karl POPPER and the SOCIAL SCIENCES

William A. Gorton

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Abbreviations

Throughout this book I use the following abbreviations in references to Popper's work: *LScD* to stand for *The Logic of Scientific Discovery*, *PH* for *The Poverty of Historicism*, *OSE I* and *OSE II* for volumes I and II of the *The Open Society and Its Enemies*, *UQ* for *Unended Quest*, *PS* for *Popper Selections*, *OK* for *Objective Knowledge*, *CR* for *Conjectures and Refutations*, *SIB* for *The Self and Its Brain*, *RAS* for *Realism and the Aim of Science*, *OU* for *The Open Universe*, *ISBW* for *In Search of a Better World*, *MF* for *The Myth of Framework*, *KMBP* for *Knowledge and the Mind-Body Problem*, *ALIPS* for *All Life is Problem Solving*, and *LTC* for *Lessons of This Century*.

Introduction

Karl Popper is arguably the most influential philosopher of natural science of the twentieth century. Although his influence on academic philosophers is perhaps not as great as that of several other philosophers of science, Popper's impact on working scientists remains second to none. When asked to reflect on the method of science, contemporary scientists, if they do not directly invoke Popper's name, more often than not will cite Popperian ideas. Science, they will say, requires commitment to severe testing of theories, a scientific community dedicated to such critical scrutiny, and, above all, theories that are empirically falsifiable. All this is Popper's legacy.

Popper is, of course, also widely known for his political criticism. Though his work is often neglected by academic political theorists, Popper's political writings—particularly *The Open Society and Its Enemies*—have had a deep and lasting effect on post-World War II politics, especially in Britain and Germany. Indeed, many key political figures of the past thirty years have cited him as an influence, including Vaclav Havel, Margaret Thatcher, and Helmut Schmidt. During the past decade, Popper's ideas have made inroads into the formerly communist countries of Eastern Europe, largely through the efforts of billionaire financier and philanthropist George Soros. In 1979 Soros, a lifelong admirer of Popper's work, established his Open Society Institute, which is dedicated to "opening up closed societies, making open societies more viable, and promoting a critical mode of thinking" (Soros 1997). Branches of the society have proliferated throughout other parts the world as well. In the decade following Mao Zedong's death, Popper was the most widely read political theorist among Chinese students.[1] Students invoked his ideas to criticize the scientific pretensions of Marxism and to argue for the creation of governmental institutions open to public criticism.

Popper has been widely read by the lay educated public, too, and some of his ideas have become part of public discourse, most notably his notion of an "open society." That Popper's political ideas have had this effect is perhaps not surprising and surely would have pleased Popper. He wanted his ideas to influence public debates, and he wrote to be understood. Popper considered it a betrayal when intellectuals conveyed their ideas in inscrutable jargon or otherwise mystifying prose. He wrote:

> The worst thing that intellectuals can do—the cardinal sin—is to try to set themselves up as great prophets vis-à-vis their fellow men and to impress them with puzzling philosophies. Anyone who cannot speak simply and clearly should say nothing and continue to work until he can do so. (*ISBW,* 83)

Popper's political impact is most likely attributable to not only the timeliness of his ideas but also his simple, unpretentious, and lucid prose.

Many of Popper's ideas have also had a lasting impact on social science, to which, along with natural science and political theory, Popper dedicated considerable attention. In *The Poverty of Historicism, The Open Society and Its Enemies,* and numerous other essays, he offered extended analysis of the social sciences and their methodologies. Popper's attack on historicism is justly famous, and his defense of methodological individualism has been influential, too (although it has been widely misunderstood, as I shall argue in chapter 1). However, his most original contribution—situational analysis—for decades received relatively little scholarly attention, with some notable exceptions (see, for instance, Farr 1983; 1985; 1987; and Hands 1985). But recently there has been renewed interest in Popper's contribution to social inquiry, including his situational analysis. This is no doubt in part attributable to the publication in 1994, the same year as Popper's death, of "Models, Instruments, and Truth."[2] That essay, a slightly revised version of a speech delivered at Harvard in 1963, contains Popper's most extended discussion of situational analysis. In the wake of the publication came a 1998 double-volume issue of *Philosophy of the Social Sciences,* the flagship journal of the field, devoted to situational analysis. A number of books that examine Popper's contributions to social science have also appeared in recent years, including Shearmur (1996), Stokes (1998), and, most notably, Malachi Hacohen's landmark biography of the young Popper, published in 2000.

