1   The analytical tradition in sociology

Over the past several decades leading sociologists in Europe and in the United States have expressed strong reservations about the explanatory power of sociological theory and research (e.g. Abbott 1998; Boudon 2002; Coleman 1986b; Sørensen 1998). They are concerned that much sociological theory has evolved into a form of metatheorizing without any specific empirical referents, and that much empirical sociological research has developed into a rather shallow form of variable analysis with only limited explanatory power.[1] The main message of this book is that a path must be hewn between the eclectic empiricism of variable-based sociology and the often vacuous writings of the 'grand' social theorists.[2]

This approach to sociological theorizing and research, which I refer to as 'analytical sociology', seeks to explain complex social processes by carefully dissecting them and then bringing into focus their most important constituent components. The approach focuses on traditional sociological concerns but uses explanatory strategies more often found in analytical philosophy and behavioural economics. It is an approach that seeks precise, abstract, realistic and action-based explanations for various social phenomena.

As a general road map to this book, in this introductory chapter I give a brief overview of the approach adopted. The overview is organized under the following four headings:

- Explanation
- Dissection and abstraction
- Precision and clarity
- Action

[1] See also the various contributions in Hedström and Swedberg (1998a).
[2] I do not pay much attention to the 'grand' social theorists in this book. The secondary literature on these scholars is, in my view, already far too voluminous, and they do not have much to contribute to the agenda of analytical sociology. I return to the problems posed by variable-based sociology in chapters 2 and 5, however.

I will define the distinctive features of the approach in these terms. In addition, at the end of this chapter I situate it intellectually by briefly discussing the works of some of the most important contemporary contributors to the tradition.

Explanation

Analytical sociology focuses on explanation. Unlike descriptions, which typically seek answers to 'what' questions, explanations provide answers to 'why' questions. Explanations account for why events happen, why something changes over time or why states or events co-vary in time or space. As will be noted in chapter 2, there is no general agreement on what an acceptable explanation should look like. Many sociologists set an equals sign between explanations and predictive accuracy, for example, while many philosophers take the position that an acceptable explanation consists in subsuming the event to be explained under a general causal law.

The purpose of this book is to describe and discuss the logic of an explanatory strategy. Consequently, the notion of what an appropriate explanation should look like is at the very core of the enterprise. Once we have decided what we should aim for, much of the rest will follow. Had I, for instance, subscribed to the notion that appropriate explanations specify factors that seem to make a difference to the probability of observing the events to be explained, as Salmon (1971) and many statistically oriented sociologists do, this book would have looked very different. The position taken here, rather, is that mechanism-based explanations are the most appropriate type of explanation for the social sciences. The core idea behind the mechanism approach is that we explain a social phenomenon by referring to a constellation of entities and activities, typically actors and their actions, that are linked to one another in such a way that they regularly bring about the type of phenomenon we seek to explain.

Dissection and abstraction

As the title of this book indicates, one important characteristic of the analytical approach is that it aims to gain understanding by dissecting the social phenomena to be explained. To dissect, as the term is used here, is to decompose a complex totality into its constituent entities and activities and then to bring into focus what is believed to be its most essential elements. When focusing on what is believed to be particularly important for the problem at hand, we abstract from, or move out of

focus, those elements believed to be of lesser importance. In this sense, dissection and abstraction are two aspects of the same activity, and they are core components of the analytical approach. It is through dissection and abstraction that the important cogs and wheels of social processes are made visible and intelligible.

In certain areas of the social sciences, most notably in economics, there is general agreement on the importance of abstract theories. But in these areas one also often finds rather instrumental attitudes towards theories: theoretical assumptions are often seen as mere instruments that can be freely tinkered with until one arrives at simple and elegant models. An important theme of this book is that one should resist such fictionalist temptations. An explanatory theory must refer to the actual mechanisms at work, not to those that could have been at work in a fictional world invented by the theorist.

In *The Structure of Social Action* (1937), Talcott Parsons likewise stressed the importance of making a clear distinction between abstractions and fictions. The methodological position he arrived at after analyzing the writings of Marshall, Pareto, Durkheim and Weber he termed 'analytical realism':

> the general concepts of science are not fictional but adequately 'grasp' aspects of the objective external world . . . Hence, the position here taken is, in an epistemological sense, realistic. At the same time it avoids the objectionable implications of an empiricist realism. The concepts correspond, not to concrete phenomena, but to elements in them which are analytically separable from other elements . . . Hence it is necessary to qualify the term realism with 'analytical'. (Parsons 1937: 730)

Developing explanatory theory involves a delicate balance between realism and abstraction. Although it is difficult to specify a priori what should be considered a sufficiently faithful representation of a social process, the question is of fundamental importance. Explanatory theories can never be based on fictitious accounts, because such accounts cannot provide convincing answers to the question of why we observe what we observe. What must be aimed for is 'analytical realism' in Parsons' sense of the term.[3]

Precision and clarity

The quest for precision and clarity also characterizes the analytical approach. If it is not perfectly clear what a given theory or theorist is

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[3] I return to the relationship between abstraction, realism and explanation in chapter 2, when discussing theories of explanations, and in chapter 3, when discussing instrumentalist tendencies within rational-choice theory.

trying to say, how can we then possibly understand and assess the potential merits of the theory being proposed? On an even more fundamental level, the purpose of theorizing, it seems to me, should always be to clarify matters, to make the complex and seemingly obscure clear and understandable. But if the theory itself lacks clarity, this goal cannot be attained.

