maintains or enhances self-respect and recognition from others. Hence, in this idealized type of social action system, there is an integration of self-interested motivation with moral integration that yields a stable institutional structure.

The New Theory Construction Strategy

This idea becomes the substantive aspect of a methodological shift in Parsons's ideas about theory construction. In a paper first published in 1945 called "The Present Position and Prospects of Systematic Theory in Sociology," Parsons (1954: Ch. 11) frames the rationale for a structural-functional approach. To begin, a *theoretical system* is defined as a system of concepts—analytical and structural elements—in relations of logical interdependence. An *empirical system*, by contrast, is "an interconnected whole," an actuality that is described and analyzed by the use of the theoretical system.

The theoretical system has two functions in relation to empirical systems. First, reiterating the argument given earlier, Parsons maintains that the *description* of an empirical system requires a specification of its *structure*. In

The Structure of Social Action, for instance, the structure of an empirical social action system was analyzed in terms of unit acts in means-end chains and the values of elements characterizing these parts and their relations.

The second function of the theoretical system is a dynamic analysis that has two goals: causal explanation of events and the attainment of generalized analytical knowledge. It is in this connection that Parsons makes a transition as to theoretical method.

Parsons notes two advantages to the quantitative analytical system formulation. Here he seems to mean, as the term "dynamic analysis" suggests, a system of differential equations. In our day, such a system is said to specify a dynamical system. Ideally, he argues, such a system has two advantages in analysis of an empirical system. On the one hand, the facts about the state of the empirical system are values of the variables. On the other hand, technical manipulation of the system yields inferences involving complex mutual interdependence, dynamically synthesizing all the linkages implied in the propositions of mutual dependence so as to reflect all phenomena back to their impact on the total state of the system.

This is the aspiration for analytical theory that Parsons held when he was formulating his argument in *The Structure of Social Action*. It will be recalled from the above discussion that in that book he was concerned only with the specification of a generalized structural description of social action systems. Setting out a system of interrelated variables for the dynamic analysis of such a system he regarded as the next task. But now he sees that this task is not readily accomplished with the sorts of qualitative variables found in sociological analysis. Hence, there is need for another method that preserves the two advantages of the quantitative dynamical system type of analysis.

This other method, he later notes (Parsons 1951: 20) is a "second best type of theory." It is based upon a method of simplification when the quantitative concepts and the equations cannot be formulated, namely, "removal of *some* of the generalized categories from the role of variables and their treatment as constants" (Parsons 1954: 216). This means that such elements play the role of given parameters in the analysis of the remainder of the interrelated elements—these now counting as the reduced state description of the system for dynamic purposes.

But which variables should be treated as constants? Parsons argues that certain empirical systems—namely, biological and social—*tend to keep certain variables in a steady state so that a "determinate pattern" is maintained over time*. These steady state variables can be treated as constants, in a suitable time domain. We may note that the maintenance or reproduction of a pattern over time is the very definition of emergent order in Whitehead's process philosophy, as noted in Chapter 3. A Whiteheadian society is a nexus with social order (i.e., a set of actual entities that, through their prehensions of each other give rise to a form of definiteness that is

reproduced in their interactions). In brief, the nexus exhibits the generic property of endurance: recurrence of form amidst occurrences.

To apply this idea to social action systems, let us recall the methodological and conceptual steps stated earlier in this section. Methodologically, analytical theory is to be about the social action system that is institutionally integrated. This is an ideal social system (in the Weberian ideal type sense). Conceptually, an institutional pattern is a normative pattern satisfying certain conditions. If we combine the methodological and the conceptual points, it follows that in an ideal social system, an institutional pattern tends to be maintained by certain motivational mechanisms.

Now suppose that such an institutional pattern could be adequately characterized in terms of the combined values of certain analytical variables. Call these elements "pattern variables." The system of social interaction is then analyzed in terms of its tendencies to keep the pattern variables in a steady state. The idea is that there are specified sources of disturbance that would produce pattern change without specified mechanisms that serve to counteract them. Hence, theory construction must (1) specify the set of pattern variables that together (2) define components of institutional patterns (roles), such that (3) specified disturbances to the pattern are counteracted by specified mechanisms.[11]

It is interesting to note that with this shift in theory construction strategy, Parsons has made a transition from the notion of theory as a system of analytical laws to that of a theory as a specification of explanatory *mechanisms*. The theory is still analytical but it does not look toward the formulation of laws. This mechanism conception of explanation agrees with that of Elster (1989), who has argued that this conception of theory makes the most sense for the social sciences. Numerous contemporary social scientists would agree that thinking in terms of mechanisms is crucial for explanation of phenomena (see, for instance, Hedström and Swedberg 1998). My own emphasis, to be elaborated as "generative structuralism" in Chapter 12, has been formal-theoretical models that incorporate what I have called *generative mechanisms* (Fararo 1969, 1973, 1987b, 1989b, forthcoming). The main difference between those of us who have urged thinking in terms of generative rules or mechanisms and the approach taken by Parsons at this stage of this theorizing is not that Parsons does not think in terms of mechanisms at all, but that in his case, they are framed in the restricted context of the problem of institutional pattern maintenance that accompanies the structural-functional strategy.

SUMMARY

In this chapter, I have tried to show how the aim to construct a conceptual foundation as the starting point for an analytical approach to sociological theory was manifested in *The Structure of Social Action*.

Voluntarism is the basic worldview element that Parsons draws upon to create the beginnings of a general action framework. This is a worldview that emphasizes the role of agency in understanding the social world.

Given this worldview, the focus of this early synthesizing work is on the problem of structural analysis *in the context of the action framework*. The focus is *not* on the structure of social relations, as the term "structural analysis" might suggest to sociologists today. But it also does not exclude social structural analysis, since this implies the social relation conceptual scheme that was discussed above as a derived scheme within the action frame of reference. So we need to step back and understand what Parsons means by "the structure of social action."

To convey the nature of the project, then, I began the chapter with some methodological and historical prerequisites that Parsons himself sets out. First, I set out an explication of the logic of two general types of scientific conceptual schemes: structural and analytical. Second, I examined how Parsons frames the history of social thought as an opposition between two forms of empiricism in traditional social theory, positivistic and idealistic, each of which commits the fallacy of misplaced concreteness. Essentially, he argues, this empiricism was overcome in the classical phase of the comprehensive tradition of sociological theory.

Only then did I turn to the structural analysis of social action. With the unit-act as the most elementary unit of a structure of action, the analysis depicts the structure as a web of interpenetrating means-ends chains. This structure takes a hierarchical form that is the early version of Parsons's later cybernetic control hierarchy and corresponding conditions hierarchy. At the "bottom" of the structure, there is a sector that includes only the ultimate means and conditions of action. At the "top" of the structure, there is a sector that includes only ultimate ends and values. Between them is an intermediate means-ends sector in which the immediate end of any act is itself a means in further action.

By reference to this structure, to which the classical theories investigated by Parsons are argued to have converged, the problem of the scope of analytical theories of action is treated. Economic theory and analytical political theory focus respectively on the emergent elements of economic and coercive rationality. The emergent element of value integration—the clustering of ultimate ends and values into systems, in particular those common to the actors—is the basis for sociological theory as one of the analytical sciences of social action.

Given this elucidation of Parsons's structural analysis of social action systems, I turned to the problem of social order. The starting point here is the definition of utilitarianism as a form of rational choice theory. Namely, it excludes the emergent elements pertaining to relationships among ultimate ends and values. The Hobbesian argument, which is a utilitarian analysis, shows that observed social order cannot be explained by that theory.

The solution lies in the direction of the Sociologistic Theorem, the statement that a necessary condition for social order is that the ultimate ends and values of the actors are to some degree integrated to form a common value system.

It has not been my objective in this chapter to provide any sort of assessment. In fact, I am reserving my overall evaluation of Parsons's theoretical system until the end of Chapter 8, where I address my positive and negative evaluations to its most mature stage of development. However, let me say a few "technical" words about the Sociologistic Theorem, the central theoretical proposition in *The Structure of Social Action*. In a mathematical theory framed within a dynamical system perspective, such a statement might take the form of a derived threshold theorem. "Social order" would be interpreted as the existence of at least one attractor in social state space. (Parsons would say "stable equilibrium," which is one type of attractor in a dynamical systems approach.) Thus, the theory would address the question, for each point in parameter space, is there at least one attractor in state space or not? But this formal rendition of the social order problem would require a specification of the state variables that together comprise the definition of the state space and the specification of the parameters that together comprise the definition of the parameter space. At this stage of Parsons's work, and hence in the Sociologistic Theorem, the precise nature of the state variables is not clear. It will be more clear—a progressive move in terms of the standards set out in Chapter 1—in his later work. However, even at this early stage, we can see what Parsons is treating as the key parameter, namely, what I have referred to above as the element of *commonness* of values. The threshold theorem, then, would take the form of a deduction that whenever, in parameter space, the commonness of values falls below a certain magnitude, then the system has no attractor (i.e., social order does not exist). In this way, exceeding the threshold of commonness of values would be necessary, although not sufficient, for social order, as Parsons conjectures in the Sociologistic Theorem.

A second type of interpretation of the Sociologistic Theorem would point in the direction of the neoclassical economic theory, game theory, and, most generally, the rational choice strategy of theory construction. In such an analytical context, the concept of equilibrium refers to a state of a social action system such that no actor has an incentive to change action given the actions of all the others. The relevance of this concept is that, unlike the dynamical system notion of attractor, it is directly framed within the action frame of reference. It is a criterion that presupposes agents with a capacity for making choices, including changes of behavior that are contingent on the prospective or actual actions of others. There is no obvious connection to the Sociologistic Theorem in this case, but there is a common background element in the form of Pareto's contributions both to neoclassical economic theory and to the formation of Parsons's thought, including

his commentary on Pareto in *The Structure of Social Action*. I will return to this conception of equilibrium in Chapter 11.

This concludes my technical commentary on the theorem, and I now return to my summary. In the prior section, I turned to how the early aspiration to proceed from structural analysis to analytical theory—as a system of analytical laws—was reformulated after these initial synthesizing efforts. True, for Parsons, analytical theory remains the best type of scientific theory. However, he argues, in the social domain, apart from economic theory, the analytical sciences are mainly dealing with qualitative variables in complex relations. His key proposal is that the advantages of dynamic analysis through the analytical method—the paradigmatic example being the setting up and solving of a system of differential equations—can be maintained by another form of theory construction more suitable for the social sciences. Namely, some of the potentially dynamic state variables are treated as constants. The justification is that, in fact, biological and social systems are "going concerns," so that there is an empirically observed tendency for certain variables to be kept in a steady state. The implication is that such a system tends to maintain a pattern amid dynamic process. Then the processes in the system are analyzed with reference to how their outcomes tend to contribute to such pattern maintenance. Hence, the task of theory is to specify such *mechanisms* that function to maintain structure, defined in the social case as an institutional pattern that tends to be maintained.

It follows that the next tasks in Parsons's theory program are twofold. The first is the creation of a conceptual scheme of variables—pattern variables—that will serve as the basic constants that tend be maintained in steady states. Then the second task is to specify the mechanisms of pattern maintenance. Later, as we shall see in subsequent chapters, Parsons turns to the analysis of *change* of pattern, treated in evolutionary terms.

NOTES

1. The philosopher Timothy Sprigge (1983: Ch. 5), while not in complete agreement with Whitehead's organic realism, deals with prehensive synthesis in terms of the concept of "holistic relations."

2. The polemic against essentialism is well known in the context of gender studies. The recent book by Tilly (1998) sets out a more general version.

3. See, for instance, "The Place of Ultimate Values in Sociological Theory," in Camic (1991: Ch. 18).

4. Collectivities may be contained in other collectivities and as such their values may have some systematic relationship to those of the larger collectivity, such as specification of a more general value.

5. These examples of what Parsons subsumes under the cumbersome term "common-value integration" show how large and imprecise the category is at this

stage of his work. All the phenomena cited and much more are eventually treated in far more refined terms as Parsons develops his theory program.

6. The convergence thesis has aroused some criticism and various responses. For extended discussions, see Lidz (2000) and Lidz and Bershady (2000).

7. From an evolutionary and "futuristic" standpoint, this is not a simple matter. Our minds may have been shaped under the Pleistocene conditions but only in and through the interaction of human or proto-human beings with each other and this interaction might be subsumed under the notion of an action system. Similarly, the future of biotechnology seems to involve the prospects of making changes in the human genome. Thus the "heredity" element is subject to change through action processes, whether these actions intend or do not intend to produce such changes. In the intended case, the conditions have become means (e.g., to producing a longer and/or healthier human life span). This suggests that the ultimate conditions that are not transformable to means are biological mechanisms, analogous to laws of physics, rather than concrete entities produced or reproduced through such mechanisms.

8. For an elaboration of the importance of scope-defined formulations in sociology, see Cohen (1989).

9. At this point in the development of his general theory of action, Parsons (1937: 770) indicates "five analytical disciplines" of action. Psychology is one of these, as well as economics, political science and sociology. The fifth discipline is really a whole set of fields, dealing with action in terms of concrete immediate ends, that he calls "technologies." The treatment of technology by Parsons, especially in contrast to the Marxian subtradition of sociological theory, is very limited in all his work.

10. This question is very much on the agenda of recent rational choice theory in the social sciences. A few examples: Axelrod (1984), Elster (1989), Coleman (1990), and Weesie, Buskens, and Raub (1998). I deal with sociological rational choice theory in Chapter 11.

11. For readers familiar with Stinchcombe's (1968: Ch. 3) formalization of a negative feedback model of functional explanation, my discussion should strike a familiar note. I believe I am only stating what Parsons states in his own inimitable way, but it is likely that I could not have grasped the logic of this idea without the benefit of Stinchcombe's representation.

Chapter 5

The Analytical Theory of Social Systems

INTRODUCTION: THE PATH PARSONS DID NOT TAKE

A key theme developed in Chapter 3 was that in the emergence of the postclassical phase of sociological theory, a set of intellectual influences were shared by Talcott Parsons and George Homans. Each was exposed to the process philosophy of Alfred North Whitehead and the accompanying philosophy of science that stressed the necessity of abstraction in scientific theory, emphasizing the role of frames of reference or conceptual schemes. Through their common contact with Henderson, including attending his seminar on Pareto, they were introduced to the systems approach.

In Chapter 4, I showed that we could grasp the meaning of Parsons's convergence thesis by noting that the claim is that the classical theorists he analyzed are said to converge on a common conception of the generalized structure of social action systems. They do not converge, Parsons makes clear, to an analytical theory. In addition to the structural analysis, such a theory requires a set of analytical elements or variables in specified analytical relationships. An analytical theory is a system of such analytical laws. A clear implication of the whole argument is that Parsons's next task involved analytical theory construction. Apparently, it did not take Parsons long to realize that this task involved considerable difficulties, although what exactly these may have been is not evident from his published discussions. In any case, this led to a transition to what he called a "second-best" form of theory, the structural-functional type.

In the present chapter, my aim is to analyze and assess the path that Parsons did *not* take in his early foundation work, but that Homans *did* take. Namely, in his first synthesis, George Homans defines his task as the

construction of an analytical theory of social systems in the sense of (an approximation to) a system of analytical laws. In the next chapter, the structural-functional theory of social systems, as developed by Parsons, will be the topic. Juxtaposing the two will enable us to see the common elements along with the contrast given by the analytical law focus in the Homans's theory and the pattern-maintenance mechanism focus in Parsons's structural-functional theory.

ORIENTATION TO THE APPROACH

The Synthesis Aspiration

Homans begins *The Human Group* with a discussion of theory in sociology. The classical efforts to develop theory were inadequate in Homans's view because they failed to provide the type of concepts needed for observation. That is, in terms of Figure 1 of Chapter 1, Homans was pointing to a deficiency in the linkage of the framework level of the classical works and the generation and analysis of data through empirical methods. A later generation, between World War I and World War II, he argues, trimmed its sails and tried a more modest data-based approach. This led to more empirical knowledge framed at a more concrete level of discourse but lacked an integrative theoretical framework.

As of 1950, then, he found sociology ready for a new attempt at a sociological synthesis. Like Durkheim, the group and not the individual would be the focus of analysis and like Simmel he would take *interaction* as his guide to the core of sociology. Yet the effort also was to be modest, including a scope restriction to relatively small groups defined by the condition that when the group was active every person could interact directly with every other. This approach to synthesis differs not only in intended scope but also in another way from that taken by Parsons. We can infer this from his decision not to participate in an ambitious faculty seminar at Harvard that led to a major collaborative work on the theoretical foundations of the social sciences (Parsons and Shils 1951; Homans 1984: Ch. 18).

Throughout his career, the emergence of structure is Homans's basic theoretical problem. It can be understood in terms of the Whiteheadian process worldview. In a world of incessant becoming and perishing, how can anything remain the same long enough to count as "custom" or as "structure?" Such time-invariant aspects of a social system must be *generated*, as I have put it (Fararo 1989b). For Homans, this means that social structure is to be accounted for in terms of the elementary mechanisms that describe relationships among the elements of social behavior. The group itself has to be generated by such mechanisms rather than taken as an ultimate given. Echoing Whitehead and Simmel, Homans (1950: 8) de-

scribes the emergent unity constituting a group as a process. It is a process because the elements that describe and compose it are dynamic. In his later work, this focus will become all the more evident in what I will call the "theory of spontaneous order" (Chapters 9 and 10).

The Conceptual Scheme

To delineate the elements of social behavior, Homans first sets out three primitive terms that he calls "first-order abstractions," intended to be close to the level of observation of groups, and he illustrates the intended meaning of each of them: (1) *sentiment* is an inner state that is inferred and named by people, illustrated by liking between persons, an interpersonal sentiment; (2) *activity* is what people do, illustrated by giving orders; and (3) *interaction* refers to a "coupling" of the activities of two or more persons in the sense that an activity of one person is a stimulus for the onset of an activity of another, abstracting from the actual content of the activities. These three terms are not in themselves analytical elements, but the analytical theory that Homans develops employs variables that are based upon them, especially *intensity* of a sentiment, *similarity* of activities, and *frequency* of interaction. As I will indicate shortly, another analytical element plays a major role in the theory, *amount of conformity with a group norm*. These elements and their relationships are what Homans means by the *social system* of a group. More complex concepts, such as position in the social structure of the group, are treated as "second-order" abstractions to be defined in terms of the first-order abstractions. These include structural concepts such as status-role and social rank, as well as customs or routines.

In the next chapter, we shall see that Parsons treats the social system as one of three systems, placing cultural and personality systems in close relation to it but analytically distinct from it. Homans employs a similar analytical strategy. He excludes elements of personality and culture from the analytical concept of social system but takes them into account in the application of the theory of social systems to particular cases, very much in the spirit of Pareto's delineation of the analytical method in science as described in Chapter 2. However, the cultural concept of *norm* plays a major role in the theory, as it does for Parsons, because one of the elements of social behavior, as indicated just above, is conformity with a group norm.

Events, Customs, and Analytical Laws

Pairs of analytical elements are conceived to be in *mutual dependence relations* in the sense that a change in the value of one element produces a change in the value of other and vice versa. The notion of an analytical

law refers to such relationships in Homans's theory, but in the empirical-sensitive spirit of Homans's approach, each is called an analytical hypothesis. The analytical theory, then, is a system of such analytical hypotheses. These analytical hypotheses, Homans (1950: Ch. 2) notes, are to be distinguished from two other modes of description of group processes. The first of these is the most concrete: the description of events, *occurrences*. The second is one step upward in abstraction: the description of recurrences. I see this as a reflection of Homans's exposure to Whitehead's thought with its foundational distinction between occurrence, recurrence and endurance. At the analytical hypothesis level of description, the recurrent forms of group processes are described in such a way as to account for the emergence, stability and change of a type of Whiteheadian society, namely, a human group.

Overview of a Theory Construction Project

Thus, the theoretical framework that Homans wants to construct will have the following basic features:

- Group behavior is analyzed into analytical *elements*.
- The initial elements are specified so as to enable empirical methods to readily yield *observed values of the elements as data*.
- There are *mutual dependence* relations among the elements to be specified in *analytical hypotheses*.
- Events, customs and analytical hypotheses constitute three *levels of description* of group processes.
- The human group is studied as an organic whole or *social system* in an environment.
- The elements and their mutual dependence relations constitute a *dynamic* social system that evolves with the passage of time.
- Structural units and customs or routine social practices are *emergent features* of the dynamic social system.
- Elements of personality and culture, although not incorporated into the concept of *social* system, are treated as factors whose relevance is to be taken into account. This is particularly true of *norms*.

Homans employs a case study method to accompany his theory construction. In the first three case studies, at the time of observation the groups are interpretable as in a steady state of the dynamic social system, while in the last two case studies, the groups are observed to be exhibiting social change. The case studies are: (1) a study of a work group in a manufacturing plant (Roethlisberger and Dickson 1939); (2) a study of an urban street gang in America (Whyte 1981 [1943]); (3) a study of family structure

in a primitive society (Firth 1936); (4) a study of social conflict of a moderate-sized American company (Arensberg and Macgregor 1942); (5) a study of the long-term decay of a small American town (Zimmerman 1938; Hatch 1948).

To illustrate how Homans coordinates concepts to data, in the Bank Wiring Observation Room, the men who were assigned to perform work activities adopted a set of group *norms* about the work, a normative code (Homans 1950: 79). Homans provides a list of such constituent components of the code:

- You should not turn out too much work. If you do, you are a "rate-buster."
- You should not turn out too little work either, otherwise you are a "chiseler."
- You should not report anything to supervisors that might hurt one of the group members. If you do, you are a "squealer."
- You should work with others on an equal basis and not try to act superior. So if you are an inspector, you really should not act like one.

The reader of both Parsons and of Homans is always grateful to Homans for the feature of his theorizing that this list exemplifies. Namely, Homans always exhibits examples of what is meant by an abstract idea, be it a term or a statement. In terms of Figure 1 of Chapter 1, he is concerned to show how framework-level abstractions can be instantiated in real situations in such a way as to assure that data exist as well as theoretical arguments.

THE ANALYTICAL THEORY

Homans's Theoretical Method

We can reconstruct Homans's theoretical method, by which he constructs his theory, as follows.

First, the social system is analyzed in terms of an external-internal distinction. The external aspect of the social system pertains to the group's survival in its environment. Homans treats this aspect of the social system as a subsystem called the external system, which we also may call the adaptive subsystem. The internal aspect of the social system pertains to social relations among members of the given or emergent group. Homans treats this aspect of the social system as a subsystem called the internal system, which we also may call the integrative subsystem.

Second, there are two phases of analysis. In the first phase, the group is treated as an organic whole that is shaped by and shapes its environment. For instance, group norms may emerge that call for behavior different from that demanded by the social environment. In the second phase, the whole group is treated as an environment for its parts. These have properties

induced by their inclusion in the whole, in the typical mode of organic systems. For instance, by virtue of being part of the whole group, a certain group (therefore, a subgroup) may be ranked in a certain way according to the norms of the whole group.

Third, the analytical elements are *specified* for each subsystem. Examples of such specification in the adaptive subsystem include tasks that need to be performed (*activity specification*), required coordination or cooperation to get the tasks done (*interaction specification*), and motivation to engage in the activity (*sentiment specification*). A typical integrative subsystem specification includes interpersonal sentiments of liking or disliking (*sentiment specification*), behaviors or practices expressing these sentiments (*activity specification*), and communication or other contact in the course of such expressive activities (*interaction specification*).

Fourth, the processes specified by the analytical hypotheses connecting these specified elements generate or maintain *structures*. Adaptive structures include a division of labor (*activity structure*) and coordination (*interaction structure*) of the divided activities, the two often taking the joint form of a *hierarchy of supervision of labor*. Integrative structures include patterns of interpersonal sentiment relations (*sentiment structure*), ranking of subgroups and members (*another sentiment structure*), and rituals and routines (*expressive activity and interaction structures*).

Elaboration and Standardization Processes

To account for the emergence, maintenance and change of such structures, the theory proposes two basic processes, elaboration and standardization, that I will describe in some detail. Each of these processes requires some discussion.

Elaboration Process

The process of elaboration is a positive feedback process that can "take off" in either of two directions. Hence, there are two cases to consider.

In the first case, an initial increase in an element produces corresponding increases in other elements that feedback to further increase the first element and so the process takes the form of a "build-up" of the structure of the group. This is the case that gives the process its name. For instance, in a conjectural story about a work group, initially the workers are unacquainted and begin to interact "on the job." This initial increase in interaction in the external system leads to an initial (probably small) boost in positive interpersonal sentiment (liking) that, as expressed in emergent non-task activities, boosts interaction still further, leading to a further increase in positive interpersonal sentiment, and so forth, in a positive feedback cycle. In this form, an increase in interaction in the external system leads

to the build-up of the group, the social integration of people. This is the solidarity type of outcome.

In the other case, the feedback loop goes into reverse. For instance, a factory closes, reducing job interactions among specified people. This initial decrease in interaction leads to small downturn in their expressive activities that reduces their amount of non-job interaction that, in turn, reduces positive sentiments, further reducing expressive activities, and so forth. In this form, the elaboration process is a *dis*integration process triggered by an initial drop in interaction. This might be called the anomie outcome. The two cases differ also in terms of norms and social control, and this will be discussed shortly.

The mechanisms involved in the elaboration process are stated as analytical hypotheses, mutual dependence relationships among the elements of social behavior. For instance, "*If the frequency of interaction between two or more persons increases, the degree of their liking for one another will increase, and vice versa*" (Homans 1950: 112). This mechanism, taken in abstraction from other mechanisms, is a positive feedback loop in which both variables increase (or decrease) together. Note the element of abstraction here: this is a mutual dependence of two variables *in abstraction from* the other analytical relationships that specify other mechanisms that may counteract or modify the effects of this mechanism.

Standardization Process

The standardization process increases similarity among the members. The key analytical hypothesis takes the form: "*The more frequently persons interact with one another, the more alike in some respects both their activities and their sentiments tend to become*" (Homans 1950: 120). This is a description of a similarity/dissimilarity mechanism that has the effect of creating a *boundary* between the social system and the social environment. In other words, in becoming more similar to each they are becoming more dissimilar from the social environment.[1]

One aspect of standardization pertains to norms. I have mentioned that the concept of norm is the key *cultural* element in Homans's framework. For Homans, elements of the social system refer to social *behavior* while the norm element refers to certain *ideas* that members have about aspects of behavior. In general, such normative ideas may vary among members of the group. But the standardization process, in this respect, involves the production of similarity of such normative ideas. When the similarity is very high, common normative ideas have emerged.[2] Such a common normative idea that functions as a *standard* in the evaluation of ongoing social behavior is a *group norm*. Conformity is approved, nonconformity gives rise to sentiments of disapproval.[3] In Parsons's terms, these are moral sentiments in support of a norm. Again, in his terms, a group norm is a part of a *normative pattern*, a set of interrelated norms. The relation to social

behavior involving approval for conformity and disapproval for noncon-
formity means that, in his terms, the normative pattern is *institutionalized*
in the given social system.[4] These remarks point to an important link be-
tween the two social system theories, that of Parsons and that of Homans.
We may put it in the form:

> The institutionalization of normative culture (Parsons) arises as a result
> of the standardization process (Homans).

This Parsons-Homans correspondence could be extended to values, but
Homans's treatment of values is cursory (Homans 1950: 127–128). They
are equated with "unconscious assumptions" that function as tacit premises
in the evaluations that people make. The correspondence is to Parsons's
notion of "value-attitudes," which lack the more explicit character of ul-
timate ends as such.

In Chapter 4, I noted that Parsons distinguished between analytical laws
and empirical generalizations. The former state analytical relationships
among analytical elements and are exemplified by Homans's analytical hy-
potheses stating forms of mutual dependence. The latter state uniformities
pertaining to parts of a system. We can treat the category of norm as an
emergent part of a group. Analytically, it is a cultural component but, as
we have seen, it functions in social behavior as an evaluative standard
eliciting approval or disapproval for various behaviors. This type of general
statement can be illustrated, then, in the context of Homans's theory.

Namely, two empirical generalizations about norms can be noted:

> The members of the group are often more nearly alike in the norms
> they hold than in their overt behavior. (Homans 1950: 126)

> Norms, once established, tend to change more slowly than actual social
> behavior. (Homans 1950: 412)

An aspect of the function of such empirical generalizations in Homans's
theory may be illustrated in connection with Homans's procedure of defin-
ing "second-order abstractions." With norm as a previously defined term,
he defines the concept of role.[5] "A norm that states the expected relation-
ship of a person in a certain position to others he comes into contact with
is often called the *role* of this person" (Homans 1950: 124). Such a norm,
although held in common by group members, applies only to someone in
a particular position. From the second of the two empirical generalizations
about norms, then, we obtain the logical consequence that *roles tend to
change more slowly than the social behavior to which they pertain.*

Internal Differentiation

The analysis of the internal differentiation of a group employs the same mechanisms but to a different purpose. Put in Whiteheadian organic realist terms, the problem is to deal with a specific organic system in regard to the properties of its parts that arise out of their embeddedness in that system. Put sociologically, the problem is to explain the differentiation and stratification of the group. Differentiation into subgroups arises through elaboration and standardization working from a "seeding" in terms of some elements of behavior. Certain persons interact more frequently with each other in the external system that they do with others in the group. The elaboration process builds-up a distinctive subgroup and the standardization process yields similarity of the members with corresponding dissimilarity from the others in the group. Thus, the processes are recursive.

We can picture this in the form of a map with shades of red and blue. Initially, the persons and their environment form an undifferentiated zone of reddish blue. As the group as a whole builds-up, a red zone (group) gets differentiated from a blue zone (environment) but, also, as the subgroups become differentiated, there are emergent pockets of deeper red within the red zone. The whole process of elaboration and standardization, including levels of institutionalization, generates the map, which is a dynamic map—an emerging field of differential colors—until some steady state arises under the given conditions.

Stratification

Social ranking—stratification of the group—is another emergent structural aspect of groups to be accounted for. Ranking is a common sentiment that some members or subgroups are superior to others. Homans treats ranking as mutually dependent with the other elements of social behavior. In particular, the given and emergent common values and norms provide the basis for stratification as they function in the evaluations that members make about each other's behavior. In discussing rank and hence stratification in this manner, Homans is taking the same step taken by Parsons (1954: Ch. IV) in his early theoretical model of stratification. Namely, they notice that the existence of institutionalized normative culture implies differential evaluations. That is, as members express sentiments or engage in various activities, these are subjected to evaluation in terms of the group norms and values. The social ranking of members and of subgroups emerges in this process.[6]

The point has been made that in an analytical theory the hypotheses form a system, implying that each hypothesis is qualified by the others. Put another way, each hypothesis describes a mechanism, but the state of the social system is determined through a *combination* of the mechanisms. A

mechanism, taken alone, corresponds to an empirical tendency that might be offset by other tendencies (i.e., the operation of other mechanisms).

This point is illustrated in the stratification context with reference to the hypothesis, *"the higher the rank of a person within a group, the more nearly his activities conform to the norms of the group"* (Homans 1950: 141). There is a seeming counterexample to this hypothesis. What about the fact that people of high rank often show less conformity to group norms than middle ranking members? Homans invokes another mechanism in the form of security of membership that *reduces* conformity as it increases. For instance, the newcomer tends to be more conforming than the old-timer. Now if a person's rank increases and as a result that person feels more secure in membership, then there are two mechanisms affecting the level of conformity. The higher rank would tend to increase conformity, as in the above hypothesis, but the security mechanism would tend to produce an opposite effect. Hence, these two processes or "forces" act on conformity in opposite directions, so that the outcome is indeterminate so far as the qualitative analytical theory is concerned.

Subsystem Relations

There is a further aspect of mutual dependence, now at the level of subsystems of the social system. Namely, the phenomena of the internal or integrative subsystem act back upon the external or adaptive subsystem. As a result, the assumed initial state of the external subsystem is subject to change and this, in turn, has further ramifications for the state of the internal subsystem. In symbols:
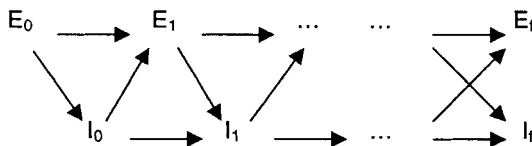
The external (E) and the internal (I) subsystems co-evolve, each affecting the state of the other. However, the diagram also shows that under certain conditions at least, a steady state may exist, labeled E_f and I_f. In a particular group, this might be observed in the way that friendship bonds among members make it more pleasant for them to work together on required tasks, whereas emergent divisions within the group may serve to reduce their effectiveness in task performance. In general, the group processes are continuously going on in terms of mutual dependence of external and internal systems.

In one important case, there is build-up that creates what Homans calls a "social surplus," some features that can be "useful" in relation to the

environment. For instance, there is a social surplus inherent in the rights and obligations of kinship relations. In a so-called primitive society, an *extended* kinship system utilizes this surplus for economic purposes. In other words, external system activities and the like are based upon the obligations of kinship that are created through the elaboration process of the internal system. The social ranking provides the leadership for task situations (e.g., fishing expeditions), the emergent bonds of interpersonal sentiment provide the morale factor, and the expressive activities (e.g., gift giving) make for incentives to participate in such task activities. The point of this particular case is that it illustrates how phenomena that might be taken as simply "given" in some circumstances can be accounted for by the mechanisms of the internal system. In the later phase of Homans's theoretical foundation project this will become a major aspect of the approach.

The two subsystems, as I have pointed out elsewhere (Fararo 1989b: Ch. 2) reflect the respective emphases of Marx and Durkheim, although I am not saying that Homans intended to synthesize their ideas as such. As we shall see later in this book, when the concept of external system is extended to a more complex system, a town or larger social system, it corresponds to the latter's political economy, with a dual focus on relations of production and hierarchy of authority. With technology as environmental, as in the explication of Marx's historical materialism by Cohen (1978), the economy is the part of society that is taken as a "basis" (initial condition) for internal structural build-up that then, through feedback and in conjunction with technology and other environmental elements, forms a dynamical system. The internal structural build-up is generated through the mechanisms of the internal system and represents the Durkheimian integrative dimension of social systems. Essentially, the internal system is a description of mechanisms that can produce solidarity or, under other conditions, anomie, on the basis of concepts such as frequency of interaction (akin to Durkheim's moral density element) and sentiment (clearly an echo of both Durkheim and Pareto). Later in this chapter, I will discuss more specific ways in which *The Human Group* can be considered as very much a part of what Collins (1994) has called "the Durkheimian tradition."[7]

THE THEORY AND THE SYSTEM MODEL

The previous section indicated how Homans's analytical theory employs the notion of the group as a social system in an environment. But that discussion did not yet make fully clear how important a role the underlying system model plays in Homans's first synthesis. That is the task to which I turn now.

The basic idea is fairly straightforward. In my interpretation, what Homans does is to create a correspondence between two sets of concepts. One

set consists of general concepts in the tradition of sociological theory. The other consists of concepts in the tradition of applied mathematics, in particular, concepts dealing with the analysis of systems. Employing the correspondence of concepts, it is possible to see the outline of the nature of the general theoretical problems of sociology in an illuminating manner. In addition, it will help in the understanding of the general systems thinking that underlies so much of Parsons's contributions.

Elements of the Dynamical System Model

A dynamical system is specified by (1) a behavior manifold, consisting of a state space and a parameter space, and (2) a generator of change of state, with the change dependent upon parameters.[8] The *state space* consists of all the possible combinations of values of the time-varying analytical elements of a theory of the type of system under analysis. The *parameter space* consists of all possible combinations of values of parameters. Taking account of all the mechanisms specified by a theory defines a *generator* of changes of state that depends upon parametric conditions.

A system state is called an equilibrium state if, given the parametric conditions, that state is reproduced if the process starts there. It is a stable equilibrium state if, under a small actual or hypothetical ("virtual") perturbation, it tends to be restored by the generator of the process. This concept readily extends to sets of states forming a cycle that is a stable equilibrium. The concepts of stable equilibrium state and stable equilibrium cycle are subsumed, in more recent work on nonlinear dynamical systems (Hirsch and Smale 1974), under the general notion of *attractor*. There may be any number of attractors for a specified value of the parameters. An unstable equilibrium state or cycle, similarly, is subsumed under the notion of *repellor* in nonlinear dynamical system theory. A general theory, understood in this nonlinear dynamical systems context, has the task of deriving a "portrait" of the relation between parameter space and behavior in state space with special reference to attractors and repellors. That is, for every possible value of the parametric conditions, the portrait enables us to find the corresponding behavior in state space, including the complete set of attractors and repellors. Linear systems with single equilibrium states, simple cyclic systems, and chaotic systems are all special types of outcomes that may occur in some conditions but not in others.

Homans's use of the system model involves, as I have indicated, a correspondence between general system concepts and sociological concepts. Homans treats the eventual outcome of the standardization process as an equilibrium state and equates it to emergent structure: routine social practices, differentiation in terms of subgroups and roles, and stratification in the sense of ranking of members and subgroups. There are numerous places in *The Human Group* where Homans implies this sort of correspondence,

but in one particular context he makes it quite explicit, namely in the treatment of social control that I now discuss.

Stability Analysis: Social Control

The question of stability of equilibrium is given close attention by Homans (1950: Ch. 11). *Social control* refers to this question: What if one or more members were to depart from the routines, for instance? What would happen? More generally (Homans 1950: 29), "What makes customs customary?" To account for why such patterns of social behavior *endure*, Homans says, one must ask what would happen—or does happen—if a departure from such a pattern occurs. Here he is taking his cue from the standard method of analysis of stability of equilibrium in applied mathematics. A small virtual or actual departure from equilibrium, in the stable case, is followed by changes in the state variables brought about by the generator. But, in Homans's theory, as I have shown, the generator is the combination of all the relations of mutual dependence to yield a transition to a new state. As these mechanisms recursively apply over time, the initial small change leads to a trajectory in state space that tends to restore the equilibrium state or cycle. Because Homans is careful to note that the actual pattern of social behavior and the institutionalized normative culture do not necessarily coincide, the restoration of equilibrium means that a departure from the customary level of compliance with a norm is what is restored.

These remarks, while they elucidate the connection between Homans's theory and the system model, are highly abstract. In Homans's actual discussion of social control, however, the analysis is highly specific and illuminating. Homans (1950: 284–295) analyzes the case of the norm of reciprocity, citing the case study dealing with the Norton Street Gang. The norm says that if someone in the group does you a favor, you owe that person a roughly equivalent favor in return.

The analysis deals with the question: What controls keep this norm in place in the group? First, we note that the relevant analytical element is a member's degree of conformity with a group norm. In equilibrium, the typical case will be that of members displaying variable levels of conformity. Second, this means that "keeping the norm in place" does not require that social control enforce total conformity. What is essential for control to be effective is that departures from the equilibrium level of conformity tend to be counteracted to restore behavior to its customary level. A good analogy concerns speed limits. If the legal norm is 70 miles per hour, drivers vary in their actual conformity with it. Only motorists who are observed by state police "to drive too fast" are pulled over and ticketed. But "drive too fast" implies a zone of tolerance and an actual distribution of driving

speeds in which "conformity" has a built-in allowance for a difference between norm and practice.

To return to Homans's analysis, we see that he puts the question of social control as: What would or does happen if a member's behavior departs from the customary level of compliance with the norm? The answer is couched in terms of the elements of social behavior that comprise the analytical scheme. Not one, but *multiple consequences* follow such a departure, all tending to support the customary level of compliance with the normative culture of the group. Let M designate the member whose behavior actually or virtually departs from M's customary level of conformity to the reciprocity norm. Such a departure would tend to produce a reduction in favors from others (activity effect), a reduction in liking of M by others (interpersonal sentiment effect), a reduction in association with M (interaction effect), and a reduction in the social rank of M (evaluative sentiment effect). Thus, the controls that keep the norm in place are implicit in the same mechanisms that produce the dynamics that lead to social equilibrium.

Two further important points about Homans's analysis of social control need to be discussed here. The first pertains to the explanation of social behavior. The term "virtual" includes not just an imagined shift from the standpoint of the observer, but also an alternative considered by the actor. Here the observer is representing the actor as making a choice among alternative lines of conduct in terms of their anticipated consequences. Hence, a further aspect of social control relates to its "psychological" foundations pertaining to choice. From the perspective of this book, this is an element of continuity in Homans's own two phases of theoretical synthesis. In his later phase, to be analyzed in Chapter 9, he employs considerations of reward and cost as a fundamental way to explain human behavior. In the social control context in this first synthesis, he employs this type of analysis to put forward an explanation of the direction of choice—to deviate or not to deviate—by the typical group member.

For instance, in analyzing social control in the Bank Wiring Observation Room, he examines the emergent norm about productivity, which was that a worker should produce 6,000 units per day. There is observed variability about this norm in terms of actual records of productivity. To account for this equilibrium behavior, Homans (1950: 293) argues that each member settles into an activity rate that *maximizes total satisfaction, the difference between the reward aspect and the cost aspect of that activity, possible under the given circumstances*. Presumably, members vary in their compliance with the norm because, for whatever reasons, they differ in how rewarding and/or how costly a given level of departure from the norm is to each of them. The key point here, however, is not this presupposed variation but the explanatory use of an *optimization principle* in behavioral form. Between this early argument and his later behavioral theory, Homans

will retain the reward-cost formulation and use informal arguments to the effect, that under given conditions, actors tend to act in such a way as to increase their "profit," the difference between rewards and costs. However, he does not employ the terminology "rational choice" and, in fact, argues that game-theoretic rationality is a special idealized case of the general theory of behavioral choice. More will be said about rationality in Homans's later theory in Chapters 9 and 10.

The second point about Homans's analysis of social control relates to Durkheim's argument that punishment has ritual effects on the group. That is, it not only acts upon the violator but also upon others in the group, so as to reaffirm the norm. As in other places in *The Human Group*, here Homans (1950: 308–311) draws upon the classical phase of sociological theory. An observed departure from (customary levels of compliance with) a norm arouses the moral sentiments in the group. Sentiments are expressed in activity and in the context relevant for Durkheim's mechanism, the expression takes the form of some sort of a socially recognized punishment. (This is different from the case where the offending act has bad consequences for the actor but does not become a matter of general group concern.) Thus, as Durkheim argued, this has the effect of reproducing the normative sentiments in the minds of the members. Hence, it contributes to the process by which conformity with the norm is maintained (i.e., it is an aspect of social control).

Statics and Dynamics

The analysis of the existence and stability of equilibrium states or cycles is often called *statics*. Thus, social statics deals with the characterization of equilibrium social states or cycles in terms of routines and rituals, social relational structures and institutionalized normative culture. It also deals with the analysis of social control, given such components of social equilibrium. The analysis of changes of state is called *dynamics*. This corresponds to the category *social change* in sociology. However, it should be noted that in the general system context, the stability analysis is conducted by reference to the generator of the process and hence involves dynamics. In the correspondence to sociology, the distinction is that in stability analysis, the focus is on the stability of a given social structure while in social change analysis the focus is on instability and hence possible transition to a new social structure. In the structural-functional language of Parsons, in the first case we are analyzing the general social system from the perspective of pattern maintenance as a problem while in the other case we are analyzing the general social system from the perspective of pattern change. In all cases, there is only one generator of process, namely that which combines the mechanisms specified in the theory. Hence, there are no separate

theories of stability and of change, of statics and of dynamics, only different contexts of analysis that makes use of the theory.

Homans discusses two forms of social change. These correspond to the two types of outcomes of the elaboration process that I described. We only need to say that *build-up or integration* of the group corresponds to *growth*: the state variables of interaction, activities and positive sentiments take on increasing values and members become more similar in normative ideas. Thus, one important aspect of the social integrative process is institutionalization of emergent normative culture. Similarly, *build-down or disintegration* of the group corresponds to *decay*: the state variables of interaction, activities and positive sentiments take on decreasing values and members become less similar in normative ideas. Thus, one important aspect of the social disintegrative process is deinstitutionalization of normative culture, hence an ultimate condition of *anomie*.

The case studies illustrate these ideas about statics and dynamics. Homans's analysis of the Bank Wiring Observation Room group is a study in social statics. The implied equilibrium social networks are displayed that are aspects of the emergent social structure of the group, with its two subgroups. Routines involving playing games are described. Institutionalized norms are listed, as in the normative code reproduced earlier in this chapter. Yet, the theoretical part of the discussion has an implied treatment of social integrative dynamics. For instance, it is in that context that Homans sets out the basic mechanisms of elaboration and standardization. The second case, the Norton Street Gang, is largely a matter of showing how the concepts and propositions set out in the context of the first case also apply here to a non-work "autonomous" group. The third case, the family in Tikopia, is another case of statics analysis focused on the enduring system of kinship relations as an instance of a system of interpersonal relations in equilibrium. The new aspect is that no particular family but "the family" is analyzed. In content, the analysis shows how the relationships among the social relations form a kind of balanced system in the modern sense of structural balance (Cartwright and Harary 1956).

The last two cases are those involving dynamics. The Hilltown case is a good example of the disintegrative type of social change in which the state variables decline over time. This occurs through the same mechanisms that produce build-up or social integration. It is worth taking note of the logic of the analysis. The analysis begins with technological, social and cultural changes in the environment of the town, although there is an element of time-invariance in the value sphere, namely, the "Yankee" culture of self-reliance and getting-ahead in life. The changes are produced by groups in the environment of the town and include increased farming competition and the rise of factory towns nearby.

The environmental changes trigger changes in the political economy of

the town (exogenously generated change in the external system.) These are described as changes in the three elements in the external system, sentiment (motivation), activity, and interaction, respectively. First, there is an increase in self-interested economic motivation to take jobs outside of town. Second, there is a decrease in the economic and political activities of the town. Third, there is an accompanying reduction in interaction in the pursuit of such economic and political activities.

In turn, these changes in the political economy of the town trigger changes in the community (changes in the internal system produced by the political economy changes). First, an ever-decreasing "build-down" mode of elaboration occurs, via a spiral of mutually dependent decreases in the three elements: gradual decreasing social interaction, gradual increasing indifference to each other, gradual reduction in communal (expressive) activities. Second, the standardization process goes into reverse as well, producing dissimilarity rather than similarity. This means a reduction in the commonness of norms, they become vague and less shared, and the indifference extends to moral sentiments. Hence, social control becomes less effective and social ranking in the sense of the evaluative ordering of social classes becomes less and less clear. In sum, the political economy (external or adaptive subsystem) and community (internal or integrative subsystem) go into a long-term mutually dependent decline in interaction, activities, sentiments, social control, and social differentiation (ranked social classes).

The final case involves the element of authority and its role in providing what we may call *guided change*. This is in contrast to the long-term unguided change instantiated in the Hilltown case. It is a case of *moving* or *dynamic equilibrium* analysis in which the role of authority is to provide the plan for the direction of movement and to give orders that are intended to keep the group close to the moving equilibrium. That is, the social behavior is expected to undergo a relatively smooth series of changes that are "under control." This is another form of social control, as Homans notes. It differs from social control in relation to norms in two ways. Norms arise from diffuse interaction, orders from specific sources in the group. Norms pertain to the maintenance of a pattern of behavior. Orders, at least in the context that Homans emphasizes, pertain to guided change of social behavior. Concretely, in this case we again have the onset of the depression as an environmental change that would have had a severe economic impact on the company were it not for the action of management. However, in attempting to survive in the depressed environment, managers made changes that led to internal conflicts as the new features came into conflict with existing group structure, routines and norms. Homans analyzes the resulting social conflict and the further efforts of management to deal with it.

CONCLUSIONS

In the previous chapter, I described what I called "the transition to structural-functional theory" in Parsons's work. The point was that Parsons defined that form of theory construction as a "second-best" alternative to an analytical theory in his sense, namely, a *system of analytical laws*. In this chapter I undertook to study the form and content of such an analytical theory in this sense and, moreover, one that also employs the system model that permeates Parsons's theorizing. Thus, the chapter has been a study of the first theoretical synthesis worked out by George Homans, one that took the form of an analytical theory of social systems. In conclusion, I present a brief summary followed by an evaluation of the theory.

Summary

In this chapter, I first discussed some of the essential background for understanding Homans's theory, in addition to that discussed in Chapter 3 under the headings of process worldview and analytical realism. In particular, he constructs his theory in close connection with the analysis of empirical cases that illustrate the general concepts and analytical hypotheses. The latter are statements of mutual dependence among elements. Homans, in agreement with Parsons, believes that if the elements are to enter into an effective analytical theory, they must be such that their values—in the sense of values of analytical elements—must be observable aspects of the concrete entities to which they apply. Interaction, activity and sentiment are the three basic structural elements of social behavior with associated analytical elements such as frequency of interaction, similarity of activities, and intensity of positive sentiment.