However, still to be written is an extended examination of Popperian situational analysis and its connection to other aspects of Popper's work, including his contributions to metaphysics, politics, and the philosophy of natural science. This book is an attempt to remedy this shortcoming. More precisely, my aim is threefold. The first goal is to provide a richer understanding of situational analysis, in part by placing it within the broader framework of Popper's thought. The second is to dispel common misunderstandings of situational analysis and of Popperian social science generally. My third goal is to suggest some problems with Popper's recommendations for social inquiry and to offer some tentative suggestions for improving his theory. As I hope will become evident in the following chapters, situational analysis offers a highly suggestive approach for social inquiry. Perhaps most significantly, situational analysis offers a way to transcend the long-standing division between interpretive approaches to social inquiry and those modeled on the natural sciences. Indeed, Popper's development of situational analysis can be understood as an

attempt to show that both scientific explanation and interpretive understanding can be placed under the rubric of "science"—provided that the term "science" is properly understood.

To advance toward the first goal—enriching our understanding of situational analysis—my book integrates situational analysis with other aspects of Popper's thought, including his philosophy of natural science and his ontological theory of the "three worlds." Among my more important findings is that Popper's scientific realism can be extended to his social science. Specifically, Popper's theory of the three worlds provides a philosophically robust justification for conceptualizing social institutions, norms, values, and other "World 3" entities as real. Popper argues that the central criterion establishing the reality of an entity is causal efficacy in the observable material world. Abstract entities—including social institutions, traditions, and norms—meet this criterion, Popper argues; therefore, they are real. Because the social environment plays a key explanatory role in situational analysis, the approach may be fairly described as realist—a surprising finding, given that other proponents of social scientific realism often single out Popper as the avatar of positivist, antirealist social science. I also examine Popper's arguments in favor of human free will and against determinism, and find that human action in situational analysis must be understood as noncausal, free, and irreducible to an individual's psychological properties.

My finding that Popperian situational analysis conceptualizes human action as noncausal serves to reinforce my main conclusion regarding the kind of explanation offered by situational analysis. Unlike positivistic social science, the aim of situational analysis is neither to predict nor to uncover universal laws of the social world. Indeed, there are good Popperian reasons for supposing that social science cannot produce hard predictions and that lawlike regularities are wholly absent from the social world. Situational analysis does not strive to generate universal theories—that is, theories capable of explaining and predicting social phenomena across all times and places. Rather, the aim of situational analysis is to untangle the complex web of human interaction that produces unintended, and often unwanted, social phenomena. When successful, the approach generates models of social situations that hover between the idiographic explanations produced by historians and the universal theories of natural science. Thus, I conclude, situational analysis is best understood as an approach that produces theories of "middle range," models that are less universal than laws but more generalizable than specific descriptions.

To accomplish the second aim of the book—to dispel some common misunderstandings about Popperian social science—I turn to two common misconceptions concerning Popper's stance toward economic theory and toward Marxism. Regarding the former, it is often held that situational analysis is merely a variant of marginal utility theory or rational choice theory typically employed by mainstream economists. But I show that this understanding of situational analysis cannot be correct. The weight of explanation in situational

analysis rests on construction of the social situation rather than on its theory of human rationality. Unlike the theories of rationality found in economics, Popper's "rationality principle" is exceedingly thin, requiring no more from situational actors than that they adhere to the nearly empty requirement of "adequate" behavior. Further, unlike standard economic theory, situational analysis permits norm- and tradition-driven behavior into the fold of rational behavior. Regarding Popper and Marxism, I argue that, widespread opinion to the contrary notwithstanding, Popper greatly admired Marx as a social scientist. Specifically, I try to show that Popper's situational analysis was at least partly inspired by Popper's reflection on Marx's methods. This inspiration, I claim, can be traced to Popper's critical engagement with Marx's actual explanatory practices, especially those found in *Capital,* where Popper finds a Marx committed to uncovering the unintended consequences of human action. Marx also helped teach Popper that the social world cannot be reduced to the psychological properties of individuals.