My favourite example of a mystifying statement is the following, in which Pierre Bourdieu tries explicitly to define his master concept of *habitus*. According to Bourdieu (1990: 53), habitus should be understood as

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. Objectively 'regulated' and 'regular' without being in any way the product of obedience to rules, they can be collectively orchestrated without being the product of the organizing action of a conductor.

Ambiguous definitions like this are like mental clouds that mystify rather than clarify. From an explanatory point of view, they are clearly unsatisfactory. It seems as if Bourdieu is trying to say that individuals often behave in habitual ways without consciously reflecting upon what they are doing, and that individuals who occupy similar positions in some abstractly defined social space tend to behave in similar ways; but I must admit that I am not entirely sure whether this interpretation is correct. Nevertheless, the main point I wish to make is that his statement lacks clarity and precision. Not only is it unclear what *habitus* actually refers to, it is also unclear why he believes that *habitus,* whatever it is, operates the way it does. If we want to propose that one phenomenon partly or fully explains another, ambiguous statements like these are unacceptable. At least, it must be clear what phenomena we are referring to and how we believe they are interrelated.

Clarity, in the sense of precision, is important for a slightly different reason as well. As is discussed in later chapters, small and seemingly insignificant differences or events can sometimes make a huge difference to the processes we are trying to explain. If our concepts and theories are not sufficiently precise to pick up on such differences, they are not capable of explaining why we observe what we observe. For these various reasons clarity, precision and fine-grained distinctions are of crucial importance for the development of explanatory theory.

Action

When a complex totality is decomposed into its constituent components, the type of problem being analyzed will obviously dictate which entities and activities are considered important. In sociological inquiries, however, the core entity always tends to be the actors in the social system being analyzed, and the core activity tends to be the actions of these actors. Through their actions actors make society 'tick', and without their actions social processes would come to a halt. Theories of action are therefore of fundamental importance for explanatory sociological theories and, as is discussed at great length in later chapters, we can understand why actors do what they do if we assume that their behaviour is endowed with meaning, that is, that there is an intention explaining why they do what they do.[4]

To understand why actors do what they do is not sufficient, however; we must also seek to explain why, acting as they do, they bring about the social outcomes they do. Sociology as a discipline is not concerned with explaining the actions of single individuals. The focus on actions is merely an intermediate step in an explanatory strategy that seeks to understand change at a social level. As the term is used here, the *social* refers to collective properties that are not definable by reference to any single member of the collectivity. Important examples of such properties include:[5]

- typical actions, beliefs or desires among the members of the collectivity
- distributions and aggregate patterns such as spatial distributions and inequalities
- topologies of networks that describe relationships between the members of the collectivity
- informal rules or social norms that constrain the actions of the members of the collectivity

Since changes in such social properties must be either intended or unintended outcomes of individuals' actions – how else could they possibly be brought about? – they should be analyzed as such. But the structure of social interaction, that is, who interacts with whom, is of

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[4] To avoid possible misunderstandings, it should be pointed out at the outset that this emphasis on action-based explanations does not imply a commitment to any extreme form of methodological individualism that denies the explanatory importance of pre-existing social structures. The position taken here is what Udehn (2001) refers to as 'structural individualism'. This is discussed further in chapters 3 and 4.

[5] For a similar definition of the 'social,' see Carlsson (1968).

explanatory significance in its own right. Therefore, social interactions and structures of interaction networks are recurrent themes throughout this book.

The analytical tradition in sociology

Although the term *analytical sociology* is not commonly used,[6] the type of sociology designated by the term has an important history that can be traced back to the works of late nineteenth- and early twentieth-century sociologists such as Max Weber and Alexis de Tocqueville, and to prominent mid-twentieth-century sociologists such as the early Talcott Parsons and Robert K. Merton.[7] Among contemporary social scientists, four in particular have profoundly influenced the analytical approach. They are Jon Elster, Raymond Boudon, Thomas Schelling and James Coleman. In order to place the analytical approach on the contemporary sociology map, I will briefly describe their respective contributions to the analytical agenda.