The analytical theory is the system of hypotheses, each a candidate for the status of analytical law. This is a system because the various hypotheses each specify a generally monotonic relationship between a pair of analytical elements and the same elements appear in all the hypotheses. Each statement of mutual dependence of elements is only one aspect of a complex system of interrelationships that constitutes the entire analytical system. In the context of the system model, these hypotheses are interpreted as specifications of mechanisms. The whole set of mechanisms constitutes the generator of the dynamics of the social system (i.e., its changing state over time, under given conditions).

Given an initial state of adaptation to the environment, an external system, these mechanisms describe a process of elaboration that has two realized forms. In one form, the positive feedback loop connecting the variables produces a social integrative process in which the group is built-up. In the standardization aspect of the dynamics, this leads to three components of the social equilibrium: routines and rituals, social relational

structures, and institutionalized normative culture. If social control is effective, then this equilibrium is held in place by the very mechanisms that produce it. A behavioral departure from equilibrium is met not with one, but with many consequences. And these consequences are not only punishing to the offender but, when the punishment is public, there is a ritual effect in Durkheim's sense: the moral sentiments that support the norm are reinvigorated in the minds of the members.

Not only statics—equilibrium and stability—are treated by Homans in this first synthesis but also other implied aspects of systems-theoretical analysis. In particular, I endeavored to explain how the analytical theory treats two forms of social change, the social integrative type involving build-up of the group and the social disintegrative type involving "build-down."

Assessment

The Human Group, from the standpoint of this book's concern with general theoretical sociology, is a landmark work. It is understandable that it never was very impressive to sociologists who favor world-historical and/ or critical foci for sociological theory. Even more generally, within sociology, it does not enjoy high visibility in the field today.[9]

One problem is that Homans promoted a conception of his theoretical approach as distant from that of structural-functional theory and also an image of his later work as a supercession of the earlier. He thereby contributed to the loss of understanding of the place of the book in the development of twentieth-century sociological theory. By contrast, in my approach to theory in this book, Homans's first synthesis is deeply affiliated with that of Parsons both in its synthesis aspiration and in its use of the system model. Even where it differs from Parsons it does so in a way that only reveals deeper convergence of sociological ideas. Here I am thinking of the analytical theory strategy and the structural-functional strategy as different and yet in some ways very similar in theoretical content. Some of this similar content has been noted in this chapter under the Parsonian rubric of "institutionalized normative culture" that was found to apply to the content of the standardization process of Homans's theory.

At this point, my aim is to assess Homans's first synthesis as a contribution to general theoretical sociology. I will employ the cognitive standards specified in Chapter 1 that pertain to theory structure (clarity, generality, completeness, precision); to the beauty of theoretical models (simplicity, fertility, surprise); to key problems of social structure coverage (emergence and form, stability, comparison, change); to presuppositional problems of action and order; and to empirical adequacy.

The conception of theory as providing the form of empirical observations through analytical laws, stated at the outset by Homans, yields a theory that ranks high in terms of empirical adequacy. Notice that this conception

of theory does not state that the objective of theory is the *explanation* of empirical regularities. What is to be said about this? In 1950, the most influential works in the logical empiricist philosophy of science had not been published. Hence, Homans had not yet encountered the covering law conception of scientific explanation or the hypothetico-deductive system conception of theory structure. Today, it seems odd to discuss the role of theory in science without using the term "explanation." However, this does not mean that Homans is uninterested in explanatory arguments. He presupposes that science translates "why" questions into "how" questions, citing the influential writings on the foundations of physical theory by Ernst Mach (Homans 1950: 115). In this mode of thought, a "how" question is answered by a mechanism or a set of interacting mechanisms. With this in mind as the philosophical basis of explanation in Homans's theory, I have interpreted the system of analytical hypotheses, in the context of the system model, as specifying such mechanisms. So the apparent lack of reference to explanation is deceptive and yet the linkages stated in at least some of the hypotheses—notably that between interaction and liking—cry out for some intelligible connection that explains (and qualifies) them. I will discuss this below by way of anticipation of the direction taken by Homans in his later work.

Homans's analyses of group processes are not entirely devoid of references to deduction and, in fact, actual deductive arguments. For instance, in an exhibition of his grasp of the system model, he presents a tight argument under the heading "deductions from equilibrium" (Homans 1950: 305–308). Essentially, he is saying that if we assume that a system is in a stable equilibrium state, then we can derive certain statements about it from the fact that there are necessary parametric conditions for stability. But it is true that the display of theorems—derived general statements from specified postulates—is not the mode of presentation that Homans employs.

Ideally, an analytical theory of a type of system will define the system by a set of axioms and then logically demonstrate propositions about its statics and dynamics. This would be done in abstraction from any particular cases, in all generality. In this respect, the analytical theory of social systems we find in Homans's first synthesis provides the starting point for such a formal theory. It was constructed with a strong orientation to the standard of generality. However, its precision is less than might be desired.

Greater precision requires a mathematical version of the theory. In fact, only a year after its publication, Herbert Simon (1957 [1951]) published a formalization of the theory, employing the mathematics of differential equations that Homans had drawn upon in the correspondence mode that I described earlier. Elsewhere, I have summarized and commented upon this remarkable development (Fararo 1989b: Ch. 2). Here I will only note one main difficulty in the formal theory. Namely, the variables are aggregate terms (i.e., total amounts of activity, of friendliness, and of interaction

in the group) rather than a disaggregated representation that would be important for deriving theorems about the emergent forms of social structure and their transformations.

Corresponding to the four general theoretical problems of social structure described in Chapter 1, in a mathematical theory that is strong in this respect, there are four types of theorems (Fararo 1989b: Ch. 2):

- Type I: Existence and forms of social structures
- Type II: Conditions of stability of social structures
- Type III: Comparative statics of social structures
- Type IV: Transformation of social structures, whether smooth and continuous or catastrophic and discontinuous

Although the state of the system is represented in aggregate form in Simon's mathematical theory, it demonstrates the power of a mathematical formalization by enabling the deduction of a theorem of each type. In that sense, "the Simon-Homans model," as we may call it, ranks very high on the criterion of treatment of the key problems of theoretical sociology.

Moreover, because of its deductive character, Simon's analysis has elements of beauty. It starts with relatively simple expressions that correspond to Homans's basic mechanisms, and then exhibits considerable deductive fertility in terms of deriving the various types of theorems. One perhaps surprising consequence of the model appears in the analysis of its implications about social change, namely there are derived "catastrophes," abrupt shifts in outcome given by smooth parameter change (Fararo 1989b: Ch. 2).

One important aspect of Homans's theory deserves some further discussion in any assessment of his first synthesis, namely, the conceptual scheme of first-order abstractions. Here we turn to the standard of clarity and potential or actual conceptual problems.

Interaction is probably the least problematic of the first-order abstractions if understood in Homans's sense as the sheer element of contact between people in abstraction from the content of the contact as reflected in the activity element. It presupposes the concept of activity since it pertains to relatedness between the activity of one person and that of another. This takes us to Homans's more problematic activity concept.

To begin, sociologists are likely to wonder why Homans does not employ the term *action* in his conceptual scheme. After all, it is a key term in key writings of the initial phase of the tradition of sociological theory and had been central to the beginnings of Parsons's first synthesis. It cannot be because he was unfamiliar with the relevant extensive writings of Weber on the action foundations of sociology. In his autobiography, he mentions studying Weber's works during the 1930s (Homans 1984: 123). And, of

course, he was quite aware of the early work of Parsons. So why "activity" and not "action?" Put another way, why not build on the conceptual work of Weber and Parsons?

Perhaps the basic reason is Homans's strong commitment to theoretical-empirical linkage through the specification of observational concepts as the elements of the theory. This implies a tendency to avoid or somehow get around reference to subjective meanings. This is apparent in an explicit remark that Homans makes that rules out the use of the term "action." The context is very early in the book, where he is specifying the three first-order abstractions. After reproducing a lengthy passage from an anthropological field study of family life in a community in Ireland, Homans points to words and phrases in it to point to the intended observational meaning of his three first-order abstractions. In regard to the activity element, among the words and phrases that he cites are *potato planting, corporal punishment, smoking, looks after, plays, sits, talks, Communion.* Each, he says, refers to things that people do. Then he offers this account of the concept of activity:

If we want to be precise, we can say that all these words and phrases refer in the end to movements of the muscles of men, even though the importance of some of the movements, like talk and ceremonies, depends on their symbolic meaning. We shall speak of the characteristic they have in common as an *element* of social behavior, and we shall give it a name, as a mere ticket. It might be called *action*, if action had not been given a more general meaning. (Homans 1950: 34–35)

I interpret the last comment to be an oblique reference to Weber's concept of action in the context of his definition of the field of sociology: "We shall speak of 'action' insofar as the acting individual attaches a subjective meaning to his behavior—be it overt or covert, omission or acquiescence" (Weber 1978 [1922]: 4).

These two passages, from Homans and from Weber, suggest that Homans's activity element, taken literally, would refer to some but not all human actions. If there are no muscle movements, there is no activity in Homans's sense, yet there can be action in Weber's sense. One may forbear from doing something and this may take the overt form of not moving to help someone nearby who is in distress. Helping, for Homans, would be an activity, but "not helping" would not be an activity even though, in the context, it is an action that might be morally disapproved.

What shall we make of this? Recall that for Weber, the subjective meaning aspect had the consequence that sociology must interpret behavior as a prelude to explanation. In particular, an item of behavior must be observationally understood if it is to be motivationally understood. The observational understanding of a behavior means, essentially, giving it an act description consistent with the subjective meaning of the actor. This label

put on a behavior is a cultural entity in its own right, a cognitive category employed in the system of action. It is precisely this cognitive culture that Homans can rely upon in order to point to instances of activities. In the various situations that the field investigators observe, they come to learn the cognitive typifications employed by the actors to describe their behavior. Then Homans, as a second-order investigator, can point to the typifications found in the anthropological reports. In short, the use of the concept of activity *does* presuppose what Weber calls the observational understanding of action: an observer's cognitive categorization of an item of behavior as being a certain act. This, in turn, means that there is an implied purposive aspect to the behavior, the end element in the sense of Parsons's concept of the unit act.

These remarks lead me to suggest the interpretation of activity as an organized nexus of unit acts.[10] In the case of the activity of a single actor, it is a sequence of acts or, in the limit, simply one act. In the case of the activity of a plurality of actors, it is a social act in Mead's sense with each actor's ingredient sequence of acts comprising part of the whole social act constituting the activity (e.g., conversation, or, to cite Homans's example, Communion). Because activity is an organized nexus of unit acts, its observational understanding is an essential feature of its correct interpretation and subsequent placement in a motivationally understood context.

This element of interpretation is more clearly recognized by Homans in the case of the element of sentiment. Terms that Homans sees as designating instances of this aspect of social behavior are "drives, emotions, feelings, affective states, sentiments, attitudes" (Homans 1950: 38). He recognizes that this is quite a heterogeneous collection but that the common element is some internal state of the actor, whether that be hunger, liking or approval. Here he must admit that such states, by his own words, cannot be directly observed. Interpretation is necessary:

In deciding what sentiments a person is feeling, we take notice of slight, evanescent tones of his voice, expressions of his face, movements of his hands, ways of carrying his body, and we take notice of these things as parts of a whole in which the context of any one sign is furnished by all the others. (Homans 1950: 39)

This is a forceful statement of the underlying complexity of the element of sentiment. But from the standpoint of recent theoretical sociology much more could be said about the relation to the definition of the situation (the context) and the categorization of the feeling-states by oneself and others (Heise 1979; Ridgeway 1994).

Another conceptual issue that arises in regard to sentiments relates once again to Weber. Why, in Weber's terms, does Homans include both "non-meaningful" and "meaningful" types of feeling in his sentiment category? That is, why treat hunger and thirst as on a par with liking and approval?

The analytical motive becomes apparent in his analysis of the Tikopian family, where Homans tries to account not for a particular family but for the general institutional form taken by the family in that society. For this purpose, the sentiment element in the external system is taken to include the general sex, food and hunger drives of human beings as organisms. Such drives are not generated in social systems but are given for them, not from their social or cultural environments, but from their common heredity.[11] In order to apply the same conceptual scheme to social systems generally, therefore, Homans takes the step of specifying an element that has a diverse range of instantiations.

My conclusion about the conceptual scheme and the theory is that what is required is a set of concepts that relate to activity, interaction, sentiments, and norms but that have a more micro-level instantiation so that *the generative process can concatenate over actual occasions to produce the build-up that Homans delineates*. Simon's differential equations implicitly do this, but by virtue of their aggregated form, they do not provide a good sense of what happens in each occasion of interaction to produce social solidarity (or anomie in some cases).

Let me call this "the generative problem" in Homans's theory.

At least two later theoretical models begin to address the generative problem. The first is Newcomb's (1953, 1956) ABX model, an important part of the tradition of balance theory (Heider 1946; Cartwright and Harary 1956). The model envisions pairs of members (A, B) oriented to items (X) that can be anything at all, including other group members. A process of communication about X, when it is relevant and important to the members, tends to generate movement toward two distinct balanced states. The first is characterized by a common evaluative orientation to X, positive or negative, and by liking, a positive interpersonal sentiment relation between A and B. The second balanced state is one in which the members disagree as to the evaluation of X and dislike each other. In the former state, the members will seek each other for further interaction, whereas in the latter they will tend to avoid interaction beyond what is necessary ("in the external system" to use Homans's terminology). Thus, the theoretical model generates the relationships between similarity, liking and frequency of interaction that are proposed as analytical hypotheses by Homans. We shall see in Chapter 10 that in his later work, Homans strives to embed this balance-theoretical account within his theory.[12]

The second theoretical model that can be interpreted to address the generative problem in Homans's theory is the interaction ritual chain model (Collins 1988: Ch. 6) that is part of the Durkheimian tradition. The model draws upon Durkheim's ideas and their microsociological elaboration by Goffman (1967). Its elements of physical co-presence, emotional mood, and common focus of attention are embedded in a positive feedback loop that builds-up a group with common moral feelings. These elements correspond,

approximately, to interaction, sentiment, activity and norm. As Collins (1988: 365) points out, "Homans's model is a kind of skeletal outline of the Durkheimian process. What the ritual theory adds, besides detail on how the interaction has its effects, is the point that a successful ritual results in feelings not just of liking but of moral obligation." This model itself needs formalization, especially to show that it is capable to generating disintegration as well as integration as outcomes.[13]

I turn now to the assessment criteria relating to action and order as these were described in the first chapter as versions of two presuppositional problems of sociological theory. The problem of action pertains to the relationship of rational and nonrational elements of action. Homans does not explicitly treat the role of rational and nonrational elements in the formulation of a generalized theoretical synthesis. However, he comes very close to it in an interesting discussion of motivation relating to the element of self-interest (Homans 1950: 95). His point is that what is a self-interested motive in a given group very often can be understood as generated within the internal system of another group to which the person belongs. For instance, in the Bank Wiring Observation Room, the workers brought to the group motives pertaining to earning money. But this apparently self-interested motive is linked to their breadwinner positions in families in which they have what Parsons would call a "collectivity orientation." More generally, sentiments in the adaptive subsystem are rational, those in the integrative system nonrational in the sense of involving emergent interpersonal sentiments and the expressive activities to which they gave rise. Thus, in Alexander's terms, Homans's theory is multidimensional with respect to this presupposition.

The presuppositional problem of order, in my interpretation, deals with methodological individualism versus methodological holism as modes of explanation of social order. Homans (1950: Ch. 12) treats this problem explicitly in a chapter on individual and group. He contrasts two general theoretical approaches: social contract theories and social mold theories. In the first, the individual has primacy, while in the second the collectivity has primacy. A social contract theory argues that society is the outcome of interactions among individuals. The properties of individuals determine the properties of society. A social mold theory argues that individuals are the product of society, constrained by external social facts as well as socialized to existing values and norms. Homans rejects the underlying dichotomy, "individual versus society," substituting two *elements* in mutual dependence. The individual element is a function of the social element and vice versa.

Because of the mutual dependence of the individual and social elements, a kind of cycle exists, as he puts it (Homans 1950: 319–321). Suppose we start with the individual element in the form of given individual needs and characteristics. The first "individualistic" phase of the cycle is the emer-

gence of patterns of social behavior, including norms, based upon the interactions among persons with these needs and characteristics. This embeds the social contract theory in a reconciliation or synthesis of the two theories. The second "collectivistic" phase of the cycle involves the mechanisms of socialization and social control. This part of the cycle embeds the social mold theory in the synthesis. It has the consequence of shaping or constituting individual needs and characteristics, the individual element with which we began.

Hence, Homans's formulates a synthesis that provides one way to reconcile the two positions, thereby providing a multi-dimensional treatment of the problem.

One question one can raise about this argument concerns norms: how and why do norms emerge? Homans assumes, in effect, that "the is" becomes "the ought." Habitual patterns becomes valued and enshrined in sanctioned norms. In framing norm emergence in this way, Homans is in agreement with the major theorists of the classical phase of sociological theory. For instance, Camic (1986: 1053, 1059) shows that both Durkheim and Weber favored the idea that norms emerge out of habitual patterns of behavior. More recently, drawing upon Durkheim, Weber and Mead, but using a social phenomenological starting point, Berger and Luckmann (1966) adopt a similar notion that institutions arise out of habituation. They add cognitive concepts such as "typification" that are useful for a more complete theory. Yet it is true that this classical conception of norm emergence overlooks that norms also may arise as a consequence of what Coleman (1990) calls a "demand for a norm" when some members of a group experience the negative externalities of certain behaviors of other members. I will return to this point in later chapters.

In his later synthesis, as we shall see, Homans refines his conceptual scheme, although retaining the most general features of his approach to concepts. The reinforcement mechanism and reward-cost formulation—the latter employed only sporadically in *The Human Group*—move to center stage in the later work as the theory takes the form of a deductive system with behavioral principles as its postulates. An approximate image of the logic of the transition can be put in terms of the philosophy of science. In *The Human Group*, Homans is setting out a set of interrelated laws (analytical hypotheses). The laws, in a certain sense, derive from findings, but generalize them. They specify mechanisms that account for observed social system phenomena (e.g., the forms of social dynamics). Then the later deductive theory explains the laws by deriving them—and perhaps qualifying them in terms of clarifying the conditions under which they hold.

NOTES

1. This is what Fine (1979) has called "idioculture."

2. Although this emergent commonness of normative ideas pertains to norms rather than values in Homans's theory, it is otherwise close to Parsons's element of commonness of values as the pivotal element in his effort to specify the scope of analytical sociological theory.

3. A common normative idea that does not function in this way is an ideal (Homans 1950: 124). Hence, in Fararo (1989b), I used the term "operative ideal" when I added the condition that, in a cybernetic context, the ideal term is compared with a "real" term and the difference gives rise to actions that tend to keep reality close to the ideal. An operative ideal, then, is a norm.

4. Sociological intuition usually calls for the concept of institution to meet a test of "multiple embodiment," potentially or actually across time, via the turnover over members, or across social space, via pattern repetition in various subcollectivities or the like (Fararo and Skvoretz 1986b). In a small social system studied over a relatively short time period, an observed emergent normative code will meet the test only in the potential sense in most cases.

5. The concept of position is used in the definition. It is a very complex concept that Homans treats as equivalent to "status" (Homans 1950: 11), where it would seem that it is a system of relationships among specified values of the four elements of activity, interaction, sentiment, and norms. If any one of these changes, the position changes.

6. Parsons's scheme includes the evaluation of what persons *are* in a socially meaningful sense as well as what they do, qualities as well as performances.

7. Collins treats the work of Homans under the category of the utilitarian tradition, but I have argued in my 1989 book that Homans is more properly regarded as part of the micro-level solidarity-focused wing of the Durkheimian tradition. I also do not see the sharp break in this sociological focus even when he criticizes Durkheim's concept of sociological explanation. My interpretation of the latter will be treated in Chapter 10 in such a mode that reconciles the two modes of explanation.

8. A more complete discussion is given in Fararo (1989b: Ch. 2).

9. Evidence for this is the fact that the book does not appear on recent lists of "best books" compiled in various ways and published in sociological periodicals such as *Contemporary Sociology*, the field's journal of reviews; *Footnotes*, the newsletter of The American Sociological Association; and *Perspectives*, the newsletter of the Theory section of that association.

10. A different interpretation of the concept of activity would be that it is a *practice* that is accomplished in and through actions.

11. In terms of the structure of social action specified by Parsons, heredity is part of the objective counterpart to the ultimate means and conditions sector. In terms of Parsons's later language, these drives are needs that, by virtue of socialization, become need-dispositions (e.g., the need-disposition for sexual gratification as shaped by a given culture).

12. Kimberly (1997) provides a tightly argued theory of group processes that draws extensively upon the ABX model.

13. Fortunately, such formalization has begun. A few years ago, a colleague and I circulated a paper on the problem of solidarity—discussing sociological theories of solidarity as well as useful ideas from mathematical sociology—to theorists and mathematical model-builders and asked them to go to work on the problem in a formal way. Collins was one of those who responded. See the introduction by Fararo and Doreian—which urges linkage of the formal ideas of balance theory in the ABX model version to the Durkheimian model—and the chapter by Collins and Hanneman in Doreian and Fararo (1998).

Chapter 6

A Structural-Functional
Theory of Social Systems

INTRODUCTION

Throughout this book, I am emphasizing the process worldview that is common to the tradition of sociological theory throughout its development. It takes varying forms in different phases and writings. In Chapter 3, it was argued that two postclassical synthesizers that I focus upon in this book, Talcott Parsons and George Homans, implicitly shared the epistemology of analytical realism that Parsons had set out on the basis of his study of Whitehead's writings. In Chapter 4, the analysis was centered on Parsons's early implementation of the analytical realist approach to action systems. I emphasized one of Parsons's key points that is grounded in analytical realism, namely that sociological theory is only one of the analytical sciences of action. Its scope, he suggested, is given by a focus on the analysis of social action systems in terms of the emergent element of common-value integration. Presumably, the next step in the development of theory would be the construction of an analytical theory, a system of analytical laws. However, the complexities of setting out a system of laws led him to a transition in theory construction strategy in which the aim would be to construct a structural-functional theory. Such a theory would build on the empirical fact that social systems, like biological systems, tend to maintain certain patterns over time. Such a pattern maintenance focus provides the basis for what he regarded as a "second-best" form of theory.

Thus, the stage was set for the first syntheses of Homans and Parsons, each implementing the standpoint of analytical realism and each striving for a theory of social systems from a sociological point of view. Homans retained the conception of theory as a system of laws and, as discussed in

the prior chapter, approximated the construction of such a theory in *The Human Group*, published in 1950. The present chapter is a similar analysis of Parsons's structural-functional theory of social systems as set out in *The Social System*, published in 1951 and also in a lengthy collaborative essay published in the same year (Parsons and Shils 1951).

I will begin with an overview of the three general types of systems implicated in any concrete system of social action, namely, social system, personality system, and cultural system. Then I will show how Parsons derives a scheme of three types of action and three types of culture from an actor-situation frame of reference. At that point, we are prepared to address the logic of institutionalization and of internalization, the two key ways in which types of culture are articulated with action in situations, and the way in which pattern variables enter into the logic of structural-functional theory. Following this focus on the broad outlines of the theory, I will examine the social system model in two sections. The first treats "complexes" as structural aspects of any social system. The second treats equilibrium and stability. The theme will be the considerable similarity of all this to Homans's system model. I close the chapter with a discussion of the integration of social systems.

THREE TYPES OF SYSTEMS

Recall that in Chapter 4, I showed how Parsons set out a model of the structure of social action systems. But he also indicated that another type of action system could be defined in terms of the actor element, namely the total system of action of an actor. In other words, the concatenation of acts gives rise to two types of nexūs, to use Whitehead's term. The "personal" action nexus or system Parsons calls "personality" and regards as the domain of the science of psychology. In *The Social System*, then, the *personality system* is one of three types of systems. The elementary type of structural unit of a personality system is the *need-disposition*, corresponding to the *role expectation* as the elementary type of structural unit of a *social system*, a system of interaction that is inclusive of only part of the total action of the personal action systems of its participants. As in Simmel's duality conception of individual and society, the whole personality is not included in a social system. This is true for any social system, whether a dyad, an organization, a world system, or a society. Finally, in *The Social System*, culture consists of symbols with common meaning—gestures, spoken or written words, and so forth. The term *cultural system* is used to refer to some defined body of culture such as a belief system (e.g., sociological theory).

As an example of the use of the three systems aspect of the framework, consider an action system described as a community in which the actors practice a certain religion. The term "community" suggests a system of

social interaction. The term "religion" suggests a cultural system that includes sacred symbols. The term "practice" suggests their interpenetration in a context that includes participation in religious rituals as a role-expectation. Finally, it is plausible to assume that there are need-dispositions to engage in actions that show respect for the sacred symbols. The general point is that any concrete system of action consists of social, cultural, and personality components of action. In terms of the two types of conceptual schemes set out in Chapter 4, one dealing with structural relations among parts of a system and the other with analytical relationships among elements (variables), two basic types of relationships among the three types of systems exist, respectively, that will become evident in this chapter:

> *Interpenetration*: Parts of culture become parts of personality systems (internalization) and parts of social systems (institutionalization). A certain degree of matching of the two is a necessary condition for social stability.

> *Interdependence*: Cultural, personality and social variables are mutually dependent and in particular analytical contexts one can treat certain variables as parameters while others are treated as dynamic state variables. In particular, certain cultural pattern variables function as parameters of institutionalized social interaction.

Given this overview of the types of systems, I turn now to the way in which Parsons specifies the structure of social systems by a constructive process that starts from a set of types of action.

THE ACTOR-SITUATION FRAME OF REFERENCE

Actor, Situation, and Interaction

The starting point is the actor-situation frame of reference.[1] The *situation* of action consists of objects and relations among them and the action of the *actor* is guided or controlled by *orientations* to the situational objects. Orientation refers to subjective meaning to the actor, as in Weber's action foundations of sociology and does not exclude shared subjective meaning. The incorporation of the Meadian emphasis on the self occurs through placing any actor in a double position in the action frame of reference: as both subject and object, so that the orientation relation is reflexive. That is, the actor has a self-orientation.

Elaborating on the situation side, there are three types of objects: physical objects, cultural objects (symbols), and social objects. With the reflexive aspect just mentioned, there are three sub-types of social objects: other

individual actors as objects of orientation, collectivities as objects of orientation, and the actor as an object of orientation (Mead's "me"). A concrete entity may be an instance of more than one type of object. For instance, a copy of a book is both a physical object and a cultural object, both held in one's hands and read. Another specific human being is a social object but also an organism and also may be a symbol of some idea. One important point about culture is the Parsonian analytic insight that cultural objects are to be found on both sides of the actor-situation boundary. On the situation side, they are external objects to which the actor orients, while on the actor side they are internal and partly constitutive of the personality and behavioral systems of the actor.

In terms of the actor-situation conceptual scheme, *social interaction* is represented as a "coupling" of two actor-situation models, as we may put it. That is, each actor is also a social object in the situation of the other (and the situations of the two actors overlap in other respects, of course). This "endogenous" representation of each of a plurality of actors shifts the conceptual scheme into the system-environment frame of reference. This implies that, because actors have expectations in regard to objects in their situations, in the social case, each is oriented to the expectations of the other. When one party acts, this behavior may or may not coincide with the expectations of the other. The *reactions* to the behavior are functionally defined as *sanctions* whether or not intended as such. These can be important to the actor not only if they are overt but also in their status as anticipated responses or as attitudes toward a class of behaviors. This leads to the concept of *double contingency* (Parsons 1977: 167): "Not only, as for isolated behaving units, animal or human, is a goal outcome contingent on successful cognition and manipulation of environmental objects by the actors, but since the most important objects involved in interaction act too, it is also contingent on *their* action or intervention in the course of events. The theory of games is perhaps the most sophisticated analysis of the implication of such double contingency."[2] Parsons (p. 168) regards this double contingency as the foundation for the importance of classical theoretical treatments of both the potential for instability (Hobbes) and the potential for individual autonomy within an institutionally stabilized system (Durkheim).

Elaboration of the Conceptual Scheme

Elements of Orientation

Elaborating on the actor side of the basic actor-situation frame of reference, there are three aspects of orientation to objects:

- Cognitive (e.g., a typification of an object)
- Cathectic (e.g., emotional attachment to an object)
- Evaluative (e.g., selecting among alternative orientations to an object)

The evaluative element of orientation, or subjective meaning, is introduced in addition to the cognitive and cathectic elements in order to have a place for *choice* in the framework. It is an element of continuity with the voluntaristic standpoint of *The Structure of Social Action*. More generally, in Parsons's terms, this element deals with *selections* among alternatives of orientation that each have both a cognitive and an affective aspect. The term "selection" is wider in its reference than the concept of choice because it covers not only deliberate or consciously made decisions but also what the analyst interprets as implicit selections among alternatives. For instance, a particular selection might be taken for granted by one or more actors.

As an example of a conscious evaluative orientation, consider an actor in a situation in which both A and B are types of foods that the actor believes will have certain probable consequences for that actor's health (cognitive element). Then, despite the fact that the actor likes A much more than B (cathectic element), the actor may choose to eat B. To explain the choice, the analyst would invoke the third element of evaluation and, in particular, to the actor's evaluative standards that, in this case, give priority to future consequences rather than to immediate enjoyment. In other words, a choice model would be constructed that incorporates all three aspects of orientation that are said to define an actor's *motivational orientation*.[3]

Culture

Given these cognitive, cathectic and evaluative aspects of orientation to objects, three corresponding elements of culture can be specified that Parsons calls cognitive, expressive and evaluative. The cognitive component of culture is rooted in categorization or typification schemes pertaining to physical, cultural and social objects. The expressive component refers to modes of expression of affect toward objects and includes the emotional meaning of gestures or of objects such as the symbolization of attachment through gifts. As in Homans, the gift is an expressive symbol while gift giving is expressive action. The evaluative component of culture needs some elaboration. Namely, cognitive culture implies evaluative problems and standards, (e.g., standards of truth). The same can be said of expressive symbolization and for instance, standards of appropriateness or beauty. Evaluation, in the case of social object evaluation, implies moral standards. Truth, beauty and goodness are thereby embedded in the conceptual scheme as instantiations of more general variables. This yields the following

list, showing both the general elements of culture and corresponding types of cultural systems:

- Cognitive cultural elements (cognitive categorization systems)
- Expressive cultural elements (expressive symbol systems)
- Evaluative or normative cultural elements (value systems)
    —Cognitive value element (e.g., truth)
    —Appreciative value element (e.g., beauty)
    —Moral value element (e.g., rightness or goodness)

Action Orientations

At this point, we have a roster of motivational elements and a corresponding roster of cultural elements. These are the basis for three types of *action orientations* (also called "action interests"), each a composite orientation consisting of a mode of motivational orientation and a corresponding cultural element:

- *Cognitive action orientation* combines cognitive motivation and categorization, a focus on definition of the situation.
- *Expressive action orientation* combines cathectic motivation and expressive symbols, a focus on expression of affect.
- *Evaluative action orientation* combines evaluative motivation and cultural values, a focus on the integration of cognitive and expressive action orientations.

Types of Overt Action

In a further step of concept formation, this last type of action orientation is combined with the temporal element intrinsic to action to derive types of overt action that provide the starting point for Parsons's sociological theory of social systems. So the focus now is on the integration or ordering of action orientations in the flow of action processes, combining evaluative action orientation and some temporal reference. First, the temporal organization of action may be in terms of a given end or goal, an anticipated future state of affairs. With a focus on means, priority in the evaluation action orientation goes to the means-end knowledge, the cognitive side of the evaluative integration. This is the *instrumental* form of overt action. Instrumental values, such as efficiency, emerge in action processes of this type. Second, the temporal organization of action may be in terms of priority to expressive action orientation, rather than on instrumental matters. Expressive values, such as sociability, emerge in such *expressive* action processes.

Parsons also posits a third type of action in which neither the cognitive nor the expressive action orientations have evaluative primacy. Instead, the

evaluative action orientation concerns the organization or "integrity" of an action system as a whole, either a personal action nexus or a social action nexus. This defines two subtypes of the *moral or responsible* type of action and corresponding moral values, designated by Parsons as "ego-integrative" and "collectivity-integrative," respectively. Thus, there are three types of overt action with corresponding values. I provide an example of each of the latter in the following listing:

- *Instrumental action and instrumental values* (e.g., efficiency)
- *Expressive action and expressive values* (e.g., sociability)
- *Moral or responsible action and moral values*
  —*Personally responsible action and personal moral values* (e.g., honesty)
  —*Socially responsible action and social moral values* (e.g., fairness)

These types of action may be combined in a characterization of concrete action and in this sense they are analogous to Weber's viewpoint on ideal types of action to which this scheme relates. For example, "doing's one duty" is a path of action that might be undertaken with both a sense of personal integrity and also a sense of obligation.[4] Thus the action would be both personally and socially responsible. On the other hand, an action deemed nefarious on personal moral grounds might be called for in an institutional definition of a situation. The terminology "socially responsible" runs the risk that a casual reader will interpret it as moral endorsement by the theorist. Thus, there is a trade-off here between this terminology and Parsons's own cumbersome "collectivity-integrative moral action" that conveys little intuitive meaning. We need as much of that as possible to grasp the logic of this theory. I base my terminology on occasional usage of the term "responsible action" by Parsons—for instance, in Parsons (1960)—as well as on formalization efforts that draw upon his ideas (Skvoretz and Fararo 1989, 1996a).

Parsons and Homans on Types of Action

The Parsonian scheme of three types of action corresponds closely to Homans's types of activity. The socially responsible type of action corresponds to activity that conforms to group norms, including those defining roles. In turn, in Homans's conceptual scheme, such activity can be either task-related ("activity in the external system") or expressive (of interpersonal sentiments), corresponding closely to Parsons's instrumental and expressive social action types, respectively. This correspondence turns out to be a vehicle for grasping the basic logic of Parsons's very complex construction of his conceptual scheme for a sociological approach to social systems. But, before I elaborate on this point, I turn to some other gateways to grasping the logic of this scheme. In particular, the next topic, types of

institutions, takes us directly into the core of the structural-functional theory of social systems.[5]

INTERPENETRATION: THE INSTITUTIONALIZATION OF CULTURE

The category of socially responsible action is central to the theory because it is through institutionalization that such actions are *defined*. That is, in a given situation, a type of actor has an *obligation* to act in a certain way. Correspondingly, other actors expect such a mode of action, which is their *right*. In short, we are talking about the social definition of action that is morally approved or disapproved.[6] The status-role is the elementary structural unit, which such definitions socially create. An *institution* is an integrated cultural pattern of status-role definitions in abstraction from persons, while a *collectivity* is a specific system of interaction of persons in status-roles. The ontology of the action framework, in which an institution consists of culture, enables this distinction to be made because a cultural pattern or framework may be socially internalized in an indefinite number of collectivities. At the same time, a single collectivity may embody a variety of institutions that form a kind of "knot" in the context of that collectivity.

Three Types of Institutions

It is not often realized that Parsons makes some important distinctions among modes of institutionalization of culture. There are three types that he specifies, namely relational institutions, regulative institutions, and, in a more specific sense, cultural institutions.[7]

Relational institutions are constitutive of statuses and corresponding role relationships. They are definitions of responsible action in social situations, keyed to the classification of the relevant actors (their status aspect). An actor whose acts realize such definitions is not in some personality-typifying sense a "conformist." To conform is to con-form (i.e., to act in such a way as to realize the social form that has been instituted: parents vis-à-vis their children, teachers vis-à-vis their students, professionals vis-à-vis their clients, and so forth). Of course, this does not prejudge the extent of evasion of responsibilities and the like, a topic treated by Parsons (1951: Ch. 7) and discussed below in connection with social control.

The distinctions made in the general action scheme serve to motivate the specification of two other modes of institutionalization. The first mode relates to the roster of types of overt action; the second mode relates to the roster of types of culture.

First, consulting the list of actions in the prior section, we see that in addition to socially responsible action, there are three other types of action that an actor might exhibit in a status-role: instrumental action, expressive action, and personally responsible action. These are constrained by *regu-*

lative institutions. For instance, there may be role expectations that pertain to the acceptable limits of the pursuit of private interests in a status-role. Regulative institutions, then, presuppose relational institutions.

Second, consulting the list of types of culture in the prior section, we see that there are two other types of culture, aside from the evaluative type: cognitive and expressive. In terms of type of cultural systems, Parsons treats cognitive categorization and framing in terms of belief systems. Expressive culture, on the other hand, implies systems of expressive symbolization. Thus, there are two additional modes of institutionalization of culture.

A belief system is a *cultural institution* when there is an obligation to its acceptance in a role without any specification of expected action in regard to it. For instance, a member of a modern society is expected to accept the results of science as at least tentative truths but not necessarily to *do* science. By contrast, *scientist* is defined through a relational institution that entails an obligation to act to advance a field of science. In a systematic analysis of belief systems, Parsons (1951: Ch. 8) treats science, philosophy, ideology, and religious ideas as four analytical elements generated by two binary oppositions: empirical vs. nonempirical and existential vs. evaluative. For instance, the ideological element in a belief system is the evaluative-empirical combination. So, for instance, Marxism as a concrete (albeit complex) belief system can be analyzed as Marxist science, Marxist philosophy, Marxist ideology, and Marxist religion (e.g., in Durkheim's sense of sacred beliefs of certain believers).

An expressive cultural pattern, similarly, is a cultural institution when there is an obligation to its acceptance in a role without specification of expected action to create it, criticize it, or the like. For instance, in a certain group, there may be an expectation that members should appreciate certain forms of music or art but this differs from a specialized status-role of musician or artist.

There is another mode of institutionalization of moral values that also fits under this category of cultural institution. Namely, a moral value pattern is a cultural institution if its acceptance in a role is obligatory but the member is not expected to put it into practice. For instance, Parsons cites the ethic of the Sermon on the Mount as a socially accepted moral value standard of this type. This type of institution defines a social ideal that actors should not renounce, on penalty of negative sanction, but the term "ideal" indicates that it has a different status in the social system than the role definitions of socially responsible action.

Summary Interpretation of the Three Modes of Institutionalization

In summary, I suggest that the three modes of institutionalization can be understood as follows, now shifting to an "emergence" mode of thought that I associate with the process worldview. Common meanings emerge

and become differentiated aspects of a system of social interaction. Such common meanings include beliefs, expressive symbols, and values. In the patterning of interaction, instrumental values, expressive values, and moral values emerge. The "building-in" of such culture into social action systems may include diffusion or not, but it includes the possibility and often the actuality of multiple social internalization or embodiment in diverse collective units within the social action system of reference. Relational and regulative institutions are emergent patterns of *sanctioned* moral meaning of actions in regard to their consequences for *social* action systems (as contrasted with the *personal* action systems of the actors). Relational institutions define responsible actions—rights and obligations of actors toward each other—in the form of status-role patterns, such as employer and employee, parent and child, student and teacher, politician and constituent, and so forth. Regulative institutions set limits to the pursuit of instrumental, expressive and *personal* moral interests within a given framework of such relational institutional meanings. They do so by permitting some actions in certain situations, while prohibiting others, given the place of the actor in the status-role relationship system. The third mode of institutionalization—yielding cultural institutions—involves building into social action systems various patterns of beliefs, expressive symbols, and *idealized* morality.

INTERPENETRATION: THE INTERNALIZATION OF CULTURE

In the action frame of reference, there are two relationships that are central to the connection between cultural, social and personality systems. First, the structure of a social system is constituted by the institutionalization of normative culture. This was the central theme of the prior section. Second, the structure of a personality system is constituted by the internalization of culture. I turn now to a discussion of this second relationship to show its connection with some of the ideas in the classical tradition and to delineate forms of internalization corresponding to the types of culture.[8]

Freud and Durkheim

Between the time of the publication of *The Structure of Social Action* in 1937 and as part of his transition to the structural-functional strategy of theory construction, Parsons made another transition. Namely, he began to think of the theory of personality in Freudian terms. In fact, and this is the relevant point for my analysis, Parsons came to the view that another convergence occurred in early–twentieth-century social thought, namely that between Freud and Durkheim as to *internalization of moral values.*[9] He also points out that this concurs with Mead's ideas, but his theory gives

far more prominence to Freud in this respect. For Freud, the superego is the presence of societal morality in the mind. It censors and in other respects checks the otherwise asocial inclinations of the organism's biological drives that define the id. The ego is the mind as a rational, thinking process, interpreted as an arena in which society and organism do battle in the form of superego and id, respectively. Thus, Freud's theory formulates a natural tendency for conflict in the personality system, just as Hobbes had formulated such a tendency in the social system. For the general theory of action systems, this means there is a problem of personal order as well as a problem of social order.

For his part, Durkheim describes a "duality" of human nature.[10] One source is society; the other is the organism. But society leaves a certain zone of the mind free from its definitions and controls, corresponding to Freud's ego. For Durkheim, the common conscience is the societal morality in the mind, the Freudian superego. Without such normative control, there would be no limits on the drives of the organism, the Freudian id. However, in Durkheim the relative importance of the internalized morality relative to the ego is made to depend upon the social structure. With evolutionary social differentiation, moral values become more general and leave more space for deliberate individual choice of action and viewpoint. Durkheim goes beyond Freud in another way. The common conscience is also a common consciousness in the sense that more is internalized than morality. Durkheim mentions language itself as a communal product that the newcomer to society acquires along with morality.

In general, parts of culture are internalized in socialization to become parts of the structure of the personality system, where they are need-dispositions. Parsons and Shils (1951) describe these units of personality structure in such a diversity of ways that it is difficult to settle on any canonical definition. The implication is that they are connected with motivation and that they largely operate at a nonrational level of selection.

Need-Dispositions: An Interpretation

To link the Parsons concept of need-disposition to other conceptual schemes in social theory, I will make use of a "habit" language, as when Parsons and Shils (1951: 78) state that they are "habits of choice." There are a number of similar concepts in social theory. First, habituation is a key term in the social constructionist language of Berger and Luckmann (1966) who, like Parsons, emphasize the two fundamental social processes of institutionalization and internalization of meanings. The emphasis there is cognitive, namely on the emergence and habitual use of cultural schemes of categorization or typification. But internalized cognitive categories also have an affective component and that aspect needs to be retained, as in affect control theory (Heise 1979). Second, the notion of "habit of choice"

also articulates to the concept of *habitus* employed by Bourdieu (1990a), who emphasizes its role in social reproduction or pattern maintenance in Parsons's terms.[11] Finally, third, Camic (1986) has shown that the conception of habit, provided it is not identified with the behavioristic usage of an automatic learned response to a stimulus, is rooted in classical sociological thought.[12] For instance, habitual action is one of Weber's basic types of action.

In short, in the context of the internalization of culture, I will say that a need-disposition is a *habitual* mode of orientation to situations. Given the three types of cultural patterns, internalization has three specific forms that can be put in the following form:

- *Internalization of cognitive culture*: the habitual typification of the world in terms of cultural categorization schemes and associated beliefs.
- *Internalization of expressive culture*: the habitual activation of affective meanings and their modes of expression that are associated with types of situations and objects in them.
- *Internalization of evaluative culture*: the habitual assumption of cognitive, appreciative and moral standards of evaluation.

The arousal of guilt or shame under certain conditions could be interpreted in terms of underlying psychological mechanisms associated with internalized *moral* standards. The list makes evident that this is a special case within the more comprehensive roster of components of internalized culture.

THE MATCHING PRINCIPLE

Relation of the Internalization and the Institutionalization of Culture

Let me now draw out the implications of the two basic modes by which culture is related to action in situations, institutionalization, and internalization. In one mode, institutionalized normative patterns constitute the structural features of the social system. Such patterns specify role expectations associated with statuses, including membership itself. In most situations, members *implicitly* compare actual behavior with these role expectations and their reactions function as sanctions in the form of approval and disapproval. In the other mode, internalized cultural patterns constitute structural features of the personality system. They are need-dispositions that are habitual ways of orienting, as keyed to types of situations.

The principle that links the two modes by which culture is involved in action is that the *stability* of a social structure depends upon the degree to

which there is a match between need-dispositions and role expectations. Parsons (1951: 42) refers to this idea as "the fundamental dynamic theorem of sociology." I will refer to it as the Matching Principle.

> *The Matching Principle*: The stability of the structure of a social system depends upon the degree of matching between the need-dispositions of the personalities of the actors and the role expectations that apply to them in their positions in that structure: the greater the matching, the greater the stability.

In particular, in the case of a *perfectly integrated social system*—also called an institutionally integrated social system—for every actor, for every status-role and for every situation involving that status-role, there is a match between what is normatively expected of the actor and the actor's need-dispositions. Habitual moral action in which obligatory actions are undertaken without thought of norms then become "the normal forms of interaction" (Fararo 1989b: Ch. 3). The expectation that actor A in status-role R will do X in situation S, held by actors generally, corresponds to a form of habitual action by A as keyed to activation of role R in situation S. In this interpretation of Parsons's theory, such habitual action does not rule out social creativity, the equivalent of Chomsky's linguistic creativity. Institutions provide frameworks of action and need-dispositions that enable improvisation in conduct compatible with value pattern parameters.

Parsons and Bourdieu

In the prior section, I mentioned a connection between habitual modes of orientation in Parsons and Bourdieu's concept of habitus. The connection can be specified somewhat further in terms of the concept of cultural capital. Recently, Swartz (1997: 76) has shown that Bourdieu's writings imply three modes in which cultural capital is present in action. Each of these has a parallel in Parsons's conceptual scheme.

First, Bourdieu treats culture as objectified. We can understand this in terms of systems of symbols external to individual actors but generated in the interaction of all actors in a system of action. The parallel to Parsons is that in the action-situation frame of reference, the situation includes cultural objects.

Second, Bourdieu treats culture is embodied in dispositions, the habitus. This is parallel to the habitual modes of orientation specified above.

Third, Bourdieu treats culture as institutionalized. But here he appears to restrict this important notion, emphasizing education as the institutional complex in which certain forms of culture are privileged as legitimate and others are not. While this covers Parsons's category of cultural institutions and hence the tendency to reproduce, for instance, certain belief systems,

it does not do justice to relational institutions that constitute or define the very meaning of objective social relations. On the other hand, since the concept of field in Bourdieu's work is his theoretical method for the analysis of social institutions, we can note that Bourdieu (1990b: 194) formulates his own version of the Matching Principle when he writes, "a field can function only if it can find individuals who are socially predisposed to behave as responsible agents."

Let me return to another aspect of the Matching Principle. If the actor, for whatever reason, fails to produce the expected action there may arise a question: What is going on? Is it deliberate or a mistake? And at that point, the moral meaning of what otherwise seemed all the while to be mere routine action may become salient for the actors. The taken-for-granted character of what I have called socially responsible action (i.e., Parsons's "collectivity-integrative moral action") is upset. Thus, the Matching Principle says something about instability as well as stability. For instance, the gender institution of a society is destabilized when occupants of the status <woman> no longer feel obligated to act out traditional role expectations. Among other things, they no longer assume, as a matter of course, that they should become housewives while their husbands pursue a career. Of course, such a shift in need-dispositions is itself a social product, perhaps a combination of an unintended consequence of other changes in the social system and a social movement directed toward rebellion against the particular institutionalized normative pattern. This sort of movement, in turn, draws upon the discrepancy between common values, such as equality, and social reality in the form of imperfect institutionalization of those values.

So far as the sociological theory of social systems is concerned, the next problem is to provide a theoretical basis for the analysis of roles. This involves the pattern variable scheme.

THE PATTERN VARIABLES AS PARAMETERS

The Analytical Role of the Pattern Variables

We have seen that relational institutions are the core of the normative pattern that tends to be maintained. They constitute the meaning of socially responsible action, as I have called it. The alternatives for definition of such action are framed in the theory as *pattern variables*. Such alternatives are framed as dilemmas, each a binary opposition (Parsons 1951: 58–67). Since the context is socially responsible action, the focus is on the consequences for the collectivity of alternative choices of action. When, for each binary opposition, one side of the dilemma is institutionalized, the result is a value

pattern characterizing a social relationship. I will call it a *value pattern parameter*.