The final chapter of this book is dedicated to my third aim: exploring the shortcomings of situational analysis. The first shortcoming concerns the range of situational analysis. Popper's claim that situational analysis is the sole method of social inquiry cannot be sustained. Situational analysis, I find, cannot fully account for the creation of beliefs, desires, and values that animate situational models. Such study by and large belongs in the domain of psychology. This is not a deep criticism of situational analysis, however, because it merely suggests a division of labor between situational analysis and psychology: We may call upon psychology to explain the generation of certain desires, norms, and beliefs, and then turn to situational analysis to explain social phenomena resulting from those desires, norms, and beliefs. The second shortcoming of situational analysis is its exclusive commitment to the rationality principle. Popper is surely right to recommend that we always begin with the assumption of rationality. By doing so, the rationality principle can function as a searchlight, illuminating aspects of the situation that previously had been obscure. But we must be prepared to abandon the rationality principle once rational explanations of the behavior in question are exhausted. At this point, we will need to turn to psychological models of typical irrationality—such as weakness of the will, wishful thinking, or the sour-grapes effect—to account for the behavior. Such explanations have genuine explanatory power but do not rely upon laws of human nature. Rather, they rely upon psychological mechanisms. To quote Jon Elster, upon whom my final chapter draws, mechanisms may be understood as "frequently occurring and easily recognizable causal patterns that are triggered under generally unknown conditions or with indeterminate consequence" (1999, 1). Like situational models based on the rationality principle, mechanisms permit explanation but not prediction. Situational analysis, I conclude, would benefit by incorporating psychological mechanisms when the rationality principle fails.

CHAPTER ONE

Popperian Situational Analysis

As Popper acknowledges in his intellectual autobiography *Unended Quest,* he was always more interested in the natural sciences than the social sciences (*UQ,* 121). Nonetheless, Popper devoted considerable thought to the social sciences, and in the *Poverty of Historicism, The Open Society and Its Enemies,* and a number of essays, he offered sustained reflections on the methods of social science (*OSE II,* 89–99; *PS,* 357–365; *ISBW,* 64–81; *MF,* 154–181). In general, and especially in his earlier essays, Popper was largely intent on showing that the methods of the social sciences are, or at least should be, the same as those of the natural sciences.[1] But what *is* the method of natural science, according to Popper? In chapters 2 and 3 I shall consider in some detail Popper's highly original answer to this question. But here I can briefly note that Popper contended that, fundamentally, the natural and the social sciences both involve proposing hypotheses and testing them against empirical evidence—the bolder the hypotheses, the better. The most daring of such hypotheses, and the ultimate aim of any mature science, are scientific laws, Popper says (*RAS,* 134). Because scientific laws are universal in their scope, they permit parsimonious explanations and produce genuine predictive power. But, at the same time, the far-ranging explanatory power of general laws exposes them widely and repeatedly to falsification. For this reason, falsifiability—especially a high degree of falsifiability—became the hallmark of science for Popper.