Jon Elster has had considerable influence on the philosophical foundations of the analytical approach. Starting with his early work, in which he used modal logic to analyze social phenomena (Elster 1978), and continuing with his critique of the logic of functionalist explanations in the social sciences (Elster 1983a; 1985), he demonstrated the relevance of the analytical-philosophy tradition for the social sciences. Much of his work during the last twenty-five years has been concerned with the logic of action-based explanations and the relationship between rationality, social norms and emotions (Elster 1979; 1983b; 1989a; 1989c; 1991; 1994; 1996; 1998a; 1999). His writings in these areas have established important links between sociological theory, the philosophy of action and behavioural economics.

As noted above, many scholars in the rational-choice tradition, not least the economists, tend to adopt rather instrumentalist attitudes towards theories. In contrast, Elster's position has always been that of an analytical realist. While arguing for the necessity of abstractions, he has

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[6] Exceptions include Burger (1977), J. H. Turner (1987a) and Pearce (1994). Turner's and Pearce's uses of the concept are rather different from the one adopted here, however, and Burger's discussion of Parsonian analytical sociology concerns only the methodological and epistemological aspects of the approach. See also Barbera (2004).

[7] Swedberg (1998) discusses some of Weber's most relevant work, and Elster (1993) some of Tocqueville's most relevant work. Interesting discussions of Parsons' analytical approach can be found in Bershady (1974), Burger (1977) and Camic (1987), and insightful discussions of Merton's middle-range approach are found in Boudon (1991) and Pawson (2000).

always insisted that genuine explanations must account for what happens, as it happens (e.g., Elster 1989b), and he has expressed deep dissatisfaction with the instrumentalism and fictionalism that characterize some rational-choice analyses (e.g., Elster 2000).

In certain respects Boudon's role in the development of analytical sociology has been similar to Elster's. In numerous publications he has insisted on the importance of action-based explanations and the dangers of instrumentalism. In particular, he has emphasized the importance of basing explanations on realistic theories of action that recognize the cognitive limitations of real individuals (e.g., Boudon 1981; 1982; 1994; 1998b; 2003). But while Elster's point of reference has mainly been analytical philosophy and behavioural economics, Boudon has been primarily engaged in a dialogue with the classics of sociology, most notably with Durkheim, Tocqueville, Simmel and Weber (e.g., Boudon 1981; 1986; 1994).

Boudon's deeper grounding in the sociological tradition can also be seen in the close attention he has given to the micro–macro link, that is, to the social outcomes of individual action. Early on he used simulation models to analyze the link between the educational decisions of individuals and the social properties of the educational system at large (Boudon 1974), and he argued for the general importance of 'generative models' for explaining the social outcomes of action (Boudon 1979). He succinctly summarized his Weberian-inspired explanatory strategy with the following equation: $M = M\{m[S(M')]\}$. What he meant is that a social phenomenon, M, should be explained as a function, M, of actions, m. These actions should be seen as being dependent on the social situation, S, in which they take place, and these social situations, in turn, should be seen as being dependent on other social phenomena, M' (see Boudon 1986). The explanatory strategies advocated in this book follow similar principles.

Some of Thomas Schelling's work has also been concerned with the logic of action (Schelling 1984b), and he has made important theoretical contributions to the analysis of conflict (Schelling 1960). From the vantage point of analytical sociology, however, his most important contributions are those dealing with the micro–macro link. Although he is not a sociologist by training but, in his own words, an 'errant economist' (Schelling 1984a), his *Micromotives and Macrobehavior* (1978) is one the most important sociology books published in recent decades. In it he develops useful analytical tools and analyzes the social outcomes that groups of interacting individuals are likely to bring about.

Schelling's best-known study of the link between micro motives and macro-level outcomes focuses on patterns of racial segregation

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(Schelling 1971). In it he shows that even open-minded and unpreju-
diced individuals can bring about highly segregated neighbourhoods.
When individuals' actions depend on what others have done in the past,
even highly integrated neighbourhoods can unravel because if one indi-
vidual leaves the neighbourhood a chain reaction can be set in motion,
leading many others to do the same. The general lesson to be learned
from this and related analyses by Schelling concerns the apparent
disjunction between the macro and the micro levels. Aggregate or
macro-level patterns usually say surprisingly little about why we observe
particular aggregate patterns, and our explanations must therefore focus
on the micro-level processes that brought them about.

The micro–macro link was a major focus of James Coleman's writings
as well. From his early research on diffusion processes to his rational-
choice-based analyses in the 1980s and 1990s, the links between these
two levels of analysis were a core concern (Coleman 1973; 1986b;
1990; Coleman, Katz and Menzel 1957; 1966). Like most sociologists,
Coleman was primarily interested in social or macro-level phenomena,
but unlike many sociologists he always emphasized that changes in them
must be explained by reference to the actions that brought them about.
In order to explain social or macro-level change it is not sufficient to
simply relate macro-level phenomena to one another. To be explanatory
a theory must specify the set of causal mechanisms that are likely to have
brought about the change, and this requires one to demonstrate how
macro states at one point in time influence individuals' actions, and how
these actions bring about new macro states at a later point in time.