In a perfectly integrated social system, the interactants in institutionalized social relationships will have internalized these parameters as standards that they habitually employ in the production of and reaction to actions. This implies that, for such actors, there will be no dilemma at all: the cultural solution prevails in the form of the institutionalized definition of the situation and in the form of internalized habitual assumption of the appropriate action orientation. Short of the ideal case, there may be varying levels of discrepancy between the value pattern parameters and the inclinations of actors, with implications for stability as stated in the Matching Principle.

For a given institutionalized definition of a social relation, the analyst's problem in any particular case may be put as "estimation of pattern parameters," a qualitative and interpretive analogue of a procedure used in the coordination of a formal theoretical model to a body of empirical data (Fararo 1973). Given the estimated parameters, if we assume that the relevant system is stable, then we can predict that the observed action will stay near the parameters. This prediction rests upon the interpretation of the parameters as "settings" or "reference standards" in a control system model. To say a little more, consider a room temperature control system. If we know the thermostat is working and if we learn the setting, then we can predict that the room temperature will stay near the setting. Similarly, an institutionalized value pattern, I suggest, can be interpreted as a set of parameters in a control system for actual social interaction that will tend to stay near the pattern. It follows that in this context, it is not the *behavior* as such but the institutional *definition* in relation to behavior—the value pattern control setting—that is to be estimated. Then, the discrepancy between behavior and definition, from the point of view of the theory, is analyzed in terms of control concepts—the portion of the theory that treats deviance and social control mechanisms.[13]

Thus, the value pattern variables function in the interaction process as a multi-dimensional standard in the sense of the control system theory (Powers 1973). Put in the implicit imperative mood, the parameter says: Make the interaction like this![14] This cybernetic model makes clear the important role of internal standards through the use of a control principle of action in its negative feedback form (Fararo 1989b: Sect. 3.2). In Chapter 8, the more general idea of an information and control hierarchy that Parsons employs will be set out and connected with classical theoretical sociology. Admittedly, and this is an important qualification, this whole program is difficult to realize in empirical terms and is far from straightforward in most cases. We are not dealing with sharp quantitative concepts, but with binary oppositions that are not always as clear as we might wish.[15]

Examples of the Parameters: Lay Knowledge and Homans's Cases

In what follows, in each case I will provide examples, one of which will be based upon interpreting lay knowledge of the institution. For this purpose, I will refer to status-roles in the American judicial institution. Other examples will refer to the case studies from Homans and are intended to show a further fit between the two theories of social systems. Because of the relative clarity of Homans's analyses and the concreteness of the cases, the examples also may help to clarify the meaning of the variables—as defined by Parsons (1951)—and of other concepts introduced earlier.

Affectivity vs. Affective Neutrality

In the nature of motivation, expressive action, which is grounded in cathexis or emotion, has a natural primacy over the other types of action, each of which involves some element of discipline. The binary opposition is framed between gratification and discipline in terms of *affectivity vs. affectivity neutrality*.

Examples. (1) In the judge-defendant social relation in American society, in the public trial situation, the judge is expected to restrain herself from expressing feelings of liking or not liking the defendant. This constitutes a specific aspect of socially responsible action expected of a judge. Affective-neutrality is institutionalized in this situation. (2) In the Tikopia kinship system, there are kin relations defined as restrained and other such relations defined as comparatively unrestrained. In the latter, for instance, jokes may be told, but not in the former. These correspond to affectivity and affective neutrality as contrasting elements in role expectations. (3) In the Bank Wiring Observation Room, the workers may be envisioned as starting out unacquainted. Their relation is one of co-workers in respect to some task. This relation is thereby characterized by affective neutrality as a parameter. Socially responsible action consists of being task-oriented. As they interact, interpersonal sentiments emerge and the socially responsible action involves expected sociability. Hence, we can envision their total relation as composed of two components, two role relations. Work is still defined as affectively neutral, but the interpersonal sentiment relation is affective. The total relation, then, realizes both sides of the pattern variable. In other words, the relation between concrete persons is a composition of relations among status-roles they occupy. Managing the contrast in day-to-day work is one of the problems or dilemmas of social interaction in such cases.

Collectivity-Orientation vs. Self-Orientation

The dilemma here is another type of discipline problem. In the nature of action in situations, the actor may have personal or subcollectivity interests in that situation that are not the same as those of the collectivity. A social

standard may call for the priority of the collective interest or not, in that situation. This is the binary opposition of *collectivity-orientation vs. self-orientation*.

Examples. (1) During a controversial trial, the judge may rather not risk his chances of re-election by making an unpopular decision relating to the defendant, but he must put this private interest to one side in the interests of socially responsible action. Collectivity-orientation is institutionalized. (2) In the Bank Wiring Observation Room, it was legitimate and indeed expected that a worker would have a self-orientation in terms of earning a living. However, there was an emergent group norm about limits on rate of production. The worker was expected to be oriented to this collective norm and was negatively sanctioned for producing at too high a rate. Note that, once again, the pattern variable distinction seems to coincide with the external-internal distinction.

Universalism vs. Particularism

The basic dilemma here is the relative primacy of cognitive and appreciative standards in a social situation. Cognitive values tend to be expressed in a generalized or universal form transcending the collectivity, while the appreciative standards tend to be relative to the particular collectivity. The primacy of cognitive values versus appreciative values defines the binary opposition *universalism vs. particularism*.

Examples. (1) A judge is expected to apply the same body of law to *any* defendant before her. Socially responsible action defined by this universalism means transcendence of the particular relationship to the specific defendant before her. (2) In Tikopia, a boy had a special relationship to his mother's brother, in which he had a right to expect friendly guidance in learning the things that males must come to know in that society. This is a particularistic element in that social relationship. By contrast, (3) in the work situation in the Bank Wiring Observation Room, an inspector was expected to apply universalistic standards to judge the quality of the product passed on to him by a solderer and not to be influenced by any friendship relation to the latter.

Quality Performance (Ascription vs. Achievement)

A social object is an individual or collectivity in the situation of the actor. As a social object, it is an author of performances in the social system. A social standard may obligate the actor to attend to its performances, in terms of their effectiveness or success as achievements. Or it may be a matter of attending to its attributes in treatment of that individual or collectivity. This variable is termed either *quality-performance* or *ascription-achievement* has two contexts of application, namely in reference to criteria for eligibility to occupy the status-role and to treatment, given role occupancy.

Examples. (1) To be appointed as a federal judge, a person must satisfy certain performance or achievement criteria pertaining to education and experience. The judge is evaluated by reference to performance, not according to race or gender. These are role expectations of the performance or achievement type. (2) Clearly, in Tikopia a person who is mother's brother to a boy child occupies this status-role through ascription (and when there are several such brothers, perhaps performance becomes relevant as well).

Specificity vs. Diffuseness

A role expectation may include a specific interest in the object or it may obligate the actor to an indefinite plurality of specific interests in the object. This is framed as the binary opposition *specificity vs. diffuseness*.

Examples. (1) A judge is expected to confine her interest in the defendant to trial-related matters. (2) In the work situation of the Bank Wiring Observation Room, the role relations were defined in specific terms. So far as that relation is concerned, the only interest was in terms of a certain subactivity within the whole collective task. However, as the men came to know each other, their relation acquired an element of diffuseness.

Types of Role Expectations in Terms of the Parameters

Parsons uses the pattern variables to define a roster of logically possible role expectations. He later puts the self-collectivity pattern variable to one side,[16] using the other four. There are then four binary oppositions, hence sixteen possible values of the value pattern parameter, each defining a possible social control setting for interaction in a social situation.

For instance, in the social relation of judge to defendant in a trial, the role of the judge is described by the following value pattern parameter estimated from lay knowledge of the institution: affective neutrality, universalism, performance, and specificity. By contrast, the value pattern parameter for the relation of mother toward her child in Tikopia is estimated from the ethnographic report as follows: affectivity, particularism, ascription, and diffuseness. In the Bank Wiring Observation Room, the work interactions were controlled by the pattern parameter: neutrality, universalism, specificity and achievement; however, the emergent "social" relation is parameterized in terms of affectivity, particularism, diffuseness, and ascription.[17] The total relationship between each pair of men thereby combined all the values of all the pattern variables in a set of structured *contrasts* in which each man is dual-related to every other as both coworker and co-member of the emergent group.

In general, then, a configuration of such combinations of values of pattern variables is required to describe an institution as a system of roles. After the four-function scheme was initiated (as described in the next chap-

ter), Parsons asked and attempted to answer the theoretical question as to what *explains* the institutionalization of one or another pattern parameter. His basic strategy is to link the value parameter to functional differentiation or functional phase of a process (Parsons, Bales, and Shils 1953). The logical structure of the linkage may be put in the form: If the context is one of functional need F, then the pattern variable combination will be P. For instance, consider the Durkheimian phase analysis of a hunting and gathering group (Durkheim 1995 [1912]). If the phase involves hunting, this is an adaptive phase of the group with primacy of instrumental activity calling for the pattern parameter affective neutrality, performance, specificity and universalism. This is called the *instrumental value pattern*. After the hunt, the group assembles to engage in ritual communal eating. This primacy of expressive activity calls for a pattern parameter shift to affectivity, quality, diffuseness, and particularism. This is called the *expressive value pattern*. Logically, the Durkheimian phases are parallel to the activities in the Bank Wiring Room group where task-orientation and sociability mingle but probably also display a phase element in terms of work periods and game-playing periods.

There is some question about whether this sort of control system interpretation of the pattern variables can be empirically tested. The feasibility of such empirical tests rests upon the extent to which the theoretical framework is accompanied by empirical methods that translate its conceptual schemes into data, in this case data of two types: (1) classification of normative patterns in terms of the conceptual scheme of the pattern variables, and (2) classification of structures or phases of process in terms of the conceptual scheme of functions. Both aspects of the empirical methodology have been deficient in the structural-functionalist tradition, undermining its efforts to provide a theoretical foundation that sociologists could put to the test as well as employ in an interpretive mode.

SOCIAL SYSTEM ANALYSIS: COMPLEXES

Correspondence with Homans's Analysis

Parsons's analysis of the structure of social systems follows a pattern that resembles Homans's procedure in certain respects (Parsons 1951: Ch. 4). Corresponding to Homans's external system, Parsons defines a pure instrumental complex of interaction as associated with rights and obligations embodied in role definitions in terms of affective neutrality, specificity, performance, and universalism. Corresponding to Homans's internal system, Parsons defines a pure expressive complex of interaction as associated with rights and obligations embodied in role definitions in terms of affectivity, diffuseness, quality, and particularism.

Parsons elaborates on this notion of two complexes and the institution-

alization of roles relative to them. In the next section, I aim only to provide a brief sketch to highlight two points. The first point is that his procedure is to define concepts in parallel for the two complexes, exploiting a kind of abstract symmetry. The second point is that he attempts to embed sociological concepts in use within the conceptual scheme. This procedure amounts to an explication of any such concept by treating it as a node in a semantic network.

Brief Sketch of the Two Complexes

An *organization* is defined as a system of cooperative relationships in the instrumental complex, while a *gemeinschaft* is a system of loyalty relationships in the expressive complex. A social system is *solidary* to the extent that such loyalty is institutionalized and a *collectivity* is a solidary social system. A concrete collectivity will have *both* a gemeinschaft structural aspect (or phase) and an organizational structural aspect (or phase) corresponding to its expressive and instrumental complexes.

Corresponding to *facilities* (resources) in the instrumental complex is the functioning of objects as *rewards* in the expressive complex. Concrete objects—physical, social or cultural—may have *both* social meanings for the actors. The *allocation of facilities* and *rewards* is a basic process in social systems that Parsons treats as part of the institutionalization of roles. For instance, the institutionalization of the status-role *judge* includes some defined sphere of authority and also a normatively expected allocation of *physical resources* (e.g., an office, a courtroom), *cultural resources* (e.g., law books), and *social resources* (e.g., a law clerk). On the expressive side, the institutionalization of *relational rewards* refers to the establishment of conditions under which actors in roles are *entitled* to certain expressive orientations from others. For instance, a judge is entitled to certain esteem.

The analytical scheme of two complexes is further elaborated in terms of concepts dealing with structural aspects of inequality. A *power system* is implied in the instrumental complex, involving rights to control certain resources,[18] while a *stratification system* is implied in the expressive complex, involving social ranking (as in Homans) based on rights to receive certain relational rewards—esteem or prestige and the deference that goes with it. In Weber's terms, this is the allocation of status honor. In his treatment of stratification, Parsons (1954: Chs. 4, 19) emphasizes the complexity of social evaluation in terms of multiple bases of ranking actors.

SOCIAL SYSTEM ANALYSIS: EQUILIBRIUM AND STABILITY

The pattern variable scheme is intended as the basis for implementation of the conception of the structure of social systems as consisting of insti-

tutionalized normative culture. The next step, given the tendencies to depart from the institutionalized pattern, is to specify the pattern maintenance mechanisms. In terms of the control system image, these are essentially homeostatic in the sense that departures from pattern parameters tend to be counteracted through certain processes. Essentially there are two sources of disturbances. One is the tendency of new members not to have the requisite role orientations. The corresponding process is social learning; hence here the mechanism invoked in the stability analysis is *socialization* (Parsons 1951: Ch. 6). I will not discuss this class of mechanisms but instead focus on the other source of disturbances, namely a tendency of members to deviate from role expectations either on occasion or systematically.

Stability Analysis: Social Control

The corresponding mechanism invoked in stability analysis is *social control* (Parsons 1951: Ch. 7). As in Homans's theory, the system model is employed in terms of the notion of the stability analysis of an equilibrium state, a state of interaction that coincides with the relevant institutionalized normative culture. Deviation from the role expectations occurs when action, as observed by one or more actors in the system, fails to correspond in one or more respects with the relevant value pattern parameter. Such a deviation, in the stable case, sets off action processes that tend to counteract it and thereby tend to maintain or restore the equilibrium state. These action processes, as treated in this analytical context, are the mechanisms of social control.

For instance, consider the doctor–patient relation in the modern medical system (Parsons 1951: Ch. 10). This relation is characterized by the instrumental pattern parameter. A medical examination, for instance, is controlled by such pattern elements as affective neutrality and specificity. The control process can work from within or from without, or both. An experienced physician, one who has internalized the value pattern, is unlikely to experience sexual arousal in the course of examination of a female patient. This is social control of the body and is overwhelmingly not deliberate but habitualized, part of the habitus (Bourdieu 1990a) of the physician. Allowing for departures from this state, however, if sexual arousal does begin to occur, the physician will attempt to inhibit it. On the other hand, if the physician should display signs of sexual interest in the patient, the latter's initial reactions will serve as negative sanctions. Applying the assumption of a control system that is effective, then, action and reaction tend to maintain the pattern of interaction in its "normal" state (i.e., a state that corresponds to the value pattern parameters). To be effective, the reactions to a departure from role expectations need not intend to "apply sanctions." The analysis is in terms of *consequences* of motivated behavior where the motivation may not include the anticipation of *those*

consequences. For instance, a raised eyebrow can be a small reaction to a small change in tone of voice that implies disrespect, leading to an immediate shift toward the expected expressive aspect of conversation in which each speaker shows appropriate deference and demeanor (Goffman 1967).

In this discussion, the postulate of a largely implicit comparison of actual action and normative pattern requires that the actual action be characterized in terms of the pattern variables as well as the normative pattern, an assumption that is spelled out in the general framework (Parsons and Shils 1951). Consider a spouse who says, "Mind your own business" when asked, "Where were you last night?" In the marriage relation, diffuseness is institutionalized, so that the burden of proof is to show why an interest in some aspect of the other is not legitimately part of the relationship. Without addressing this burden of proof, the aforementioned spouse is violating diffuseness, behaving as if the relation were one of specificity—in which the limited interest implied in "Mind your own business" would be institutionalized. In this instance, the difference between action and normative pattern is the opposition between realized specificity and expected diffuseness.

In the interpretation of deviance and control phenomena, it is important to think in terms of a plurality of social systems as well as a plurality of personality systems. The interpenetration concept is membership role. Each member of a given "partial" social system (e.g., a family, a work group) will a member in other such systems. This is one important source of deviation from role expectation. Habitual compliance with role expectations in one social action system may be drastically altered by virtue of certain events in the other such systems. Such events create disturbances in the personality system of the actor that then lead to departures from socially responsible action in the other system, as when a person who is fired from a job in an organization returns home and "takes it out on" a spouse. Psychological processes are involved here that articulate to the social system analysis as inputs from its environment. That is, the personality systems of members are a source of exogenously generated initial conditions that constitute departures from the institutionalized value patterns of that system.

System Theory and Functional Imperatives

Let me remind the reader of the correspondence between the concepts of the general system model and the Homans-Parsons sociological concepts. Action that departs from role expectations corresponds to a departure from an equilibrium state of a system. Effective social control corresponds to a stable equilibrium state, meaning that reactions have the effect of sanctions that tend to maintain or restore equilibrium.[19] *Ineffective* social control, then, corresponds to unstable equilibrium. Reactions that have the effect of sanctions may be too few, too weak, or the like, and tend not to main-

tain or restore equilibrium. The control system is not working, so that predictions of actual behavior cannot be made on the basis of knowledge of the value pattern parameters.

Parsons (1951: Ch. 7) presents a rather elaborate analysis of the possibilities with respect to deviance and control, including placing Merton's (1938) paradigm for the analysis of deviance within the scheme as a special case. This includes the treatment of some forms of deviance as innovations that promote social change. However, from the point of view of the *logic* of the shift to the structural-functional strategy, I need not try to analyze this aspect of the theory. It suffices to say that with the above correspondence that characterizes Parsons's treatment of deviance and control, there is virtually total agreement between Homans and Parsons as to the problem of pattern maintenance as mapped into the systems model.

In each instance, however, it is difficult to find a crisp theorem stating the stability conditions for equilibrium. In the case of Homans, recall that there was a subsequent formalization by Simon that did lead to theorems. Let me now add that, as interpreted in terms of the pattern variable scheme, two theorems together state a necessary condition for the existence of social order (i.e., a stable social equilibrium state [Fararo 1989b: Ch. 2]).[20] The logical consequence is that a necessary condition for social order is that affective neutrality is not too small. What this means is that this pattern variable parameter of the social system is "needed" in the sense that without a sufficient degree of affective neutrality, the instrumental tasks do not get done and the system is destabilized. This is a classical type of functional theorem. Namely, a "functional necessity" or "functional imperative" for an ongoing social system is that the element of affective neutrality be built into it (i.e., action in some situations should take the form of disciplined attention to instrumental and moral considerations in priority over immediate gratification). It is not claimed that this particular theorem statement in itself is a major result. Rather, it is an indication of the kind of theorem one would like to see in the pursuit of the problem of stability of equilibrium problem or, in Parsons's terms, pattern maintenance.

THE INTEGRATION OF SOCIAL SYSTEMS

Some further remarks about integration will close this discussion. Two sets of remarks by Parsons and Shils (1951) are relevant here. First, the structural-functional theory of social systems does not imply that the integration of a social system can be accomplished *only* through the internalization of common values. Internalization is necessary, but not sufficient, for a stable social system (i.e., an institutionally integrated system). They put this point in the following way:

Social integration, however much it depends on internalization of norms, cannot be achieved by these alone. It requires also some supplementary coordination pro-

vided by explicit prescriptive or prohibitive role-expectations (e.g., laws) enunciated by actors in specially differentiated roles to which is attached "responsibility" in collective terms. (Parsons and Shils 1951: 126)

They go on to consider such responsibilities as those involving allocation of resources (e.g., budget allocations) and representation of the collectivity in its external affairs.

Second, Parsons and Shils go further and state the general proposition that, in all generality, no social system ever could be completely integrated. Value conflict and role conflicts guarantee a certain amount of instability that is actually a source of social change. Nevertheless, and this goes back to my discussion of idealization in Chapter 1 and elsewhere in this book, Parsons quite properly uses the concept of an institutionally integrated system as a fundamental basis for developing the sociological theory of social systems.

The crucial orientation element for social system integration is collectivity-orientation. Without it, the responsibilities to *that* system of interaction take second place to other interests, perhaps in other social systems wherein they *do* have collectivity-orientation. This is a situational matter. In some diffuse sense, a worker may be more attached to a family than to an employing organization. But, given the employment contract, there is an obligation to fulfill certain responsibilities in certain organizational contexts.

From the standpoint of Parsons's theory, a degree of sharedness of collectivity-orientation in a specific social system is a *moral* level of integration calling for "moral action of the collectivity-integrative type." I have used the term *socially responsible action* to capture the intended idea. Parents are socially responsible for the care of their children, teachers are socially responsible for providing instruction to their students, workers are socially responsible for completing their assigned tasks, and so forth. The expected action may be instrumental, expressive or some combination of the two.

The definiteness of system reference is critical here. Consider two firms that enter into an exchange relation in a market. Given the organization of each firm, each can be treated as a collective actor. The exchange nexus is one of mutual instrumental action. Such a dyad is not a collectivity as such, since it fails the test of collectivity-orientation. A market is a social system, but not a *solidary* social system, hence not a collectivity. In Parsons's terms, a market is an instrumental *ecological system*. A friendship network is an expressive ecological system. Such an ecological system, whether a market or a friendship network or some other kind, may be integrated in the sense of interrelations of instrumental or expressive activities. But, since it is not a solidary system, it lacks the capacity for *action in concert*. In this way it differs from a collectivity with its instrumental

structural aspect (organization) and its expressive structural aspect (gemeinschaft). System reference is illustrated in another way by the market example. The articulation of the two firms occurs through the institutionalization of specific roles, as when a dress-manufacturing firm has a sales representative role as part of its structure and a department store has a dress buyer as part of its structure. When two actors, taking these two roles, respectively, interact a *third* social system is thereby constituted, an *interstitial* social system (Bates and Harvey 1975). The initial state of the system is defined in purely instrumental terms but an internal system arises, characterized by the expressive value pattern. The composite relationship of the two actors becomes a blend of instrumental and expressive role relations. "Personal relations" thereby come to play a part in the relation between the organizations and economic relationships are embedded within chains of interpersonal relations that link organizations. This point, emphasized so strongly in influential writings in economic sociology, especially a paper by Granovetter (1985), is implied in the conceptual scheme of Parsons, although the complexity of that scheme often served to conceal rather than reveal such aspects of it for many readers.

The market example also illustrates the general point that a social system may be a system of collectivities without itself being a collectivity. However, a complex system may be both a system of collectivities and a single collectivity in its own right. This point appears to go against the grain of much of modern conflict theory, which provides an interpretation of societies as *only* arenas of actual or potential conflict among contending sub-collectivities (Collins 1975). Consider an ideal type society that is a pure nation-state. The duality of this society is evident in the two components: expressive (nation) and instrumental (state). That is, the nation is interpretable as an expressive collectivity with its corresponding expressive symbolism of feelings of national identity, while the state is interpretable as an organization with its structure of instrumental role relationships. Loyalty to the nation-state, in both aspects, is institutionalized. Hence the society is a collectivity with two component collectivity-aspects, expressive and instrumental. The general point is that an empirical society can be both "many" and "one," both a single collectivity and also a system of subcollectivities. Conflict theorists tend to ignore this unity with opposition that Simmel described and that we find in the conceptual scheme of Parsons's sociological theory of social systems.

CONCLUSIONS: HOMANS AND PARSONS ON SOCIAL SYSTEMS

The theme of this chapter has been that the basic conceptual structure for the analysis of social systems presented by Parsons in *The Social System* is very similar to that presented by Homans in *The Human Group*. Both

depict a system comprised of two subsystems or complexes, the instrumental (external system), and the expressive (internal system). Both argue that, in equilibrium, there exists a system of norms that defines both the expected conduct of the general membership and also expected conduct in more particular statuses. In Homans's terms, a social structure consists of a system of interpersonal relations that is integrated with a system of norms. This is Parsons's institutionalized normative culture in an integrated social system.

When this structure exists, normative ideas that emerge out of actual social behavior come to control such behavior through approval for conformity and disapproval for nonconformity. That is, they function as value pattern parameters in a control system for interaction. We do have to add Homans's point that in equilibrium customary behavior may not be literally identical with norms. Yet, even here, it refers to the integration of norms and action. Moreover, for each theorist, equilibrium or pattern maintenance cannot be considered unproblematic. There is a defined problem of social control, treated by both theorists in the same system terms. That is, the analysis of social control is the analytical problem of studying the conditions under which a given state of equilibrium is stable.

Finally, for each theorist, social change refers to the *same* processes of interaction but now under conditions that lead away from rather than toward a given initial state. For Homans, key types of social change are integration (build-up of a structure) and disintegration (build-down of a structure). In addition, and this is the major difference between the two theories, Homans's analytical theory includes specified processes—elaboration and standardization—that are at once the basis for integration and for disintegration of social systems.

In terms of form of theory, Homans's analytical theory is set out as a system of analytical laws, or, more modestly, of analytical hypotheses that might later qualify as laws. By contrast, Parsons's structural-functional theory involves an elaboration of structural concepts and the treatment of equilibrating mechanisms of socialization and social control. Homans's theory is linked to case studies, giving it a real sense of applicability and intuitive meaningfulness, while Parsons's theory is presented as a highly abstract scheme that is difficult to grasp as a whole. Only by the recognition of the role of the system model is it really possible to comprehend the structural-functional theory.

In developing this theme, this chapter outlined some key elements of this initial version of Parsons's approach to the sociological theory of social systems from the standpoint of the general theory of action: personality, social, and cultural systems; the actor-situation frame of reference with its specification of three types of culture and three types of action that play a crucial role in the sociological theory; modes of institutionalization of culture; internalization of culture and the Matching Principle; the definition

and estimation of pattern variables as parameters of interaction; instrumental and expressive complexes; social equilibrium and the stability analysis of equilibrium; the integration of social systems; and, finally, the formation of interstitial social systems that embed economic and other instrumental action within chains of interpersonal relationships.

The basic social system principle is that social structure consists of institutionalized normative culture. Note that culture and social structure are not separate "things." In the context of social interaction, certain common meanings concerning responsible action emerge, stabilize and come to control the interaction. These common meanings are interpreted in the theory as selections from specified value pattern alternatives. They constitute the relational institutions that are the core of what Parsons means by the principle that social structure consists of institutionalized normative culture. Hence, a pattern of common evaluative meaning constitutes a pattern of expected directions of choice in social interaction.

This *interpenetration* principle of culture and society is in the core of Parsons's theory, along with an analogous interpenetration principle for personality and culture. In the latter context, the point is that culture is not just external but also internal. This begins with language itself, which arises in the nexus of interaction as vocal gestures with common meaning and is internalized to constitute thinking (Mead 1934; Vygotsky 1962 [1934]). More generally, internalization of culture takes the form of need-dispositions that are *habitual* ways of orienting or behaving that nevertheless enable improvisation, as emphasized by Bourdieu (1990a), generalizing the case of language as understood in generative terms. In other words, the expected direction of choice and the corresponding habitual choice, so far as the general model is concerned, leave room for further choices. Most often the institutional definition of a situation presents a menu of actions, not a particular action. These remarks, which I believe are consistent with Parsons's theory, are elaborated in Chapter 12 under the heading "generative structuralism."

Returning to Parsons, these modes of interpenetration are the basis of what I have termed the Matching Principle between personality structures and social structures. This states that, in any action system, the greater the correspondence between need-dispositions and institutionalized role expectations, the more stable the structure of social relations. Deviant need-dispositions and behavior do arise but in a stable system, social control processes hold them in check.

When the concept of solidarity is introduced, a basis exists for distinguishing two different types of social systems, solidary and nonsolidary (Parsons 1951: 93). Solidary social systems incorporate collectivity-orientation, thereby making action in concert possible. Put another way, in his conceptual scheme, a collectivity is *constituted by* the orientations of the actors (Parsons, Bales, and Shils 1953: 53). In other words, it not that

collectivity-orientations are orientations to pre-existing social objects; it is that such orientations constitute a network of interacting actors as a collectivity that exists only to the extent that such orientations continue to exist. But this means, within this framework, that "members define certain actions as required in the interest of the integrity of the system itself, and others as incompatible with that integrity—with the result that sanctions are organized about this definition. Such a system will be called a " 'collectivity' " (Parsons 1951: 97).

Such a collectivity is ordinarily embedded within a larger social system, but a modern society can be both a collectivity in its own right and also include a network of overlapping subcollectivities. The other major type of social system is not characterized by institutionalized collectivity-orientation and is called an *ecological system*. Corresponding to the two complexes, there are two major types: instrumental ecological systems (e.g., markets) and expressive ecological systems (e.g., friendship networks).

The structural-functional theory of social systems that has been discussed in this chapter underwent a rapid process of elaboration by Parsons in the years following its publication. The process was driven by the construction and application of a paradigm for functional analysis. My assessment of the theory, therefore, will be postponed until the end of Chapter 8, after I have examined the theoretical logic of that paradigm in the following two chapters.

NOTES

1. The following discussion is based upon Chapter 2 of *The Social System*, which in turn is a condensation of a more extensive treatment in Chapter 1 of the Parsons and Shils essay published in the same year.

2. Luhmann (1995 [1984]: Ch. 3) builds a modified version of this concept into his systems theory. The game-theoretical element is now common in more rigorous forms of theorizing in sociology, as in the journal *Rationality and Society*, founded by James Coleman.

3. Such a choice model, in this interpretation of Parsons's elements of motivation, would appear to correspond to the notion of generalized rationality that Boudon (1981, 1998) has emphasized as part of the classical sociological tradition.

4. Weber distinguishes between deliberate choice ("rational action," a concept used in a very wide sense by Weber) or not (nonrational). Instrumental action might be rational in this sense, but it also could be a habitual or traditional way of acting rather than a matter of deliberate conscious choice. In the language of Giddens (1984) it would be "unmotivated." There is a sense, too, in which moral action can become habitual. As we shall see, Parsons's concept of internalization suggests this. This suggests four types of action: rational instrumental action, habitual instrumental action, rational moral action, and habitual moral action. Note that Weber's value-rational action is well represented by rational moral action. What about Weber's other significant category of affectual action? This type of action, as

shaped or expressed in cultural forms, corresponds approximately to expressive action and it makes sense to consider the two sub-types, rational expressive action and habitual expressive action. The affective-cathectic dimension of action is discussed by Staubmann (1997), who relates it to contemporary interests in aesthetics.

5. The following section is based primarily upon the discussion in The Social System, especially in Chapter 2.

6. The conduct that is morally approved may not be moral from the standpoint of some other moral values. In particular, it may be immoral from the standpoint of personal moral values and in that sense it may violate the personal integrity of one or more individuals. This refers to the ego-integrative sub-type of moral action.

7. The specification occurs in the section "Types of Institutionalization Relative to the Social System," pages 51–58 of *The Social System* and the implications are elaborated in later chapters.

8. My discussion of internalization is based upon both the treatment in *The Social System* and in *Toward a General Theory*.

9. This is spelled out in the 1952 essay "The Superego and the Theory of Social Systems," which I draw upon for this section.

10. See Chapter 10 of Bellah's Durkheim reader.

11. In Chapter 12 I will elaborate on this notion and relate it to a number of other developments in social theory.

12. In the cited article, Camic criticizes Parsons for putting to one side the habit or habitual action concept that, he shows, both Durkheim and Weber employed. But his textual analysis stops at *The Structure of Social Action* and thereby does not apply to the extensive use of the need-disposition concept in the later work, which, in any reasonable interpretation, certainly includes habits.

13. Actually, if we envision a formal model, after estimation of parameters and taking into account the hypothesized control processes incorporated into the model, we would test the model by its ability to reproduce the data on actual behavior.

14. If p^* is the side of a pattern variable that is one term in the pattern parameter and p is the perceived behavior (of ego or alter), then ego's behavior is generated in such a way as to reduce the difference between p^* and p. See also Kuhn (1974), Bateson (1972), and Miller, Galanter, and Pribram (1960) for related versions of the control system idea of the detection and reduction of differences.

15. For quantitative theories in sociology that employ the control system model, see Heise (1979) and Burke and Reitzes (1981).

16. I have not been able to find a clear explanation of why this step was taken.

17. The interpretation of ascription is the least clear.

18. Note the language matches that in Coleman's approach, to be treated in Chapter 11.

19. It is useful to keep in mind, also, the point made by Homans, as discussed in the prior chapter, that reactions are to departures from the usual level of conformity to norms.

20. I forego here any attempt to provide a description of the mathematical model, which also deals with "catastrophes" in a way that pushes the analysis toward the more recent dynamical system approach that embeds analytical investigations of the stability of equilibria in a wider, more dynamic analysis.

Chapter 7

The Four-Function Paradigm: The Social System Model

INTRODUCTION

In this study of the theoretical foundation and synthesis projects of Parsons and Homans, the two preceding chapters attempted to show the similarity and difference between their initial theories of social systems. The key similarity is the emphasis on analytical theory and on the system model. The basic difference is that Homans proceeded directly to frame an analytical theory in the sense of a system of analytical laws (hypotheses), while Parsons took a "second-best" route, namely structural-functional theory.

In this chapter, I turn to Parsons's outline and defense of this approach in his mature formulation of a paradigm for functional analysis. By a "paradigm," in this context, I mean a template for the construction of models. Such a template is within the core of a theoretical framework. Once Parsons arrived at this template in the early 1950s thereafter whenever a problem was posed, it was addressed by the construction of a model satisfying the template. This is just what my analysis in Chapter 1 of the relationships among frameworks, problems and models would lead us to expect.

Figure 3 shows the paradigm in the diagram form employed by Parsons but that I will present only this one time. In the four-function paradigm, also called "the AGIL scheme," any system has four functional problems that are instances of the four general categories that will be defined below: adaptation (A), goal attainment (G), integration (I), and (latent) pattern maintenance (L).

The major issue concerning the four-function paradigm is whether it has any significance for general theoretical sociology today. Neofunctionalists continue to make some use of the paradigm (Alexander and Colomy 1990)

Figure 3
The General Four-Function Paradigm (AGIL Scheme)
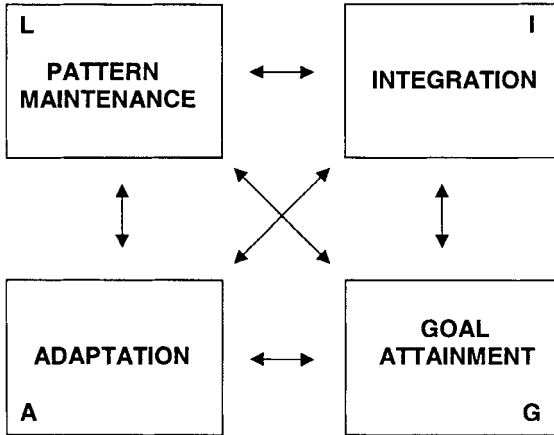
but most theorists are quite skeptical about its foundations and use. I approach this issue in two phases. In the first phase, in this chapter, my aim is to introduce the logic of the paradigm and to examine and briefly assess its application to social system analysis. In the second phase, in the next chapter, I turn to the use of the paradigm as a general action model and at the conclusion of that chapter I present a more extended assessment as to the cognitive value of the four-function paradigm.

I begin this chapter by noting how Parsons justifies functional analysis in sociology and how he defines the four functional problems in general terms. The subsequent sections then turn to a discussion of theoretical models and methods that are applications of the paradigm to social systems analysis.

FUNCTIONAL ANALYSIS

Theoretical Sociology and Theoretical Biology

Parsons's conviction is that theoretical biology and theoretical sociology, at a certain level of generality, are treating similar types of systems. Namely, both are "living systems." On that basis, functional analysis is described as common to both disciplines. In a paper entitled "The Present Status of 'Structural-Functional' Theory in Sociology" written late in his career the methodological presuppositions are set out (Parsons 1977: Ch. 4).[1] The paper argues for legitimacy of functional analysis in the context of action systems and sets out a detailed analogy between the two types of systems.

The common starting point is the concept of a pattern-maintaining sys-

tem in an environment. This entails the existence of mechanisms of self-regulation that adjust the state of the system as changes occur in the environment. The general concepts of structure, process and function are defined in this context. *Structure* refers to a set of relations among parts of a system, biological system or action system, treated as stable over a time period and under conditions relevant to a particular cognitive objective. *Process* then refers to changes of state of the system or parts of it such that, again within a time span and for the purposes of the science, the changes are *within* a relatively stable and constant structure. For instance, organisms are systems in which cells are incessantly undergoing birth and death processes, yet there is endurance of form that enables biologists to specify structural units and relations. Similarly, Parsons argues that social systems can be taken to have a relatively constant structure as continual personnel turnover takes place. Parsons argues that *function* is a different sort of concept in that it is more theoretical:

Its reference is to the formulation of sets of conditions governing the states of living systems as "going concerns" in relation to their environments. These conditions concern the stability and/or instability, the survival and/or probable extinction, and not least, the temporal duration of such systems. . . . The concept "function" then . . . concerns, above all, the *consequences* of the existence and nature of certain describable structures and processes in such systems. (Parsons 1977: 103–104)

Citing Whitehead's fallacy of misplaced concreteness, Parsons goes on to discuss the importance of abstraction in science. The analytical concept of society, for instance, will not coincide with the everyday usage (a point to be elaborated below). Moreover, in the context of functional analysis precision as to system reference is essential to avoid confusion about the attribution of functions. These are statements that reflect long-standing cognitive commitments of Parsons and that reach their ultimate theoretical realization in his work with the elaboration of the four-function paradigm.

The advocacy of functional analysis exposes Parsons to the criticism that the approach involves an improper and misleading analogy. Parsons agrees that there is an analogy but, quite correctly in my view, he does not take this is to be a pejorative term. In the analogy that Parsons sets out societies correspond to species. It can be put as follows:

A society with its cultural heritage corresponds to a species with its genetic heritage and natural selection of variations among genes corresponds to institutionalization of variations among symbols, particularly those constituting normative culture.[2]

The prominence given to cultural elements in this analogy is its most notable aspect. Allowing for quantitative variation, Parsons can argue that just as between species there are common genes, while within a species there

is genetic diversity, so also between societies that are common cultural patterns while within a society there is cultural diversity. Just as biological evolution is defined in terms of change in gene frequencies, action evolution is defined in terms of change in cultural patterns, bearing in mind the important conception of social structures as consisting of institutionalized normative cultural patterns. Underlying the analogy is the more abstract idea of information that enters into a process of control in the cybernetic sense, a point considered in more detail in the next chapter.

A number of general systems theorists formulated similar analogies in the era in which Parsons was most productive. The main difference between Parsons's views and those of other general systems theorists is that he is committed to the action frame of reference and to the conception of interpenetration of systems of action. More generally, the guiding philosophical presupposition of analytical realism informs his later theory as much as it did the earlier structural analysis of social action.

Of particular interest in this regard is the contrast between the approach of Parsons and that of one of the founders of the general systems movement James G. Miller in his massive treatise *Living Systems* (1978). Miller had been a Harvard fellow during the 1930s and, according to Bailey (1994: 167) had been "a protégé of Whitehead." Miller drew upon Whitehead's conception of the relation between the concrete and abstract—notably stated in his "fallacy of misplaced concreteness" that also influenced Parsons so strongly—to distinguish between concrete and abstract systems, as well as to introduce a third category, conceptual systems. The components of concrete systems can be located as matter-energy in regions of space and time; the components of abstract systems are relationships selected from concrete systems; and the components of conceptual systems are symbols. Miller postulates a hierarchy of concrete systems based on a set of nested levels consisting of cell, organ, organism, group, organization, societies and supranational system. He postulates a common set of processes that are realized in a distinct form in each such system (e.g., information processing in the organism and in the group).

The problem with this approach was noted by a number of contributors to a review symposium in the journal *Behavioral Science* established by Miller in the 1950s. In particular, Anatol Rapoport (1980) framed the problem as Miller's "physicalist bias." For a group to be a concrete system in Miller's sense, a matter-energy configuration in a bounded region of space and time, Rapoport notes, would deny the reality of many human groups. For instance, he argues, his own family is dispersed around the world with no definite spatial boundaries. In general, with some exceptions, the boundaries of human collectivities are not spatial. Rapoport's critique is in complete agreement with the symposium contribution by Parsons (1980) in which he states that his major point of disagreement with Miller is with respect to the distinction between concrete and abstract systems.

This division within living systems thinking between the "concrete systems" approach of Miller and the "abstracted systems" approach of Parsons (and Rapoport, among others) can be related to the foundations of analytical realism discussed in Chapter 3. Namely, Whitehead's theory of actuality informs both starting points, but they differ in their modes of abstraction. Parsons starts with unit-acts. Action systems are nexūs of relational processes that maintain some form or pattern as multitudes of unit-acts—human actual occasions—arise and perish. This pattern maintenance need not be and usually is not spatial, as Rapoport notes, while in taking the cell as his basic unit, Miller builds a hierarchy that starts from enduring objects with spatial boundaries. Thus, the problem with Miller's system ontology is that he starts from a particular type of Whiteheadian society, the cell—whose pattern maintenance *does* include spatial boundaries—and builds his hierarchy of systems on that basis. But, as Parsons and Homans agreed, a group is a social action system, a type of system composed of the *actions* (or *activities*) of human organisms. It is a Whiteheadian society whose defining characteristic or enduring form of definiteness is a pattern of social interaction, not a pattern defined in terms of a region of physical space. In short, in adopting a general systems perspective on living systems to justify his paradigm, Parsons is taking a position similar to but also distinct from the ontology of living systems set out by Miller and one not vulnerable to Rapoport's critique. Parsons's analytical realism, born in the intellectual environment of Harvard in the 1930s, is his bedrock presupposition that drives his theorizing from those early days to his later most mature work.

The Four Functional Problems

I return now to the four-function paradigm shown in Figure 3. To derive and define the four functions, Parsons uses the familiar device of specifying two underlying dimensions and then treating each as defining a binary opposition. Like Whitehead, Parsons uses the strategy of conceptual generalization. The first dimension pertains to the internal-external distinction, now generalized from the usage we have seen in discussing *The Human Group* and *The Social System*. One set of necessary conditions for the endurance of an action system concerns relational problems arising in respect to its environment and another set of such conditions arises in respect to internal relational problems. The second dimension pertains to the means-end distinction, now generalized from the usage in *The Structure of Social Action* and relabeled as the instrumental-consummatory distinction. When the two distinctions are combined, the four categories of functional problems are defined. The two internal problems may be treated first. In each case, I provide an interpretation that I believe is consistent with the meaning intended by Parsons.

Latent pattern maintenance is the internal instrumental problem. Since we are dealing with an *action* system, what is maintained—or not—are patterns of action. The cybernetic viewpoint is important here. Viewed as templates, cultural patterns are not the overt action patterns as such and, in that sense they are instrumental rather than consummatory. Yet they are "latent" and internal to the action system, triggered into the control of action and interaction in actual occasions. Just as genes are triggered into the control of living processes in organisms, symbols—natural languages and other symbolic media—are triggered into the control of processes of action. Hence, Parsons points to the cultural heritage of an action system as the core of its pattern maintenance system.

Integration is the internal consummatory problem. This problem concerns relations among units internal to the system and contrasts with the internal aspect of the problem of pattern maintenance in that, not latent templates or cultural patterns, but the actualized processes of interaction (of whatever units are involved) are the locus of the problem.

The two external problems are adaptation and goal-attainment.

Adaptation is the external-instrumental problem. This problem concerns the relations of the action system with its environment in terms of gaining control over means to ends, or resource acquisition and processing for later use.

Goal-attainment is the external-consummatory problem. This problem concerns selections involving prioritization and utilization of means, the various resources, in regard to various possible ends or goals.

The goal-attainment functional problem raises the issue of illegitimate teleology. The reference to purposes of organ systems in biology is secondary to a mechanism account linked to an ultimate natural selection explanation. The mechanism is a process that is analyzed in terms of its functional significance. For instance, sweating by glands offsets temperature increases produced by physical activity and the existence of such useful structures as glands is accounted for by a natural selection process in which they are one of the alternative structures that can perform a cooling function. Thus, in biology, the informal teleological statement that "the purpose of the glands is to help regulate body temperature" is replaced by a systematic account in functional and evolutionary terms. The functional part of the replacement refers to the operation of a structure or mechanism while the evolutionary part accounts for its existence, up to functional equivalence one might say. As shown by Stinchcombe (1968: Ch. 4) the basic logic of this explanatory model can be transferred to the social domain. Since Parsons extends the goal or purpose concept from actions of individuals to not only solidary but also functional systems, some such sort of generalized account is necessary to save the paradigm from illegitimate teleology. I return to this problem at a later point, but I will mention here

that in the prior chapter the interpretation of pattern variables as control system settings is very much in the spirit of this type of analysis.

Another point may be made about the four functions in terms of the idea of system reference. Namely, when a unit of a system becomes the system under analysis, then its adaptive processes relate to other units in the system. Hence, *the same actions that are treated as adaptive for the unit are also treated as an aspect of the integration of the system*. For instance, when two people interact, their mutual adaptation to each other is an aspect of the integration of the two-person social system.

THE FUNCTIONAL ANALYSIS OF SOCIAL SYSTEMS

From Homans to Parsons

We saw in Chapter 5 that Homans analyzed a social system in terms of a distinction between an external system and an internal system. In Parsons's structural-functional theory, as we saw in Chapter 6, a parallel analysis was proposed in terms of an instrumental complex and an expressive complex. It is my intent now to draw upon some of Homans's analyses to point the way toward a plausible strategy for the construction of a four-function model of the general social system.

It was noted in Chapter 5 that when Homans analyzed Hilltown, a community larger in scale than his smaller groups and with greater differentiation, he treated the external system in terms of the economy and the polity of Hilltown. The first of these produces economic resources, suggesting the performance of the external-instrumental (adaptation) function for Hilltown. This would suggest the general strategy of identifying the performance of the adaptation function for a social system with its economy. The polity of Hilltown produced collective decisions deciding among the various possible public uses of its economic and other resources, suggesting the performance of the external-consummatory function for Hilltown. This would suggest the general strategy of identifying the performance of the goal-attainment function for a social system with its polity. Thus, consideration of how Homans analyzed a more complex social system, using the external side of the external-internal distinction leads to the instrumental-consummatory distinction that Parsons employs and to a mode of identification of two of the four functions in the social system context.

In Homans's analysis of the external system of the Bank Wiring Observation Room group, the social structure was described in terms of two key concepts from the sociological tradition: division of labor and chain of command. The latter suggests the institutional relation, "has the right to give orders to" in an organizational setting. So, again, these two features suggest economic and political aspects of a social system, respectively, in which the political element includes the order-giving-and-taking aspect of

organizations (Parsons 1969). For instance, the state is the formal organization of the whole society (Kuhn 1974).

When Homans dealt with the internal system, he treated Hilltown as a social community, at once a single collectivity with its own norms and a differentiated system of ranked groups, parallel to the small group of workers in the Bank Wiring Observation Room case. Earlier, I suggested that the analysis of the internal system concerns the build-up or build-down of a group, the dimension of social integration in sociological analysis. But the analysis of the Bank Wiring Observation Room group did not feature much attention to socialization and thereby the transmission of its distinctive cultural heritage, what Fine (1979) has called the "idioculture" of a group, to new generations. However, in the analysis of Hilltown, Homans gives some attention to its cultural heritage, including certain common value orientations, illustrated by self-reliance. The persistence of such a cultural heritage through the generations must have occurred through education, family, religious ritual, and other aspects of the social system. In other words, in terms of Parsons's categories, these aspects of the social system of Hilltown performed a pattern maintenance function. Thus, we can say that in extending his analysis of the internal system of a social system to a complex system, Homans goes beyond the social integration aspect to consider the cultural heritage and therefore the pattern maintenance functional problem.

Arriving at Parsons's Model

In short, by appeal to one of Homans's analyses and his conceptual scheme, we find that the following four-function model of the general social system formulated by Parsons in his later work makes sense as a strategy.

- The *fiduciary system* performs the *institutionalized cultural pattern maintenance* (L) function for the social system.
- The *societal community* performs the *social integrative* (I) function for the social system.
- The *polity* performs the *collective goal-attainment* (G) function for the social system.
- The *economy* performs the *social adaptation* (A) function for the social system.

The term "fiduciary system" is a neologism that Parsons (1977: 387) explicates in terms of the notion of a transgenerational tradition. Such a tradition has three components, he notes: a common language, an orientation to a common past in terms of a cultural history of the community, and an orientation to a common future by virtue of shared membership in a societal community. Parsons then explains the new terminology as follows.

The adjective fiduciary derives mainly from the element of transgenerational "tradition". . . . At any given time the current membership exercises, and is expected to do so, a fiduciary responsibility for the maintenance or development of such a tradition in its place in the larger society, including those inside its boundaries who cannot be expected to assume the highest levels of such responsibility. It becomes a "moral community" in Durkheim's sense. (Parsons 1977: 387)

Since every subsystem is in processual relation to every other, there are six inter-system relations to be considered. Parsons calls each of these an *interchange system*. Actors engage in exchanges, in a generalized sense, and interchanges are aggregations of these. As I will discuss later in this chapter, we can interpret Parsons's analysis of the system of interchange systems as a generalization of the economic theory of the general equilibrium of an economy.

COMPLEX SOCIAL SYSTEMS

Four Types of Structural Components

The structural focus of the theory continues to a play a central role in the elaboration of the structural-functional theory in the context of this four-function paradigm. The familiar components treated in the prior chapter now form a canonical list of four types of structural units of social systems:

- Social values
- Social norms
- Collectivities
- Roles

Considered as normative culture, these are concepts that come in more or less coherent cultural packages, *normative cultural patterns* or *templates*. Considered as *institutionalized* in a specific social system, such templates will be more or less realized. It often proves convenient to treat the idealized case in which a template is fully institutionalized, as in some examples below.

Before proceeding further, I want to return briefly to the value concept that is so central to his whole outlook. In earlier work, he tended to use the term in a way that did not sharply distinguish values and norms. In the later work, the distinction is sharpened for the purpose of social system analysis. By meaning postulate, although social norms are like social values in that they are common to the actors in the system, they differ from social values in that they are differentiated in application to the actors. For instance, in a sport event, players and spectators value the game but the

norms applying to them vary with respect to these two roles. In one of his later papers, Parsons (1969: Ch. 16) specifies what he means by *social values*:

The units participating in a social system—at some point acting human individuals—evaluate the social system in which they themselves participate, i.e., take such a system as an object to them. *The values that come to be constitutive of the structure of a societal system are*, then, the conceptions of the desirable *type of society* held by the members of the society of reference and applied to the particular society of which they are members. The same applies to other types of social systems. (p. 441; emphasis in original)

Let me illustrate the logic of application of the roster of four types of structural components. One important normative cultural template is the *free market economy* (alternatively, *capitalist economy*) specifying certain values, norms, collectivities, and roles. For instance, among the norms will be laws that provide for private ownership of enterprises and among the roles will be that of the entrepreneur. Such a capitalist template may be more or less institutionalized. In the idealized case of full institutionalization of a free market economy, the objective structure of the economy is described perfectly by this template.

The generality of the framework implies that each social system, however embedded in or interpenetrating other such systems, will have a description in terms of the four categories of social structural components. In particular, this implies that the social value concept has a distinct instantiation in each such social system. How can such complexity be understood?

Three Complexity-Generating Processes

As I see it, Parsons frames three basic processes that, in their recursion and compounding, generate structural complexity.

The first process is *segmentation*, the outcome of which is that a type of structural unit is replicated in the given social system so that there are multiple instances of it. For instance, the types of collectivity <family>, <firm>, and <school> are replicated in a modern society in that there are multiple instances of each of them. Familiar cultural objects such as books, newspapers and performances of works of art existing in great multiplicities that are produced by extensive segmentation that exists with respect to collectivities that specialize in cultural production and which are part of the social structure, such as <publishing firm>, <newspaper publisher>, and <theater company>.

The second process is *specification*, the outcome of which is that there are hierarchies of generality of normative culture. For instance, the evaluative conception of a *free society* that is transmitted in the fiduciary system

as part of the American cultural heritage is specified functionally in terms of free market (economy), free elections (polity), and freedom of association (societal community). Put in cultural terms, the free society template itself has a rich structure of culturally distinguished implications for various domains of social activity. This complex template is more or less realized in practice in the form that Parsons calls institutionalized normative culture.

The third process is *differentiation*, the outcome of which is that structural units are more specialized than in some initial state. For instance, in a modern society, collectivities are more differentiated than they had been in earlier times. There are economic collectivities (e.g., firms), political collectivities (e.g., parties), community collectivities (e.g., voluntary associations), and fiduciary collectivities (e.g., schools). Culturally, people come to think in terms of social distinctions that did not exist for them at an earlier time. The role of <natural philosopher> once served well, but was recursively differentiated into a complex branching tree of distinctions among producers of intellectual products. The role of <owner> of a capitalist firm once presupposed management but now there is not just <manager> but varying refined levels best known to those inside the complex organizations where these distinctions play themselves out in practice. But practice relates to institutionalized normative culture: the template is more or less realized in interaction.

The basic principle that guides the interpretation of differentiation in social systems is:

> *Differentiation Principle*: Social structural differentiation tends to occur along functional lines.

The differentiation principle can be applied along with the four-function paradigm so that when functional differentiation is extensive in a social system, there are sixteen types of social structural components, some of which have illustrated in the above discussion:

- Fiduciary values, community values, political values, economic values
- Fiduciary norms, community norms, political norms, economic norms
- Fiduciary collectivities, community collectivities, political collectivities, economic collectivities
- Fiduciary roles, community roles, political roles, economic roles

An Example

By way of a further illustration, let American society be the social system under analysis. The *American fiduciary system*, by definition, is the functional subsystem of American society that performs the cultural pattern

maintenance function for the society. Consider, for instance, the system of education in America. This is an institutionalization of a cultural template that interrelates, in general terms, educational values, norms, collectivities, and roles. One value held in America is that each child should receive an education. Also, education should be under local control. The local school system, along with laws of mandatory attendance, embodies these values and within such schools, there are role expectations governing the relationships between actors in defined statuses. The actors code each other in terms of the status categories (e.g., <teacher> and <student>) and orient to each other in terms of their acquired need-dispositions to play out these roles. In the stable case, these dispositions correspond with and thereby serve to reproduce the institutionalized normative expectations.

A similar analysis applies to the other three systems. The *American societal community*, by definition, is the functional subsystem of American society that performs the function of social integration for the society. Consider, for instance, the American legal system as a performer of a social integrative function. One value held in America (but not only America) is social order in the sense of widespread compliance with common norms. Americans, that is, value a society of "law and order." Legislatures, at various levels, are collectivities that implement this value through the explicit creation of formal norms while courts serve as an institutionalized mode of resolving conflicts through the application and interpretation of laws. A status such as <judge> in various role relationships with actors who appear in court is central to the institution. The *American polity*, by definition, is a functional subsystem of American society that performs the collective goal attainment function for the society. In particular, there are political values (e.g., democracy), political norms (laws governing free elections), political collectivities (e.g., parties), and political roles (elected office holders). The *American economy*, by definition, is the functional subsystem of American society that performs the social adaptation function for the society, interpreted as performance of the production function. The discussion of capitalism above mentioned some of the functionally differentiated economic structural components. In the next section, I will discuss the classic topic of economy and society is more detail.

In the compounded recurrence of the three processes of functional differentiation, segmentation, and specification, each time that a new collectivity emerges—a new solidary social subsystem of the social system under analysis—the concatenation of the three processes applies once again to generate (under some conditions) complexity in *that* collectivity. This is not the *type* of collectivity, but an actual *instance* of the type. For instance, when a new firm is formed and is successful in the market, the three processes may apply to generate repeated *episodes* of internal functional differentiation, segmentation, and specification of its own normative culture.

Thus, there is a "recursive generativity" (Fararo 1989b) by which complexity emerges in social systems.

One final point may be noted. The autonomy of various generated components may vary among social systems that are highly differentiated. For instance, in some societies, judges, teachers and firm managers may be required to be members of its single legitimate political party and to abide by party directives. In such a case, judicial, educational and economic actions are under political control even though there are differentiated structural units.

ECONOMY AND SOCIETY

Much of the tradition of general theoretical sociology has concerned the relationship between economy and society. The very phrase, as employed in the title of Weber's posthumous publication of his magisterial treatise on the subject, suggests a major theme of social theory. In the postclassical phase of the tradition, one of Parsons's early and major applications of the four-function paradigm was the co-authored monograph *Economy and Society* (Parsons and Smelser 1956).

The Economy and Its Environments

The basic premise is that economic theory is the theory of the economy as a functional subsystem of society. This replaces Parsons's earlier emphasis on economic theory as the analytical theory of action based upon the emergent property of economic rationality. Ironically, it is the abandoned view that animated so much of the debate in the last decade of twentieth-century social theory. "Economic imperialism"—the deployment of the rational choice approach throughout the social sciences—was challenged by theorists who interpreted the move as regressive in the light of the earlier phases of general theoretical sociology. In this section, however, my focus is on the economy and society relation as Parsons and Smelser articulate it in their monograph and as Parsons later generalized it into what became the symbolic media theory of interchange relations between functional subsystems. In turn, George Homans reacted critically to this macro-level exchange model. Although he sought to make an exchange paradigm the foundation of social theory, it was by "bringing men [*sic*] back in," as he put it (Homans 1964). That is, Homans was demanding a paradigm in which exchange was a direct behavioral process between individual human beings and not between systems. In Chapter 8, I will return to this thematic development in Homans's theorizing. It should be noted, however, that Parsons does not deny the fundamental character of social interaction as such, even as understood in terms of generalized exchange concepts, but he insists upon the need for other concepts to treat complex social systems.

Because a social system is not the totality of a concrete action system, its environment includes the personalities of its members as well as cultural systems that may or may not be institutionalized in the particular social system. An economy is an ongoing solution of the problem of social adaptation to this environment, which Parsons and Smelser interpret as the problem of production of economic resources or wealth for the social system.

Treating the economy as a functional subsystem means that it has its own environment. To analyze this environment, we take note of the other three functional subsystems: polity, societal community, and fiduciary system, each with a content that will vary with the particular social system under analysis. This is the social environment of the economy as contrasted with the action environment of the social system (which, for instance, includes the personality systems of the members).

The Teleology Problem in Functional Theory

In addition, the economy itself has four functional problems. The goal-attainment problem of the economy is the fulfillment of its production function in the society. This identification is a good context for returning to the potential problem of illegitimate teleology discussed earlier in this chapter. The problem may be defined as the incorrect transfer of an element of the actor-situation conceptual scheme to the system-environment conceptual scheme. In the actor-situation conceptual scheme, the end element of the unit-act provides for the purposive aspect of action. When we turn to the system-environment frame of reference, we first need to distinguish between social systems that are solidary and social systems that are functional subsystems, such as an economy. The solidary type corresponds to collectivities and their goals can be interpreted as outcomes of an internal political process in which various individual actors and subcollectivities may have different conceptions of the solidary system's goals. The question, "What shall we do?" is then resolved by processes involving power, influence, and the like. But when the system is not a solidary social system but any functional subsystem of action, how is a goal to be defined without assuming an illegitimate teleology? Parsons and Smelser (1956: Ch. 1) supply a basic rule that comes to grips with this problem, even if not completely putting to rest all qualms one may have with the procedure of assigning goals to systems. The general rule of the four-function paradigm for assigning goals to functional subsystems is:

> *Goal Assignment Rule*: The goal of a functional subsystem of a system corresponds to the function performed by that subsystem for the system. That is, its goal-attainment process is the performance of its function (e.g., for the economy, production).

Thus, the goal of the economy is production of wealth for the society. With differentiation, this yields the first of four functional subsystems of the economy: the production system as its goal-attainment subsystem. Then the other three subsystems are specified as the investment subsystem (adaptation function for the economy), entrepreneurial subsystem (integrative function for the economy), and the pattern maintenance subsystem (in regard to the maintenance of the society's economic value commitments). An example of the latter in the American context is the mainly unquestioned value of capitalism in rhetoric concerning the society. Note that the general rule of input-output relations between every pair of subsystems applies to these subsystems of the economy.

An important point about this sort of functional analysis is that although a unit is functionally differentiated, so that its own goal attainment focus is defined in terms of a certain function, it still participates in other functional systems. For instance, although schools and universities are not economic collectivities—their goal attainment problem is defined in fiduciary terms as responsibility for the transmission of knowledge to students at various levels—resources are required to fulfill such a function (i.e., to pursue their respective fiduciary responsibilities). Thus, schools and universities also will participate in the economy as collective actors in consumer roles. As Parsons and Smelser (1956: 14) put it, "The whole society is in one sense part of the economy, in that all of its units, individual and collective, *participate in* the economy. . . . But no concrete unit participates *only* in the economy. Hence no concrete unit is '*purely* economic.' "

Similarly, economic enterprises function as units of solidarity in the societal community as do all other concrete units in the society and no concrete unit is "purely social-integrative." And, similarly, every concrete unit participates in the polity but no unit is purely or only political. Finally, every concrete unit has some share in the transmission of the cultural heritage, so every such unit participates in the fiduciary process. For example, to the extent that their economic performance is positively evaluated—for example, as successful in providing goods and services—firms contribute to the maintenance of the institutionalized value commitment to a competitive market economy.

SYMBOLIC MEDIA THEORY

The relations between the economy and its social environments are treated in terms of exchange relations mediated by functionally specialized media of communication. This is a generalization of the idea of exchange as a relation between actors. As indicated earlier, Parsons calls the relation "interchange." Thus, in these terms, actors engage in exchanges, while functional subsystems engage in aggregate processes of interchange. The functionally specialized media involved in interchange relations are called

"generalized symbolic media of interchange," each a generalization of the concept of money (Parsons 1975). As pointed out above, with four functional subsystems and interchange between every pair of these, there are six interchange systems.

The Four Symbolic Media

The basic argument of this symbolic media theory is grounded in the action framework. Human action involves common standards of communication implicit in the use of natural language itself. Natural language or any functionally specialized language has two levels. At one level, it is a set of constitutive rules, a grammar or code; at the other level, it has its "message" uses that presuppose the rules. Money is a measure of economic value that is interpreted as a language specialized for economic exchange, making possible more flexible and productive economies. There are a variety of uses of money—every purchase involves a monetary message—but the basic code involves institutionalized monetary symbols. The theory is based on the use of analogy to construct three models of symbolic media other than money. Each is functionally specialized and each has its code and message levels:

• Institutionalized value commitments form a generalized symbolic medium in fiduciary processes.
• Institutionalized influence forms a generalized symbolic medium in social integrative processes.
• Institutionalized power forms a generalized symbolic medium in political processes.
• Institutionalized money forms a generalized symbolic medium in economic processes.

Each symbolic medium contributes to improving the performance of the specialized function associated with it. Money is a facilitator of economic transactions. It is an institutionalized mechanism for inducement of someone to give up something of intrinsic value for a symbol, provided that the symbol is trusted to "work" in other transactions. If the monetary system fails, these transactions revert to barter and only things of intrinsic value can be exchanged. This means that an actor can only trade with others who have what is needed by that actor and who, in turn, need what the actor has, thereby restricting the opportunities for economic exchange.

Institutionalized power is a facilitator of political interactions. It induces an actor to comply with a legitimate order from another actor, trusting that others will comply if and when that actor gives such an order. In such a situation involving authority, collective goals can be pursued by an or-

ganization having chains of command or levels of authority. But if the institutionalized power system fails, political interactions revert to sheer coercion, thereby restricting the scope of effective collective action. Here authority (formal-legal or some other type) constitutes the code and the giving of orders that are obeyed are the messages.

Institutionalized influence is a facilitator of social-integrative interaction. It induces an actor to act in the manner suggested as in her own interests, based on the prestige or reputation of the source of the message. In such a situation involving social ranking (in the sense of Homans in *The Human Group* and Parsons in *The Social System*), consensus or solidarity can be attained even when the actors do not necessarily share a common sense of belonging together in a pre-existing gemeinschaft. When an actor has a high rank in this sense of prestige or reputation, then the institutional aspect is that the actor has the implicit right to exercise this sort of influence. In small group studies, it is found repeatedly that "higher status" actors enjoy more influence (Berger and Zelditch 1985). If the basis for prestige allocation collapses, actors do not accept influence. The scope of consensus is then reduced to the primary group or its larger analogue, say, the ethnic group.

Institutionalized value commitments facilitate the implementation of social values, the shared conceptions of a desirable type of social system. Such commitments, as a medium, are general in form and not detailed prescriptions. In his article on the concept of value commitments, Parsons (1969: 449) gives an example in the academic domain that will serve to illustrate the idea, namely the reviewing of books for professional journals. The presumption is that the reviewer and all others in the relevant discipline share the value of cognitive rationality that the journal's contributions are expected to display. But the reviewer is more or less trusted to implement this value without detailed prescriptions. The integrity of the profession is involved and the reviewer is expected to act responsibly—to display a "collectivity-oriented moral orientation," to use a relevant phrase from *The Social System*. The actor is presumed to have internalized this value and is treated as responsible for its implementation in a mode that preserves the integrity of the collectivity (i.e., its realization of the value in practice).

Once the media are specified, the four-function paradigm immediately suggests how they may acquire still more specialized functions. For example, in his paper on "On the Concept of Influence," Parsons (1969: Ch. 15) discusses four forms of influence: economic influence, political influence, commitments influence, and social influence in the community.

Interchange Analysis and General Equilibrium Theory

Consider now an example of the interchange relations as mediated by the symbolic media. The most straightforward involves the economy and

the fiduciary system. The interchange relation between the two primary subsystems is modeled as a pair of markets.

The first market is an employment or labor market characterized as an ecological system of exchange relations in which commitments to provide services are exchanged for wages and salaries. In this market, the mediation involves commitment in one direction and money in the other direction. Each particular exchange involves a pair of decisions: one party decides to offer employment at a certain rate of remuneration (money), the other party decides to accept it and thereby agrees to engage in certain role performances (commitment). The second market is an aggregate of exchanges involving the purchase of consumer goods and services. On one side, there is a commitment to production and sales; on the other side, there is a monetary decision to purchase.

These two markets are central to general equilibrium theory in economics in which firms and households are the basic units connected by labor markets and commodities markets. Associated with each market is a specific instance of the laws of supply and demand (e.g., the demand for labor of a certain kind). The relations of supply and demand define the price (wages in the case of labor) at which exchanges tend to occur in equilibrium. It may be noted that in embedding this economic theory in the four-function model of economy and society, Parsons and Smelser are applying differentiation and segmentation. Given a separation of firm and household—corresponding to differentiation of economy and fiduciary system, respectively—segmentation consists in the replication of these two types of collectivities so that there are many of each type.[3]

In keeping with the idea of generalizing economic theory and embedding the economy in society, there are then five additional such double interchange relations that Parsons and Smelser begin to specify and that Parsons elaborates in later works. This involves a very complex effort.[4] There is a general problem in identifying units in such interchanges. As Parsons and Smelser (1956: 79) indicate, "the lines of collectivity differentiation seldom if ever correspond *exactly* to the analytical boundary-lines between the economy and other functional subsystems." Hence, any such identification is only an approximation in the spirit of model building.

I have argued that this aspect of the four-function paradigm amounts to an attempted embeddedness of general equilibrium theory in the general theory of social systems. In economic theory, general equilibrium analysis contrasts with partial equilibrium analysis, which is the theoretical analysis of price determination on a single market, with other markets in the environment. By contrast, in general equilibrium analysis an entire economy is analyzed as a system of interdependent markets. In the four-function embeddedness, theoretical analysis of the determination of a system of prices in an economy amounts to the analysis of one of six interchange systems, treating the other five as environmental. This is itself a kind of

partial analysis relative to the general analysis in which all six interchanges are analyzed simultaneously. Economics was putting general equilibrium theory into rigorous mathematical form about at the time that Parsons and Smelser were undertaking their analysis (Debreu 1959; Arrow and Hahn 1971). A more recent effort in theoretical sociology involves a direct generalization of the mathematical theory (Coleman 1990). In Part Three of this book, I will return to the general equilibrium problem and discuss in more detail how the theories of Parsons and Coleman relate to it and consider the outlook for synthesis of the mathematical theory with the four-functional paradigm.

Another Generalization from Economics: Power Banks

Parsons has suggested other generalizations of concepts employed in economic theory.[5] As one example, consider banks. Banking in the usual sense is the institutionalized provision of money for the creation of new economic ventures. We can say that banks provide economic capital. The theory construction strategy is to postulate that there are analogous enabling entities and processes in the other functional spheres. Hence, banking in the polity, if it exists, implies some institution, a "political power bank," that supplies power that enables the creation of new collective goals. Banking in the societal community, if it exists, implies some institution, a "social influence bank," that supplies influence that enables the creation of new solidarities. Banking in the fiduciary system, if it exists, implies some institution, a "commitment bank," that supplies generalized value commitments that enable the creation of new value interpretations. In each of these instances, the symbolic media are said to be vulnerable to processes of inflation and deflation, a further element of generalization from the economic case.[6]

The case of the power bank relates to a debate in postclassical theory as to the zero-sum nature of power relations. In the zero-sum interpretation, in such a relation—typically between collectivities—whatever one gains, the other has lost, on the analogy of a game in which one side wins, the other loses. Parsons's (1969: Ch. 14) critique of this concept is that it ignores the role of power banking. He draws attention to how monetary banking works in terms of loaning money that is on deposit. The depositors do not lose their money in this process, because as long as they have confidence in the bank, their money can be used to provide capital for new business ventures through the extension of credit. If the depositors lose confidence, however, they will make the bank insolvent through making immediate demands for the return of their money. In a similar way, Parsons argues, power is deposited with political parties in the form of votes. While each vote is small, like a dollar, the aggregate of votes can be quite significant. The government official who enters office on the basis of such polit-

ical support can use some of this power to promote new collective projects. But if the voters lose confidence in the ability of the party in power to deliver, they will want their immediate demands satisfied, creating the equivalent of insolvency. As long as confidence exists, however, political power is being employed as a facility for the attainment of some collective end that may benefit all members of the corresponding community while also providing some benefit to the official. In such a case, the situation is not zero-sum.

Methodological Problems in Symbolic Media Theory

An interesting aspect of Parsons's theory of generalized symbolic media is that the theory resembles the type of scientific theory that postulates entities by analogy. This is followed by a search for them in the actual world. This theory construction strategy has been used very successfully in theoretical physics and theoretical biology. The philosopher Harré (1970) makes this feature the core of his treatment of theoretical science as rooted in the creative use of analogy. Perhaps the main difference is that in Parsons's case, we usually do not find a new entity but rather a new interpretation of a familiar entity in functional terms. The result is that it is not clear if there is a testable implication of the postulation of the entity. For instance, to make the above argument that voters are like depositors with political parties as power banks, to interpret charismatic leadership as commitment banking (Parsons 1969: Ch. 16) or to argue that voluntary associations are influence banks (Parsons 1969: Ch. 15) is intriguing in each case and conveys insights concerning complex social processes, yet it is not clear if there are empirically testable consequences.

A further problem can be framed in terms of the relations among the central elements of an evolving tradition, as elucidated in Chapter 1. Corresponding to a theoretical framework are two sets of methods, empirical and theoretical, that translate the paradigm into empirical data and into theoretical models, respectively. Parsons's symbolic media theory is an example of a theoretical model constructed on the basis of a theoretical framework. The four-function paradigm is the core conceptual scheme of this framework and Parsons uses the theoretical method of analogy with economic theory to create the symbolic media model. The critical point I am making about the symbolic media theory is that the corresponding empirical methods and body of data are largely absent. If the framework had developed in a more balanced way, there would have been pressures on the theorist to explain properties of the data. In turn, this might have led to theories with testable consequences.[7]

The concept of network might help in any attempt to translate the ideas into a form suitable for empirical studies. Generally speaking, the symbolic media model seems to be based upon flows in generalized exchange net-

works. Perhaps actor A activates a commitment of B, who then uses influence to get C to "come on board," after which C uses a position in an organization to create a collective act (based upon activating binding obligations of organizational members) that realizes the interests of actor A. The entire theory of symbolic media suggests a system of interaction involving such flows in networks embedded in institutional frameworks. Any study of flows of resources in networks would be a possible realization of its ideas because one type of resource is a stock of a symbolic medium that accumulates at a node in a network. In this respect, like much but not all of structural-functional theory (see Faia 1986), the symbolic media theory is an imaginative set of ideas not yet brought into sufficiently close connection with bodies of appropriate data.

SUMMARY

This chapter has been an introduction to the key concept in the core of the mature theory of Talcott Parsons, the four-function paradigm. After opening the chapter with a discussion of Parsons's general viewpoint on the nature of structural-functional thinking in theoretical sociology, I turned to its elucidation in the context of a transition from Homans's social system model. Essentially, Homans becomes a means by which we can interpret the meaningfulness of Parsons's four-function template.

Thereafter, I first dealt with structure and functional differentiation in relation to the specification of normative culture and the segmentation of units in a social system, interpreting these features as mechanisms generating complexity. I applied the ideas to the American society. Then I turned to the analysis of the important theme of economy and society, in which the economy is embedded in the society and also has its own four functional subsystems. Finally, the general nature of interchange among functional social systems was set out in relation to the symbolic media model. In this model, there are four generalized media of interchange in the social system, namely, money, power, influence, and value commitments. In this context, I discussed a philosophy of science aspect of the ideas as these pertain to the use of analogy in science.

In the next chapter, the discussion of the four-function paradigm continues, focused there on the general action model in which the model of the social system is embedded.

NOTES

1. Parsons was reluctant to use the "structural-functional" designation by this time in his career. As he indicates in the article, he agrees with Merton that a better name is "functional analysis" (of structure *and* process).

2. For a recent formal treatment of this sort of idea, see Boyd and Richerson (1985).

3. The treatment of the household as rooted in the fiduciary system might have seemed straightforward in the 1950s when most households were family units with socialization responsibilities.

4. In an earlier paper, I attempted to set out the rules of the interchange model and to apply them to the analysis of science (Fararo 1976). I now think that the model of science conflated the cultural system aspect and the social system aspect, in agreement with a critique by Brownstein (1995). If I were re-doing the analysis, I would draw upon how these two systems are specified and related in Parsons and Platt (1973).

5. One such generalization not discussed here involves the notion of subsystem processes that are based on combinations of factors of production originating in other subsystems and obtained through interchange relations. This generalization begins by embedding the factors of production for the economy in the interchange system as a whole and then proceeding by treating postulated analogous processes in each of the other three subsystems of the social system (e.g., symbolically mediated interchanges generating some degree of solidarity).

6. Banking, inflation and deflation are treated in some detail in Parsons and Platt (1973) and the analogy is there extended to a concept of general action media, such as affect. More empirical studies using these concepts would help to clarify their meanings and explanatory value for theoretical sociology, as pointed out in the next section.

7. For an extended critical analysis of symbolic media theory taking a somewhat different point of view about it, see Cartwright and Warner (1976).

Chapter 8

The Four-Function Paradigm: The General Action System Model

INTRODUCTION

In this chapter, the four-function paradigm is the basis for a general action system model. The terminology "general action system" is best understood by backward reference to Chapter 6 where I discussed the institutionalization and internalization of culture in relation to social systems and personality systems, respectively. Despite the interpenetration, in social systems analysis, cultural and personality systems are treated as environments, the components of which are partially included in the social system. In action system analysis, these components are fully included in the analysis. Interpenetration with the environment now involves, for instance, the human being as both a biological organism and a behavioral organism or system. In terms of analytical elements, a theory of action systems includes cultural, social, personality and behavioral elements.

A key aspect of the functional analysis of action systems was introduced in the previous chapter in terms of the treatment of cultural heritage as analogous to genetic heritage in terms of pattern maintenance. Thus, the four-function model of the general action system will identify the L function with cultural systems. Parsons's other identifications are shown as follows:

- Cultural system: pattern maintenance function for the action system
- Social system: integrative function for the action system
- Personality system: goal-attainment function for the action system
- Behavioral system: adaptation function for the action system

To provide sociological intuition for grasping the logic of this model, the first section below shows how it relates to Mead's co-evolutionary model

of human action. Then, after sketching an application of the four-function model for a general action system, the subsequent two sections dissect the logic of cybernetic control and evolutionary change, respectively. I conclude the chapter with a short summary followed by an extended assessment of Parsons's theory program, applying the standards set out in Chapter 1.

THE FUNCTIONAL ANALYSIS OF ACTION SYSTEMS

Mead, Parsons, and the General Action System Model

Just as Homans's analysis of social systems helps us to understand the logic of Parsons's four-function model of social systems, Mead's analysis of social interaction in co-evolutionary terms helps us make sense of Parsons's general action model. What I have called Mead's *action holism* corresponds to the top-down or systemic method in the four-function paradigm in the sense that the analysis starts with an organic system and treats it in terms of relational processes that compose it. Recall that Mead's basic idea is that the system of interaction characterized by conversations of gestures among proto-human organisms evolved into a system of symbolically mediated social acts, later called symbolic interaction by Blumer. Mind, self and institutions emerge through the breakthrough to cultural symbols, initially only gestures—especially oral gestures—with common meaning.

Mead's four co-evolved components of interaction correspond approximately to the four functional subsystems of the general action system listed above. The cultural system corresponds to Mead's emergent component *symbol*. In complex combinations, symbols perform the pattern maintenance function for action by stabilizing and generalizing emergent meanings. The social system corresponds to Mead's emergent component *institution*. These perform the integrative function for action through the definition of roles in social acts. In his theory of personality systems, Parsons (1959) includes Mead's emergent component *self*, but also much more in his effort to synthesize classical ideas about psychological systems, including those of Freud and Durkheim. The primary focus is on the sources and directions of motivation. The behavioral system corresponds to Mead's emergent component *mind*. The meaning of this last correspondence calls for further discussion.

Analytical realism is presupposed here. The concrete human being is the site for an *analytical* distinction between the *behavioral* organism and the *biological* organism, the latter treated in terms of elements of biological theory, the former in terms of elements of action theory. The behavioral organism or system is the most proximate level of control over the human body as an integrated biological system that has the capacity to produce a unified behavioral output. Mental and physical skills, for instance, can be

activated to do things, under the control of implicit or explicit concrete goals. A concept that synthesizes knowledge and action, or cognition and behavior, such as "plan" (Miller, Galanter, and Pribram 1960) captures the Meadian point of view as well as that of theorists who have interpreted this system in analogous terms by reference to the psychology of Piaget (Lidz and Lidz 1976).

Interpretation and Application of the Model

In spelling out this interpretation of the four-function paradigm a little further, I also will sketch the logic of how a concrete society—in its cultural and social components—is analyzed in its terms.[1] To begin, note that the term "American society" is ambiguous as to its system reference. It could mean only the social system or it could mean "the American action system," an all-inclusive entity with four functional subsystems, a particular instantiation of the general action system model. It is the latter reference that I employ in my sketch of how the general concepts are interpreted for a particular case. The sketch emphasizes the cultural and social aspects of the action system.

The Cultural System

Consider the pattern maintenance subsystem of the general action system. This is coordinated to the concept of a cultural system, a system of symbolic meanings. The concept is analytical. For instance, the science of physics in its aspect as a body of knowledge is a cognitive cultural system, while in its aspect as a network of actors producing that knowledge it is a social system. Recall that in *The Social System*, three types of culture were specified: cognitive, expressive, and evaluative. Parsons adds a fourth type of cultural element called constitutive symbolization in order to have four elements to coordinate to the four-function paradigm. The intended interpretation of constitutive symbolization is the social construction of a conceptual distinction between human action and a postulated superordinate or supernatural realm that, of course, can vary among action systems.

Identifying these four elements of culture as corresponding to the four functions yields the following analysis of the cultural subsystem of the general action system in which, recursively, the value system is also analyzed in terms of the four-function template. I use some of Parsons's earlier terminology to show continuity in the treatment of culture. Since the cultural system is the pattern maintenance subsystem of the action system it is designated as L and *its* subsystems are then of the form LX, where X is one of the four functions:

- Constitutive culture—pattern maintenance function for the cultural system (LL)
- Evaluative culture[2]—integration function for the cultural system (LI)

    —Religious values (LIL)

    —Moral values (LII)

    —Appreciative values (LIG)

    —Cognitive values (LIA)

- Expressive culture—goal-attainment function for the cultural system (LG)
- Cognitive culture—adaptation function for the cultural system (LA)

Omitted here (and throughout this sketch) are implied relations among the various elements of culture. In any real application these would be important to treat, but here I just want to elucidate the logic of the model. An application of this model requires that the action system under analysis be treated as having a cultural system with these four interrelated subsystems. Thus, if the action system is "the American action system," for this analysis we have to instantiate the above concepts to the American case. A few remarks will illustrate some aspects of such an instantiation.

Cognitive culture has components that are shared with societies throughout the modern world, which is fully expected in terms of the analogy between cultural patterns of societies and gene pools of species, as discussed in Chapter 7. Thus "American cognitive culture," like part of the genome of a species, has both distinctive and shared elements. The same is true of all other American cultural systems. Parsons and Platt (1973: 41) suggest that there exists a distinctive *American* component of the moral-evaluative cultural pattern (LII in the above listing) of the American action system and call it "instrumental activism." As an *institutionalized social value*, a conception of the desirable type of society that is held in common by members of American society, it is not *only* a cultural value pattern but also a component of the American social structure. This statement is simply a consequence of the conception of social structure that is built into the four-function paradigm.

The Social System

The subsystems of the social system, the integration (I) subsystem of the action system, are of the form IX, where X ranges over the four functions. We have seen in the previous chapter that these subsystems are the fiduciary system (IL), the societal community (II), the polity (IG), and the economy (IA). It might be mentioned that not all action systems are "societal" but all action systems, in the sense of the paradigm, include the "double-I" or community component. In the application to the American action system, the social system (I) is the technical reference of the term *American society*. This implies, for instance, that the personalities of members of the society are in its environment as are instantiations of the various cultural systems listed above, although the principle of interpenetration always must be kept in mind.

I will illustrate the functional analysis of the American social system by reference to its fiduciary system and its societal community. The *American fiduciary system* (IL) includes educational, familial and other social structures and processes, the function of which is to maintain the continuity of American institutionalized cultural patterns. However, the apparent emphasis on stabilization must be properly interpreted in terms of the point made earlier in this book that social values can endorse change. In the American case, the activism element cited by Parsons and Platt builds a dynamic element into the action system. But how is instrumental activism maintained as a distinctive aspect of American culture? The generic analytical form of the answer is: via processes that maintain value patterns, fiduciary processes.

The *American societal community* (II) is the integrative core of the American social system. It is both a single collectivity and an internally differentiated system of subcollectivities and social classes. According to Parsons's definitions in *The Social System*, as discussed in Chapter 6, the collectivity aspect coincides with the solidarity aspect, so that in general a societal community also could be called a *system of solidarities* (Baum 1975).

To illustrate four-function analysis a little further, suppose one asks: What is the environment of the societal community, the system of solidarities? First, this (II) system is embedded the social (I) system so that its *intra-social* environment is comprised of the American fiduciary system (IL), the American economy (IA), and the American polity (IG). Second, through the social system, it has an action environment, comprised of American culture (L) and the personality (G) and behavioral systems (A) of its members. Finally, through the action system as a whole, it has a non-action environment that includes, most fundamentally, the human biological organisms that, in another aspect, are members of the societal community.

System Model-Building

One other very brief type of application of the four-function paradigm will serve to illustrate its usefulness as a flexible template for the representation of concrete systems of action. Namely, the very same such system can be treated at the action system level or at the social system level, or both. This is another indication of the general idea cited in Chapter 1 that, given a theoretical framework, more than one model of a concrete system can be constructed.

Consider an academic department in a typical American university. One social system model could be constructed along the following lines. The first step would be to identify the department's fiduciary, community, political, and economic aspects. Identified fiduciary processes probably would

include informal socialization of new faculty in regard to the cultural heritage of the department in its various aspects. The departmental community might be represented as a social network with emergent structure, with particular reference to the level of solidarity of the whole department and of sectors of it. Specification of departmental political and economic processes would include attention to its institutions for collective decision-making and budgetary procedures, respectively. The interrelations among the four sets of processes would be part of this social system model, as would the tracking of flows of influence, power, commitments, and money. The embeddedness of the department in a complex environment would deserve particular attention in terms of the department's relations to its social environment (e.g., inclusion relations in both the university and the discipline), to its intra-action environments (e.g., the personality and behavioral aspects of its members) and to its bio-physical environment.

A second type of four-function model of the department would be at the action system level that includes cultural, social, personality and behavioral processes and their interrelations. For instance, the relevant cultural patterns would include both those shared with all other academic departments, those specific to the particular discipline, and those that are unique to it. The action system model would include what the social system model treated as environmental (e.g., the personalities of its members). In other words, most of what was exogenous in the social system model now becomes endogenous in the action system model.

A third type of model, in which such a departmental model would be embedded, would treat the university system as such, as in the model building undertaken by Parsons and Platt (1973). Especially with attention to levels of structure and their relations and to flows of symbolic media, such four-function model building would begin to explain now complex academic systems actually work, both in terms of their levels of institutionalized normative culture and their operative levels of action processes embedded in such institutional environments.

The logic of four-function model building has rarely been explicated in the literature. An exception is the long chapter on Parsons in the text by Münch (1994: Ch. 2).

CONTROL HIERARCHY IN ACTION SYSTEMS

Background and General Idea

At several points in this study in theoretical sociology, the discussion has touched upon the cybernetic aspect of action. Parsons's ideas, in their over-time development, drew upon the cybernetic point of view as it emerged after World War II, notably in work of Norbert Wiener (1948) and thereafter in the writings of general systems theorists such as Ross Ashby

(1956). Cybernetics pertains to control in the sense of guidance or steering, best understood in terms of negative feedback processes. In Chapter 6, I interpreted the pattern variables in a cybernetic mode. The pattern parameter is part of a control system, I argued, in the sense that actors implicitly compare actual behavior to pattern and, in the stable case, respond in modes that tend to maintain that behavior close to its "setting" for the relationship in a given type of situation. More generally, the cybernetic perspective deals with *information processing* in a sense broad enough to encompass the role of genes as regulators of physiological processes, the role of programs in the operation of computer hardware, and the role of culture in social interaction. For Parsons, these concepts of information and control are central to understanding action systems.

In *The Structure of Social Action*, Parsons set out a structural analysis of social action systems based on a means-end chain model. It will be recalled that it was a hierarchy consisting of three levels: ultimate ends and values were said to normatively control an intermediate sector of the chains of action that, from this normative control viewpoint, terminated in ultimate means and conditions. This model is now greatly generalized in the cybernetic language of information and control. Parsons postulates a hierarchy of control relations. One useful image to have in mind is a branching tree with upper control elements specified to lower level elements that in turn are further specified to contexts such as situations and functional problems. How does this work? Powers (1973) has presented the most detailed analysis of a hierarchy of control that I know of, but his aim is only to show how behavior is generated through levels of processing of information in the body involving negative feedback. Since that time, a number of sociologists have drawn upon this model to devise detailed models of aspects of social interaction, notably David Heise and Peter Burke (see, for instance, MacKinnon and Heise 1993; Burke and Reitzes 1981). I myself attempted to link that model to the general action model (Fararo 1989b: Ch. 3) but I am far from satisfied with that effort. In any case, the present purpose is not formalization. The real problem is gaining an intuitive grasp of the concept of cybernetic hierarchy as Parsons's has employed it in the context of the four-function paradigm.

The basic ideas appear to be as follows.[3] One level controls another through its general definitions or meanings that are specified or implemented at the next level down. Culture provides the symbolic matrix of meanings through which action systems operate. Social systems implement and specify the culture to social interaction situations (institutionalization). Personality systems, through socialization within specific social system environments, internalize components of culture. Over a lifetime of passage through various social systems, socialization includes differential socialization, adult socialization and re-socialization, all of which constitute a partly invariant and partly changing institutional motivation. For instance,

interests are formed and transformed—some more durable than others—through adjustment to the parameters defining the positions of the actor in the various social systems, including those in social relations of production in Marx's sense. The more durable forms of interest constitute part of what Bourdieu (1990a) calls the habitus inculcated in a position in a comprehensive social system, a society. Through control relation to the behavioral system, such particularized culture is implemented in role performance in various social subsystems. Behavioral systems operate through culturally shaped needs and capacities to direct the ultimate means of action, the human body. In an interactive nexus, interpretive processes are involved in which behavioral outputs become physical stimuli that are input signals that, through successive levels of internal information processing, become meaningful behavioral responses.

Durkheimian Theory and the Control of Action

Many important ideas in the classical phase of the tradition of theoretical sociology can be mapped into the control hierarchy.[4] Parsons drew so heavily upon Durkheim, in particular, that is not difficult to map most of Durkheim's ideas into a four-function model with cybernetic control relations. The following sketch draws upon Durkheim's various theoretical writings[5] and generally uses his own terminology.

- *Cultural level of control*. Common concepts and values emerge in the social associations of human organisms (*common conscience*). These ideas and ideals are *collective representations* when embodied in symbols.
- *Social level of control*. Society is the domain of *social facts*, especially *institutions* grounded in the moral aspect of culture.
    - —*Fiduciary level of social control. Educational institutions* and *rituals* serve to maintain the collective conscience, that is, the common moral sentiments.
    - —*Community level of social control. Legal institutions* interpret and enforce the rules that implement moral sentiments and, in particular, some of these are expressions of the *solidarity* of the social system (the collectivity aspect).
    - —*Political level of social control*. The *state* is an organ of the common conscience, translating values into collective goals to be attained within the framework of the law.
    - —*Economic level of social control*. The *division of labor* is a basic fact about the way in which society adapts to its material basis. The state regulates economic activity—the more so, the more division of labor increases.
- *Personality level of control*. Insofar as the common conscience becomes more generalized (through social differentiation), action is oriented by individual preference and personal morality.
- *Behavioral level of control*. The human organism is in contact with nature through perceptions and sensations that are blind without the concepts that

are created in social interaction and that include categories such as space, time, and cause that control the forms of perceptions.

Control and Specification

Another type of application of normative control hierarchy shows its relationship to the specification process. It also illustrates interpenetration of action components in systems. Consider the idea of freedom in the American social system (I), that is, the normative conception of America as a free society. It functions to justify laws and informal norms about free speech (IL), freedom of association (II), freedom to form political organizations such as parties (IG), and freedom to establish a firm to compete in a market (IA). Thus, the diffuse conception of a free society is implemented or specified in these ways in diverse institutions.

Chains of such specification relate to the four types of components of social structure, namely, values, norms, collectivities and roles. The free society *value* is specified in the free speech *norm*, as protected by legal enforcement. This norm enables newspaper *collectivities* to do their work under its protection. Then the *role* of editorial writer within such a collectivity is to produce written materials that count as instances of free speech. In this hierarchy of specification of institutionalized normative culture we find a series of levels in which the lower level is normatively constrained and enabled by the upper level in each pair of levels.

In terms of interpenetration of cultural and social systems, because of institutionalization, a *value*—the normative conception of a free society—is both part of the cultural system and the social system. In terms of interpenetration of social system and personality system, because of internalization, a *role* (editorial writer) is part of both a social system and a personality system. In Mead's terms, the role is part of the social structure of the self in the form "I am an X," where X is <editorial writer> in this example. In other words, what is an object from a social system standpoint is part of a self from subjective standpoint. In Parsons's terms, institutionalization of values and internalization of roles generate two "zones of interpenetration." The principle of structural integration (see Chapter 3) provides an interpretation of this idea. The sharing of subparts (e.g., values, roles) by parts of the action system constitutes a mode of structural integration of the action system.

Symbolic Media Revisited

Late in his career, Parsons attempted to apply the symbolic media idea to the general action system, presupposing the hierarchy of control principle (Parsons 1970; Parsons and Platt 1973). In realist philosophy of science terms, this is a hypothesis as to the existence of a set of four functionally

specialized generalized symbolic media at the general level of action systems, not only at the institutional level of the social system. For instance, *definition of the situation* is postulated to be a symbolic medium that functions in pattern maintenance. Similarly, according to the hypothesis, *affect, performance capacity* and *intelligence* (each in a particular sense) are involved in action integration, goal attainment and adaptation, respectively. These ideas, as much as or even more than in the social system case, are in need of empirically meaningful operations if their ambiguities are to be overcome.

In the prior chapter, I pointed out that thinking in terms of flows in networks would be helpful at the social system level of symbolic media. In the present context, the most important connection would be to a control system model I have mentioned earlier, namely affect control theory (Heise 1979; MacKinnon and Heise 1993; MacKinnon 1994). This theory would fit with the cybernetic ideas of the four-function paradigm through its *affect control principle* that asserts that relatively enduring sentiments serve as reference standards—in the cybernetic sense of entering into negative feedback comparisons with immediate situated states of affect—in the control of affective states in self-other interactions. Moreover, in the formal theory, these fundamental sentiments are connected with identities that are invoked with the *definition of the situation*. For instance, an actor defines the self-other relation as <son-of-other>. The cybernetic control is illustrated by a quarrel: there is a comparison of an immediate situated feeling of anger or annoyance with an enduring sentiment of respect and love for a parent, tending to maintain the latter. (The formal model also generates redefinitions under certain conditions.) Thus, affect and definition of the situation, two of Parsons's general action media, are clearly specified in this cybernetic model. No model better represents, and in a formal quantitative way, the cybernetic relation between the cultural and the social levels of concrete action. The connection with the other two Parsonian media is less clear in this model. Nevertheless, in terms of Figure 1 in Chapter 1, the point is that affect control theory is a theoretical framework that has both an appropriate empirical implementation and a set of formal methods associated with its capacity to model interaction in social situations. It is a generative model and therefore fits closely with the strategy of generative structuralism set out in Chapter 12 below. By contrast, Parsons's cybernetic model, while insightful and not trivial, is not truly generative.

The Conditions Hierarchy

For Parsons, the order of control relations among components of general action has an inverse mirror order of condition relations. That is, in four-function terms, the order is AGIL. It has never been clear to me how this

second hierarchy should be interpreted, but here I offer one possibility. Namely, I interpret conditional relations as pertaining to necessary conditions for endurance, expressed in analytical terms by the property of *stability*.

The first relation involves a necessary condition in A-state terms for a state of G. A need-disposition (personality level) will not emerge and endure without some reinforcement (behavioral level).

The second relation involves a necessary condition in G-state terms for a state of I. Role expectations (social system level) will not emerge and endure without some basis in motivation (personality level). In one interpretation, this statement takes us back to the Matching Principle (Chapter 6), where the issue is stability of the social system and the motivation involves need-dispositions that more or less match role expectations.

A third relation involves a necessary condition in I-state terms for an L state. Social interaction (social system level) is necessary for the emergence and endurance of symbol structures (cultural system level).

These statements, while not without ambiguities, resemble statements about dynamical systems and the conditions necessary for the existence of attractors (a concept discussed in earlier chapters). The thresholds, of course, are not specified and could not be, apart from definite mathematical models. Moreover, such parameters are not to be interpreted as universal constants; they can be functions of other variables in the action system. But the hierarchy concept does supply the parameter *space* for the given action state space at a given level.

Applying the same logic to the social system and using the concept of stability, we have the following three propositions relating to the conditional relations IA–IG, IG–II, and II–IL, respectively. If the polity (IG) is stable, then economic productivity (IA) is above some threshold level. Without an economy functioning at some requisite level, no political order. If the societal community (II) is stable, then political effectiveness (IG) is above some threshold level. Without a polity operating at some requisite level, no social order.[6] If the fiduciary system (IL) is stable, then the solidarity of the community (II) is above some threshold level.

EVOLUTIONARY CHANGE

In *social* evolution, through differentiation, the four social functions come to be "structurally visible" in the sense of specialized structural units and their relations forming distinct subsystems of the social system. Another way of putting this is to say that the processes involved gain some degree of autonomy from each other, which is not to say that they are not closely interdependent.

Action Evolution

Similarly, Parsons (1966) argues, in *action* evolution the four action functions—cultural, social, motivational, and behavioral—come to acquire autonomy so as to constitute four distinctive but closely interlocking subsystems of action.

Consider cultural and social systems. At some point in action evolution, religion as a cultural system came to be differentiated from the social system associated with it and subsequently universal religions emerged that by definition are cultural systems that transcend any particular society. Also, the social structures of advanced societies came to include a differentiation of church and state, meaning that the fiduciary and the political functions have become differentiated in the sense of specialized performance by different structural units. In each case, one could put the matter by saying that there is increasing autonomy. Thus, cultural systems such as science and religion become more autonomous from their societal origins, the state becomes more autonomous from the church, and so forth.