Another aspect of Coleman's work that is of considerable importance
for analytical sociology is his view on how to link theory and quantitative
research. Unlike Elster, Boudon and Schelling, who are predominantly
theorists, Coleman was also an empirical researcher and as such inter-
ested in bridging the gap between quantitative research and sociological
theory. While most quantitative sociologists use rather ad hoc statistical
models in their research, Coleman insisted that statistical analyses are
meaningful only insofar as they are based on plausible models of the
processes through which the phenomena to be explained were brought
about (Coleman 1964; 1981; 1986b). If this is not the case, the statis-
tical estimates will have little bearing on the proposed sociological
explanation.

Although Elster, Boudon, Schelling and Coleman are rather different
types of scholars, they complement each other in important ways, and
they all share a commitment to precise, abstract, realistic and action-
based explanations. Building upon the foundations laid by them, an ana-
lytical middle-range approach to sociological theory can be developed

that avoids the somewhat empiricist and eclectic tendencies of Merton's
original middle-range approach (Merton 1967). This type of analytical
theory is abstract, realistic and precise, and it seeks to explain specific
social phenomena on the basis of explicitly formulated theories of action
and interaction. This book is a modest contribution to that agenda.

Outline of the book

Chapter 2, 'Social mechanisms and explanatory theory', is a core chap-
ter of the book. In it I discuss different types of explanations and present
the arguments in favour of mechanism-based explanations. Adopting
this notion means that an appropriate explanation consists in detailing
the constellation of entities and activities that regularly bring about the
type of outcome to be explained. The chapter is a core chapter in the
sense that the other chapters are to a large extent concerned with
working out what logically seems to follow from the positions taken in
this chapter, that is, what consequences a mechanism-based approach
has for an explanatory sociological theory.

The social-mechanism approach assigns a unique explanatory role to
action. In chapter 3, 'Action and interaction', I take as my point of
departure an action theory that explains action in terms of actors'
desires, beliefs and opportunities, the so-called DBO theory. I then
consider social interaction from the perspective of this action theory
and identify various mechanisms through which the actions or behav-
iours of some actors can come to influence the actions of others. Social
interactions are at the core of most sociological theories for the simple
reason that actions often cannot be explained unless they are related to
the actions of others. I conclude the chapter by briefly discussing
rational-choice theory and what I consider to be an unfortunate instru-
mentalist tendency among many of its proponents. Knowingly accept-
ing false assumptions because they lead to better predictions or to
more elegant models threatens the explanatory value and the long-term
viability of the rational-choice approach.

Theories of action are thus of fundamental importance for explanatory
sociological theories. But to understand why actors act as they do is not
sufficient; we must also seek to explain why, acting as they do, they bring
about the social outcomes they do. Chapter 4, 'Social interaction and
social change', therefore focuses on the link between individual actions
and social change. First I critically discuss some positions that treat
social reality as if it were stratified into different ontological levels that
can be causally analyzed independently of each other. This sort of
reification obscures rather than clarifies, and typically leads to rather

superficial causal accounts and explanations. I then illustrate how one must proceed if one is to develop theories that explicitly consider the dynamic interplay between the individual and the social by using DBO theory as the foundation of a so-called agent-based simulation analysis. The analyses presented in the chapter underscore how important the structure of social interaction is in its own right for the social outcomes observed. Furthermore, they show that there is no necessary proportionality between the size or uniqueness of a social phenomenon and the size or uniqueness of its causes. Large-scale social phenomena may simply be the result of uncommon combinations of common events and circumstances.

Chapter 5, 'On causal modelling', discusses different traditions of empirical sociological research. The main message of the chapter is that, in order to have a direct bearing on sociological theory, sociological research must take theory much more seriously than is typically done today. Quantitative empirical research should be based on substantively meaningful models of the social mechanisms believed to be at work and not, as is common today, on generic statistical models that simply summarize the statistical relations found in a specific set of data.

Chapter 6, 'Quantitative research, agent-based modelling, and theories of the social', is co-authored with Yvonne Åberg and illustrates how one can go about testing and empirically calibrating the type of mechanism-based explanations advocated in previous chapters. The essence of the approach is to use statistical analyses to examine various bits and pieces of the mechanistic machinery, and then to specify an agent-based model on the basis of the results. The approach provides a micro-to-macro link that makes it possible to derive the social-level implications of a set of quantitative research results. We use unemployment in Stockholm during the 1990s as a case study to illustrate concretely how these ideas can be put into practice.

Chapter 7 concludes this book by briefly summarizing some of its most important themes and discussing some items high on the future agenda of analytical sociology.