Similarly, in treating the differentiation of society and personality, Parsons is simply taking up the arguments given by Durkheim and Simmel concerning individuation as a world-historical process driven by increasing social differentiation. That is, in terms of the four-function paradigm, social systems and personality systems differentiate as the latter gains autonomy. Culturally, the modern template <the individual> arises and forms a part of normative culture that is institutionalized in the form of individual rights as contrasted with the rights of collectivities as such. Of course, from the onset of the evolutionary emergence of the human species there were multiple human beings producing actions comprising an action system, but in action evolution they have gained increasing autonomy from collectivities and this autonomy is enshrined in normative culture.

Social Evolutionary Processes

In a technical sense of the four-function paradigm, *social* evolution refers to evolutionary change in the institutionalized normative culture that defines the structure of a social system. There are four elements in Parsons's treatment of evolutionary social change: stages, universals, revolutions, and mechanisms. The first three are basically descriptive of world-historical trends or events, whereas mechanisms have an explanatory function. I will not discuss stages and universals, but briefly treat revolutions before turning to the explanatory mechanisms. Modernity has involved a series of time-extended revolutions. Parsons (1971) explicitly takes note of three such revolutions. I will add a fourth pertaining to the societal community to instantiate the four-function template in this context:

- Industrial revolution (economy)
- Democratic revolution (polity)
- Social revolution (societal community)
- Educational revolution (fiduciary system)

  By "social revolution" I mean changes brought about by various social movements, especially in the second half of the twentieth century, such as the civil rights movement, the women's movement, and the gay rights movement. These movements have had the outcome of increasing the inclusion of groups into full citizenship in the societal community wherever they have been successful.

  I turn now to the mechanisms comprising Parsons's explanatory model. In terms of Figure 1 in Chapter 1, there is a *theoretical framework* with its template for theory construction (the four-function paradigm) and a *theoretical problem* ("How is evolutionary change produced?"). Therefore, the task is to construct a *theoretical model* to account for this particular type of social change. Parsons (1971) specifies a model with four mechanisms that together are intended to describe what is said to happen in an episode of evolutionary change. The model is not intended to be a description of social evolution. According to the governing analogy, it should be parallel to the natural selection model in biology. From the point of view of the modern synthesis in biology, this also means a treatment of genetic costs and benefits of variations in terms of reproduction. However, it is difficult to find anything like this in Parsons's model. In fact, at the outset of a somewhat earlier article on social change (Parsons 1982 [1961]), Parsons states that he would like to concentrate on "one major type of change in social systems, that which is most closely analogous to the process of growth in the organism." However, as Nisbet (1970) pointed out in a critique of this type of thinking, growth of a single organism is a *developmental* process that has a programmed aspect in terms of the genome as the growing organism interacts with its environment. An evolutionary process, by contrast, is stochastic and unprogrammed as well as responsive to environmental changes.

  The growth analogy that Parsons employs in the cited 1961 article seems to be inconsistent with the later analogy between biological and action systems that Parsons (1977: Ch. 4) formulated, as I discussed at the beginning of the previous chapter. The evolution of a society, Parsons noted in that context, is analogous to the evolution of a breeding population of members of a given *species*, not to the development of an organism. Thus, evolution is not development or growth in this later Parsonian analogy, in agreement with Nisbet. What is not clear is whether the four-function model of social evolutionary processes is based upon the growth analogy or the natural selection analogy or some conceptually elusive combination.

Despite this problem, there seems to be a way to make sense of Parsons's evolutionary model. Namely, there is a built-in directionality in the model that is justified under a scope condition that it applies to an over-time shift from one social structure to another such that the later structure has "enhanced adaptive capacity" relative to its environments. So Parsons is not describing the messy stochastic process of selection of variants. Rather, he is describing the mechanisms involved in any *evolutionary* change, *defined* as one that produces an "advanced" outcome.

According to the model, there are four mechanisms that together constitute such an evolutionary change of a social system. They are initiated with a disturbance in the goal attainment processes of certain units. This is the initial condition, the upsetting of a previous equilibrium. Unlike the equilibrium analysis of the pattern *maintenance* process, in this case, the model presupposes that the disturbance is *not* counteracted by effective social control mechanisms. Instead it leads to a process of change of an institutionalized normative pattern, a social structure. The phase of disequilibrium, the path from one structure to the next, is not specified; rather, this is a before-and-after model.

Presumably, not all changes are evolutionary. What the model seems to assert is that *if* a social change is evolutionary *then* the following four processes are the mechanisms by which it occurs: differentiation (G), adaptive upgrading (A), inclusion (I), and value generalization (L).

Consider the example given by Parsons (1982 [1961]) in which the premodern farm family evolves into a pair of integrated structural units, the modern family and the modern business firm. In the "before" situation, the farm family is a type of collectivity that combines fiduciary and economic functions (i.e., it engages in child socialization and in production). Concretely, since this is a case of considerable segmentation, each particular farm family engages in these activities. The goals of this type of collectivity correspond to the two functions performed for the society. The initial condition for the analysis is that the attainment of at least one of these two goals is substantially frustrated in some unspecified number of farm families, producing an unspecified path of process leading to some new type of collectivity, albeit still called "family."

Differentiation, in this case, is the process by which the new type of collectivity retains its social responsibility for child socialization but not for the production function. This is the modern urban family that is no longer rooted in the land, in farming. The modern firm takes up the production function. Thus, a structural unit that performed two functions has split into two structural units, each of which performs one function. This is the differentiation mechanism of social evolution. For a new evolved equilibrium to be established, three problems have to be resolved. The other three mechanisms are postulated to deal with these problems.

Adaptive upgrading is a process by which the new unit resolves a prob-

lem implied in specialization. Namely, what will be the source of the household's income so that it can purchase goods and services that earlier were part of its own productive activity? The change in this regard is that, subject to adjustments in the educational sphere, certain members of the household gain the freedom to offer a wider variety of services on the labor market.

Inclusion is a process by which an integrative problem is resolved. How will the new types of structural units fit into the societal community? That is, how will they relate to other units? This problem is resolved by inclusion of these new types of units in a reorganized ranking system involving a reallocation of prestige.

Value generalization resolves a problem arising in the relation between the new structural situation and the moral value system. Before the disequilibrium, in the old order, a "good man" was a man who owned and worked his farm, along with a similarly working wife and their children. Internalization of this value pattern rooted individual identity in the land, as a farmer. But what if a man no longer works the land and, moreover, works for some organization? In what sense can he be a good man? The resolution of this kind of problem is in terms of a generalization of the institutionalized and internalized value pattern. A good man is one who works hard, *whether through self-employment or as an employee of a firm*, so long as he supports his wife and children. This is value generalization. Correspondingly, a good woman is one who takes care of the children and the household, *whether or not she participates in (other) productive activities*. So both a farmer's wife and an organization man's wife can be a good woman and here too we have moral value generalization.

This is a rather plausible description of an evolutionary change in Parsons's sense. However, the actual events over an extended period of time are glossed. Given the scope condition that such change is known to have occurred, possible paths of process that do not lead to evolutionary change are ignored altogether. These and other problems in Parsons's theory of social change have led to a research program within the broader neofunctionalist continuation of Parsons's core ideas that combines in-depth historical and comparative studies with new concepts, such as uneven differentiation, and that also attends to processes of dedifferentiation (Alexander and Colomy 1990).

Sketch of Alternative Paths of Theoretical Model-Building

Taking a more formal direction, an alternative type of evolutionary model would start from a specified system of units and attempt to show how, over time, the actions of the various units *may* generate an outcome in which a growing fraction of them bifurcate into two functionally differentiated units that are institutionalized. This sort of dynamic model would differ in theoretical method from Parsons's sketch in certain ways that can

be specified. A definite formal model would be set up such that the following properties hold.

First, the model would have a specified finite and probably large number of acting units that are structurally defined (e.g., a certain number of farm families). Second, their *situations* and their *decisions* in them would be explicitly modeled, as adaptive responses to such situations. Third, the process would be *dynamic* and *recursive* in that in a continuous process, in each relatively small interval of time, some number of units would be transformed in a cumulative process yielding a new institutional state of the system.

For instance, the model could take the form of a diffusion process, or perhaps a contagion process, in that something is *spreading*. What is spreading is an identified cultural pattern, the analogue of a gene that is taking hold in a population of units. It would link the kinship system and the occupational system in a new way. It might be described as a morally approved pattern in which a man works outside the home for a firm and his wife becomes a housewife who cares for their children. The more this value pattern spreads—the more that men and women *decide* to go in this direction—the more institutionalized it is. By insertion of this decision process at the micro level, there would be a recovery of the element of agency that Parsons always has insisted is a necessary feature of theorizing within the action framework, but which often seems invisible in the focus on functional analysis.

As Parsons indicates, the process of social evolution is a process of institutionalization of normative culture. But in the method suggested here, the theoretical model would be a time-extended *process model* in which the outcome is not foreordained. Hence, the extent of institutionalization of the new normative pattern would depend upon parametric conditions and—as in biology—chance events. There would be a stochastic process of concatenated decisions of agents, whether individual or collective actors. The consequences of those decisions could still be described in terms of more or less differentiation, more or less adaptive upgrading, more or less inclusion, and more or less value generalization. But the actual diffusion mechanism producing these changes would be modeled.

It is also possible to link Parsons's evolutionary model to ecological thought. The historical world can be treated as an evolving system of societies. This is an ecological system, in Parsons's sense (in *The Social System*), because it is a social system that lacks the property of solidarity. In this ecosystem, various politically organized populations (societies) have some niche. When a particular society gains in adaptive capacity through an evolutionary change, this may confer an advantage upon it in its pattern of relations to other societies in the ecosystem. Even more generally, any nonsolidary system of social systems can be treated in the same way. If the social systems are organizations—and this is true of state-organized socie-

ties—then organizational ecology (Hannan and Freeman 1989) is the most relevant mode of treatment of social evolutionary processes from a dynamic ecological system perspective.

The conclusion of these remarks is that Parsons's treatment of social evolution sets out a system of four mechanisms that are intended to account for evolutionary changes of social systems. But it is not an entirely adequate theoretical model because, among other problems, it lacks a truly dynamic formulation. In the case of the four-function symbolic media theory, flows in networks and affect control theory were suggested as appropriate dynamic models. In the present context pertaining to the four-function evolutionary model it appears that dynamic ecological models would be appropriate as progressive moves in relation to the state of the four-function paradigm.

BRIEF SUMMARY

In Chapter 7, I discussed Parsons's justification for functional analysis in sociology and outlined the general four-function paradigm. I then showed how it is applied to social systems, drawing upon Homans's case studies and system concepts in an attempt to provide both intuitive meaning and plausibility to the social system model. This chapter has been a further study in the logic of the four-function paradigm in which the paradigm is applied to construct a general action model. To motivate the interpretation of this model, I linked it to Mead's co-evolutionary model of the emergence of mind, self, institutions, and symbols. Then I illustrated an application of the model to "the American action system" to indicate how its analytical concepts apply to the world. I then discussed various other topics central to the interpretation and application of the four-function paradigm, especially control hierarchy and evolutionary change. I turn now to the assessment of Parsons's theory program in terms of the standards set out in Chapter 1.

ASSESSMENT

The evaluation of Parsons's theory is made difficult by its sheer enormity in terms of elaboration of concepts in a multiplicity of directions. Moreover, more than any other single corpus of postclassical theoretical work, it has been subjected to a wide range of critical analyses.[7] Given this situation and given that some of my own criticisms were set out in the above discussion, at this point my aim is not to review other evaluations but to set out my own assessment in terms of the various standards enumerated in Chapter 1 and applied in Chapter 5 to assess Homans's analytical theory.

Prelude to a Critique

The assessment that follows turns out to be very much in a critical mode, emphasizing the weakest aspects of Parsons's theory, thereby adding to the criticisms set out earlier. But I would hardly have written a book in which his work appears so prominently if that were all that there was to it. There is a richness of sociological intuition in Parsons's writings, reflecting his own deep immersion in the history of sociological thought and its antecedents. This intuitive grasp of the structure and dynamics of social life is blended with a keen grasp of the importance of new ideas that came along during his lifetime and that he tried to incorporate into his framework. And, for me, the connection to Whitehead is of the utmost significance. Parsons is a relational process analyst working within a Whiteheadian process worldview. To be sure there are other philosophical influences on his thought, but for me this aspect of his work makes him a challenge to study and to draw upon in my own formal theoretical work. Although I can be as exasperated as any reader by the often dense and difficult prose in which he conveys his theoretical concepts and principles, when all is said and done—including the criticisms that follow—Parsons will be worth reading for many years to come. With that said, let me turn to my "formal" assessment.

Clarity, Generality, and Precision

I turn first to the theoretical structure and its assessment in terms of three standards: clarity, generality, and precision, reserving a discussion of completeness to the next section. There is little doubt that the theory is strong as to generality. Indeed, no other theory construction criterion seems to have been more salient for Parsons than generality. But this may have helped to create a trade-off with respect to other standards. In particular, the reader often is frustrated by the absence of the sort of case studies and examples that Homans provides in his approach. Hence, clarity has been a sore point about Parsons's work from its inception. Precision is another problematic element. For instance, I have interpreted a good deal of his work as referring to stability conditions. In principle, a stability condition is set out in a theorem proved from an explicit set of assumptions such that it asserts some condition in regard to one or more parameters as necessary or sufficient for the existence of a stable equilibrium state of a dynamic system. Without the precision of quantified parameters, such a statement is relatively weak. For instance, a quantified theory might have a condition for stability in which a specified parameter is compared with a threshold term. A necessary condition theorem might then state that unless the parameter exceeds the threshold, the specified equilibrium state will not be stable. But if there is no specification of the threshold, any value of the

parameter may exceed it or may not exceed it. Hence, the theorem has no empirical content in the sense of ruling out some possible observations. Thus, a commitment to system-inspired concepts and propositions along with a low level of precision produces a relatively weak theory.

Completeness and the Key Theoretical Problems

The criterion of completeness is best discussed in connection with the content criterion concerning treatment of the four key theoretical problems of social structure. Recall that these were set out in Chapter 1 (and again, in more detail, in Chapter 5 in the section on Assessment) as calling for theorems that deal with (1) the emergence and form of social structures, (2) the stability of social structures, (3) the comparison of social structures, and (4) the change of social structures. This list presupposes a process worldview in which the logic of the analysis of dynamical systems is employed to conceptualize the meaning of "stable social structure" as an attractor of such a system: a state or set of states that, once entered, tends to be maintained in that actual or virtual small departures from it tend to be counteracted by the system processes. In this perspective, completeness means the degree to which theorems of all four types can be derived from the postulates of a theory.

The adoption of a structural-functional approach militates against the generation of theorems of the first type, since emergence is not an explicit problem on the agenda. The concept of institutionalization actually suggests an emergence of role-structured interaction out of initial conditions in which the particular role relations do not exist. In a theory that is committed to functional analysis, this suggests an account of emergence through an evolutionary approach, incorporating it into the change type of theorem. Something like this occurs in Parsons's treatment of four mechanisms of social evolutionary change. In that context, institutionalization is a selection process over cultural patterns that are generated in social interaction. This is a nice idea, but there is not a detailed specification of the process. Instead, a new social structure is treated as evolved out of an earlier structure that was less differentiated, less inclusive, less adapted to its environment, less generalized in its value system. As discussed earlier, this analysis bypasses the evolutionary process itself in favor of a before-and-after treatment. Thus, the potential to generate evolutionary emergence theorems is foregone.

The potential strength of the functional approach is with respect to theorems related to the other problems. Ideas such as the Matching Principle's stated relationship between institutionalization and internalization of normative culture pertain to the stability problem. The pattern variables, in principle, are parameters of social structure that can function in comparative analysis. Indeed, if their empirical estimation (either quantitatively or

in the interpretive sense that I employed) were readily accomplished, they could function far more widely throughout sociology. For instance, as I discussed briefly earlier, the total social relationship between a pair of people can be interpreted to be a composition of role relations, each with its pattern variable parameters. Which role relation will be activated can be made to depend upon situational conditions that are described in terms of functional problems that are classified in terms of the four-function paradigm. But again, only if the empirical side of the four-function paradigm were stronger could claims that link such functional problems and pattern variables be put to an empirical test, as I mentioned in discussing the pattern variables. This same point was made by Berger and Zelditch (1968), former students of Parsons, in their critical review of a collection of his papers that reprinted an article by Parsons (1960) stating a specific set of hypothesized relationships between the four functions and the pattern variables, linking these to the overall problem of stability or, in process philosophical terms, endurance. The problem is important. If an action system is to endure, then as it confronts various types of "exigencies" or functional problems, role relations must shift into appropriate gear. For instance, to focus on a successful hunt, the band members must adopt an instrumental pattern of orientation to each other, while later, in celebrating a success, they can relax into an expressive pattern. What is the mechanism of role switching? Of course, the old and still relevant problem for functional accounts arises as to the meaning of non-endurance or non-survival, giving rise to the sort of skeptical reaction that Homans (1950: 268) expressed in his early reservations about functional theory. He himself suggested substituting the stability of equilibrium for the survival criterion and in much of his theoretical work Parsons seems to make the same substitution. While the problem does not so easily go away, sociology now has resources for addressing survival both in empirical terms (Faia 1986) and in the dynamical systems terms that I have employed, in which endurance or survival is related to the property of being an attractor.

I am saying that there is much that is insightful and promising in Parsons's discussions about the stability problem in the analysis of action systems. But, among other liabilities, the absence of precision subtracts from this potential strength. In particular, the Matching Principle exhibits the problem of weakness cited just above. It calls out for a quantitative treatment without which it remains a somewhat inert principle incapable of generating important consequences. An example of the analytical power conferred upon a theory when it can employ quantitative concepts pertains to the theory's core concept of institutionalization. Once we move from the perfectly integrated idealized case to the real world, institutionalization is a matter of degree, as Parsons (1951: 39) emphasized. In a beautiful but little employed[8] example of quantification of a theoretical concept, Stinchcombe (1968: 183) develops the consequences of defining "*the degree of*

institutionalization of a value as the correlation between commitment to that value and power" (emphasis in original). He goes on to state "by institutional integration we mean that the *same* values tend to be correlated with power in different institutional areas" (p. 187).

Simplicity, Surprise, and Fertility

The reference to the beauty of Stinchcombe's quantitative idea of institutionalization provides a transition to application of the standard of beauty and its more specific criteria of simplicity, surprise, and fertility. The four-function paradigm, in itself, has a certain appeal. When viewed as a template for the construction of models, especially with its recursive deployment to explore multilevel phenomena, it has an appeal associated with the simplicity of working always with a scheme of four explicit functional problems with varying contextual interpretations set out in theoretical models. However, such models generally lack deductive fertility and surprise, thus detracting from the appeal of simplicity of formulation in terms of flexible template.

Moreover, the reach toward utmost completeness of coverage of action system phenomena—cultural, social, personality, and behavioral—produced a theory of enormous complexity. What one wants of a scientific theory is simplicity of starting point with *derived* complexity. In one sense, a simple four-function template that is applied recursively seems to satisfy this desirable condition. However, without a true formalism—one that enables deductions—the recursive process does not reach its optimal level of realization while at the same time what there is of it often leads to a sense of confusion on the reader's part. Attempts by Parsons to consolidate different phases of his work, such as the incredibly difficult tabular integration of the pattern variable scheme and the four-function scheme (Parsons 1960), were unsuccessful by any external standard of clarity and precision of thought, not to mention deductive fertility.

Quite apart from this difficulty, there remain open questions about the paradigm at its foundational level in which it is derived from two binary oppositions relating to a system in an environment: external vs. internal and instrumental vs. consummatory. That this derivation has never been fully satisfactory is seen in the various attempts to revise the scheme. For instance, Münch (1987) substitutes "contingency of action" and "symbolic generalization" as the two underlying dimensions from which the four-function scheme may be derived and interprets the fiduciary system in terms of "discourse." These revisions have the effect of bringing the scheme closer to recent European social theory, particularly the writings of Luhmann and Habermas. However, it does not seem that this reconstruction of the four-function paradigm has gained many adherents.

Despite difficulties in application and questions about the foundations of

the conceptual scheme, the four-function paradigm has been of value to me and to some others who have pursued the spirit of unification in sociological theory, such as Alexander (1988). In my own integrative work, I have found that a variety of other frameworks and models can be articulated to the paradigm in such a way as to bring out abstract similarities among them that encourage synthesizing efforts. This aspect of the deployment of the paradigm will be apparent in Chapter 12.

Class and Conflict?

The present-day reader of Parsons may be appalled, too, by the seeming absence of *class*, not to mention race and gender, under the rubric of social structure. Actually, all three are aspects of the complex conceptual scheme in *The Social System*, albeit in a muted way. In Parsons's later work, the four components of institutionalized normative culture are part of the core of the paradigm, like the pattern variables, with certain specified correspondence with the four functions. Values are associated with pattern maintenance, norms with integration, collectivities with goal-attainment and roles with adaptation. Intuitively, the correspondence seems to make sense. But where does class as a component of social structure fit into this tightly organized conceptual scheme?

At first glance, the close relation in Marxian and other conflict theories between class relations and social change would tend to challenge the adequacy of the Parsonian conception of social structure. How can social change be explained without a treatment of class conflict? However, the paradigm can provide a conceptual location for classes and analyze class-related phenomena, including certain forms of social change. A Marxian class can be treated in two conceptual locations, corresponding to class-in-itself and class-for-itself. A class-in-itself is an aggregate of actors in the same position in a specific relational institution, the mode of production characteristic of a given economy. A class-for-itself is a collectivity, a more or less solidary social system that is one structural unit of a societal community. Then this interpretation implies that class conflict, as a relational phenomenon, is an aspect of the problem of integration of the society (i.e., an aspect of its societal community). This, in turn, gives it a conceptual location appropriate for its relevance to the problem of social change as transformation of the system of collectivities and their relationships—in relation to economic, political, and fiduciary aspects of the social system as well as the latter's intra-action environment. In particular, social disorder as well as social order can be treated at the theoretical model level of the theoretical framework that includes the four-function scheme, as in the Marxian-inspired work of Gould (1976, 1985).

The Presuppositional Problems

Finally, a few words may be said about the presuppositional problems of action and order. There is little doubt that when Alexander (1981–1983) framed these two issues he was indebted to Parsons for doing so in *The Structure of Social Action*. In that work, Parsons had embedded the rationality of action within a wider structure of social action. The element of nonrational action had been treated explicitly in terms of such categories as sentiments (Pareto), charisma (Weber) and the sacred (Durkheim). Parsons treats rationality as an emergent element of action because it pertains to choices among distinct alternatives of action. However, the analytical focus of sociological theory was to be on another emergent element of action—common-value integration.

In the structural-functional theory, Parsons builds on these ideas. The closing section of *The Social System* presents an argument that is still very much relevant to debates in current sociology about rational choice theory. The context is one in which Parsons is again concerned to make clear that sociological theory is not the theory of social systems but rather the theory of the institutionalization of culture and of phenomena (e.g., social control) related to institutional structure. It is in this perspective that Parsons views rationality:

> Institutionalization of cultural patterns means . . . in the integrated sense internalization of the same patterns in the personality. Psychologically an internalized pattern is no longer an object of the situation. It is not possible to treat it as an instrumental means or condition. . . . This fact has a fundamental methodological significance. It means that the orientation of "instrumental rationality" *cannot* be the attitude defining the actor's orientation to internalized patterns. . . . This is the fundamental reason why the sociologist cannot follow the lead of economics . . . in his fundamental account of the motivational forces in institutional behavior. (Parsons 1951: 551–552)

The important phrase to note near the beginning of the above quotation is "in the integrated sense." This refers to the Matching Principle. An institutionalized normative pattern is a set of role expectations applying to members at large or to their action in particular positions. The stability of the social structure defined by these role expectations depends upon this pattern also being sufficiently internalized in a sufficient number of members. "In the integrated sense" means that the argument holds for a model in which a social system has a structure realizing this matching condition.

For instance, consider a gender institution defining male and female status-roles. In the recent history of the West, the role expectations comprising the traditional gender institution have been destabilized. As an initial condition, during a certain period of recent history, women no longer

sufficiently internalized the normative pattern built into the institution. Instability and change followed. During this period, gendered action was no longer beyond the reach of rational choice. For instance, a woman could make a rational choice to enter a part of the labor market defined up to that time as a male domain. The rational choice would occur amidst institutional constraints—women still were expected to take on the main burden of housework and childcare—but the institution was now in an unstable state. This example illustrates rather than undermines Parsons's argument. It is not that women in the traditional gender situation were not making rational choices; the point is that their choices presupposed and did not challenge the gender institution. The definition of being an instance of <woman>—as that was defined in that epoch—was incorporated into the structure of personality and not taken as an option for rational choice. In the language of Bourdieu (1990), there has been a change in habitus as well as in the field associated with gender relations.

The conclusion of this discussion is that Parsons is saying that internalization of institutionalized normative patterns puts some components of social behavior outside the reach of rational choice. And it is precisely these "structural" features of action that are the analytical home base of sociological theory as he defines it.

The other presuppositional issue concerns social order. As I have interpreted it, the issue pertains to methodological individualism versus methodological holism. Should the approach of theory be bottom-up or top-down?

At first, it may appear that Parsons is a methodological individualist. After all, his fundamental starting point in *The Structure of Social Action* is a unit act. Collective phenomena are treated as emergent features of complexes of such acts. However, it is not the individual that is the basic unit, but the act. Individuals are complex systems of potential and actual behavior—personality and behavioral systems. So is Parsons a methodologist holist? After all, the theory of action pertains to action *systems*. The analysis of such a system begins by postulating its analogy to living systems and hence to four basic functional problems. Then the analysis is top-down in the sense that emergent—evolved—structural units perform functions for the given system. What is taken as given is that this system is in some sense an object of cognition. But, from a metaphysical standpoint, to be an object of cognition, there must be some pattern or form of definiteness that endures as occasions of action arise and perish. Thus, a society, like a species, *exists*. Theoretical analysis starts from this primordial fact and uses functional analysis to attempt to explain the maintenance and evolution of the pattern—as well as how it gets *expressed*, to use a term from genetics— whether it be a common genetic pattern (genome) or a common cultural pattern (a societal culture).

In the final analysis, Parsons's ideas defy easy analysis in terms of the

presuppositional dichotomies because his synthesizing agenda implies an effort to get beyond them. With respect to rationality, concrete action includes both rational and nonrational aspects so that, in principle, the theory of action must include both elements. With respect to order, acts are ultimately the behaviors of individual organisms but they are always embedded within an evolving network of acts of multiple organisms forming, on the one hand, an evolving species and, on the other hand, an evolving society, both of which exemplify social order in Whitehead's sense.

NOTES

1. I will display lists of components but I will not strive to present a systematic analysis of their interrelations. In particular, I will not try to deal with interchange between subsystems in any systematic way. Also, in my illustrative application, I focus mainly on the cultural and social elements.

2. This is a departure from Parsons and Platt (1973: 17), who identify the integrative function with "moral-evaluative symbolization." I am striving to capture systematic generalization of the earlier model, so that the moral-evaluative element is only one of a number of modes of evaluation, as in *The Social System*.

3. What follows is my interpretation. However, I believe it is reasonably close to what I understand Parsons to be saying in various publications. See, for instance, Parsons (1961) and Parsons and Platt (1973).

4. I have sketched a Marxian correspondence elsewhere (Fararo 1989b: 193).

5. See Chapter 2 for an extended treatment of my interpretation of Durkheim and the note that cites the main sources of that interpretation.

6. This statement is a variant of the Hobbesian thesis as to a necessary political order basis for social order. If I am correct in my interpretation of the conditions hierarchy, the statement illustrates the way that Parsons's theory is animated by the aspiration of a general theoretical synthesis that subsumes rather than completely abandons earlier forms of social theory.

7. See Lidz (2000) for a strongly informed critical assessment of many of the most influential criticisms (e.g., those of Schutz, Merton, Dahrendorf, Coser, Gouldner, Garfinkel). Given the limitations of space, I did not think it necessary to review and respond to all these and numerous other critical reactions to Parsons's work. Instead, I try to take a fresh viewpoint that is grounded in my own repeated study of his work and in the standards I set out in Chapter 1.

8. I have suggested a theoretical use of this definition to frame "the system of consolidation" of parameters in formal macrostructural theory, linking Stinchcombe's definition to Parsons's four-function paradigm and to Peter Blau's theory of macrostructure. See Fararo (1989b: 305).

The Behavioral Theory of Spontaneous Order: Background and Core Principles

INTRODUCTION

In Chapter 5, I showed how Homans implemented the process worldview and the system model in the first phase of his theoretical work. Events, customs, and analytical laws or hypotheses are three distinct levels of description. The social world consists, first and foremost, of a flux of *events* involving the interaction of persons engaged in activities. Recurrences among such events constitute *customs* that, in Homans's early usage of this term, include patterns of social relationships. Although customs are stable, relative to events, they are variable in the wider sense of changing in history and varying with culture. True invariants emerge only at a third level of description consisting of *analytical laws*, to use Parsons's early term. But such laws presuppose a conceptual scheme of analytical elements, since each law states some uniformity in the way that two or more such elements vary. This means treating empirical observations as values of such analytical elements, such as the frequency of interaction or the intensity of interpersonal sentiment. A prospective analytical law is framed as an analytical hypothesis, taking the form, for instance, *as interaction increases, so does positive interpersonal sentiment and vice versa*. Each such law is one among a system of such laws, each of which qualifies the others, so that they form a system of laws. It is such a system of analytical laws that constitutes an analytical theory. The ideal form of such a theory is a system of differential equations. With such a system model, the tasks of general sociological theory take shape in terms of deriving properties of dynamical systems, as in Simon's formalization of the theory.

  This chapter analyzes the background for and the core principles of the

behavioral theory adopted by Homans in the later phase of his general synthesizing program of theory construction. The next chapter examines how it is employed as a social theory of group processes or, as another way to think of it, a behavioral theory of spontaneous order.

In the next section, I will discuss some key intellectual developments, mainly after 1950, that were salient for this new work: the philosophy of science, experimental social psychology, and behavioral psychology. Then I will turn to the methodology, the conceptual scheme and the principles of the new theoretical framework. In that context, I want to discuss how the behavioral theory relates to rational choice theory.

BACKGROUND FOR THE BEHAVIORAL THEORY

After the publication of *The Human Group* in 1950, Homans continued to attend to developments in his intellectual environment, especially in the philosophy of science, social psychology, and behavioral psychology. As a prelude to my analysis of Homans's second phase of theorizing, I will discuss each of these developments, in the limited context of their salience for Homans.

Logical Empiricism

An interest in the philosophy of science had been apparent in Homans's early work, in which he cited not only Whitehead and Pareto but also a number of natural scientists, such as Mach. Logicians and physicists, as well as philosophers, had been active in the first half of the century in formulating a general orientation to knowledge that acquired high visibility after 1950. The guiding principle was that empirical knowledge at its best exhibits both a rational (logical) and empirical aspect without falling into the fallacies of classical rationalism or classical empiricism. The new mode of thought was called *logical empiricism*. One of its key innovations was to utilize the vastly expanded formalism of symbolic logic to analyze the logical foundations of science.

Homans's views on scientific theory were profoundly shaped by the publication of major works in the logical empiricist tradition in the 1950s and the 1960s, notably those by Richard Braithwaite (1953) and Karl Hempel (1965), respectively.[1]

Braithwaite's treatise is an explication of the nature of a scientific theory as an empirically interpreted formal system of propositions. There exists a set of initial propositions from which all the others can be derived, using the formal system aspect of the theory. The interpretation of the formalism supplies the reference to matters of empirical observation and constitutes some of the general statements as scientific hypotheses or laws. Thus, from this logical empiricist standpoint, the problem with the analytical theory in

The Human Group is that it does not have a deductive form. But this means that from this point of view, strictly speaking, it is not a theory at all. In fact, adopting this perspective, Homans (1974 [1961]: 6) reinterprets his earlier work as purely inductive and not as setting out a theory.

Hempel formulates what is known as "the covering law" model of scientific explanation. The model applies both to the explanation of events and the explanation of laws. The explanation of an event or a particular phenomenon is explicated as deduction such that at least one premise is a scientific law. Other premises describe the circumstances or initial conditions. This is equivalent to scientific prediction, the only difference being that the conclusion is not given in advance. To explain a law also means to deduce it, with the constraint that at least one premise must be a more general law.

These two ideas drawn from logical empiricism, theory as deductive system and explanation as deduction, fit together to form a single presupposition that guides all of Homans's thinking in his second phase of theorizing. Following Braithwaite on theory, he must find a set of initial propositions and then derive other propositions. Following Hempel on explanation, the propositions of the theory must be called upon to function as covering laws in various deductive arguments. Other developments in the philosophy of science produced alternative philosophical models dealing with the structure of a scientific theory and the nature of scientific explanation (Fararo 1989b: Ch. 1), but Homans appears not to have been influenced by them.

Logically, two implementation problems arise in this revised program for theory construction. First, what is to be explained? Second, what are the initial propositions of the theory? The two questions are intertwined. In this chapter, I will show how Homans answers these two questions in the formulation of a deductive theory.

Social Psychology

The second development to which Homans attended was the vast proliferation of work in experimental social psychology together with the rise of studies of small groups in sociology. In the latter area, the work of Bales (1950) was important. Earlier, Homans had been influenced by the theory of the equilibrium of groups formulated by the anthropologists Chapple and Coon (1942). Now Bales had put the problem of equilibrium on an empirical basis by working out a scheme for categorizing acts as they occur, moment by moment. Using profiles of such acts, Bales also envisioned the equilibrium in terms of ongoing solutions to functional problems, introducing Parsons to this version of equilibrium analysis.

Among social psychologists, the basic theoretical ideas that proved influential during the 1950s were due to such authors as Newcomb (1953) and

Festinger (1954). Newcomb extended the idea of balance worked out by Heider (1946), who had suggested the general hypothesis that persons attempt to bring into balance or stable equilibrium their perceptions and their sentiments toward or evaluations of objects in their situation. For instance, suppose that p is a person, o is another person, and x is some non-person object associated with o. For instance, o may be the author of book x. Then if p likes o and p approves of x, this implies a single positive orientation toward the cognitive unit consisting of o and x together. This is an example of a balanced psychological state. On the other hand, if p likes x but dislikes o or likes o but disapproves of x, there is an inner tension in the psychological relation to the cognitive unit consisting of o and x. This is an instance of imbalance. Newcomb brought these ideas into the realm of communicative interaction, applying the ideas to both p and o simultaneously as two persons in a collective system. Suppose that p and o both like x or if they both dislike x. Then a state of interpersonal balance exists if they also like each other, but if they dislike each other, imbalance exists for each of them and, hence, also for the interpersonal system. If, initially, each has a sentiment toward x that the other is not aware of, then communication tends to express these sentiments and, possibly, create an imbalanced state. The reactions to such imbalance depend upon parameters of the process, such as how relevant and important x is to both of them.

Festinger's ideas about cognitive consistency and dissonance in the context of social comparison processes were part of the highly active field called "group dynamics" (Cartwright and Zander 1960). Its core methodology was experimental, although Festinger himself also did field studies. A typical article would provide an abstract argument leading to an empirical hypothesis, and then report an experimental design to test it, concluding with the bearing of the findings for the original argument. Key topics were group cohesiveness, group pressures and group standards, group leadership, and group structure. Other studies by social psychologists and a few sociologists dealt with such topics as communication networks, group size, coalitions, and role differentiation.

How did these developments in social psychology relate to Homans? It was in 1958, in the context of a special issue of *The American Journal of Sociology* commemorating 100 years since Georg Simmel's birth, that Homans set out an initial version of what was to become the central theory in his book a few years later. The relevant point here is that Homans used this occasion to define three aims: to connect experimental findings to field study findings of the sort he had synthesized in the 1950 book, to restate these findings in general terms as propositions, and to derive the latter from still more general propositions.

Thus, we see how Homans begins to address the first problem arising in his adoption of a logical empiricist outlook, the question of what is to be explained. The immediate answer is that the connected findings of field

studies of groups and the experimental findings (the first aim) are to be interpreted in terms of his conceptual scheme (the second aim) and then given a deductive explanation (the third aim).

The 1958 paper also contains a point of continuity with the system model of Homans's earlier theoretical synthesis discussed in Chapter 5. For instance:

I suggest that the laboratory experiments on influence imply propositions about the behavior of members of small groups, when the process of influence has worked itself out, that are identical to propositions that hold good of real-life groups in equilibrium. This is hardly surprising if all we mean by equilibrium is that all the change of which the system is, under present conditions, capable has been effected, so that no further change occurs. Nor would this be the first time that statics has turned out to be a special case of dynamics. (Homans 1958: 376)

Behavioral Psychology

Finally, we come to the third intellectual development to which Homans attended during the 1950s, behavioral psychology. We saw in Chapter 5 that Homans was quite aware of the principle of reinforcement and its importance for the motivational aspect of social behavior. Also, we saw that he framed a number of arguments concerning the nature of social control and that one of these was in terms of rewards and punishments. These ideas were to become central in the second phase of his theorizing. But they did so in the context of his new conception of the nature of theory and the implied search for the source of the required initial propositions of the theory. The fact that B. F. Skinner was at Harvard—and had also been a Fellow at Harvard in the 1930s—may have played some role in this context. It is only one particular subtradition of behavioral psychology, yet is it the one that Homans (1971) cites explicitly, while he also maintains that what really matters is the general ideas common to the whole approach.[2]

Skinner's psychology aims to account for patterns in voluntary behavior, which it distinguished from reflex behavior. The fundamental unit is an animal in an environment in which voluntary behaviors are shaped by how that environment responds. In Skinner's terms a behavior is a behavioral *event* and therefore cannot be repeated. However, behavioral events can be grouped into equivalence classes and assigned probabilities. When a behavioral event occurs along with some outcome, it may have the effect of increasing the probability of another such event in the same class. It is then said to be a reinforcer for that class of behavioral events. For a pigeon, for instance, behavioral events are grouped into the class "pecking," for which food is a reinforcer. Rates of pecking and rates of reinforcement, the latter under experimental control, are in some kind of relationship. It is that

relationship that was the focus of the behavioral analysis in Skinner's research program. Any voluntary type of behavior that is analyzed in this way as a function of patterning of reinforcements is called an *operant*, so that this version of behavioral psychology is usually called operant psychology. Whether called operant, voluntary behavior, or just activity, the basic principle is that organisms, including people, *change behavior in the direction of increasing payoffs*, where the latter are defined by what they find more rewarding.

The psychologist Eugene Galanter, whom Homans acknowledges in the preface to the first (1961) edition of *Social Behavior* as having been of some help to him in the preparation of the book, points out in a sophisticated discussion of modern psychology (Galanter 1966: 299–300), that what is being studied in operant psychology is the relationship between the rate of a learned type of behavior and its "payoffs" in terms of over-time contingent reinforcement. Galanter makes a very useful distinction between two conceptual schemes for the analysis of voluntary behavior, focused respectively on behavioral choice and behavioral organization. The approach that Homans employs fits best into the former[3]—typically, a menu of alternatives may be taken as given and the choice process is represented as probabilistic, the resulting models then applied to aggregate data. This contrasts with the "organizational" approach that Galanter explicates by reference to the emergence of research programs in what soon became known as the cognitive revolution in psychology and which also has influenced some developments in sociology (as discussed in Chapter 12). The models aim to represent hypothetical mental structures and processes that can account for complex behaviors (e.g., proving a theorem, making moves in chess, and so forth). A variety of these research programs can be said to be under the umbrella of a cybernetic approach that I discussed in Chapter 8 in that they focus on the interplay of information and control in the analysis of human behavior. Thus, this sort of cognitive psychology involves the construction of theoretical models that postulate complex and unobservable internal processes, albeit connected with observable behavior to enable empirical testing. Such internal complexity is not at all the same as social complexity, as Durkheim realized when he distinguished between the study of mental facts and the study of social facts. So which type of psychology, if any, should play a role in the foundations of theoretical sociology and how?

For Homans, the answer is clear: the focus should be on the behavior, not the content of minds. Social behavior is a special case of behavior. Skinner's writings on systems of social behavior, however, had been speculative rather than empirical. By contrast, Homans had at hand a rich fund of theories and findings from the tradition of experimental social psychology as well as from field studies of groups. Behavioral theory, with its focus on choice rather than the organization of complex behaviors, is to be the

source of his most general propositions. This chapter analyzes the theoretical foundation of this approach while the next chapter treats how this foundation is deployed by Homans in explanatory arguments, concluding with a critical appraisal.

To summarize the background for Homans's second phase of general theoretical synthesis, we see that three intellectual developments were salient for him. First, the emergence of logical empiricism with its formal philosophy of science persuaded him that a scientific theory is a deductive system and that an explanation takes the covering law form. Second, the growth of experimental social psychology and of the sociology of small groups gave him a rich set of phenomena to be explained as well as some additional ideas about the mechanisms involved in social interaction. Third, given the shift in his conception of theory and given the corpus of findings to be explained, he was led to find his initial propositions of the theory in behavioral psychology, especially the principle that voluntary behavior is a function its payoffs.

METHODOLOGY AND CORE IDEAS

Fundamental Processes and Spontaneous Order

At the outset of *Social Behavior*, Homans frames his problem in terms of *elementary social behavior*, elucidating what this means in terms of three features. First, it consists of *fundamental processes*. Both words are important. The reference to processes is a point of continuity with his early exposure to process philosophy and with the treatment of social dynamics outlined in *The Human Group*. The term *fundamental* has the suggestion of explanatory significance at a quite general level. It is not some particular events, however important from a world-historical or normative standpoint, that are to be accounted for but the most basic properties of systems of social interaction.

In turn, it is the second aspect of elementary social behavior that clarifies this notion of fundamental processes. Namely, to focus on elementary social behavior means an aspiration to have a *theory of spontaneous order*. Such social order arises "naturally" as an outcome of the fundamental processes. This focus is perhaps the key to the entire life-long program of theory construction undertaken by Homans. It is a key aspect of continuity between *The Human Group* and *Social Behavior*. The internal system, it will be recalled, is the foundation of social integrative dynamics in the form of elaboration and standardization emerging out of the combination of basic interaction mechanisms involving activities and sentiments. Group formation and internal differentiation into subgroups, together with informal ranking of members and subgroups, are recurrent forms of spontaneous order in systems of social interaction. Hence, the focus on elementary

social behavior implies a theory that will *generate* such recurrent forms of spontaneous order. From an empirical point of view, the observation of the generation of spontaneous order is most readily accomplished under conditions of interaction that are least institutionalized.

The third aspect of the idea of elementary social behavior is that the theory, at least in its initial form, is scope-restricted to systems of interaction that form "closed networks," by which Homans means each person has an opportunity to interact with every other during the time interval of interaction. A *small group* is a closed network in which, during that time interval, the interaction of members with each other is greater than with others, "outsiders." This is not a precise definition, but it recapitulates the basic idea formulated in *The Human Group*. One should note that, in the evolution of human beings, many societies must have been small groups in this sense.

The Logic of Behavioral Explanation

The ambition to create a theory of spontaneous order from a social behavioral point of view indicates the central point of continuity with Homans's first phase of theory construction. But there are also differences, as suggested by the background in the prior section. The ultimate aim of *The Human Group* was to frame a system of analytical laws, or "propositions" in Homans's adoption of Braithwaite's terminology, grounded in empirical observations of groups. The aim of *Social Behavior* is to *explain* such propositions by reference to a small set of initial propositions drawn from behavioral psychology that I will call *behavioral principles*.

This is consistent with the logical empiricist distinction between empirical laws and theories, according to which a theory *explains* a set of empirical laws (Nagel 1961). In turn, the logic of explanation is that set out by Hempel as the covering law model of explanation. The theory consists of the behavioral principles and their logical consequences, including the derivation of known relationships as well as predictions of additional relationships (i.e., those not part of what is already known from empirical research).

Statements of *given conditions* are necessary for deductions from the behavioral principles. As given conditions vary, so do the logically implied statements. These given conditions in the explanatory arguments often will include reference to social structure in the sense of Parsons's four types of structural parts of social systems: values, norms, collectivities, and roles. This does not mean these types of structural parts cannot be explained by the principles. It means that for the *given explanation*, they are previously created conditions within which the fundamental processes operate to generate spontaneous order. In terms of *The Human Group*, they are part of the external system of the given social system, while the fundamental pro-

cesses are triggered by these initial conditions of social interaction. Thus, Homans's focus is still sociological in a fundamental sense. That is, the aim is to explain how processes of interaction generate the generic types of social structural phenomena we observe. Social structure is a dependent variable and not the independent variable.

In understanding the role of behavioral psychology, note that although structure and culture act back on individuals, they cannot act back on the principles of behavior, for these are insulated from such feedback by their very nature. For instance, a violent gang may treat going to prison as a badge of respect, turning a punishment in the community into a reward within this group. But what the gang cannot do is have such an instance of reward disconnected from frequency of behavior—the more respect shown to a member for going to prison, the more the members will undertake behavior to earn such respect. This is a special case of the working out of the behavioral principles under given conditions, not an exception to them.

The Core Ideas

I will make a distinction between the "formal" statement of the behavioral principles and a more informal set of ideas that they presuppose and that form the *core ideas* of the theory. The most central of these can be put in the following form:

> Behavior is a function of its payoffs.

The behavioral principles refer to a "behavioral system" (i.e., a system in which a single human being produces a stream of behaviors that have rewarding or punishing consequences for that person in the given environment). The principles do not aim to explain why the environment produces a negative or a positive consequence. The core idea is that of sequential generation of behavior in which later behavioral choices are shaped by the contingent outcomes of earlier choices.

In the light of the cognitive revolution in psychology that displaced behavioral theory as the dominant paradigm in that field, it is interesting to note that in the revised edition of *Social Behavior* (1974 [1961]: 24), Homans argues that perception and cognition are also functions of their payoffs. But Homans is not interested in "getting inside the head." In a sense, although he does not put it this way, he adopts the relational process point of view that Parsons and Shils (1951) also take in which, in an actor-situation frame of reference, what is under analysis is the dynamic relation between the actor and the situation. Behavior, then, is a relational process in which a human being acts in a situation and experiences consequences

that "feedback" to alter the directionality of later behaviors in the relational nexus.

In application to social interaction, there is a "coupling" of two or more such behavioral systems. The behavior of each of them is a function of consequences that are partially contingent upon the behavior of others. Such contingency of payoffs can be expressed by a second key informal idea:

> Social behavior is an exchange process.

It is important to realize that such a conception of exchange is extremely general. It corresponds to the description of interaction given by Parsons and Shils (1951) as "action and reaction" which, in the special case of a dyad, takes the form of what they call *double contingency*. It does not imply instrumental action orientation, for instance, which is a special case. It is not just one Simmelian form of interaction among others because it is a general form characterizing all forms of interaction—sociability, domination, cooperation, competition, and so forth. All of the latter presuppose social interaction in the sense of a coupling of behavioral systems in which the payoffs for each person are contingent upon the behaviors of others.

Given these two core ideas that will be embedded in the formal statement of the theory, another general point to note is that Homans follows a particular logic in going about the task of explanatory theory construction. This is so important for understanding the theory that I set it out as a third core idea underlying the theory construction process:

> Explanations proceed from simple to complex cases.

In terms of my discussion in Chapter 1 of the logic of frameworks and models, the behavioral principles of the theory are employed to construct a succession of *theoretical models*, each intended to explain an increasing range of social phenomena: first, the simplest theoretical models explain phenomena arising in a single exchange between two persons; secondly, somewhat more complex theoretical models explain phenomena arising in multiple exchanges between two persons; finally, the most complex theoretical models explain phenomena arising in exchanges between more than two persons.

FIVE BEHAVIORAL PRINCIPLES

Essentially, we are in the domain of what Galanter, cited earlier, called the choice framework: the behavioral principles deal with individual choice among possible actions in a situation. The general situation is described as containing stimuli and the person as having certain alternatives of action.

Rewards, which vary in positive value, are of two types, those that are intrinsic and those that arise from the avoidance of punishments. The latter, correlatively, vary in negative value and are of two types, those that are intrinsic and those that arise from rewards that are withheld. Rewards are positive reinforcements, increasing the probability of the behavior in the situation, while punishments are negative reinforcements, decreasing the probability.[4] The principles are as follows.

- *The Principle of Success* (Homans 1974 [1961]: 16) deals with reinforcement and states that the more frequently a particular action is rewarded, the more frequently a given person takes that action.
- *The Principle of Stimulus Similarity* (Homans 1974 [1961]: 22) deals with the generalization of reinforcing effects to analogous situations. It states that if in the past certain stimuli have been part of an occasion in which a person's action has been rewarded, then the more similar the present stimuli are to the earlier ones, the more likely the person is to perform the action, or some similar action, in the new occasion.
- *The Value Principle* (Homans 1974 [1961]: 25) states that the more valuable to a person is the outcome or result of an action, the more likely the person is to perform that action.
- *The Deprivation-Satiation Principle* (Homans 1974 [1961]: 29) states that the more often in the recent past a person has received a certain reward, the less valuable any additional unit of that reward becomes for that person.
- *The Aggression-Approval Principle* is the important way that Homans is able to build emotional elements into the foundation of the theory. It has two parts. (1) The *aggression* part of the principle (Homans 1974 [1961]: 37) states that when a person's action does not receive the reward he expected, or receives punishment that was not expected, the person will become angry and also become more likely to perform aggressive behavior, with the results of such behavior becoming more valuable to that person. (2) The *approval* part of the principle (Homans 1974 [1961]: 39) states that when a person's action receives a reward that was expected, and especially a greater reward than was expected, or does not receive punishment that was expected, the person will be pleased and become more likely to perform approving behavior, with the results of such behavior becoming more valuable to the person.

Note that the Deprivation-Satiation Principle corresponds to the principle of declining marginal utility in economics. There is an important point to note about the final principle concerning emotion. As noted earlier, there is a distinction between reflex behavior and voluntary behavior. Homans (1974 [1961]: 38–39) points out that a person may have an emotional reaction that, at first, is like a reflex in that it is elicited rather than voluntary. But if its consequences are rewarding, it is reinforced and becomes more likely in a similar situation. In the latter respect, it is similar to an operant. This means that aggression and approval may become voluntary

as well as emotional actions. Hence, such behaviors may be spontaneous reactions in some situations and instrumental actions in other situations, chosen because of prior experience with their rewarding outcomes in similar situations.

An Example

To illustrate the intuitive meaning of these principles, I offer an example that uses a familiar social situation. A novice scientist does some research, then reports the results in a paper. Call the sequence of actions comprised of research, writing and submission, "scientific research activity." The paper is submitted for publication and is accepted. The acceptance increases the probability of scientific research activity, by the Success Principle. Also, the greater the acceptance rate experienced by a scientist over time, the more extensive or frequent that scientist's scientific research activity. When such scientific research activity is rewarded, other professional activities are increased in probability as well, such as attending professional meetings and subscribing to professional journals (by the Stimulus Similarity Principle). The value of publications varies as between research universities and four-year colleges. Hence, scientific research activity is more likely in the former than in the latter situations (by the Value Principle). Given a scientist repeatedly publishes papers, the greater the number of published papers, the less valuable is any further published article to the scientist (Deprivation-Satiation Principle). A scientist whose work has been repeatedly accepted for publication becomes angry when a submitted article is rejected and reacts in some aggressive way, such as writing an angry letter to the editor and receiving a respectful and soothing reply (Aggression-Approval Principle: Aggression). A scientist whose record of publication has been modest submits an article to an important journal and not only is it accepted but it is placed as the lead article. This unexpected bonus fills the scientist with pleasure, expressed in a more favorable opinion of the discipline (Aggression-Approval Principle: Approval).

In this example, the given conditions include the institutionalization of science in a given social system in which the actor is embedded. The principles provide an account of the behavior of the actor under such institutional conditions in a somewhat sketchy way that is a gloss on their probabilistic character.[5]

The example remains in an actor-situation framework, not a social system framework. That is, the principles are applied to a single person in a situation and not to a system of interaction as such to account for its over-time and steady state properties. It is important to note this difference because otherwise the methodology of the approach will be misunderstood. This chapter is treating the foundations and principles of the theory, while

the next chapter shows how the principles pertain to the problem of generating spontaneous order in systems of social interaction.

The Analytical and Historical Character of the Theory

In *The Human Group*, the analytical hypotheses formed a system, each qualifying the others. The same is true of these principles. For instance, with more frequent reinforcement, the probability of an action increases (Success Principle). However, each additional unit of the reward becomes less valuable (Deprivation-Satiation Principle), implying in turn that the probability of the action decreases (Value Principle). Hence, the probability of the action varies directly and positively with reinforcement frequency but there is an indirect negative effect through satiation. The two taken together might tend to produce some equilibrium level of the probability of the action because, analytically, the increment through the direct positive effect might be balanced by the identical indirect negative effect to produce a net effect of zero.

The principles, argues Homans, imply the importance of the history of the individual. Depending upon a complex history of reinforcement, met and unmet expectations arising out of these, and so forth, the state of the individual will be shaped by interaction within a succession of situations. Thus, the whole history of prior interactions culminates at a given time with the state of the actor represented by a particular probability of selecting each of the possible actions in the situation. Homans, who taught and wrote history throughout his academic career, is calling attention to the historical element at the individual level that he also emphasizes at the level of groups, as in his extended discussion in one of his books (Homans 1967).

A Note on Expectation States

There is a problem of how to treat history in theoretical sociology. I refer to history in an abstract sense that refers to both the individual and collective levels of social life and with reference to any scale of time and space. Despite his behavioral approach, Homans employs a cognitive concept that summarizes an entire history of experiences, namely *expectation*.

An expectation state emerges out of experience and helps to shape further experience, as in the comparison process that Homans invokes in the fifth principle. It is an example of what I call a state-space concept (Fararo 1989b: Sect. 4.9). Unlike behavior, an expectation state is not observable, but it plays a central role in theoretical models that aim to *generate* sequences of behavior. In a generative theoretical model, the role of state space concepts is to serve as a kind of memory bank and, in formalization, to make the equations depend only on the current values of the variables and not earlier values.

In using a concept like expectation, Homans seems aware of its instrumental advantage in theory construction although adamant that it is "just a way of talking" about behaviors. Parsons, of course, takes expectations and other unobservable elements of action very seriously but does not address the methodology of generative models. The philosophy of science called scientific realism[6] would stress that expectations and other such concepts are not only of instrumental value. They are actual state descriptions at the level of the implicit or "unconscious" cognition of the actor and perhaps only rarely brought to explicit conscious awareness. As we shall see, one aspect of the strategy of generative structuralism discussed in Chapter 12 of this book is grounded in a state-space conception of expectations initiated by former students of Parsons who had studied with him in the 1950s. Their multi-generational, long-term "expectation states research program" has been both abstractly theoretical and experimental (Berger and Zelditch 1985). In Chapter 12, the theoretical aspect of this program is connected to structuralism in the form of social network thinking. The resulting "E-state structuralism" (Fararo and Skvoretz 1986a) and its generalization as "generative structuralism" thereby has an ancestry in the Harvard environment of the 1950s.

BOUNDED SUBJECTIVE RATIONALITY

Another aspect of the principles relates to rational choice theory. In the last decade of the twentieth century, an outpouring of rational choice thinking and criticism of it occurred in sociology. I will treat the strategy of rational choice theory in Chapter 11. For the present, my aim is to clarify the nature of Homans's own version of rational choice. His basic point is that rational choice theory is a special case of the principles of behavioral psychology. To understand and assess this idea, we first need to state what is meant by rational choice in rational choice theory.

Rational Choice and Behavioral Theory

The starting point is an actor-situation frame of reference. A rational choice model will assume that there exists a menu of possible actions, each giving rise to various outcomes, and each of these with a certain value to the actor. The value may be stated as a certain amount of utility or as a net gain in terms of benefits and costs. Then, in some sense, a rational choice from the menu is one that is optimal. A fairly straightforward representation of a choice as optimal, although only an idealization, is that the actor maximizes expected utility.

The conception of the actor as making an optimal choice originates in the field of economics where the analytical focus of attention is not the psychology of choice, whether cognitive or behavioral, but the level of a market in which the choices of the actors are aggregated and studied in

terms of equilibria. Each actor makes a choice. Although there are consequences for the actors, there is no analytical attention to dynamics of change of choice as a function of payoffs.

By contrast, behavioral theory originates, as we have seen, in the field of psychology with its focus on the individual level of choice and in an empirical context envisioning a succession of episodes of choice—an experimental sequence of trials—such that the core idea that behavior is a function of its payoffs is employed to interpret and model the behavioral sequence. In addition, the empirical context is one in which frequencies of choices constitute the basic data, corresponding to probabilities in a model. Hence, the behavioral theory, as we see in Homans's principles, generates choices on a probabilistic basis.

In short, rational choice models generate a definite act, while behavioral models generate a probability distribution over the menu of possible acts. Behavioral models envision a dynamic feedback process of choices by a single individual, while rational choice models do not.

Where does Homans's procedure fit in terms of these two traditions in the construction of behavioral choice models? Like the economists, Homans's explanatory focus pertains to a system of action of multiple actors, not a single actor. Unlike them, he wants to ground his theory in demonstrated behavioral principles. However, his theoretical models are intended to explain social phenomena in their equilibrated state, what he calls "practical equilibrium" (Homans 1958). Thus, his approach is a kind of hybrid. It is neither as formal and precise as rational choice theory, nor as dynamic and sequential as behavioral theory in its appropriate mathematical form (Bush and Mosteller 1955; Suppes and Atkinson 1960).

Homans (1974 [1961]: 32) writes, "We need not assume that men [*sic*] try to maximize their rewards. For us they need not be maximizers but only meliorizers. They do try to make their rewards greater." Thus, despite his avoidance of maximization arguments, Homans does seem to favor the idea that people tend to shift their actions in the direction of increasing "profit," a subjective notion of the difference between rewards and costs associated with each possible action. Homans's approach is consistent with the idea that rationality is bounded (Simon 1957 [1955]). In terms of static choice, in his own informal style, Homans is assuming that expected utility is just about the same as weighting valued actions by their probabilities—from the standpoint of the actor. This is close to the viewpoint of subjective expected utility theory. My conclusion is that the treatment of choice by Homans is a form of subjective bounded rationality.

The Value Concept and Tautology

The concept of value has been employed here as essentially similar to the notion of utility in rational choice theory, with the deprivation-satiation principle corresponding to the law of decreasing marginal utility. But how

do we know how much a person values something? In everyday life, we infer a person's values by observing the choices the person makes. For instance, if we observe a person choose to play chess often, we assume that the person values chess playing. This suggests an operational definition of value in terms of relative frequency of choice. But then the value principle becomes a tautology.

Homans (1974 [1961]: 33–37) addresses this problem. I will reconstruct his argument in my own terms. As I have been emphasizing in this book, theoretical sciences often are based upon the use of *templates* at the level of the general theoretical framework that translate into meaningful theoretical models by inserting more specific terms into the template. Homans refers to Newton's principle in the form $F = ma$. Here F is the sum of all forces acting on a body. But the only way we know that we are taking account of all the forces is through the satisfaction of this expression, which implies it is a tautology: whatever ma happens to be, that is F. However, in theoretical models, the F term is replaced by a *specified* set of forces defining the model, these forces differing among the various models constructed within the framework. For instance, there are distinct forces that are postulated to generate, respectively, the motion of an ideal pendulum, the motion of an ideal vibrating string, and the motion of a body relative to a more massive body in an ideal two-body gravitational system. In each instance, it is *specified forces* that yield a theoretical model with empirical import, rather than a tautology.

Thus, returning to the behavioral case, the parallel thesis is that there is a choice template in which *specified values*—specified rewards and costs—are inserted to derive action probabilities. These derived tendencies of action in one direction or another have empirical import in that, in principle, they may be compared with observations and found to be more or less adequate in an empirical sense. This is the way that Homans, in practice, does use the value principle.

SUMMARY

In this chapter, my discussion has dealt with the foundations of Homans's theory in its mature form. I interpret his objective to be the setting out of a theory of spontaneous order based upon behavioral principles, which is a new way to think about the focus on the internal or integrative system in the earlier phase of the theoretical work. From the standpoint of methodology of theory construction, the new element reflects the influence of logical empiricism.

In brief, Homans adopts Hempel's explication of scientific explanation in terms of covering laws. Such laws, when supplemented with appropriate statements of the relevant circumstances, explain both events and regularities. Homans's covering laws are the five behavioral principles that con-

stitute what Braithwaite called the initial propositions of a scientific deductive system. When applied to human beings, these principles imply a bounded and subjectively rational picture of behavior in situations. This conception of behavior is linked to the dynamics of reinforcement, making behavior a function of its payoffs. Emotional reactions are explicitly treated in terms of the difference between such payoffs and expectations emerging from experience. Subjectivity is represented in the concept of the value the person places on possible outcomes of choices and the value principle can function in explanations despite its tautological aspect.

NOTES

1. The reference to Braithwaite appears in the first (1961) edition of *Social Behavior*. Hempel's studies in the logic of scientific explanation formed the second major influence for Homans, not so much in his making the transition to deductive theory (he is not cited in 1961) as in somewhat later work, including a book on the nature of social science that presented the logical empiricist position (Homans 1967) as well as the revised 1974 edition of *Social Behavior*.

2. By contrast, when Parsons drew upon behavioral psychology, it was a version with a far more complex view of behavior, as may be seen in the chapters by Edward C. Tolman and Robert R. Sears that appear along side the embedded monograph by Parsons and Shils in *Toward a General Theory of Action*.

3. In a formalization of the starting point of Homans's theory (Fararo 1989b: Sect. 3.6) I employed a mathematical model that Galanter explicates under this rubric, a stochastic model of adaptive behavior (Bush and Mosteller 1955), one of the classic works of mathematical social science.

4. A behavior, or action, is an *event* and it occurs in a *particular* situation. Thus, the events and the situations are grouped into classes so that it makes sense to say that the "same" action and the "same" situation occurred again. This is no trivial matter and receives considerable treatment in the literature, as discussed by Galanter in his very sophisticated textbook.

5. The implied stochastic process of adaptive behavior is formalized in Fararo (1989b: Sect. 3.6).

6. A scientific realist discussion of an aspect of Parsons's theory was presented in Chapter 8, citing Harré and Bhaskar. See my *Meaning of General Theoretical Sociology*, Chapter 1, for an effort to formulate a philosophy of theoretical sociology that merges elements of logical empiricism, scientific realism, and pragmatism.

Chapter 10

The Behavioral Theory of Spontaneous Order: Group Processes

INTRODUCTION

In the prior chapter, the second phase of the development of Homans's theoretical approach was described in terms of its foundations. The focus is on fundamental processes and spontaneous order. The core ideas of the theory are that behavior if a function of its payoffs, that interaction an exchange process involving material and non-material rewards and costs to each actor, and that theory construction proceeds from simple to complex cases. This chapter examines and assesses how the behavioral foundations are employed in the explanation of the various group processes that constitute the basis of spontaneous order.

The chapter has three parts. In the first part, a number of distinct processes of interaction—group processes—are treated in terms of the behavioral principles: interpersonal sentiment relations, power and authority, and the emergence of norms. These are only a selection from the larger set of processes that Homans deals with but they are sufficient both to convey some of the details of his explanatory arguments and to provide a critical appreciation of the nature of his social theory (as contrasted with the general behavior theory of the previous chapter). In the second part, I turn to a reconciliation of the Durkheimian account of sociological explanation with that set out by Homans. In the third part, I undertake a critical discussion of the theory as a whole, including both the general behavior theory and the social theory.

SOCIAL INTERACTION PROCESSES

The Tree of Theory

The notion that behavioral theory is the fundamental theory for social science means that it is the general theoretical framework under which any explanatory problem in social science can be addressed through the construction of a behavioral theoretical model. However, there is what I will call an implied "tree of theory" in this regard. The root is the fundamental behavioral theory. A number of branches exist in terms of different *types* of explanatory problems that Homans (1967: Ch. 1) specifies.

First, what is to be explained may be a particular event involving human actions. For instance, why did Hitler decide to invade Russia? This type of problem is intrinsic to the discipline of history but also occurs in other fields. For instance, the rise of capitalism in the West is a complex event comprised of human actions. The world-historical orientation in sociological theory implies an interest in this type of problem. There are countless such problems, each with its unique set of initial conditions and often with unknown values of the relevant behavioral variables. But where estimates can be made, explanations can be suggested. Homans argues that most analysts of such problems use the principles of behavioral analysis implicitly, without making them explicit premises in their explanatory arguments. Very likely, the analyst will use a rational choice interpretation, imputing subjective values to the actors as well as taking account for their limited knowledge of the situation of action.[1] That is, some sort of bounded subjective rationality is presupposed that is consistent with the general outlook embodied in Homans's theory.

Second, what is to be explained may involve interactions among individuals that are non-recurrent but that lead to certain regularities. For instance, the laws of supply and demand in economics are instances of this type of problem. In the analytical theory of the idealized competitive market, the economic actors engage in transactions but social bonds are outside the scope of the theory so that the element of recurrence of interaction and its economic consequences is excluded. The central analytical laws are those of demand and supply. To explain the law of supply, Homans identifies the amount that might be put on the market as the action and its reward as the price. The higher the price, the higher the probability that an individual producer will be willing to sell at that price; hence, aggregating, the greater the expected number willing to sell at that price, which is the supply. On the consumer side, the price is a cost, and a similar argument using the Value Principle leads to the proposition that the greater the price, the lower the demand—the law of demand. In this way, economics is interpreted as a special case of the general behavioral theory.

Finally, we reach the third branch of the tree of theory where the theo-

retical problem to explain spontaneous social order so that the focus is on *recurrent* interactions. The remainder of this section is an analysis of how Homans implements the behavioral theory of social systems by interpreting social interaction as exchange in his generalized sense. Three explanatory problems are taken up in succession, starting with the problem of deriving certain analytical relationships that were hypothesized in his earlier social system theory.

Interpersonal Balance

One theoretical problem is to account for certain uniformities connecting interpersonal sentiments, similarity of attitudes, and interaction that had been stated as analytical hypotheses in *The Human Group*. Shortly afterwards the problem was taken up by Newcomb (1953, 1956, 1961), who addressed it in terms of what became known as the theory of interpersonal balance.

The elementary form of this theory has three structural units termed A, B, and X, so that it is called Newcomb's ABX model. A and B are persons, while X is an object in their situation that might or might not be another person. The analytical elements that connect the three units are sentiments (of A and B toward each other) and attitudes (of A and B toward X). Newcomb mentions certain scope conditions that we can interpret in terms of certain parameters, namely, the extent of joint relevance of the item X and its importance for A and B. In what follows, following Newcomb, it is assumed that any X that enters into the analysis is high in joint relevance and importance.

Each sentiment and each attitude has a sign, positive or negative. A state of the interpersonal system is a configuration of signs, one for each the three relations, A–B, A–X and B–X. The sign of the A–B sentiment relation indicates whether the pair of persons like each other (positive) or dislike each other (negative). If the A–X and B–X signs are the same, this represents agreement on their attitude toward X, otherwise the different signs represent disagreement. Newcomb employs the idea of balance (Heider 1946) to describe the equilibrium of the system. Later mathematical work by Cartwright and Harary (1956) makes this theory simpler to state. An equilibrium state of the interpersonal system is one in which the product of the three signs is positive. For instance, if the A–B relation is negative, the A–X relation is positive and the B–X relation is negative, then the system is in an equilibrium state, a state of balance in which, from the perspective of either actor, there is no cognitive-affective inconsistency that might give rise to change. For instance, in the example, A dislikes someone who dislikes something A likes. If the something is a person or group, for instance, this means that my enemy's enemy is my friend, a situation of cognitive balance. On the other hand, an imbalanced state is one that tends

to produce what Newcomb calls strain in each person, a psychological state that is intrinsically unstable. Newcomb's book *The Acquaintance Process* (1961) is an empirical study of over-time change in a system of interpersonal relations as it approaches a state of stable equilibrium or steady state and thereby a structure of interpersonal relations.

Now we turn to Homans's theoretical problem and analysis. Rather than treat balance theory as an alternative and competing theory of interaction processes, Homans accepts the basic idea. Balance theory, Homans (1974 [1961]: Ch. 3) argues, is not really a separate theory at all since the situations it deals with are readily understood in terms of social interactions involving multiple exchanges. Homans's behavioral explanation of the balance process involves the four possible social situations implied in the earlier description:

1. A and B agree about X and like each other.
2. A and B disagree about X and dislike each other.
3. A and B disagree about X and like each other.
4. A and B agree about X and dislike each other.

According to balance theory, the first two situations are balanced, while the other two situations are imbalanced with the implication is that the former two are stable equilibrium states, while the latter two are unstable. Hence, in equilibrium of an interaction process, situations 1 and 2 should hold rather than situations 3 and 4.

The logic of the explanation begins by identifying the rewards and punishments in the situations. These are premises added to the five behavioral principles. Homans identifies agreement as a reward and disagreement as a punishment.

The next step is to analyze the outcomes under two different initial conditions. In the first initial condition, the A–B relationship is given and the behavioral argument shows that if they like each other, then over time they come to agree with each other while if they dislike each other, then over time they come to disagree. These constitute situations 1 and 2, respectively. Thus, these two states are shown to be equilibrium or balanced states. The basic mechanism accounting for the over-time movement to similar attitudes, given mutual positive sentiments, is reinforcement. When they agree, this is a reward that reinforces the existing relationship and also reinforces the act of getting together, of interacting. When they disagree, this is a punishment that reinforces alternatives, namely avoidance of interaction and disliking. Thus, in equilibrium, pairs of person should sort out into those who agree and like each other and those who disagree and dislike each other. In the second part of the argument, the initial condition is that the attitudes are given and that A and B are not in a sentiment

relation. For instance, they might be strangers now brought into interaction. A similar argument leads to the same result, namely convergence to an equilibrium characterized by situations 1 and 2.

What Homans has accomplished is the construction of a behavioral theoretical model that accounts for interpersonal balance so that, along with all other special theories he treats, it is subsumed under a common theoretical framework. This is an episode in his program of *general theoretical synthesis*, the enduring project of Homans's career as a theoretician.

Explanations of Experimental Findings

In the field of experimental social psychology, a number of studies of interaction and sentiment emerged in the period after Homans wrote *The Human Group*. These were not in the balance theory tradition, but are quite relevant to the question of the empirical adequacy of the hypotheses formulated in that book. In *Social Behavior* (1974 [1961]: Ch. 8) Homans reviews some of these studies and formulates explanations in terms of the behavioral theory.

In one type of experiment, liking is the independent variable and interaction is the dependent variable, in a second type, this is reversed. Theoretically, in the first type, liking is a parameter and interaction is a state variable that equilibrates to it: the higher the liking parameter, the higher the adjusted frequency or duration of interaction in a group. In the second type, interaction is the parameter and liking is the state variable that equilibrates to it: the greater the frequency or duration of interaction, the greater the equilibrated level of liking in a group. Thus, these two types of experiments together verify the analytical hypothesis of mutual dependence stated in the earlier theory: *the greater the liking, the greater the interaction and vice versa*.

Now the problem is the *explanation* of this relationship in terms of the principles of behavior. The social conditions that supplement the principles are equivalent to the external system. They are the givens of any required interaction and any other external constraints on the capacity of persons to interact on a voluntary basis. Given these constraints, there is some more or less large space for voluntary interaction and the argument applies to that space.

Consider the experiment in which liking is a parameter. We can interpret B's liking of A as a reward for A and an outcome of the action described as "getting together with" B. The same is true for B. The Reinforcement Principle then implies that for each person, the greater the liking, the greater the probability of choosing to get together with the other. Hence, as the liking parameter is varied, the expected frequency of interaction should increase, as the experiment indicated. This explains the proposition from behavioral principles.

The argument in the other direction always has seemed troublesome.

Why should interaction produce liking? Everyone can think of encounters that do not produce liking and sometimes generate immediate disliking. First, discard the cases where one has the obligation or even is coerced to interact with someone who is disliked. That is not voluntary or spontaneous interaction and is outside the scope of the present analysis. Second, we have to recall that the proposition has an implied "other things equal" element attached to it as part of the original system of hypotheses. To this reminder, one can speculatively offer an additional point. In Homans's early theory, where this proposition originated, there is a sense in which the hypothesized tendency for interaction to produce positive interpersonal sentiments is analogous to an inertial tendency formulated in classical physics. Unless forces are applied, a body in motion will continue with the same velocity. Unless punishment aspects arise, persons coming into contact will begin to like each other and seek further interaction. Is this perhaps part of the very meaning of the *social* nature of human organisms? In any case, among the behavioral processes that can interfere with this tendency of interaction to produce liking are those associated with power.

Power and Authority

In *The Human Group*, Homans defined and discussed authority, but not power as such. Authority was defined as an emergent property of a certain social act—the giving of an order. The order carries or has authority *if it is obeyed*. Homans now clarifies his concept of authority in terms of a stipulation as to the motivation for obedience. For the order to have authority, the person obeying the order must do so because it produces valued outcomes, not because of coercion. To cite one of his own examples, when a new officer gives orders to soldiers, they initially obey because of the threat of punishment for noncompliance. But if their obedience then brings valued outcomes, this shifts the relationship: the orders are now obeyed because they lead to valued outcomes. In short, authority means obedience that is voluntary.

In an effort to distinguish authority from power, Homans stipulates that authority is grounded outside the particular interaction, while power is not. I do not find this distinction very clear. But let me try to state my understanding of Homans's conceptual distinction. In the case of authority there is a background of coercive potential even though avoidance of punishment is not the motive for compliance with orders. On the other hand, power arises within the exchange process itself. If we use the terms of the earlier theory, we can say that authority is based upon the political aspect of the external system, while power emerges in the internal system in the same sense that ranking emerges within it (as treated in Chapter 5). It is an aspect of spontaneous order.

The theoretical problem is to explain how, in a social situation, one

person can have power over others in the sense of getting them to act in a desired way, despite resistance. Drawing upon Emerson's (1962) formulation of power-dependence relations, Homans employs *The Principle of Least Interest*: in social interaction, each person may value something the other controls and to that extent each is dependent on the other, but the person with the lower level of dependence has the greater power. Here, intuitively, *power* refers to change of behavior as a consequence of this imbalance in dependence. The explicit definition given by Homans (1974 [1961]: 83), after reviewing a number of definitions in the literature, is very complex. The following paragraphs should help to clarify the power-dependence relation.

Homans constructs a theoretical model that, as usual and in keeping with his analytical methodology, treats a simplest case for a close analysis. Let A and B be two persons in an office.[2] Person A would like to get advice from B. There is an exchange in which A gets advice from B and shows some gratitude (thanks, approval) in exchange. The reason it occurs is that both persons gain relative to the value of the outcome in which they both do their own work only: A gains the desired advice, B gains the approval.

Now person C is brought into the model. C is a third party in the office who also gets some advice from B. Thus, B has less time available to help A. For a given price (level of approval), B has a lower probability of supplying the same level of needed advice. To the extent that he still needs that advice, A will have to offer a higher price in the form of stronger approval (e.g., more deferential show of respect). *Even if B is not aware of it*, B has exercised power over A. In this situation, A is more dependent on B (for advice) than B is dependent on A (for approval). The person with the lower level of dependence ("least interest") has greater power—the other party changes behavior in a direction favorable to that person.

In this example, the "basis" of power is expert knowledge. In general, the basis may be any resource in relatively short supply relative to demand. "Interest" is subjective, corresponding to value in Homans's theory. In the next chapter, we shall see that Coleman (1990) constructs a model that implies that an objective value measure can be derived, a generalization of the objectivity of price in economics versus the subjectivity of utility with respect to a commodity. In that model, the power of a person varies directly with control over objectively valued resources and the objective value of a resource varies directly with interests (subjective values) of powerful persons.

Homans distinguishes between situations involving noncoercive power (as in the above example) and coercive power, although both involve the Principle of Least Interest. For instance, in a robbery, "your money or your life," also can be framed in exchange terms (Homans 1974 [1961]: 79), but now the element of threat enters in. If the person complies, the exercise

of power is a success. But if the person does not comply and the robber applies the negative sanction, the exercise of power has failed.

Homans and Parsons on Power

I close this section by noting that Parsons's concept of political power corresponds to what Homans means by voluntary obedience to orders under conditions established outside the particular interaction (i.e., authority). Attentive to the large-scale social system context, Parsons postulates authority as an institution. It is given for the particular interaction, just as Homans presumes. However, the theory of *emergent* power relations—as in Emerson and in Homans—is not visible in Parsons's analysis of power. This is an example of how their divergent theory construction strategies in the second phases of their respective careers as theorists lead to differences in modes of analysis of particular classes of social phenomena. Parsons's theory deals with power as it functions within a structure of authority, while Homans's theory deals with power as a feature of spontaneous order.

The Emergence of Norms

As compared with the treatment in *The Human Group*, Homans now provides a more refined analysis of the problem of the emergence of norms. The analysis benefits from a conceptual distinction between two types of norms.

The first type corresponds to what Sumner (1959 [1907]: 62) called "crescive" institutions. For Homans, such norms emerge through a process of the "is" becoming the "ought." For example, in the analysis of the Tikopia family in *The Human Group*, Homans noted patterns that we now can describe as balanced interpersonal relations among kin. On the one hand, these relationships probably evolved into a balanced state. Such a balanced state is a stable equilibrium in the spontaneous processes of social interaction. But as found in Tikopia after untold generations since their original emergence, these relations also were also normatively expected and sanctioned. Thus, the "is" of the emergent balanced interpersonal relations had become the "ought," the kinship institution in Parsons's sense.

A second type of norm arises in a markedly different way. In Coleman's (1990) later terms, discussed in the next chapter, there is "a demand for a norm" that arises out of the externalities of a behavior. For instance, in The Bank Wiring Observation Room, a norm emerged that no worker should exceed a certain rate of production. One can surmise that at some point, an actual or virtual departure from such a level of production carried with it the possible outcome of a lower wage rate. To avoid this negative externality, some workers may have proposed that nobody produce above a certain amount. This would be a demand for a norm.

Homans's new theoretical analysis of norms pertains to this second type.

Since 1950, important and influential new theoretical work relating to norms and cooperation in groups had appeared, especially Mancur Olson's *The Logic of Collective Action* (1965). Just as he embeds Newcomb's ABX balance theory within his more general theory, Homans now embeds Olson's treatment of the free rider problem within the theory, connecting it to the problem of the emergence of group norms of the second type.

Homans follows Olson in noting that in large groups there is an incentive to free riding. The magnitude of this incentive, Olson noted, is indicated by the fact that, despite an age of nationalism with strong patriotic feelings, no nation-state relies upon purely voluntary contributions to run the government. He also had noted that in small groups there are mechanisms that counteract any tendency to free ride. It is this latter theme that Homans develops, describing the mechanisms in behavioral terms. In doing so, he sets up a model of the process of norm conformity in a group. The initial conditions include the "true believers," the initiators of the demand for a norm who attempt to get conformity from others in the group. Erstwhile free riders can be detected, for one thing, because the group is small enough for this to be possible. Their nonconformity draws the ire of the true believers, who respond with anger and aggression, possibly by threatening to withdraw the rewards of social interaction. This is often sufficient to move from a demand for a norm to an effective norm.

Interpersonal Balance and Power

We can relate the processes of interpersonal balance and coercive power to the free rider problem in small groups. In this context, item X is the norm with pairs of group members, A and B, having sentiments toward each other as well as attitudes toward the norm communicated in word and deed. The initial condition is one of imbalance. For instance, as fellow group members, A and B may like each other, but they may differ as to the proposal of norm X. Perhaps B is a potential free rider while A is a true believer. With several others in agreement with A, a subgroup exists that can exert pressure on B merely by the threat of withdrawing interaction and positive sentiment. This is the element of coercive power. The costs of noncompliance thereby rise and may overwhelm any advantage in free riding, so that B changes behavior to become an endorser of the norm who is now in interpersonal balance with A and all of A's colleagues. In this way, there may be gradual build-up of support for the norm. On the other hand, it is also true that a counter-group might emerge. Coleman (1990: Ch. 30) provides a general analysis of the problem in mathematical form but, unfortunately, without the important element of interpersonal sentiment. If this sketch makes sense, we see that this is the sort of problem in which a number of analytically distinct group processes have to be invoked to arrive at an explanation.

HOMANS AND DURKHEIM ON EXPLANATION

Homans treats a variety of other aspects of emergent phenomena in social interaction, including group cohesion, status, and distributive justice. I will treat only one of these topics, cohesion and control, in order to analyze the relationship between Homans and Durkheim on explanation. My main argument is that they are consistent and that Homans provides a covering law explanation of a Durkheimian law.

Durkheimian Explanation

It will be recalled that Durkheim argued that a sociological explanation of a social fact invokes another social fact, not a psychological fact. For instance, to explain differences among groups in their rates of conformity (or, equivalently, deviance) from their respective norms, a Durkheimian explanation invokes the analytical element of group cohesion. Then the social fact of differences in deviance is explained by another social fact, differences in group cohesion, in terms of a causal law: the greater the cohesion of a group, the lower its deviance rate with respect to its norms. For instance, consider a population of street gangs with varying rates of compliance with the gang's code about, say, not using the drugs one sells.[3] The Durkheimian explanation would suggest that gangs whose members adhere closely to their code are more cohesive and that relative lack of such cohesion is the basic cause of deviation from the code.

Reconciliation of Homans and Durkheim

Now we turn to the standpoint corresponding to Homans's approach. Durkheim's causal law itself requires explanation. But this means deduction from covering laws, at least one of which is more general than Durkheim's law. Certainly, the principles of behavioral psychology are more general. Hence, to explain Durkheim's law, one requires a deductive argument in which one or more behavioral principles are premises and the law is the conclusion.

The initial step is the treatment of each group as a system of interaction among persons. The context suggests treating each system as having its own emergent social structure and a normative code. This corresponds to treating it as a system of interaction in equilibrium. Deviation is a departure from customary patterns of conformity with the group norms, as in *The Human Group*. We also recall the relevant social control ideas from *The Human Group*. The Durkheimian law, in that shorthand form, says that the more cohesive the group, the more effective the social control.

Why does the rate of deviation vary from one group to another or, equivalently, why is social control more effective in some groups than in others?

Figure 4
A Behavioral Explanation of a Durkheimian Law
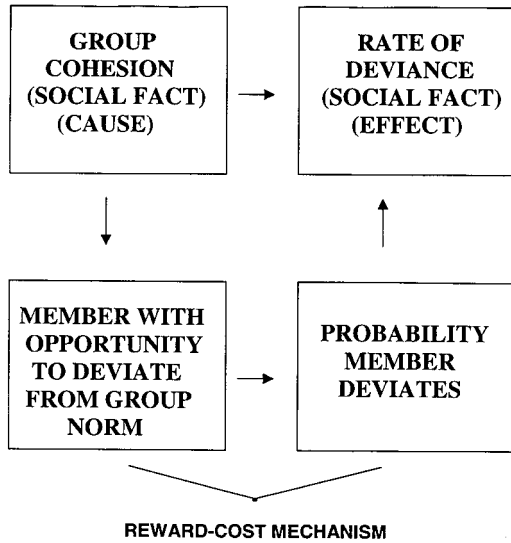
The Durkheimian law points to differences in cohesion, and we accept that law in order to explain it.

At one point, Homans indicates that the cohesion of a group is the extent to which members obtain rewards from participation in it (Homans 1974 [1961]: 150), primarily through positive interpersonal relations. A person's positive bonds in the group are put at risk, however, by an act of deviance that is detected. In other words, whatever the prospective gain, there is also a possible cost in the form of change of member sentiments toward the person. (This argument is consistent with the balance theory and deviance accounts given earlier.)

The cost of deviance, then, varies with the cohesion: other things equal, the greater the cohesion, the greater the cost of deviance. Hence, the greater the cohesion, the lower the probability of the deviant act, which was to be shown. The argument employs a reward and cost analysis and the principles associated with them. For instance, the Value Principle says that the less the value of an outcome, the lower the probability of an act leading to that outcome. With greater cohesion, the deviant act has a lower value, hence a lower probability.

The argument takes the form of a sketch that is in need of more rigor of deduction in the form of a mathematical model, but the general outline of the methodological issue should be clear. In Figure 4, I show the logic of the argument by employing a diagram introduced by Coleman (1990) under the label "micro-macro linkage" (to be discussed in detail in Chapter

11). Briefly, a macro starting condition leads to a macro outcome (top level, the social system) and the explanatory strategy is to articulate the starting condition to the situations of actors (lower level, actor in situation) and then return upwards to account for the outcome as a consequence of the concatenation of actions taken by individual actors. In this application of micro-macro linkage, Durkheim's law is at the system level, relating a starting social fact to an outcome social fact. But dropping down to the actor level and then moving back up to the system level yields its explanation.

In logical terms, the Durkheiman law is a deductive consequence of an argument in which the principles of behavior are applied to social conditions of varying cohesion to derive corresponding variations in deviance rates. In this form, the Durkheimian cause appears as a premise, along with the principles, while the Durkheimian effect appears as the conclusion of the logical argument. Hence, we can say: "Given the cause, then, according to the principles, the effect *must* hold." Thus, the idea that a law is more than a mere correlation emerges through its deductive explanation.

The same idea can be expressed in terms of the notion of *mechanism*. Between the cause and the effect, there is a process that accounts for the effect in the form of bounded and subjectively rational choices by group members involving considerations of loss of social approval. This process, then, is the mechanism that accounts for the cause-effect relation suggested by Durkheim. It is a mechanism of social control in that it tends to counteract virtual or actual deviations from a group norm.[4]

SUMMARY

In the first part of this chapter the focus was on how Homans employs his conceptual scheme and theoretical principles to explain three processes of social interaction: interpersonal sentiment relations, power and authority, and the emergence of norms. These three were selected out of the larger array of fundamental group processes that Homans treats because they serve to convey the form and substance of his explanatory arguments. Unlike the behavioral foundation focus of the prior chapter, in examining these arguments one gains a critical sense of the nature of Homans's *social* theory as an intended theory of spontaneous social order.

In the second part of this chapter, my aim was to reconcile Durkheimian explanation and Homans's idea of explanation in terms of covering laws grounded in behavioral theory. I used an example of a typical type of Durkheimian law—one relating group cohesion to deviance from group norms—to illustrate how the reward-cost analysis amounts to the specification of a micro-mechanism that accounts for the Durkheimian law.

The next section turns to the assessment of Homans's project of creating a fundamental theory for the social sciences that thereby functions as a theoretical foundation for sociology.

ASSESSMENT

Orientation

In the past two chapters, I have continued my analysis of the general theoretical project of George Homans that I began in Chapter 5, now treating his theory in its second stage. This stage is characterized by a sharper stated focus on the theory of spontaneous order and by the adoption of key ideas of the logical empiricist philosophy of science in which a theory is a deductive system that functions to provide covering laws in the explanation of facts and laws. Once this vision of theory is adopted, the theorist needs two things to proceed: a corpus of empirically verified propositions to be explained and a set of more general propositions that will explain them. Homans draws upon experimental social psychology and the sociology of small groups for the first need and upon behavioral psychology for the second.

The most general objective is the creation of a fundamental theory for the social sciences that then functions as the theoretical foundation of sociology as one of these sciences. Corresponding to this objective, we can say that Homans's *general* theory is behavioral theory. His more specific objective is to explain propositions that are sociological in the sense of pertaining to features that are emergent in recurrent social interaction. Corresponding to this more specific objective, we can say that this *branch* of the general theory is a social theory that constitutes Homans's *theoretical sociology*. It is a behavioral theory of spontaneous social order.

To reflect on and assess the mature phase Homans's general theoretical synthesis project, I will proceed in two steps. In the first step, I wrestle with the logic of the approach in a number of ways, including placing it in relation to the ideas of George Herbert Mead and the four-function paradigm of Talcott Parsons as couched at the level of general action. In the second step, I assess the behavioral theory in terms of the standards set out in Chapter 1 and thereafter applied to Homans's earlier theory in Chapter 5 and to Parsons's structural-functional theory in Chapter 8. With this plan in mind, I turn now to the first step.

Homans, Mead, and Parsons

Behavioral propositions, verified in the tradition of experimental behavior studies, constitute the principles of the social theory. These principles are not vulnerable to cultural or historical variations; indeed they function as the ultimate basis for the explanation of such change. But the immediate task for Homans is not the explanation of historical change or cultural variations. The task is to account for verified propositions arising out of experimental social psychology and the sociology of small groups. I have

tried to illustrate and analyze a few of these explanatory efforts, such as that relating to interpersonal balance.

A fundamental theoretical sociology has one major problem, one might say, and that is to show how spontaneous social order arises. The starting point is a network of human behavioral organisms, "feet on the ground," as it were. This is also Mead's starting point for his social behaviorist analyses of human social interaction. However, Mead's social behaviorism emphasizes aspects of the process of interaction among such behavioral organisms that Homans largely takes for granted. For Mead, the emergence of symbol systems is an aspect of human spontaneous order, also comprised of the minds and selves of the human organisms, and "society" in the sense of distinctively human society and this means the existence of institutions.

What Homans does is operate from the same starting point as Mead, behavioral psychology. He does not necessarily disagree with Mead about what emerges when interaction becomes significant. Mead's co-evolutionary approach points to a fourfold emergence: mind, self, institutions, and symbols. In Homans's analytical approach the focus is on the social component, hence on a purely *social* theory—a theoretical sociology—in which mind, self, and symbols are taken as *givens*, as part of the environment of the social action system comprised of interacting human behavioral systems.

In Homans's own writings we find what I have called a "tree of theory" with a root in behavioral principles and with three branches, corresponding, approximately, to history, economics and sociology. The fundamental theory at the most general level is the behavioral theoretical framework with its core ideas as set out in the previous chapter. The sociology branch of the tree, in its theoretical aspect, consists of a body of theoretical models that are formulated to explain basic group processes, as discussed in this chapter. In regard to economics, Homans (1967) takes the laws of supply and demand as special cases of the behavioral theory. It is interesting to note that Parsons and Smelser (1956: 10 n.2) take a related view on economics and behavioral psychology:

The economic generalization about the slopes of supply and demand curves . . . and what psychologists call the "law of effect" are two different special cases of the same fundamental generalization about action, namely, the "law of equivalence of action and reaction." (Parsons, Bales, and Shils 1953: Ch. 3)

The claim in the last part of the quotation, however, has little merit because the "law" involves terms (e.g., "motivational force") that hardly approach the relative precision of the alleged special cases.[5]

In an earlier chapter, I noted a correspondence between Mead's four co-evolutionary emergent elements and Parsons's four-function paradigm at the general action level. This suggests that a further insight about Homans's

theory in relation to those of Mead and Parsons can be obtained through a Parsonian four-function analysis. The Mead-Parsons correspondence, we recall, is:

- Pattern maintenance: symbols (cultural systems)
- Integration: institutions (social systems)
- Goal attainment: self (personality systems)
- Adaptation: mind (behavioral systems)

The question is how this Mead-Parsons correspondence relates to Homans's theory. My tentative answer is that Homans's *general theoretical framework* consists of behavioral principles such that in an evolving nexus of adaptive human organisms, the differentiation of the above four components *arises* as four aspects of spontaneous order. Presumably, the human genome is taken as a given at this level and accounts for the way this fourfold nexus differs from that of other species to which the same behavioral principles apply.[6]

Homans's explanatory problem concerns, in a strict analytical sense, spontaneous *social* order. Because of the scope restriction to closed networks, the social theory in *Social Behavior* is not concerned with the emergence of differentiated functional subsystems of a social system—economy, polity, community, and fiduciary system. But what about the emergence of differentiated *roles* in the institutionalization sense discussed in earlier chapters? Recall that a role, in that sense, refers to some part of *normative culture* that applies to the actions of persons in distinct positions such that social approval is associated with conformity, disapproval with nonconformity. The following quotation is both a comment on the place of the role concept in the theory of spontaneous order and a summary of the key theme of the theory:

A book like this one, which is concerned with the fundamentals of social behavior . . . is especially concerned with showing how social structures—relatively stable relationships between persons—might arise out of the choices individuals make between alternative courses of action, in the context of the choices made by other individuals. A role is certainly part of a relatively stable, though never absolutely stable, structure. Accordingly a role cannot be something we begin with: at best it is something we might end with. It is something we have to explain, not something we can use in explanation. . . . It is our job to explain why roles of any kind might emerge out of the interactions of men [*sic*]. (Homans 1974 [1961]: 336)

At the level of social interaction that Homans treats, Parsons would apply the symbolic media model at the general action level in which the cultural medium is definition of the situation and the social medium is affect. Thus, an analytical focus on the social system at the level of elementary

social behavior would suggest a particularly strong role for affect. In fact, this is quite the case with Homans's social theory, with its conception of social approval as a generalized reward and of interpersonal sentiments as ingredients of stable social relationships. Definitions of the situation include roles, so that we can assume that from the standpoint of the theory of spontaneous order they are given only for a particular theoretical explanation of some other phenomenon, but that they require ultimate explanation—and that means, for Homans, explanation in behavioral terms.

A *fundamental theory* has to be able to explain how such cultural templates of roles with associated affective meanings *emerge*. That, in turn, means that the *general theory* cannot have theoretical principles that presume the existence of definitions of situations. This would be akin to putting molecular weights into a theory of quark interactions. No one doubts that the natural world is filled with organized structures of molecules. But a fundamental explanatory theory should be about the entities whose interactions account for the very existence of such physical structures. Similarly, no one doubts that the social world is filled with organized structures of roles that are activated as parts of definitions of situations. But an explanatory theory should be about the behavior of entities whose interactions account for the very existence of such institutionalized culture: human organisms in a behavioral aspect that is linked to their biology. By "linkage" I mean that the ultimate explanation of the principles of behavior is itself a problem of scientific theory, one that we can safely leave to the field of social biology because this is an explanatory problem that goes well beyond the human case.

An Anticipation: Generativity as Criterion

From another perspective that anticipates the theoretical strategy of generative structuralism described in Chapter 12, let me add that the behavioral principles that Homans puts forth are plausible and, by and large, probably correct but they are not linked to a *generative model*. Even in the period in which Homans was framing and then revising his theory, the intellectual environment was shifting toward the direction embodied in Parsons's theory, namely cybernetic models that focus on information and control (Miller, Galanter, and Pribram 1960; Newell and Simon 1972; Powers 1973). For the most part, this means that the cognitive element in the generation of behavior needs far more attention than given to it in Homans's theory.

The problem is twofold. On the one hand, the problem is to maintain the spirit of unification intrinsic to the analytical approach of Homans (and Parsons) in the new theoretical environment that is generally unenthusiastic about the ideal of general theoretical synthesis. On the other hand, the

problem is to shift to generative process model building. In Chapter 12 the twofold problem is addressed in terms of the strategy of generative structuralism.

Clarity, Generality, and Precision

Let me turn now to the second step of this concluding assessment of Homans's behavioral theory, applying the standards set out in Chapter 1. I begin with the structural standards: clarity, generality, completeness, and precision.

A reasonably high level of clarity characterizes the behavioral theory, even though its level of precision is not as high as one might desire. Actually, even before Homans had published the first edition of *Social Behavior* in 1961, the behavioral tradition had led to mathematical theories, such as the pioneering work of Bush and Mosteller (1955). These so-called stimulus-sampling theories were even folded under a general axiomatic framework (Atkinson and Estes 1963). However, the application of them to Homans's theory is not straightforward beyond the very simplest cases (Fararo 1989b: Sect. 3.6). Although multi-person models had been developed (Suppes and Atkinson 1960), these deal with experimental situations in which there is very limited social interaction and in which mainly the reinforcement principle is relevant. The complexity of the theoretical models that might be constructed to apply to the social situations Homans treats might be forbidding, making it impossible to explain anything.

Absent such mathematical precision of formulation of the theoretical framework, the construction of theoretical models proceeds on a more intuitive basis than would otherwise be the case. Yet Homans's theoretical reasoning is far more rigorous than most work in theoretical sociology that does not employ formal methods. If it does not have the precision and deductive fertility of a mathematical theory, it certainly stands high among general theories in the tradition of sociology in regard to these two standards. Moreover, with five explicit principles couched at the level of elementary behavior, Homans is following the time-honored strategy of theoretical science: simplicity in postulation, complexity in derivations. Without mathematics, there is a limit to what he can deductively generate, so the derived complexity yields no real surprises. In fact, Homans is not really interested in the surprise aspect of theoretical models. His procedure is to begin with some known regularity or some experimentally verified proposition that he aims to explain. The possibility that the five propositions might, by concatenation, yield some unexpected outcomes is not really within his purview. From the standpoint of beauty, then, the theory is deficient but not more so than most social theory.

Completeness and the Key Theoretical Problems

The structural criterion of completeness, in this book, pertains to the four key theoretical problems of social structure: emergence, stability, comparison, and change. Homans's earlier analytical theory of social systems ranked high—although not perfectly so—in this respect, as we saw in terms of Simon's formalization of it. In the context of the behavioral theory, the application of the standard is complicated by the fact that the theory has become even more analytical.

All along, in the project of an analytical theory of social systems as Homans and Parsons first envisioned it in their earliest work, there was a conundrum. How can a theory be analytical and yet deal with, in a phrase employed by Homans (1950: 6), "the group as an organic whole in an environment?" Analytical realism, shared by Homans and Parsons as they assimilated it from Whitehead, provided only the broadest kind of orientation, not a specific theoretical strategy with both empirical and theoretical methods for implementation of a theory of social systems.

To be analytical means to be abstract and that means exclusion. In the advance of Parsons's theories, this led eventually to the idea that a social system is an abstraction from a complex of action, an action system. What is left out is in the action environment of the social system and it can be analyzed with other abstractions, namely, cultural system, personality system, and behavioral organism. In the spirit of analytical realism, these abstractions—as instantiated in actualities—are not unreal. In fact, they are functional subsystems of the action system. Then Parsons treats any social system as a "going concern" and provides a four-function analysis of it as an organic whole in an action environment that, in turn, has a non-action environment. Finally, theoretical sociology takes a certain perspective on this social system, involving a step of abstraction that should imply a concerted focus on the system of solidarities (the social integrative functional subsystem). However, Parsons cannot seem to stay focused on only this one functional subsystem, instead moving across all levels. The penalty for this procedure is that the models are complex, their explanatory capacity is questionable, and the focus on the truly sociological theory is unsteady.

In the mature phase of Homans's theoretical program, the group is treated as the site of any number of recurrent processes of social interaction, *fundamental group processes*. Each explanatory task taken up in *Social Behavior* deals with such a group process. Some of these have been discussed in this chapter: interpersonal balance, power and authority, the emergence of norms, deviance, and social control.

With this step, the concept "stable social structure" has to be interpreted in a specific context of a specific type of group process. It is a specific form of emergent order. For instance, a process of interpersonal balance yields a structure of positive and negative interpersonal sentiments. This is *a* social

structure but not *the* structure of the relevant group as a social system. When power and authority are treated, with somewhat less clarity, perhaps we could say that the relevant social behavioral process here—the relevant group process—yields a structure of power. Again, this would qualify as *a* social structure taken in conceptual isolation from the structure of inter-personal sentiments—in other words, employing an analytical theoretical model that abstracts from other aspects of the group as a social system.

Under the organic imagery, the corresponding procedure in biological theory would be a series of distinct models of fundamental biological proc-esses. The theory of the living being, as an organism in an environment, breaks up into a series of theoretical models, each of which explains aspects of the structure and function of the organism. The organic whole in the world corresponds to the concatenation of these various modeled biological processes in the full complexity of their interdependence. A *complexity model*, then, synthesizes these processes. Such a complexity model, if it were put into formal terms, would be some sort of nonlinear dynamic network to be studied by the methods of computational biology (i.e., by computer simulation to generate attractor states of the nonlinear system). In a sense, each such attractor would be a really possible organism: a living system with a biological structure having the capacity for survival in the given environment.

So this is the logic of Homans's approach in respect to completeness and the key theoretical problems of social structure. He has taken a further step of analytical abstraction to focus the general behavioral theory on specified group processes, each of which can be treated in the guise of a process that yields a specific social structure that, in reality, is one aspect of a complex system of processes making up any real group. The group, as an organic whole in an environment, can be analyzed with a complexity model based upon the synthesis of such specific processes. And beyond the group, there are additional layers of complexity. In the closing chapter of *Social Behavior*, Homans himself discusses this complexity in some detail, noting his original scope restriction to closed networks and pointing out that, for instance, "In the organization . . . the chains of action and reward are longer and linked in more complicated ways" (Homans 1974 [1961]: 357). Indeed, the transition to complexity implies the full operation of the proc-esses that Parsons—always focused also on the world-historical aspect of sociological theory—emphasized in his analysis of complex social systems, as pointed out in Chapter 8: differentiation, specification, segmentation. And all this is in the context of the emergence and spread of relational and other institutions. This implies recursive generativity of social life that Ho-mans's theory of spontaneous order only begins to touch upon because from the fundamental view of social life it is the human group as such that requires explanation.

The study of such social complexity calls for the methods of *computa-*

tional sociology (Hummon and Fararo 1995b), the use of computer simulation to work on fundamental problems in theoretical sociology. This includes the theory of spontaneous order in Homans's sense in which it refers to the group as the primary type of social system to be accounted for. In this fundamental case, computer simulation amounts to a compounding of group processes to generate attractor states of a nonlinear dynamical system. In parallel to the case of computational biology and really possible organisms, each such attractor would describe a really possible group as a social system with a structure enabling survival in its environment.

Completeness, then, is difficult to assess. Are there any "important" group processes that Homans has not analyzed? How do we know when "all" the group processes have been modeled in terms of the behavioral theory? The processes do not display themselves for us as a discrete set, waiting for us to label them and model them. When we observe a group we see people interacting—socially behaving toward each other. Beyond that, it takes a specification of a conceptual scheme to break up the whole process of interaction into a set of discrete group processes that might be individually analyzed and subsequently synthesized in a simulation model.

In short, we really do not know how to assess completeness apart from a conceptual scheme that analyzes a social system as a system of processes by which its structure is constructed. *Spontaneous order* is the watchword. We cannot begin, in the conceptual scheme, with roles, collectivities, norms and values. Thus, Parsons's social system model is not helpful here. His action system model might be relevant. In *Working Papers in the Theory of Action* (1953), Parsons and Shils worked with Bales on the theoretical analysis of group processes. The treatment involves a complex use of the pattern variables as parameters of interaction in the context of the beginnings of the four-function paradigm. The lack of clarity about the concepts and the sheer complexity of the analyses—not at the level of derived results but in respect to concepts and basic processes—makes this an unlikely place to look for conceptual help. At present, theoretical sociology does contain a family of strong theoretical research programs dealing with group processes (Berger and Zelditch 1993b). Perhaps the synthesis problem in regard to the key theoretical problems of social structure has its ultimate solution in the future of these programs.[7]

Presuppositional Problems

Finally, let us ask how Homans's behavioral theory is to be assessed in regard to the two presuppositional problems of theoretical sociology: action and order, respectively. With respect to action, the problem relates to the treatment of rational and nonrational conduct. Here, I refer the reader back to my discussion in the previous chapter that dealt with how the behavioral

theory relates to rational choice theory. The key conclusion was that Homans's behavioral theory is consistent with a bounded and subjective version of rational choice. Moreover, emotional elements and expressive behavior are included in the behavioral theory. Apart from a question as to whether a more idealized version of rational action would be a better strategic choice for the purpose of advancing theoretical sociology—as advocated by Coleman and treated in the next chapter—the conclusion I draw is that the theory is effective in attaining a scope wide enough to encompass human action without restriction as to its degree of rationality or, indeed, irrationality, given its deployment of subjective constructs.

Concerning the second presuppositional problem, which I have interpreted as a clash between methodological individualism and methodological holism, Homans has made it quite clear that he presupposes the former. The principles of the theory refer to the behavior of individual persons. Yet I have aimed to communicate, in the above analysis, that this is not to say that these principles presuppose a socialized adult individual. They are principles of behavior or action, in Parsons's terms. When applied in explanatory arguments, the *givens* of the actual world to which they apply include socialized individuals. This means that the circumstances to which the theory is applied include givens derived from participation in social life in the same sense that when Newton's principle of gravitation is applied to the earth and the moon, it thereby presupposes as given the existence of two physical structures that are held together by that very same force. Nevertheless, their relational process of motion is explained in terms of the principle of gravitation. In the same way, when Homans's behavioral principles function as major premises of theoretical arguments, the behaving individuals have numerous properties that ultimately depend upon their earlier social behavior in situations they encountered. Yet the relational process of social behavior in *this* situation is explained by those same principles of reinforcement, stimulus similarity, value and declining marginal value, and emotional reaction. There are always *initial conditions* to which a general theory is applied, where these conditions are the outcomes of earlier episodes of the very same processes postulated by the theory. Homans is a methodological individualist but he is concerned to explain "the behavior of social systems," to use a phrase from Coleman (1990).[8]

NOTES

1. See Fararo (1973: Sect. 22.7) for a formal elaboration of this idea.

2. The example is based upon the pioneering work of Blau (1955) that is carried forward in his 1964 book. Recently, Montgomery (1996) has undertaken a game-theoretical analysis of these ideas.

3. This is the subject of the impressive study by Jankowski (1991). I believe my remarks are consistent with his findings.

4. For a theoretical synthesis of theories of deviance and social control that takes an approach using a combination of rational choice and balance theory as it foundation and then formulates some steps toward a dynamic model, see Fararo and Skvoretz (1997).

5. See page 102 of *Working Papers*, a book that goes too far in the direction of analogy with Newtonian mechanics for my taste. The book is also notable for its extended but convoluted attempt to use the pattern variables at a very micro-level of interaction and to equate clusters of them with four functional dimensions set out initially by Bales and later becoming the core of the four-function paradigm I treated in Chapters 7 and 8.

6. The behavioral principles that Homans posits can be interpreted as under the control of higher-level evolved human capacities. Some recent theoretical literature points in this direction. At the cultural level, Pinker (1994) interprets Chomsky's universal grammar as generated through an evolutionary process. At the social and psychological levels, Sober and Wilson (1998) posit that psychological altruism is the outcome of group selection. See also the research program of Barkow, Cosmides, and Tooby (1992).

7. Among the most enduring research programs in the group processes tradition are two that relate to the exchange perspective on interaction and, as such, can be traced back to the theories of Homans and Blau plus the related research program of Richard Emerson during the 1960s and 1970s. See Emerson (1981) for a summary of his exchange network theory and see the chapters by Cook, Molm and Yamagishi and by Willer and Markovsky, respectively, in the Berger and Zelditch edited volume *Theoretical Research Programs*, for the two programs dealing with exchange networks.

8. Needham (1962) sets out a trenchant critique of how Homans explains social structural facts in the context of a co-authored monograph on the explanation of a certain kinship institution (Homans and Schneider 1955) that builds on an argument in *The Human Group* in which Homans contrasted the role of mother's brother in Tikopia with that in the Trobriands (pp. 252–259). Each elementary kinship structure approximates a case of structural balance in the sense of Cartwright and Harary (1956) and, as such, can be interpreted as a social equilibrium state. Homans offers the hypothesis that variation in the locus of authority in the external system accounts for emergent variation in the equilibrium structure of interpersonal relations, a comparative statics proposition. In turn, as indicated in this chapter, the argument in *Social Behavior* embeds such balance phenomena within a behavioral theory of spontaneous order. Needham's critique is Durkheimian in its emphasis on the invocation of social facts to explain social facts, missing these various features of Homans's approach. I believe my general argument about how Homans and Durkheim relate at the methodological level (as in Figure 4) applies in this instance to dissolve the critical force of the purely structuralist explanation that Needham favors.

Part III

Two Strategies in Recent Theoretical Sociology

Chapter 11

The Rational Choice Strategy

INTRODUCTION

Part I of this book and Part III serve to bracket the analysis of the two major postclassical general theoretical projects in sociology, those of Parsons and Homans. Part I presented a relational process interpretation of classical theoretical foundation ideas and elucidated the sources and meaning of analytical realism. Part II presented an extended analysis of the contributions of Parsons and Homans, emphasizing general theoretical synthesis as their common enduring objective. Now, in Part III, I turn to two recent theoretical strategies that carry forward the foundation and synthesis aspirations of general theoretical sociology. The first of these, the rational choice strategy presented in most detail by James S. Coleman, places its emphasis on foundations rather than synthesis. It largely ignores the many other theoretical perspectives that have been elaborated in sociology since the time that Parsons and Homans created and advanced their perspectives. The complementary strategy of generative structuralism starts from this multi-perspectival situation in sociological theory and places its emphasis on theoretical synthesis in a mode that is adapted to this situation. The use of the concept of strategy as a tool for analyzing theoretical structures follows the suggestion of Berger and Zelditch (1993a). In their terms, rational choice theory and generative structuralism are two "orienting strategies" that have a variety of different types of components, including philosophical orientations and methodological directives.

In this chapter, the focus is on the rational choice strategy as set out by Coleman (1990) as the basis for his proposal as to the foundations of social theory. I begin with a discussion of an important intermediate contribution

by Peter Blau (1964) that aims to create a theory that starts from the level of face-to-face interaction and makes a smooth transition into the theory of complex social systems. Thereafter, I relate Coleman's aim and method to the theories of Homans, Parsons and Blau, discussing what I term his *methodological* (or *metatheoretical*) *template* and his *theory template* before undertaking an assessment in terms of the cognitive standards set out in Chapter 1.

BLAU'S RECURSIVE PROCESS THEORY

An exchange analysis conducted by Peter Blau and reported in his *Dynamics of Bureaucracy* (1955) was part of the background for the early statement of exchange theory by Homans (1958). In turn, Blau had been influenced by Homans's analysis of the Bank Wiring Observation Room in *The Human Group* (1950). Then, reacting to Homans's use of his reward-cost formulation in the first edition of *Social Behavior*, Blau returned to theme of exchange in his theoretical study *Exchange and Power in Social Life* (1964).

For Blau, the problem with Homans's behavioral theory is that it ignores emergent levels of social organization. His strategy is to start with the small group but to take up the challenge of creating a theory that can make a transition from small groups to more complex levels of social organization with their own characteristic social processes. In doing so, he draws upon not only Homans but also other theorists, such as Goffman (1959) and Emerson (1962). In his later theorizing, Blau (1977) set out his ideas in the form of a deductive theory but in the 1964 book, the theory is discursively presented although indebted to Simmel's (1971 [1907]) conception of formal sociology and, in particular, his essay on social exchange.

The process worldview that permeates Simmel's theory is incorporated into Blau's synthesis. The core of Blau's theory consists of four basic processes that form a recursive system grounded in exchange relations. At the level of elementary social behavior, the scope of Homans's analysis of social behavior as exchange, the processes take the following form in such face-to-face situations:

- *Integration* via direct mutual exchange relations
- *Differentiation* via asymmetric power-dependence relations
- *Organization* via direct social approval of an informal leader
- *Opposition* via direct social disapproval of the exercise of power

As the recursive processes operate in various settings with different groups, the four processes come to be based upon not only direct but also *indirect* exchange with mediation in terms of values and symbolic media.

Thus, the four processes generate complexity through *spatial* extension and are perpetuated through *temporal* extension. Blau reserves the term "institutionalization" for this latter aspect of the processes that account for enduring complexity in social life through intergenerational transmission of values.

In these spatial and temporal extensions, Blau draws upon and folds into his theoretical synthesis ideas from Parsons's theory. For instance, Blau employs the pattern variable particularism-universalism to contrast the extension of integration and the extension of differentiation. The former occurs through the medium of particularistic values (e.g., "We Americans") and institutions such as the nation. The latter occurs through universalistic values (e.g., a shared standard of educational status) and institutions such as formal education. Organization is extended through legitimation of authority and political institutions. Opposition is extended through social movements that give rise to institutional change.

Blau's work is an admirable example of general theoretical synthesis grounded in both classical and postclassical theoretical sociology. The theory was produced before the recent advent of complex dynamic network models that are represented in computer language and studied by simulation methods (Hummon and Fararo 1995a, 1995b). This is one possible route for building on and refining Blau's theory. Another route is more analytical and is illustrated by recent work that shows how some of Blau's key ideas can be formalized in game-theoretic terms (Montgomery 1996).

These remarks indicate that Blau's synthesis stands on its own as a lasting contribution to theoretical sociology. In the present context, however, its significance is in illuminating a methodological problem in the foundation of social theory. The problem is best seen in terms of how Coleman responded to the theoretical writings of Parsons, Homans, and Blau.

ENTER COLEMAN

James S. Coleman was a young social researcher when Parsons and Homans were at the peak of their influence in the discipline in the 1950s and early 1960s, and also younger than Peter Blau. He appears to have attended to the work of all three and to have drawn some lessons from them.

Coleman's Standpoint on Parsons and Homans

Coleman (1986) viewed Parsons's first synthesis in *The Structure of Social Action* as a promising foundation for social theory. He agreed with Parsons's starting point in a general theory of action grounded in the idea that the basic unit of action has an *end* or goal element, so that action is purposive. He also agreed with another aspect of Parsons's early foundation statement, namely the specification of the Hobbesian problem of order

as the fundamental problem of social theory. Given goal-oriented actors who strive to satisfy their interests and given scarcity of means, how is "a war of all against all" avoided? How is social order possible? To postulate norms, argued Coleman, is not an adequate solution. If they are necessary, they should be derived from a more primitive starting point. For Coleman, this problem had not been solved by Parsons's later work precisely because the action approach had given way to a structural-functional approach.

Coleman's views on Homans's foundations for social theory are somewhat similar in terms of the theme of a promising beginning that was not elaborated effectively. For Coleman (1975), it was Homans's 1958 article, "Social Behavior as Exchange" that formulated the correct methodology of social theory in terms of the deductive explanation of social phenomena based on principles of individual behavior. He goes on to argue, however, that Homans's *Social Behavior*, in adopting a psychological basis in operant psychology, failed to fulfill the promise of the 1958 starting point (Coleman 1986). Hence, although adopting Homans's methodological individualism, he does not draw upon the theory of spontaneous order that I described in Chapter 10.

As a mathematical sociologist, Coleman (1964, 1973) also seeks to put social theory on a mathematical foundation. But how can this be done in terms of a principle of purposive action? The answer can be understood in the context of what I take to be Coleman's response to Blau's work.

Coleman's Standpoint on Blau

As we have seen, Blau (1964) had tried to show how complex social phenomena featuring indirect exchange with symbolic mediation (as in Parsons) emerge out of the level of elementary social behavior (as in Homans). But, at the same time, Blau assumes that emergence implies a need for distinctive concepts and principles at higher levels of social organization that cannot be logically derived from the principles applying to elementary social behavior. Coleman, in taking up Homans's program of methodological individualism, could not agree with this sort of assumption. In fact, Blau's effort highlights precisely the fundamental problem in the foundation of social theory from Coleman's standpoint: micro-macro transition calls for some sort of deductive procedure. With his belief in the need for a mathematical foundation for a social theory that is initiated from a purposive action foundation, Coleman adopts the strategy of rational choice theory in which the deduction of macro-level outcomes becomes possible if one employs the idealization that purposive action is rational in the sense of economic theory.

COLEMAN'S FOUNDATIONS

The General Action Principle

Coleman's fundamental metatheoretical principle is that there must be a single principle of action that applies to every explanatory situation. He sees sociologists as making a fundamental error in this respect. When a macro-level outcome appears quite "emotional," such as a panic in a theater, sociologists tend to invoke an emotion-driven actor. When a macro-level outcome appears deliberate and especially in economic and political contexts, they invoke a rational actor. From his own standpoint, what Coleman has done is to implement this idea in the principle that general action is *purposive*—and for him, this is in contrast to *expressive*. Then the job of the theorist is to carry out this decision with unrelenting consistency rather then to shift to an explanation in terms of emotions.[1]

Coleman's purposive action principle is framed at two distinct levels, corresponding to what in this book have been called theoretical framework and theoretical model, respectively. At the level of general theoretical framework, the general principle is that action is purposive in a fairly broad and non-quantitative sense. It is an implementation of methodological individualism and voluntarism. The aim is to construct theory to explain as much as possible with this principle, admitting that this abstracts from the more complete character of human action. Oddly, although Coleman (1975) relates this principle to developments in basic psychology in its shift from a behavioral to a cognitive orientation, his theory makes little or no connection with the cited writings of Miller, Galanter, and Pribram (1960), Newell and Simon (1972), and Powers (1973). These works were a product of the zeitgeist in which cybernetic ideas about information and control in organisms were elaborated. They form part of the background for the strategy of generative structuralism discussed in the next chapter.

This takes us to the second level of implementation of the purposive action presupposition. Coleman implements his general framework through the proposition that the actor maximizes utility subject to constraints. With this step, the theory gains a capacity for deductive fertility by making a trade-off in terms of any more complex representation of individual action. Coleman argues that it is a misplaced explanatory focus to develop models of the internal mechanisms of individual actors as such. Such models will deal with the interdependence of psychological elements, introducing complexity at the level of the acting unit and making explanation of the social system phenomena cumbersome at best and probably inadequate from the standpoint of actually generating or showing how such phenomena are produced.

The Metatheoretical Template for Micro-Macro Linkage

The interpretation of micro-macro linkage has been conceptualized in similar ways by a number of theorists who have contributed to sociological rational choice theory, including Boudon (1987) and Wippler and Lindenberg (1987). However, the formulation by Coleman (1987, 1990) has proved most influential in recent theoretical sociology. He formulates what I will call a *metatheoretical template for micro-macro linkage*, using a diagram that I employed in Figure 4 in the previous chapter as part of my reconciliation of Durkheimian explanation and methodological individualism in its behavioral form.

I interpret this metatheoretical template as a double linkage of the two frames of reference that I have argued permeate the tradition of theoretical sociology—actor-situation and system-environment (although Coleman does not emphasize the relation of system to environment in his work).

First, there is link from the macro level to the situation of the actor. On the one hand, the actor's preferences may be expressed as depending upon position in the social system. On the other hand, the actor's menu of possible actions also may be expressed in terms of opportunities and constraints arising within the social structure. Given preferences, opportunities and constraints, the principle of purposive action—in the form of rational choice—applies and takes us from the menu of possible actions to a particular action. But we need to return to the macro level: we have to show how the actions of the actors combine to produce the macro phenomenon to be accounted for. From the perspective of this template, Coleman emphasizes that the key methodological problem of social theory is *to show how macro outcomes, under given macro conditions, emerge through the interdependence of actions of the actors in the social system of reference.*

The strategy of sociological rational choice theory is a proposed solution to this problem. In Coleman's version, it specifies the purposive action principle in a mathematically precise form. The actor selects from the opportunities presented, as determined at the system level, the action that constitutes the *optimum*, given the constraints of the situation of the actor. Then, unless the transition from the various actions to the macro level is institutionalized (e.g., in an election with the actions as votes), the job of the social theorist is to specify models that combine the rational actions of the actors to produce the systemic outcome. The resulting explanation is in the form of an inner mechanism of the system of actors, not an inner mechanism of the individual actor. We simplify our explanation of individual action in order to gain leverage on the fundamental problem of transition from the actions of individuals to systemic phenomena that require explanation.

THE PHILOSOPHY OF THE RATIONAL CHOICE APPROACH

In calling this strategy "rational choice theory," we must remember that it is not really very much concerned with the individual choice process itself. The point is to show how social life emerges out of combinations actions without getting into too much detail about the psychological aspects of the choice of action. Coleman has taken the standpoint that folding sociology under the umbrella of such a theory is the most effective strategy for the advancement of general theoretical sociology. The idea is that numerous special theories or theoretical models can be constructed within this general action framework, just as Parsons had advocated in 1937—but rejecting the straightforward use of the utilitarian type of theorizing that Coleman employs.

Within such a general theoretical framework, special interest is given to phenomena that seem to be outright contradictions of the framework-defining principle. For the life sciences, the existence of altruistic behavior among animals is such a problem leading to extensive theoretical model-building featuring such new ideas as inclusive fitness that aim to bring the phenomenon within the explanatory scope of the umbrella theory, in this case Darwin's theory. Corresponding to fitness functions in evolutionary theory, we have utility functions in rational choice theory. Theorists attempt to comprehend any and all social phenomena under the general framework of rational choice. But this ambition runs into phenomena that appear to contradict the fundamental framework-defining principle. As in biology, we find great interest in trying to bring these phenomena within the explanatory scope of the umbrella theory.

Examples of such phenomena include voting in mass elections and collective action. In these two and other such cases, what rational choice theorists have demonstrated is that an empirically observed social phenomenon is incompatible with a direct and simple rational choice model. Thus, they have defined a phenomenon that requires the *extension* of standard (neoclassical) rational choice theory in the same sense that inclusive fitness extends standard Darwinian fitness. The logic of comprehensive theory building is to try to *generalize* a framework, not to abandon it immediately when such problems occur.

For example, Boudon (1981) argues that implicitly or explicitly Weber, Pareto, and Durkheim were adopting *generalized* rationality of action as a postulate. Boudon frames an argument that is very much in the spirit of Homans's argument although more attuned to cognitive elements. In the generalized version of rationality, he argues, the *subjective point of view of the actor is crucial*. The actor's beliefs matter, including subjective probabilities of outcomes that may or may not be well grounded in objective

chances. The actor's preferences may not be readily assimilated to those that they "should" be for the most efficient attainment of a goal. For that matter, the goal may be some transcendent state that is not even empirical, a point strongly emphasized by Parsons in his early work, based at least partly on his study of Pareto's analysis of social action (as discussed in Chapter 3). Emotions may affect these preferences, either in an abrupt and situated way or in some long-term cumulative way, building up commitments. In short, a generalized rational action approach attempts to broaden the scope of neoclassical utility theory as a foundation of social theory.

This epistemological situation is similar to that framed by Toulmin (1953, 1961) in regard to "principles of natural order" in theoretical sciences. Included with their scope are regularities that seem to contradict the principle. For instance, light does seem to bend when we see distorted images on the surface of water, while the principle is that light travels in straight lines. Such a principle is not an empirical regularity. It is a cognitive instrument for the explanation of phenomena. In particular, a principle of natural order is adopted because it formulates something that the theorist will *not* try to explain. It will be presupposed in all explanations within the framework. What I am saying is that one way to appreciate the project of generalized rational choice theory is to interpret purposive-rational action as such a principle of natural order. As Boudon (1998) has pointed out, once we understand an action as rational, there is nothing left to explain, we are satisfied.

Parsons's foundation ideas also fit into this perspective. It will be recalled from Chapter 4 that in his first book-length publication Parsons (1937) does not so much repudiate Hobbes's utilitarian theory, with its sharp posing of the problem of order, as embed it within a broader action frame of reference. He *did* argue that the theory was inadequate to play the role of general social theory. But he interpreted this to mean that a more general framework was necessary, one that would include the emergent element of rationality but also the emergent element that he called common-value integration that encapsulated many of the sociological ideas of Weber and Durkheim. In addition, in later critical commentary on Homans's behavioral theory, Parsons (1971) does not directly challenge the generalization of rational choice theory adopted by Homans. Rather, he criticizes the restriction of its applications to the elementary forms of social behavior. His interest was in that level, but also in levels of social organization arising in complex social systems.

From Coleman's point of view such remarks are beside the point because Parsons, in his mistaken view, abandoned action theory. Also, in his view, analysis based on the delineation of functional problems has little or no merit. Yet, the reader of Coleman's (1990) huge treatise who is familiar with the four-function paradigm cannot but notice the correspondence between the topics that Coleman treats in most detail and the four functional

problems at the social system level. One sketch of this correspondence is as follows:

- Trust relations (IL: fiduciary processes)
- Social norms (II: social integrative processes)
- Collective decisions and authority (IG: political processes)
- Generalized markets (IA: economic processes)

What this suggests is that the four central categories of topics that Coleman treats do not form an arbitrary set of "interesting phenomena" but form an interrelated set of processes that together comprise a social action system. To be sure, however, Coleman treats these topics with a formal rigor that Parsons never attained. It is not possible to discuss all of these efforts. For the present purpose of analyzing the strategy of rational choice theory, I focus on the fourth category and, in particular, on what economists call general equilibrium theory.

TOWARD A GENERAL SOCIAL EQUILIBRIUM THEORY

The Economic Theory and the Generalization Aspiration

In this section, I examine the theoretical logic of one of Coleman's key objectives: the generalization of the theory of markets and, in particular, what economists call general equilibrium theory. Because in this chapter the theory will be generalized, I will refer to it in its initial form as "general economic equilibrium theory." One problem with *Foundations* is that Coleman does not provide a general conceptual discussion of the logic of general economic equilibrium theory *as theory*. I will investigate the nature of this theory and its sociological generalization in order to help us to understand its relatedness to the postclassical syntheses discussed in Part II of this book.

General Economic Equilibrium Analysis

In the history of economic thought, a vital distinction has emerged that has not played a correspondingly important role in sociological thought, namely the distinction between partial equilibrium and general equilibrium analysis. A brief authoritative statement of the distinction is as follows (Pearce 1986: 167):

Economists have traditionally adopted two approaches in analyzing economic systems. The simpler approach, associated with the name of A. Marshall, has been that of partial equilibrium, where only a part of the system is examined (e.g., the market for oranges), on the assumption of unchanged conditions in the rest of the economy. The second and more difficult approach, both in conception and in its

use of mathematical tools, is general equilibrium analysis, which looks at an economic system as a whole and observes the simultaneous determination of all prices and quantities of all goods and services in the economic system.

General economic equilibrium theory is characterized by an abstract representation of an entire economy so that there are no purely *economic* givens. Economists may differ as to what is and what is not purely economic. In the standard formulation of this problem, the preferences of actors are taken as given as well as laws regulating the meaning and exchange of property. Producer decisions and consumer decisions are endogenous. These are represented as two specifications of rational choice. The theory investigates questions concerning the existence of market equilibrium and its stability.[2]

It seems reasonable to interpret these developments as seeking to set out a general theory of *economic order*. By analogy, a general theory of *social order* calls for a model in which there are no *social* givens in the sense of exogenous social states. The equilibrium of a society as a social system is at issue. It is to be abstractly represented, as in the economic case. We have seen in earlier chapters that Parsons pursued this sort of conceptual task. In the four-function scheme, as we have seen in Chapter 8, there is a conceptualization of a social system as the integrative functional subsystem of a wider action system. This means that instances of the other three types of functional subsystems constitute its action environment. While this is a strong conceptual effort, the lack of a mathematical apparatus inhibits its deductive elaboration. In particular, one cannot actually prove any theorems about social equilibrium states.

This is where Coleman departs from the earlier phases of the tradition of general theoretical sociology. He is totally committed to the same *goal* as Parsons and Homans in the sense of aiming to construct a general social theory grounded in a general theory of human action and in such a way that economic theory becomes a special case. However, in addition to conceptual differences from them, his theory differs in the *means* that he employs in the sense that he makes direct use of the *formal* apparatus of general equilibrium theory.

The Logic of Generalization of the Theory

To grasp the logic of generalizing general economic equilibrium theory, I will introduce a fiction. I will pretend that the generalization occurs in two theory construction phases, even though this may not be the actual procedure that Coleman employed. It is a device of explication that enables a better grasp of the logic of the theory construction effort and prepares us for its assessment at the conclusion of this chapter.

In the first of these two phases, general economic equilibrium theory is stripped of its economic aspect and given a new and generalized interpre-

tation without modification of the abstract mathematical structure. In the second phase, given the new and generalized interpretation, the abstract structure of the theory is modified in ways that extend its scope in terms of the added interpretation made possible by the structural extension. The importance of the second phase is that it is a response to limitations inherent in the first phase.

First Phase of Generalization: The Abstract Theory Template

The first phase amounts to abstraction of the mathematical structure from the economic interpretation followed by assignment of another and more general interpretation. Recall that the general economic equilibrium problem is defined in the context of a system of interdependent markets. The entities in the system are *economic actors* (producers and consumers) and commodities (goods and services) that we can also call *economic resources*, including intermediate producer goods and producer services. Two relations connect economic actors and economic resources, namely ownership and preferences. This structure is an instance of a theory template, a logical placeholder for the construction of innumerable theoretical models that satisfy the template. It is the formal basis for the study of the problem of the existence of a general equilibrium.

A very important point arises here concerning the meaning of equilibrium in relation to the economic market template. "When applied to markets, equilibrium denotes a situation in which, in the aggregate, buyers and sellers are satisfied with the current combination of prices and quantities bought or sold, and so are *under no incentive to change their present actions*" (Pearce 1986: 129; emphasis added). In a nutshell, this is a meaning of equilibrium that pervades economic thought: "no incentive to change their present actions." This conception was employed in Homans's (1958) early paper on exchange but then was not emphasized in his subsequent theory. Note how the conception of equilibrium reflects the specifically *action* system context. It is a meaning of equilibrium that flows directly out of the representation of actors as trying to do the best they can under the circumstances (i.e., as rational). No other type of theory in social science yields such an intuitively clear meaning of equilibrium, so far as I know. When the template is generalized, so long as it remains within the action framework, the study of equilibrium will retain this intuitively appealing meaning.

To obtain the generalized theory template, we shift from *economic* actors who own *economic* resources and have preferences in relation to them to arbitrary or *general* actors who control arbitrary or *general* resources. The resulting generalized theory template is a pair of relations, control and interest, connecting a pair of parts of a system, actors and resources. In the template, each actor has some partial control over a resource and some

amount of interest in each resource.[3] Equilibrium still means, as in the economic special case, that no actor has an incentive to change action given the conditions incorporated into the template.

The Mathematical Representation

In this theory template, the control relation is *endogenous* to the theory, while the interests are *given*. The former is spelled out in the mathematical theory as a matrix: each actor (row) controls a certain quantity of each resource (column). This matrix, denoted C, represents the social state. The interests are also spelled out in the mathematical theory as a matrix. Each actor has a certain interest in each resource and this is represented in a matrix denoted X. In terms of the dynamical system ideas I introduced in Chapter 5, matrix X consists of the *parameters* and matrix C constitutes the endogenous *state* of the social action system. The interest matrix X is treated as constant, while the state matrix C varies in time. What the theory shows is how the initial state of C is transformed into an equilibrium state, the general *social* equilibrium that arises as actors give up some portion of the resources they control to gain some added control over other resources of greater interest to them.

Analytically, the interests are implicitly defined in the utility function that Coleman posits. That is, there are terms in the function that represent the interests of the actor. When the actor attempts to maximize utility, this means attempting to realize these interests. Control is also implicitly defined, not formally, but through a discursive presentation that we can interpret as formulating a set of meaning postulates on the control concept (see Fararo 1993). In particular, the entries in matrix C are intended to refer to *rights to control* various resources. It is in virtue of such rights that actors have differential control and hence, given their interests, differential power.

In this context, the power concept is a generalization of the wealth concept in economic theory. The wealth of an economic actor is the sum over all the resources owned by that actor, each weighted by its price, which is the measure of its exchange value in general economic equilibrium. Similarly, the power of each actor is the sum over all the resources controlled by the actor, where each resource is weighted by its exchange value in general social equilibrium. In turn, the exchange value of a resource is a sum over all interest parameters, each weighted by the power of the actor with that level of interest.

In short, the *general social equilibrium theory* that arises in this first phase has four primitive concepts (actors, resources, control, interests) and two defined concepts, power and value. These concepts and relationships constitute the theory template. From it, Coleman can derive a social equilibrium, a state in which no actor has an incentive to change action. This is a great economy of thought. Furthermore, Coleman introduces a specific

form of utility function, called Cobb-Douglas, that enables him to construct and apply quantitative theoretical models.

An Example

It may be helpful to indicate one idealized interpretation of the generalized theory template that connects it to the classical phase of sociological theory, namely Marx's model of capitalism. The actors are of two types, workers and capitalists, each initially controlling a resource, namely, labor power and capital respectively. Their interests are distributed over these resources. Capitalists need labor power to make a profit, so they have an interest in gaining some control over labor power, while workers have an interest in a wage, which can be interpreted as an interest in gaining some control over capital (or income from its use). This initial situation is an exchange situation that implies a "final control" matrix, an equilibrium following exchange, in which control over the two resources is divided between the two types of actors. The relative amount of interest in the resources, given the initial control matrix, determines the power of each type of actor and the value of the two resources. In general, we would expect any reasonable quantitative model to show that the power of capitalists vastly exceeds that of the workers, assuming an absence of collective bargaining. While this sketch is neither mathematically rigorous nor theoretically complete in respect to the analysis of the relevant relations of production and how they are interpreted in the Coleman theoretical context, it does provide an example of how the theory template can be interpreted. Below, when I discuss extensions of the theory, I will refer back to this example.

Relationship to Theories of Parsons, Homans, and Blau

The prominent concept of rights in the theory corresponds directly to the central notion of institutionalized normative culture in Parsons's theory.[4] Having noted this correspondence let me turn to a more specific relationship to the theories of Parsons, Homans and Blau in order to make my a basic point that, as limited to this first phase of the construction of a general social equilibrium theory, there is a trade-off between the simplicity of Coleman's theory and its completeness.

First, consider the state matrix C representing the control of resources by the various actors. This element of the theory template is analogous to Parsons's instrumental complex in *The Social System* and to Homans's external system in *The Human Group*. Unfortunately, Coleman makes little reference to the theoretical tradition of work by Parsons, Homans or even Blau. We are left to our own interpretation to try to fathom how his theory may build upon or depart from the tradition. For instance, Blau (1964) distinguished between attraction for exchange based on *extrinsic* need for

items x in exchange for items y and *intrinsic* interest in the other person as such. In the latter case, the context is one of expressive activity, as in Homans's internal system of interaction and Parsons's expressive complex. The generalized template clearly corresponds to Blau's extrinsic exchange relations. The implication is that the first phase of straightforward generalization of general economic equilibrium theory is scope-restricted. The social integrative phenomena of Homans's internal system, Parsons's expressive complex and Blau's intrinsic interests are downplayed, to say the least. This is the most obvious outcome of the theory construction strategy of putting expressive action to one side in the initiation of the theory.

In sum, the first phase yields a restricted scope for the general *social* equilibrium theory and therefore a questionable analytical capacity for generating sentiment-based bonds, including solidarity of the collectivity.

This conclusion has been based upon considerations related to the characterization of the state of the social system in terms of the matrix representing the control of resources, matrix C. Consider now the parameters of the exchange process, as represented in matrix X, the interests of the actors. These would seem to correspond to an aspect of Parsons's motivational orientations of actors and therefore to the element of action interests. It is helpful to refer to the control hierarchy idea in the context of the general action system (Chapter 8). As motivational constructs, action interests correspond to the goal-attainment level of the control hierarchy. There are two directions of relationship to the integrative level with its status-role expectation element. First, looking upward, as it were, generalized motivational parameters shape the formation of any stable social structure. Prominent in this regard would be social approval as a generalized reinforcer, as in Homans's behavioral theory. Second, looking downward, we have what Parsons calls the institutional integration of motives, the formation of action interests that (through socialization) are adapted to the position of the actor in the social structure. For instance, the imputation of certain interests to workers and to capitalists, respectively, by Marx, is an instance of such institutional motivation. Unfortunately, Coleman does not appear to have in mind these two quite distinct aspects of the relationship between the social system and its analytical environment of interest parameters. In particular, the terminology "interests of natural persons" that Coleman sometimes uses is ambiguous: does it refer to the ultimate and given interests of human beings or to the given interests of persons in specific social locations in a social system?

In conclusion, a theory confined to this first phase of generalizing general equilibrium theory would be scope-restricted to the instrumental complex of a social system. This, in turn, would make it difficult to see how enduring social bonds and solidary social systems could emerge without treatment of the mechanisms specified by Homans in *The Human Group* and explained in terms of a bounded rationality approach in his subsequent work.

Generalizing a mathematical theory of exchange might be welcomed as an opportunity to create a more powerful and rigorous form of deductive theory than Homans was able to construct. Clearly, the missing element has to do with sentiments. For this and other reasons, we need to look at Coleman's theory in terms of a second phase that goes beyond the initial generalization of general equilibrium theory.

The Second Phase: Structural Generalization of the Theory

This brings me to the second of the two reconstructed phases in the theory construction process. While the first phase involves the two steps of first stripping the mathematical theory of its specifically economic interpretation and then assigning a more general interpretation, without structural modification of the theory, in the second phase two types of modifications of the theory are undertaken.

In the first type, divisible resources are replaced by indivisible events that have outcomes that are differentially valuable to the various actors. In the pursuit of this modification, Coleman introduces the concept of *perfect social system* as an analogue of the perfect competitive market. Vote trading in legislatures is one instance for which the perfect social system is the idealized theoretical model.

In the second type of modification, the prior theoretical models are treated as idealized baseline models—whether featuring resources or events. The modification consists of setting out a series of *extensions* of scope that treat aspects of social action systems such as interpersonal bonds, communication networks, and event interdependencies as they affect the exchanges (Coleman 1990: Ch. 27). Each extension is built on the methodological principle of introducing additional formal ideas and deriving new formulas or propositions, *such that the original formal theory is a special case*. Some examples of such extensions of scope follow.

Psychic Investment

Actors can have diffuse or *intrinsic* interests in other persons, as in Blau's formulation of exchange. Coleman characterizes these interests as "psychic investments." They can be interpreted as interpersonal sentiments, as in Homans's theories. They do not replace the instrumental or extrinsic interests but exist along with them in the exchange nexus. Mathematically, a third matrix S of such investments or sentiments is introduced and the general equilibrium derivations are carried out. When this matrix is the identity matrix, so that only the actor's self is a social object of intrinsic interest, the original theory and its formal results are obtained as a special case. In addition, a new derived concept, called importance of an actor, is defined in terms of the total psychic investment in an actor, weighted by

the power of each actor having some sentiment toward that actor (Coleman 1990: 722).

This extension is very important in terms of embedding sentiment connections among actors in a rational choice framework in such a way as to modify the exchange outcomes. This can be illustrated with the Marxian example given earlier. Suppose that in addition to the Marxian class situation, we have a Weberian status situation for each actor. In particular, suppose that there is a common ethnic group membership that crosses class boundaries. The sentiment matrix can represent such an element of ethnic solidarity. The result will be a modification of the operation of sheer class interests in the determination of the outcome, the final control matrix. In addition, it will modify the relative power of the actors and the relative value of the resources, as well as enable a definition of the importance of each actor in the system.

Dependence of Events

Once events are introduced, as in a perfect social system analysis, the possible outcomes of one event can have consequences for other event outcomes. A matrix of such event dependencies is introduced in such a way as to capture the original formulation as a special case (Coleman 1990: 723).

Barriers to Exchange

Pre-existing social structure may constrain who can exchange with whom. Weber had described status groups as potential or actual barriers to market extension and this element is embedded in the theory as an aspect of the second phase. In addition, there may be normative barriers between resources, as when laws forbid a direct exchange of money for a vote. These sorts of barriers are incorporated into a generalized form of the mathematical theory (Coleman 1990: 732).

Dynamics

In its original form, Coleman's exchange theory mirrors its origins as a before and after formulation in which an initial state goes into an equilibrium state but without explicit representation of the dynamics of the transformation. Coleman (1990: Chs. 32, 33) undertakes an extension in which the time path is treated. In other words, a dynamical system is analyzed. In another type of extension, there is a postulated shift in the givens of control and interest, with a process of adjustment by which a new distribution of value and power is generated. These are not especially convincing as dynamic models, but they show that Coleman explores dynamic as well as static versions of the general social equilibrium model.

The Emergence of Norms

Relative to Coleman's micro level of individual actors, norms are at his macro level. For Coleman, the emergence of a norm represents a prototypical instance of the micro-to-macro transition problem. How do we explain how norms emerge? In Coleman's conceptual scheme, each actor has a kind of natural control over her own action in the sense of purposive action and the element of agency set out by Parsons in his earliest work. However, the *right* to control the action (under given conditions) may or may not be held by that actor. When the right to control the action is held by others, a particularly important subtype is that in which this control is exercised informally in a group (as contrasted with formal rules or laws). This is Coleman's concept of norm: an informal or socially defined right to control a member's action.

The treatment of the emergence of norms is undertaken in two steps (Coleman 1990: Chs. 10, 11). First, one must delineate the conditions under which a demand for a norm will arise. That is, under what conditions will a consensus exist in the group that the right to control the action is to be held by persons other than the actor? Second, one must analyze the conditions needed for effective sanctioning.

For example, if we think of the Bank Wiring Observation Room and the norm of output restriction, other workers will regard "excessive" output as a threat to their welfare. In Coleman's terms, the action produces negative externalities for the other members. Coleman argues that a market solution might resolve the problem in some instances (e.g., if the other workers paid a certain sum to the target member in exchange for his desisting from excessive production). But where a market solution does not arise—and Coleman seems to take this as a given for his theoretical analysis—the demand for a norm arises. The second problem then becomes relevant, pertaining to sanctions. Without sanctions, there is no norm. However, a person who sanctions another member incurs a cost (e.g., loss of friendship). On other hand, it is assumed that the norm is a public good, so that any member can benefit even without contributing to enforcement. It follows that the rational choice is to benefit from the norm without being the one to impose sanctions. But then the outcome is that there is no norm. This "second order free rider problem" can be overcome by social relationships. Returning to the work group, we note that it was a small group, dense in social relations, and high in closure (i.e., if a and b are in social relation to c, then a and b are in social relation to each other). Coleman proposes that the probability that a norm will be effectively realized, given a demand for it, is an increasing function of the density and closure of the social network of the group. Another way of putting this is to say that considerable social capital is available in the group, so that any member can draw upon ties to others to share the burden of sanctioning. The result

is that the choice to sanction becomes rational. In the work group, members ridicule those who over-produce, calling them "rate-busters," with presumed social support enabling this behavior to be a rational choice under the given conditions of high social density and closure.

Unlike Homans, who gives a rather similar argument in *Social Behavior*, Coleman goes on to construct a mathematical analysis that is a modification of the original theory template, working through a succession of more and more complex cases. An idealization is introduced to carry out the formal analysis, namely, that the group is a perfect social system. In such a system, every actor is socially related to every other, so that both density and closure are maximized. In that case, effective sanctions will exist as soon as the demand for a norm exceeds any opposition to its imposition by those who benefit from an action that imposes negative externalities on others. Hence, the theoretical model has two sets of actors, those in favor of a norm and those opposed. The analysis employs the notion of *social efficiency* in which the derived value of not having the norm is compared with the derived value when there is a norm. The term "value" here has the technical meaning assigned to it as a derived concept relative to Coleman's theory template. The efficiency criterion means, then, that in a perfect social system, a specified normative "regime" prevails if the power-weighted interests favoring the specific norm are greater than the power-weighted interests opposed to it.

SUMMARY

This chapter is the first of two that deal with strategies in recent theoretical sociology. In this chapter, with special attention to Coleman's foundation project, I have tried to elucidate the rational choice theory, especially in the context of the postclassical theoretical synthesis efforts of Homans and Parsons, as augmented by Peter Blau in his theory of exchange and power.

Coleman adopts the methodological individualist position of Homans, but not his behavioral approach, preferring Parsons's voluntaristic or purposive action foundation but rejecting the shift to structural-functional analysis. By adopting Homans's methodological individualism but replacing the behavioral principles with an idealized rational actor model, Coleman strived to produce a mathematical theory that would enable the derivation of collective phenomena through an explicit micro-macro linkage procedure. The resulting theory is based on a generalization of general economic equilibrium theory.

In short, Coleman has specified a *metatheoretical template* in the form of abstract micro-macro linkage of the actor-situation frame of reference and the system-environment frame of reference and has implemented that

methodological structure with a *theory template* in the form of general social equilibrium theory.

ASSESSMENT

Despite some genuine gains, Coleman's foundation project has some problems that I have alluded to in the above discussion. Some of these occur in the core of the theory, in terms of the paucity of articulation of the framework to the postclassical treatments of social integration at the micro and the macro levels. Other problems arise in terms of how the analytical theory encompasses elements taken as given from the environment of the social system, including cultural, motivational, and behavioral elements. In this section I elaborate on this assessment.

Clarity, Generality, and Precision

In terms of the standards set out in Chapter 1, Coleman's theory is set out with an admirable level of clarity and, in places, attains a high level of precision by the use of mathematical methods. Coleman reaches for and attains a high level of generality through the formulation of a generalized general equilibrium theory. The theory template that emerges has both simplicity and fertility, the latter in terms of the mathematical model employed. The element of surprise that sometimes emerges in deductive reasoning also exists to some extent, as will be noted below. Thus, in respect to methodological standards pertaining to theory structure and to beauty, as delineated in Chapter 1, Coleman's theory is a considerable achievement.

Completeness and the Key Problems

However, there are also content standards, as discussed in Chapter 1. These content standards relate to the completeness of the theory in regard to problems of social structure and to the treatment of the presuppositional problems of action and order. Furthermore, application of these standards will have the effect of modifying the initial judgment about the structure of the theory. In particular, certain deficiencies of content imply a lack of conceptual clarity in the theory. The remainder of this section constitutes a conceptual critique based upon these content standards.

Coleman employs the concept of system of action. I have drawn attention to his critique of Parsons, namely that the theory of action presented in *The Structure of Social Action* was abandoned in the transition to functional analysis. But Coleman (1986: 1320) errs in at least one aspect of this criticism when he argues that Parsons went to Freud for his later theory of action. In fact the Freudian element enters only into Parsons's treatment of personality systems and, in particular, with specific reference to the non-

rational element in human motivation and its relationship to the deeper levels by which human beings embody "society" (i.e., institutionalized culture). As Alexander (1988) points out, action in situations has a number of environments that correspond to the four-function paradigm. Thus, as a conceptual device for assessing Coleman's theoretical foundation for sociology, let me draw upon Parsons's four-function paradigm again. In that scheme, there are four functional aspects of a system of action that, in action evolution, lead to four types of functional subsystems: cultural systems, social systems, personality systems, and behavioral systems.

Social Elements

A general *social* theory is a theory of *social* systems. As such, it can take relevant states of the other three types of systems as exogenous, although bearing in mind interpenetration. A more specifically sociological theory gains still sharper analytical focus by addressing the problem of social integration or solidarity.

I argued earlier in this chapter that Parsons and Homans are in agreement on the most general features of this analytical conception of social and sociological theory while greatly differing in detailed specifications. Homans approaches the problem in terms of the theory of spontaneous order, with a focus on group processes in closed networks. Parsons approaches the problem in terms of a theory that aims to encompass the more complex social systems with their social-integrative and other functional aspects. Blau tried to forge a micro-macro transition path from the former to the latter. Arising out of a judgment that the micro-macro transition problem has to be approached through the methodological individualist route, Coleman's *Foundations* makes this the basic problem.

However, in doing so, Coleman does not do justice to his predecessors. In other words, he does not attempt to build on their work in an explicit way. He concentrates on foundation, but not on synthesis. In particular, the theory of spontaneous order, as set out by Homans for the small social system, is ignored. To be sure, there is some focus on the problem of social integration in the sense that it has some connection with trust in social relationships. Yet, by and large, the theoretical analysis of social structure that emerges treats it as a given resource for social action in which social relations function as social capital that actors can draw upon to attain their interests. In such an analytical context, social bonds are *given*, not emergent. Another example concerns inequality. Despite the fact that a constitution matrix is a system of distributions of control over resources, Coleman does not seem to see the linkage of his theory to the subtradition of conflict theory with its focus on inequality and its consequences for the stability or instability of a social structure. In general, then, Coleman's foundation misses opportunities to articulate the sociological rational

choice strategy to the tradition of general theoretical sociology (Fararo 1993, 1996).

Cultural Elements

Coleman's system of action is *culture-embedded* in the same sense that the economist's market has been analyzed as *social-embedded* (Granovetter 1985). I am interpreting Coleman as a theorist concentrating on the *social* dimension of action systems. Appropriately, his theory treats states of culture, states of personality, and states of behavioral or cognitive systems as exogenous terms that function as inputs or outputs to the social action system under analysis. In Chapters 4 through 8 of this book, a recurrent element of analysis was the notion of institutionalized normative culture. Norms and values come to play an intrinsic role in the equilibrium of social systems. In asserting that the constitution of a social system consists of *rights* to control, Coleman is in the spirit of this tradition. He defines norms as a species of rights. They are rights of control over an actor's action that are held by *other* actors in the system. A theoretical model as to how norms emerge is an important contribution that Coleman makes. However, the process he proposes seems to work best for conscious attempts to institute normative ideas in groups and perhaps less so for crescive cases in which, as Homans liked to put it, the "is" becomes "the ought."

Despite this treatment of the emergence of norms, the discussion of the general problem of the relation of cultural, social and personality systems is not treated in any systematic manner. For instance, once norms emerge and become part of a cultural heritage, processes of socialization lead to some level of internalization of some of these norms, as well as values. How do these internalized elements function in the generation of action? Put another way, how do internalized normative orientations relate to rational choice? Such a question, left open by Coleman, is on the agenda of contemporary sociological rational choice theory along with a surge of theoretical and empirical work on problems of cooperation, trust and the like that relate to the Durkheimian problem of social integration or solidarity and on problems relating to collective action (see, for instance, Hechter 1987; Macy 1993; Heckathorn 1996; Hechter and Kanazawa 1997).[5]

Personality Elements

Analytically, the environment of any social system includes the personality systems of members. The focal point of personality, in relation to social systems, is motivation in relation of social roles. The relation is two-way: motives are brought to any social system, but also they are shaped by participation in any such system.

In Coleman's theory, *interests* constitute the motivational elements. As indicated earlier, interests generally function in the theory as givens, but in his mathematical work, Coleman (1990: Ch. 34) logically derives beautiful

theorems that show how interests of a corporate actor can be constructed from its members' interests. However, Coleman is less lucid about another aspect of the concept of individual interest. In a general equilibrium model of a societal system, *ultimate* interests must be specified in the matrix X. These are not socialized motives that are adjusted to membership or more differentiated roles. They are universal motives that we have as human beings and that help to enable and constrain *any* social system. It is not clear from *Foundations* what these ultimate motives might be. Nor is there much clarity about ultimate resources. The analytical situation takes us back to Parsons's depiction of the structure of social action in terms of means-end chains in which there are ultimate ends (for Coleman, these would be ultimate interests) and ultimate means (for Coleman, these would be ultimate resources). These two given elements can be taken to provide the "starting conditions" for a recursive process by which social life in its institutional form is generated. But, as far as one can see from *Foundations*, the task remains to be done.

Behavioral Elements

At the behavioral level, perhaps Coleman dismissed Homans's later work too readily. He admitted (Coleman 1971; Swedberg 1990: 49) that he was influenced by Homans's 1958 paper on social behavior as exchange, but as I have mentioned earlier he rejected Homans's theoretical starting point in operant psychology. The issue goes back to the *end* element in the unit-act of *The Structure of Social Action*. Without such an element, action is not purposive. Coleman assumes that, as a form of behaviorism, operant psychology excludes this element. In my prior treatment of this problem (Fararo 1989b: 224), I suggested that a choice among actions could be interpreted as a choice among *plans* in the sense of Miller, Galanter, and Pribram (1960). Each such plan is a cybernetic entity and plans come in hierarchies with embedded sub-plans. When activated, a plan controls behavior in the sense that overt behaviors are monitored through information feedback in terms of closeness of realization of a goal that is a component of the plan. This is a conception of a hierarchy of means-end relations that corresponds to what Parsons had been discussing in his early work in the social action system context. This suggested interpretation of behavioral choice points in the direction of generative structuralism, the strategy taken up in the next chapter.

In his very last essays, Homans (1986, 1987) adamantly defended his view that standard rational choice theory is simply a special case of behavioral theory. One may note, for example, that Coleman's interests are essentially Homans's values. In Chapter 9, I came to the conclusion that Homans's theory entails a view of rationality as bounded and subjective. Hence, to the extent that sociological rational choice models depart from Coleman's idealized treatment of choices, the more such models will come

to incorporate ideas akin to those expressed in Homans's behavioral principles, especially if the latter are interpreted from a more cognitive and cybernetic point of view, as I have suggested. This will not be necessary in every context because, as Coleman indicated, our real focus as sociologists is not on the level of individual choice itself. This means that often our theoretical models of behavioral choice will be very abstract relative to the complexity that might be taken into account by psychologists. But this mode of abstraction has its dangers. In particular, it can give rise to an ad hoc casual reference to sentiments and emotions. These terms refer to elements and processes central to Homans's theorizing and, indeed, to the work of numerous recent theorists working in the area of the sociology of emotions (Kemper 1990).

CONCLUSION

Coleman has gone a certain distance forward, but there are gaps and cracks in his proposed foundations.[6] Advances in theoretical sociology that draw upon rational choice theory still need to make contact with other intellectual resources in the comprehensive tradition of sociological theory. We benefit from returning to the contributions of classical theorists such as Weber and Pareto, postclassical theorists such as Homans and Parsons as well as recent theorists,[7] both those who are critical of the rational choice approach and those who share Coleman's general orientation but attempt to deal with issues left unresolved in his work.[8]

NOTES

1. In taking this approach, Coleman may have missed a feature arising in Homans's theory, discussed in Chapter 9, that emotional behavior can become purposive.

2. For the mathematical theory of general equilibrium see Arrow and Debreu (1954) and the elegant axiomatic presentation by Debreu (1959). For an historical and critical treatment, see Ingrao and Israel (1990).

3. As indicated later in this chapter, the template also applies to cases in which events replace resources as entities under partial control by actors.

4. However, Parsons's concept refers to not only to rights but also to *obligations* defining socially responsible actions in a role relationship. If one actor's rights are another actor's obligations, one might see this as not a theoretical lapse but rather a reflection of the normative individualism embodied in Coleman's approach.

5. A strong example of such theorizing is a formal-theoretical analysis of the famous Kula Ring by Ziegler (1990) in a volume that includes a range of other examples focused on problems in institution theory. New work on all these problems is reported regularly in the journal *Rationality and Society*.

6. For other commentaries on Coleman, see Clark (1996). A conference on sociological rational choice theory, organized by Coleman and myself, led to a volume

of essays on themes of advocacy and critique (Coleman and Fararo 1992). For a more recent wide-ranging empirical and theoretical assessment of the rational choice perspective, see Zafirovski (1999).

7. For instance, working within Parsons's framework, Baum (1976) sets out a four-function family of rational choice formulations that is close in spirit to the approach I have taken toward the problem of synthesizing rational choice ideas with functional analysis (Fararo 1993).

8. The former include such theorists as Jeffrey Alexander and Randall Collins. There are a substantial number of recent theorists whose work represents the program of strengthening sociological rational choice theory in terms of increased scope, clarity, precision and the like, for instance, Abell (1989), Bonacich and Bienenstock (1995), Montgomery (1996) and, as cited earlier, Heckathorn (1996) and Macy (1993), among numerous others.

Chapter 12

The Generative Structuralist Strategy

INTRODUCTION: THE SPIRIT OF UNIFICATION

In previous chapters, I have indicated that Parsons and Homans aspired to build on the classical foundations of theoretical sociology and to do so through efforts of generalized theoretical synthesis. The four-function paradigm and the behavioral theory of spontaneous order, respectively, together constitute the postclassical culmination of these two projects. The recent phase of general theoretical sociology, as described in Chapter 1, is characterized by a diversity of theoretical projects with no one approach gaining general acceptance (Camic and Gross 1998).

One such project is that of the late Niklas Luhmann (1995 [1984]: xlv), who put the matter in the following way in the preface to his treatise on social systems, "Sociology is stuck in a theory crisis. . . . [It] has not been able to produce a unified theory for the discipline." Clearly, Luhmann believed that his system theory, incorporating advances in general system thinking and employing the methodology of functional analysis, would be a vehicle for theoretical unification. Grounded in a critical appreciation of the work of Parsons, although not that of Homans, Luhmann's system theory represents one recent approach to the problem of unified theoretical foundations. The central theoretical problem for Luhmann is complexity and the functional necessity for its reduction in all contexts. Yet in the reflexive context of his own theoretical writings, conceptual complexity may not be reduced enough for most readers.[1] What one would like to see is *derived* complexity from relatively simple starting points framed as a number of rules of recursive process that *generate* complexity (Poundstone 1985).

Part III of this book deals with two other such projects that are responsive to the felt need for greater unity in sociological theory. The two projects, which are not antithetical to each other, are similar in their advocacy of the use of formal methods in social theory. One strategy emphasizes a foundation principle and its deployment in the construction of theoretical models. The other strategy emphasizes theoretical synthesis in a mode adapted to the present situation in social theory. The two strategies are rational choice theory and generative structuralism, respectively. The previous chapter attempted to outline the logic of the rational choice strategy and to assess Coleman's version of it as a foundation for theoretical sociology.

The present chapter turns to the second strategy. A time-extended collective *process* of theoretical unification is envisioned in which the key unit of intellectual action is the *episode* that produces an integrative contribution that may enter into further such episodes in a recursive process. In terms of the strategy that implements this approach, the social world itself is interpreted as a nexus of recursive processes (Fararo 1989b). In Luhmann's terms, this is an instance of what he calls "self-reflexivity," such as communication about communication and decisions about decision-making. Generative structuralism, similarly, is based on the idea that there is a recursive process of theoretical model-building about recursive processes in the social world.

The recursive process approach to theoretical integration implies a more time-extended and less unifying process than the unification dynamic that has been so important in the history of the physical sciences. If X and Y are two theoretical structures, then in a single episode of synthesis certain components of X and certain components of Y are the entities brought into connection. But other features of X and Y may remain unconsolidated with each other. Hence, in any one integrative episode, what occurs is likely to be only a partial synthesis of the theoretical structures entering into it.

This idea of integrative episodes in a recursive process has be seen in relation to another process involved in any theoretical science, one that is quite different from and even opposite to a unification process. As Wagner and Berger (1985) show, the growth of a theoretical research program is driven by a number of processes. Adopting their analysis to the comprehensive tradition as a whole in sociology, I emphasize two of the processes, proliferation and integration, each of which I interpret as recursive.

With regard to proliferation, the image is that of the growth of differentiated branches out of an earlier, less differentiated state of an intellectual framework. Recursively, a generated branch in any given episode of proliferation itself differentiates again at a later time, yielding an unending cascade of ideas ever more remote from each other unless counteracted by integrative episodes that merge differentiated branches. With both proliferation and integration simultaneously operative, the long-run outcome re-

mains indeterminate, as one form of process may predominate over the other.

Among the conditions relevant to a more integrative state of theory are those relating to the incidence of what I have called the *spirit of unification* (Fararo 1989a). What I mean by this phrase is a cognitive value commitment not only to the production of integrative episodes but also to the promotion of intellectual conditions that encourage both the production and the understanding of such integrative efforts. This book is an implementation of this spirit.

The remainder of this chapter outlines and illustrates some of the key ideas of the strategy of generative structuralism and its relationship to the spirit of unification in theoretical sociology.[2]

GENERATIVE MODELS

Modes of Recursive Generativity

Generative structuralism emphasizes the formal representation of *recursive generativity*. Three modes of recursive generativity are distinguished (Fararo 1987b): dynamical, grammatical, and hybrid. The first mode has been discussed in a number of chapters of this book. It keynote is the formal representation of a process as transition in time from one state to another, including such notions as equilibrium states and cycles as special cases. The notion of *generative mechanism* is central to this mode of generativity. The prototypical science that employs dynamical generativity is theoretical physics, as in the set-up and solution of a system of partial differential equations. Grammatical generativity refers to the derivation of symbol structures from a set of rules describing the types of symbols and their legitimate modes of combination. The notion of *generative rule* is fundamental to this mode of generativity and linguistics is the prototypical science that employs it, as in the construction of formal models of language. Finally, the hybrid mode of generativity refers to a combination of dynamical and grammatical modes. The keynote is the formal representation of an information processing system and cognitive science is the prototypical field that employs it.

There is a natural correspondence between dynamical generativity and physical systems, grammatical generativity and cultural systems, and hybrid generativity and social action systems. Physical systems are described in terms of state variables, each indexed by time (and often spatial position), and changing over time by virtue of the postulated mechanisms. Cultural systems are described in terms of symbol structures embodying beliefs, values and the like. Grammatical rules do not describe their change over time but rather the inner logic of the system in terms of a postulated finite generative rule basis from which other symbol structures can be derived.

But how are social systems described? It is true that a social system can be treated as if its state variables are propelled along a time-path without any actions of human beings, a pure macrosocial dynamical system. However, if the social *action* system standpoint is taken, the formal representation of process shifts toward the information processing or hybrid mode of generativity. If relevant institutionalized culture is taken into account, the representation includes information processes that control the behavior of actors in a cybernetic sense by invoking cultural categories or templates that organize the perceptions and behaviors of the actors in specific types of social settings.

Generativity and Structuralism

Since the key feature in a generative process model is its recursive character, such a model generates a time-path in the form of transitions of state in the given environment, including time-variable features as inputs. However, without a common conceptual scheme and some basis for the derivation of such generative models, a scientific field would simply be a series of independently devised accounts without unifying principles. Hence, we want to be able to construct or derive the generative process models within a general theoretical framework that includes some template or mode of representation for the solution of key cognitive problems in a science. As I maintained in Chapter 1 and throughout this book, the key problems of general theoretical sociology relate to the emergence, stability, comparison, and change of social structures.

Thus, when generativity is coupled with a focus on the key problems of theoretical sociology, we arrive at a characterization of generative structuralism as *a joint commitment to the construction of generative theoretical models and to an analytical focus on social structures*. The generative component entails some representation of "cybernetic control" of the behavior of actors and so an actor-situation frame of reference, while the structuralism component entails some representation of a social action system and hence a system-environment frame of reference. Thus, generative structuralism is another version of the efforts examined in this book that combine the two frames of reference.

Example: E-state Structuralism

One example of the strategy of generative structuralism will serve to illustrate recursive generativity along with the analytical focus on social structures. Only the abstract skeleton of the formal models will be shown here, with references to the literature for readers interested in seeing the original complete treatments. The illustration begins with recursive generativity in an actor-situation framework and then incorporates the structuralist element that retains the generativity.

Some of the graduate students at Harvard during the 1950s absorbed

the value commitment to the advance of theoretical sociology when they studied with Parsons, Homans, Bales and others. Among these were the originators of a long-term theoretical research program called *expectation states theory* (Berger and Zelditch 1985). The key principle of the actor-situation framework employed in this theory is that social behavior in a situation depends upon two things: the actor's expectation state and the immediate situational features that are informational "inputs" to the actor. In principle, in the course of acting in the situation, new expectation states can emerge that come to control behavior.

From the standpoint of recursive generativity, the process skeleton of expectation states theory can be put in abstract form:

$$E(t + 1) = f[E(t); s(t)] \tag{1}$$

$$b(t) = g[E(t); s(t)] \tag{2}$$

Expression (1) says that the expectation state of the actor (hereafter also called E-state) at time $t + 1$ depends upon the prior E-state at time (or occasion) t and social information—indicated by $s(t)$—that is input and processed during that occasion. Expression (2) says that the behavior in occasion t, denoted $b(t)$, depends upon the current E-state and the social information input. The two expressions should be thought of as generating the over-time history of behavior, and the governing E-states, in the situation.[3]

An abstract representation of how the E-state at any time depends upon the initial state $E(0)$ and the series of social information processes during that occasion logically follows:

$$E(t) = h[E(0); s(0), s(1), \ldots, s(t)] \tag{3}$$

This is an abstract example of what is meant by a *generative* theoretical model and it is of the hybrid or information processing type. For instance, the expectation states theorists propose rules for combining expectations based on different positions that an actor may occupy relative to another (e.g., professional woman interacting with a blue-collar worker who is male).

In equilibrium, the E-state is reproduced over time: the generated performance expectations produce behavior that tends to confirm the expectations. This equilibrium, in terms of Equations (1) and (2), takes the form:

$$E^* = f[E^*, s(t)] \tag{4}$$

$$b(t) = g[E^*, s(t)] \tag{5}$$

I turn now to the second step in this illustration. Although the E-state model exhibits recursive generativity, it is not yet an example of generative

structuralism. In this example, the latter takes the special form of *E-state structuralism* (Fararo and Skvoretz 1986a; Skvoretz and Fararo 1996b). This is a merger of the recursive generativity of the E-state process with the structural concept of social network.

In E-state structuralism, we have a coupling of all the E-state processes of a system of actors. Hence, formally, the E-state expressions now refer to a *matrix* of E-states of each actor vis-à-vis the others. The corresponding social behaviors of the actors are evolving in the situation under the control of these states that, in turn, are co-evolving in that situation. In equilibrium, the stabilized expectation states generate a *pattern of interpersonal behavior* that tends to reproduce those states.

The first application of E-state structuralism applied this theoretical method to the theoretical problem of generating hierarchy in animal interactions (Fararo and Skvoretz 1986a). The theoretical model featured a bystander mechanism in which the generative mechanism includes the formation of expectation states not only through direct encounters but also through the observation of a dominance encounter. A later application of the method drew upon other work in the expectation states theory program to synthesize a theoretical model that generated the pattern of differential participation in discussion groups, incorporating both the effects of generalized expectations associated with given statuses of the actors and also emergent expectations based on contributions to discussion (Skvoretz and Fararo 1996b).

Let me summarize how E-state structuralism illustrates my earlier remarks on episodes of theoretical integration and on generative structuralism. The construction of the theoretical method of E-state structuralism drew upon two paradigms in contemporary theoretical sociology. It was a partial synthesis, integrating core components from each paradigm. From the expectation states theory program it took the core concept of E-states as co-evolving with and ultimately controlling the flow of social behavior in a situation. From the social networks paradigm, it took the core concept of a social structure as a network of relations among actors. E-state structuralism is a theoretical method that generates the over-time matrix of such relations among actors and their corresponding social actions toward each other. In doing so, it implies that a social relation is a set of stabilized relational expectation states and includes an analytical distinction between such a stable relation and the flux of observable action. It is a specific realization of the strategy of generative structuralism.

Habitus as a Generative Construct

The concept of habitus (Bourdieu 1990a) has captured the attention of numerous sociologists and I have referred to it in a number of contexts in this study. At this point, I want to show how it can be related to the idea

of recursive generativity. The key idea is that individuals are socialized at particular locations in social space (described as a "field") and hence acquire a generalized form of disposition called a *habitus*. In one of his discussions of this concept, which we must remember is not an observable but a construct invented to serve explanatory aims, Bourdieu (1990a: 53) explicates it as follows:

The conditionings associated with a particular class of conditions of existence produce habitus, systems of durable, transposable dispositions, structured structures predisposed to function as structuring structures, that is, as principles which *generate and organize practices and representations* that can be objectively adapted to their outcomes without presupposing a conscious aiming at ends or an express mastery of the operations necessary in order to attain them. (Emphasis added)

Note how Bourdieu, influenced by the notion of generativity in linguistics, endows the concept with a generative aspect. However, nowhere in his work is there a formal model incorporating recursive generativity. In a recent paper (Fararo and Butts 1999), it has been argued that the logic of habitus is the same as the logic of E-states in expressions (1)–(5) under the correspondence:

> E-state ——— H-state
> Situation ——— Field
> Behavior ——— Practice

First, each actor is characterized in terms of an H-state, habitus. This is a dispositional construct that is analogous to an E-state in its theoretical logic. It is intended to explain observable social practices in varying contexts. Second, each actor is treated as embedded in a field, analogous to a situation in the E-state context; the actor occupies a given position analogous to a status or complex of statuses in the E-state context. Third, practice is analogous to social behavior in the E-state context: it is a function not just of habitus but also the state of the field. Finally, a stabilized H-state elicits practices that tend to confirm and reproduce that state of habitus, given the field.

Bourdieu (1990b: 116) defends his use of the habitus concept and in doing so, implicitly sums up this proposed correspondence that provides an interpretation of the concept that emphasizes recursive generativity:

On the "durability" of habitus and the charge of "determinism" which goes with it. First, habitus realizes itself, becomes active only *in the relation to* [emphasis in original] a field, and the same habitus can lead to very different practices and stances depending on the state of the field [expressions (1) and (2)] . . . Secondly, habitus, as the product of social conditionings, and thus of a history . . . is endlessly

transformed either in a direction that reinforces it [expressions (4) and (5)] . . . or in a direction that transforms it . . . [expression (3)].

These remarks indicate the second of the two aspects of the spirit of unification that were noted earlier. The first aspect pertains to the actual occurrence of integrative episodes, illustrated here by the construction of E-state structuralism. The second aspect pertains to other kinds of efforts that serve to encourage the production of such episodes. This seems to be the best way to think about the above correspondence between habitus-in-field and expectation-in-situation. It would be too strong a claim to assert that the core explanatory mechanisms of the two theories—pertaining to expectation states and habitus, respectively—have been synthesized. Instead, the isomorphism suggests the possibility that further formal efforts may produce a partial synthesis.

Readers of Bourdieu will be aware that there is a second aspect of habitus that pertains to "representations" or perceptions rather than practices. For instance, one relevant empirical generalization is that the actor's representation of the social space depends upon position in that space (Bourdieu 1989). In Fararo and Butts (1999) it is shown in detail that previous work on the generation of images of stratification has a parallel logic to this aspect of habitus (Fararo 1973: Ch. 12; Kosaka and Fararo 1991; Fararo and Kosaka 1992). The basic theorem demonstrated in that work corresponds to Bourdieu's empirical generalization. Hence, its theoretical premises, which set out a recursive generative process, serve to explain that generalization. In addition, one theoretical problem treated in this work on images relates to the status of the sociological image (i.e., the claim that somehow the sociologist has a privileged image). The treatment of this issue in formal theoretical terms relates to, although it is not identical with, "reflexive sociology" in the sense of Bourdieu and Wacquant (1992).

GENERATING INSTITUTIONALIZED SOCIAL ACTION

Orientation to the Problem

Another example will illustrate the strategy of generative structuralism in the context of the formal analysis of institutional structures in social action systems. The sociological aspect of the focus on institutional structure has its roots in the ideas of Parsons, as discussed in prior chapters, as well as the writings of Nadel (1951, 1957) and Berger and Luckmann (1966). Nadel conceptualizes institutions as standardized if-then situations, while Berger and Luckmann define them as schemes of typification, drawing upon Schutz (1973). Of course, for Parsons, relational institutions constitute the very core of social structure and enter into the control of action in the cybernetic sense. The problem is to synthesize and embed these di-

verse intuitive ideas about institutions in a formal model. The formal mode of representation that is employed has its roots in earlier developments in structuralism, general systems thinking, and cognitive science, including developments in cognitive psychology, cognitive anthropology, and artificial intelligence.[4]

The starting point is the cybernetic idea that cognition and behavior are components of a control process in the sense set out by Miller, Galanter, and Pribram (1960) in terms of the concept of a *plan* as a negative-feedback processual unit with two functional components: a comparison (or test) and an operation. Plans come in hierarchies and this is analogous to the means-end structure of action in Parsons's initial theory.[5]

In a major substantive work on human problem solving Newell and Simon (1972) show that plans can be treated in terms of a theory of *production systems*. This is a cognitive science notion, not a concept of economics. The key entity is called a production rule and takes the form of an if-then situated action rule: IF such-and-such situational conditions and goals, then ACTION. With standardization, this embeds the Nadel concept of institution in the formal representation. Production rules have various key aspects (Anderson, 1993: 31), the most important of which for the present discussion is that they have generality by virtue of containing variables. Such variables, in our use of the formalism, are elements of a scheme of typification. This captures the Berger and Luckmann concept of institution in the formal representation. Finally, a production system is a model of information processing by actors in situations and, as such, is a direct representation of the cybernetic idea of information and control in living systems. This embeds part of Parsons's conception of institutions in the formal model.

Unit-Institution Models

The reality of social institutions is highly complex and some strategy of initial simplicity with later extensions to complex cases is called for.[6] Thus, the formal work begins with the concept of *unit-institution model* (Fararo and Skvoretz 1984). Parallel to the unit-act in Parsons (see Chapter 4), the unit-institution is a simple structure relative to larger institutional structures that are complexes of unit-institutions. Yet it incorporates the three essential features of an institution: standardized if-then situations, schemes of typification, and cybernetic control through information processing.

A unit-institution model is a set of postulated production subsystems called *rolegrams* that are distributed among actors such that when each rolegram is in control of conduct what is recursively generated is some *normal form of institutionalized social interaction*. The distributive aspect marks the difference from language, since each actor need not have the same production rules, reflecting social differentiation. For instance, in a

model of a trial, the scheme of typification will include <judge>, <jury>, <attorney for defense> and the like. The if-then rules will make actions by these actors highly contingent on situational conditions during the course of the trial. For instance, the jury does not announce its <verdict> at the outset of the trial but at a point in it that is marked out by certain standardized conditions. However, the analytical focus is not on the particular actors involved in such situations but rather on the patterning of temporal connectivity within and among arising situations that all are embedded within the same social setting in terms of institutional definitions.

A complete model of this type includes both a social action space and a distributed production system (Fararo and Skvoretz 1986b). The space component defines the entities comprising an institution as types of objects in the situation of the actors. For each type of social object in the space there is a corresponding rolegram in the production system. For instance, there is not just the social object <judge>, but also some rolegram JUDGE that enables the actor who has internalized it to produce actions appropriately contingent on the flow of situational conditions. Since other actors will expect such actions to be contingent in standardized ways, it follows that a sufficient degree of match between the rolegram, call it ROLE, and the actor assigned to <role>, such as JUDGE and <judge>, is a necessary condition for the stability of a unit-institution, a statement that parallels the Matching Principle of Chapter 6. A particular person who has internalized ROLE will have a "habit of choice"—or rather a whole structured system of such habits—that correspond with role expectations held in the social action system for someone assigned to <role>.

Connections with Other Theories

Symbolic Interaction and Phenomenology

Rolegrams "fit together" to produce "joint action" (Blumer 1969; Skvoretz and Fararo 1996a). Note that, just as one has language competence but can refuse to speak or speak ungrammatically for whatever reason, anyone can "disturb the peace" by failing to activate ROLE when identified as an instance of <role>. Thus, social order is problematic in theory, although for most actors in most occasions, there is no problem from a phenomenological standpoint. That is, they simply go about their routine social behavior. This is one lesson that Garfinkel (1967) taught when he asked people to undertake "breaching experiments" that upset the mundane, taken-for-granted character of ordinary social activities. Similarly, Goffman (1967: 2) notes that "the proper study of interaction is not the individual and his psychology, but rather the syntactical relations among the acts of different persons mutually present to one another." Thus, there can be a focus on the syntax of action systems at various levels and the

approach taken here complements some other efforts focused in his way on the grammar of action and interaction (Abell 1987; Collins 1988: 333, Appendix B; Heise 1989; Bainbridge et al. 1994; Abbott 1995; Ruef 1997).

Structuration Theory

This formal representation of institutionalized social action also has a conceptual correspondence with some of the key ideas in the structuration theory of Giddens (1984) as discussed elsewhere (Fararo 1989b: Sect. 3.4.2; Fararo and Butts 1999). Giddens defines structure as consisting of rules and resources and then asserts that structure exists, on the one hand, as memory traces and, on the other, in instantiations. This duality corresponds to rolegrams comprising a unit-institution. The distributed rolegrams are stored in the memories of actors and when triggered into control of behavior, they jointly generate normal forms of social interaction, Giddens's instantiations.

Bourdieu's Logic of Practice

Bourdieu (1977) has emphasized that what he calls the logic of practice is not a matter of following rules that an analyst might postulate. At first glance, the conception of institutionalized social action as generated by systems of production rules seems inconsistent with the logic of practice. However, I believe that this is not the case. In terms of Bourdieu's discussion of rules (Bourdieu 1977: 27), a production system is *a theoretical model of a scheme immanent in practice*. A detailed analysis of the correspondence between Bourdieu's conception of the logic of practice and the formal analysis of institutionalized social action in terms of production systems is presented elsewhere (Fararo and Butts 1999), but one additional point needs to be added. Among other aspects of habitus, what Bourdieu emphasizes is that it enables improvisation. It may seem that a system of production rules is the very antithesis of improvisation, but this would not allow for the generality of typification-variables incorporated into the model. For instance, the if-then rule may call for an action that is sufficiently general to allow an actor considerable judgment and strategic calculation in its implementation. Then, in one and the same occasion, a routine institutionalized action occurs *and* some improvisation that realizes it in some particular way.

For instance, the action may simply be that, in the given situation, a decision is called for. To produce such a decision, the actor may call upon stored experience of analogous situations in which the actor observed (or undertook) some sequence of acts that produced an analogous decision. But this stored experience can be represented by an appropriate *personal* production system which is no part of any institution but which the actor can deploy as part of an improvised procedure for making a decision.

In this and similar ways, the production system mode of model-building

is flexible enough to encompass actions that are at once socially responsible in their institutional aspect and yet improvised in the mode of their fulfillment by personal procedures or styles, including expressive aspects that Goffman (1967) analyzed under the category of interaction ritual (Skvoretz and Fararo 1996a). Finally, some purely local knowledge can be represented in declarative form as well as in related production rules, both emerging out of social interaction in particular contexts by particular actors.[7]

The Theory of Spontaneous Order

How might this production system representation of institutions relate to the key problems of social structure? In the unit-institution models, the institutional structure is treated as given and fixed. But we can go on to ask Sewell's (1992) question: How do such structures change? And there is another, similar question: How do novel institutional structures, represented as production systems, emerge in social interaction?

One treatment of the latter problem (Skvoretz and Fararo 1995) employs two core principles of the behavioral theory of spontaneous order set out in Chapter 9: behavior is a function of its payoffs and interaction is exchange. The third core principle, concerning methodology, is also employed: the initial model concerns a relatively simple case in which the rolegrams contain only a few production rules to be generated. Where the approach differs from that of Homans is in the use of formal and computational methods—in this case those dealing with the evolution of rules in a population of interacting adaptive agents (Holland 1975; Axelrod 1987).[8]

The remainder of this chapter returns to the theme of unification as a collective recursive process. The objective is to sketch a few prospective episodes of integrative theorizing based upon the advantages conferred on a theoretical structure when it can deploy a flexible theory template to a variety of distinct contents.

THEORY TEMPLATES AND THE SPIRIT OF UNIFICATION

Resources or Forms of Capital

Production rules generate a type of action when the actor's knowledge state instantiates the type of situation (and no other or higher priority rule does so). But actions are of various sorts, and instrumental actions depend upon control over certain facilities if they are to count as instances of an action of a given institutional type. The type of the facility or resource is conceptual, but the instantiation is not. For instance, a particular physical structure will be defined and treated as an instance of <factory>. The actual factory is a physical object but the category <factory> is schema,

to use the terminology of Sewell (1992). Such typified forms of objects are components of broader schemes of typification that are readily incorporated into unit-institution models. Resources, of course, are key components in a variety of social theories. Both Giddens and Bourdieu make them central to their conceptual schemes, where Bourdieu calls them forms of capital. In his analyses, there are various forms of capital that, as distributed among actors, are implicated in competitive struggles that characterize various fields.

In the spirit of unification, let me take note of how this concept of forms of capital can be related to two theory templates encountered earlier in this book. On the one hand, it can be linked to Parsons's four-function paradigm; on the other hand, it can be articulated to Coleman's general equilibrium theory template. I briefly consider each in turn.

Parsons and Bourdieu

Recall that the four-function paradigm, as applied to a general action system (Chapter 8), includes the integrative (I) function problem. This refers to the coordination and cooperation aspects of the linkage of the actions of multiple actors. In one aspect, institutions are solutions to such integrative problems. Then when the conceptual scheme is applied to a complex system of institutionalized social action, four functional subsystems are identified: economy (IA), polity (IG), community (II), and fiduciary system (IL). For each of these, we can tentatively indicate a form of capital (Bourdieu) and a corresponding symbolic medium (Parsons):

- Economic capital and money (IA)
- Political capital and power (IG)
- Social capital and influence (II)
- Cultural capital and value commitments (IL)

Economic capital consists of an allocation of wealth and income, expressed in monetary terms; political capital is given by an allocation of power; and social capital is given by an allocation of influence based on prestige or reputation, and draws upon ties in social networks. Cultural capital, competence to produce or consume cultural products, is acquired in socialization, and this does suggest a close linkage to the fiduciary system, which, in Parsons's analysis, includes education. However, the linkage to the symbolic medium is not as clear in this case as in the others. In short, the correspondence is not perfect, but it is fairly close.

We might be able to extend this correspondence to the general action system in which the social system is embedded. It is useful to use the cy-

bernetic order of control discussed earlier (Chapter 8) in the following form:

L: Cultural processes: codes and generative rules
I: (Social processes (social field)
   IL: Educational processes and cultural capital
   II: Community processes and social capital
   IG: Political processes and political capital
   IA: Economic processes and economic capital
G: Personality processes: dispositions (habitus)
A: Cognitive processes: representations (habitus)

Note that the educational process (IL) transmits the cultural heritage, analyzed in terms of cultural codes (L). We have seen earlier in this chapter that Bourdieu presupposes the equilibration of dispositions and cognitive representations (habitus) to an actor's position in the field or social system (I). In this sense, the social system is taken as given and controlling relative to the formation of the habitus, corresponding to Parsons's cybernetic control ordering.

The category of *symbolic capital* is also employed by Bourdieu and refers to the legitimation function of cultural capital. For instance, in the context of an empirical study of the field of production of fiction, Anheier, Gerhards, and Romo (1995: 890) point out that there is a small elite group of writers (in the site of their study) and these writers "are not only producers but also judges of literature." That is, their standards are those that determine whether a work of fiction is on one side or the other of the boundary separating literature from popular fiction and if literature, how it is evaluated in this core of the network of literature producers. This aspect of the functioning of cultural capital may correspond to an aspect of interchange in the four-function model of social systems, namely the linkage between fiduciary and political processes.

In relating habitus and field, Bourdieu (1990b) writes:

Habitus . . . becomes effective and operative when it encounters the conditions of its effectiveness, that is, conditions identical or analogous to those of which it is the product. It becomes the generator of practices, immediately adjusted to the present . . . when it encounters a space proposing, in the guise of objective opportunities, what it already bears within itself as a *propensity* . . . as a disposition. . . . In this case, agents merely need to let themselves follow their own 'nature,' that is, what history has made of them, to be as it were 'naturally,' adjusted to the historical world they are up against (p. 90). . . . This means that a field can function only if it can find individuals who are socially predisposed to behave as responsible agents. (p. 194)

This statement is a close resemblance to the Matching Principle stated in Chapter 6: The stability of a social structure depends upon the degree of matching between need-dispositions of actors ("habits of choice") and role expectations that apply to them in their positions in that structure: the greater the matching, the greater the stability. Bourdieu is presuming a stable or socially reproductive case and asserting a match between the dispositions of habitus and the expectations associated with a position in the social structure. There is one difference, however. Bourdieu treats "position" in terms of volume and composition of controlled resources, while the Matching Principle refers to a bundle of status-roles, a position in a field of concrete social relations. Put another way, Bourdieu takes for granted the form and stability of relational institutions, just as they are largely taken for granted by the actors, at least in the stable cases.

Coleman and Bourdieu

Resources have differential value in a social action system. This takes us back to Coleman's theoretical template involving actors and resources (Chapter 11). Recall that Coleman proposes two matrices for the analysis of a social action system in general equilibrium terms. In Bourdieu's terms, the constitution matrix relates actors to forms of capital, showing the degree of control over each held by each actor. The interest matrix indicates for each actor, the degree of interest of that actor in a given form of capital. In equilibrium, the initial form of the constitution matrix is transformed into another form, one that results from an exchange process. At that point, Coleman calculates the implied power of each actor and the implied value of each form of capital. Recall that in this analysis, the interests are exogenously given. By contrast, Bourdieu's analysis emphasizes that interests are socially constructed rather than given. Habitus, a social product, is inclusive of such interest. He is thinking of interests, in his generalization of Marx's theory, as associated with position in social space, hence class interests.

To sketch a recursive process that is a partial synthesis of ideas drawn from Coleman and Bourdieu, we start from Coleman's initial condition, but with the interpretation of the interests as universal human needs that can be taken as given for sociological purposes. These will be socially shaped into need-dispositions. Parsons and Shils (1951) had postulated such things as need for approval and need for love, for instance. The former corresponds to Homans's category of social approval as the fundamental generalized reinforcer operative in social life. Then the constitution matrix is some pattern of initial resource control—and it is not clear what this should be. (Perhaps for general theory, it could be left in forms of variables that are not assigned values.) The general equilibrium yields a transformation of the constitution matrix and a distribution of power and value,

over actors and resources, respectively. The constitution matrix could be said to correspond to the field. If x and y are amounts of economic and cultural resources, respectively, then the ratio x/y is the relative composition of capital that forms one dimension of Bourdieu's usual two-dimensional representation of a field. The second dimension is what Bourdieu calls "total volume of capital," an obscure concept that presupposes distinct forms of capital can be added. The concept can be upgraded by interpreting it in terms of Coleman's concept of power, a single term for each actor that represents a weighted sum of controlled resources. This yields the vertical dimension of the field.

The next step in the sketch is a mechanism that generates position-dependent interests, now that each actor is assigned a position in the field both in terms of volume and composition of capital. Namely, the members of the next generation of actors learn modes of orientation that are adjusted to the position in the field at which their parents are located. In other words, each member of the new generation acquires a habitus state, a system of need-dispositions. Those in a similar position (social class) will acquire a similar habitus, enabling us to speak of a class habitus. At this point, these are the basis of class interests that are endogenous. Somewhat in the spirit of the theory of spontaneous order in Homans's later work (Chapter 10), this procedure, if continued, would recursively generate a system of inequality and it social reproduction.

Theory Templates Revisited

The previous two sections have sketched some ideas about how resources or forms of capital, as articulated especially by Bourdieu but also by Giddens as a key aspect of social structure, can be articulated to two theory templates, the four-function paradigm of Parsons and the general social equilibrium template of Coleman. The integrative thrust of this work could be furthered through an articulation of these two theory templates that is responsive to neofunctionalist criticisms of Coleman's foundation project.[9] A first step along these lines has been taken (Fararo 1993). The integrative aim is to create a conceptual and formal articulation of the four-function paradigm and the general equilibrium template. The aspiration is to establish a partial synthesis in which the complementary strengths of each framework are retained but the weakness of each is offset through the integration with the other. Parsons's framework is weak in respect to certain aspects (e.g., deductive fertility) where Coleman's theory is strong. Similarly, Coleman's theory is weak in certain respects (the articulation of culture and social system), where Parsons's theory is strong.

One general point about such an effort calls for further discussion in the context of this book. Namely, major figures in the history of theoretical sociology were involved in a common enterprise, namely the generalization

of economic theory. Clearly, among the classics, this is true of Pareto and, in a different way, Weber. Certainly it is true of Parsons and Homans. We have seen earlier that Parsons treats economic theory as a special case of general action theory in the context of the four-function paradigm (as discussed in Chapter 7). We also have seen how Homans employed a generalized profit concept, along with the notion that actors strive to improve their profits (Chapter 9) and how he also argued that economic theory is a special case of behavioral theory. Bourdieu, like Parsons and Homans, generalizes the economic mode of thought without retention of optimization as an idealizing theoretical method, although he writes of "uncalculated strategies" in a way that is suggestive of the tacit operation of a principle of attempting to maximize self-interest. Coleman, because of his greater commitment to deductive theorizing, tries to work with the mathematical apparatus of economic theory in terms of its optimization techniques, recognizing the element of idealization in doing so.

CONCLUSION

The general idea of this chapter was to illustrate a strategy of theoretical synthesis in which the keynote theme is unification through recursive episodes of partial synthesis. Even short of actual synthesis, other efforts undertaken in the spirit of unification can be productive in terms of recognizing and encouraging integrative episodes.

I characterized general structuralism as a strategy that combined a focus on social structure with the construction of generative models featuring recursive generativity. The strategy was illustrated in terms of E-state structuralism, a synthesis of the core concept of expectation states theory with the social network representation of social structure. Recursive generativity in this context means that the patterning of relations among actors coevolves with their observable interactions and that, in equilibrium, a definite set of social relations constituting a structure emerges and controls further interaction.

The next step taken was to argue that the habitus concept in Bourdieu's work has a theoretical logic that corresponds to that of the expectation concept in the context of E-state structuralism. While not itself an integration of components of the two theoretical structures, the indicated isomorphism serves to explicate the generativity that Bourdieu emphasizes and to encourage efforts of (partial) theoretical synthesis of the theories.

A second form of generative structuralism treated in this chapter dealt with the conception of institutions as production systems. The sociology and the formal work are synthesizing with respect to at least three distinct ideas about institutions: that they involve standardized if-then situations (Nadel), that they are schemes of typification (Berger and Luckmann), and that they are control structures in the cybernetic sense (Parsons). I argued

that this kind of formal representation relates rather well to a variety of contemporary developments in sociological theory.[10]

In discussing resources, I tried to show how Bourdieu's conceptual scheme could be related to two theory templates discussed earlier in this book, namely the four-function paradigm and the general social equilibrium template. Finally, I noted an item on the agenda for further theory development in the spirit of unification, namely the partial synthesis of these two paradigms, only referring the reader to a published first effort in this direction.

The approach set out in this book is a contribution to the continuation and advancement of what Levine (1995) calls *the synthetic narrative* as a vision, but not the only one, of the sociological tradition. In the first part of this book, in the spirit of unification, I interpreted the classical foundations of sociology as variant modes of specification of a common process worldview. But this worldview is too general to constitute the unity of a science. Thus, the classical foundations posed a problem to which post-classical theorists responded by framing and implementing the aspiration of generalized synthesis. In the second part of the book, I explicated and assessed the analytical frameworks of Homans and Parsons, noting both similarities and differences in their pursuit of this common intellectual goal. Today the four-function paradigm and the behavioral theory of spontaneous order are only two of the varied general theoretical structures in our field. In the final part of the book, I discussed sociological rational choice theory and generative structuralism as two recent strategies that employ formal methods in the most recent phase of general theoretical sociology.

NOTES

1. This is by no means a dismissal of the erudite conceptual thought of Luhmann. The ideas he employs, with connections to Whitehead and Parsons, are very attractive to one like myself who appreciates general systems thinking and its application in sociology.

2. For a recent introductory presentation of the background, key ideas, and empirical research in three integrative programs of formal theorizing, see Fararo and Skvoretz (forthcoming). One of these is a formal macrostructural theory with a network aspect, also discussed in Fararo (1989b: Ch. 4). In addition, we have initiated some integrative episodes that are less time-extended but also illustrate the spirit of unification in theoretical sociology. One of these is responsive to calls for theoretical integration in the field of deviance and social control (Messner, Krohn, and Liska 1989). The formal theory combines rational choice axioms with a self-other Meadian process linked to formal balance-theoretic mechanism that was later the basis for a simulation study (Fararo and Skvoretz 1997; Hummon and Fararo 1995a). Skvoretz and Fararo (1992) provide a critical overview of various network exchange theories and explore embedding this work under the umbrella of the Coleman general equilibrium template, while Fararo and Skvoretz (1993) pursue

integrative applications of a Homans-type principle of bounded rational action in the context of group process theories.

3. In specific mathematical models the apparent determinism of these expressions is implemented using probabilistic concepts so that the process is stochastic, meaning that a high level of situational contingency and uncertainty is built into the models while at the same time they are subject to experimental testing. For instance, the expectation states theory program includes a standard experimental situation in which over-time acceptance of social influence can be measured and related to hypothesized processes of performance expectation states that may be shaped, via a self-fulfilling element, by given generalized expectations associated with differential statuses (e.g., men and women, whites and blacks, and so forth).

4. See the 1984 paper "Institutions as Production Systems" by Fararo and Skvoretz for a discussion of the formal background elements and the sociological background. For more on sociological roots and their formalization, see the 1980 paper by Skvoretz, Fararo and Axten and the 1989 paper "Action Structures and Sociological Action Theory" by Skvoretz and Fararo.

5. There also may be a conceptual connection between the plan concept and the idea of an intelligent behavioral system put forth by Lidz and Lidz (1976) in their effort to bring the psychology of Piaget into the four-function paradigm.

6. For extended discussions of the institution concept employed here, which encompasses all scales of social life, see the Fararo-Skvoretz papers, "Institutions as Production Systems" and "Action and Institution, Network and Function." For a conceptual analysis of this and related concepts in the core of what has been called "the new institutionalism" in sociology see Jepperson (1991).

7. This corresponds to the dimension of local knowledge to which Tilly (1998: Ch. 2) has drawn attention.

8. These methods are a key part of the growing body of literature dealing with the emergence of complexity through the use of mathematical and computational methods. Other examples of such work treating the emergence of order include Kauffman (1993) and Watts (1999). Recently, Klüver (2000) has taken up the important task of relating these new developments to key problems in theoretical sociology.

9. For example, Lechner (1990) and Alexander (1991).

10. Not all such connections have been explored in this chapter. In particular, there is a connection with the social network paradigm that is set out in Fararo and Skvoretz (1986b). The approach of generative structuralism, with its roots in Whiteheadian notions of relational process, also connects with recent efforts to emphasize the theoretical side of network thinking (e.g., Emirbayer 1997).

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