Especially in his earlier writings, Popper argued that hypotheses testing and the search for general laws should also be the goal of the social sciences (*PH,* 61–62).[2] However, despite Popper's strong support for the unity of scientific method, he also recommended a unique approach for studying the social world—a method that, he admitted, has almost no direct parallel in the natural sciences and that represented "perhaps the most important difference" between the natural and social sciences (*PH,* 141; see also *UQ,* 117).[3] That method is, of course, situational analysis. In chapter 3, I will argue that Popper himself did not fully appreciate how different situational analysis is from the method of natural sciences. We will see that the difference between the two

approaches is so great that the unity of scientific method can only be retained by describing methodology at a highly abstract (and therefore largely uninformative) level. But in this chapter, I want to present the concept of situational analysis as proposed by Popper, including its relationship to other Popperian ideas on social inquiry, especially his support for methodological individualism and his rejection of psychologism and methodological collectivism. The following discussion will draw mainly upon Popper's lengthiest and last sustained explanation of situational analysis—his "Models, Instruments, and Truth" essay. However, I will also draw liberally upon Popper's other discussions of situational analysis and social science generally.

BUILDING MODELS

Popper begins his discussion of situational analysis by positing that the fundamental goal of science is problem solving and that there are, broadly speaking, two types of problems in need of explanation: singular events and types or kinds of events (*MF,* 162–166; *PS,* 357). Explaining a singular event—such as the collision of Shoemaker-Levy 9 comet with Jupiter in 1994, the eruption of Mount St. Helens in 1980, the French Revolution, or the near collapse of Asian economies in 1997—merely requires identifying some relevant initial conditions along with some universal laws in order to predict (or retrodict) and explain the event. For example, to explain Shoemaker-Levy 9's collision with Jupiter, one would need to identify such initial conditions as the position, mass, and velocity of the comet and other celestial bodies at successive points in time, combined with some relevant universal laws, including gravity and Newton's laws of motion.

Explaining a kind or type of event—that is, an event that recurs in a more or less predictable pattern—requires a somewhat different approach, Popper says. Examples of types or kinds of events would be lunar eclipses in general (not last month's eclipse), cycles of economic expansion and recession (rather than the U.S. recession in 1991–92 and the following expansion), political revolutions in general (not the French Revolution or the American Revolution or the Iranian Revolution). The best way to explain types of events, Popper suggests, is to construct a "model," which, he says, is merely a simplified representation of reality. Being a simplification of reality, it will of necessity be a false depiction of reality. For instance, in order to simplify calculations, a model of the solar system might assume that the various planets are points and that comets and other extraplanetary objects have no gravity, even though such assumptions are plainly false. No model can incorporate all elements of the phenomena to be explained, nor would such a model be desirable. Rather, a good model represents the most important features of reality, given our explanatory interests. Popper acknowledges that there is probably no formal way to state beforehand how those features should be selected; rather, a model's value will ultimately be proved by its usefulness. "I think we have to

admit," he says, "that most successful scientific theories are lucky oversimplifications" (*MF,* 171–172).

However, the elements or structural features alone of a model are not enough to explain a typical event. To "animate" the model, Popper says, we need universal laws. Thus the planets in a model of the solar system are set in motion by Newton's laws of gravity and momentum, and a model of an atom is animated by the strong and weak forces, and electromagnetism. No model can do without animating universal laws, Popper claims, for we can "never reduce animating laws to structural properties of the model" (*MF,* 164). This is not to say that we can never offer a deeper explanation of a universal law by developing a model of the law itself—a mechanistic description of the elements and structures that explain how the law operates and produces its effects. In fact, Popper encourages such mechanistic reductions; indeed, he says, they are an important goal of science (*RAS,* 134). Popper's point is rather that a model, no matter how fine-grained, can never animate itself, for new, deeper laws will be required to set it in motion and the process will begin anew. For Popper, there are no ultimate explanations that are "neither capable of any further explanation, nor in need of it" (*OK,* 194). This is one way of characterizing Popper's anti-essentialism, which claims that there can be no explanation of phenomena that is self-evident, intuitive, and irreducible. Science can and should always delve deeper into reality, Popper says, and thus there is never an end to scientific investigation (ibid.).

Models and Social Science

Models are often essential for explaining types of events in the natural sciences. They are even more important in the social sciences, Popper asserts, because we "never have sufficient laws and initial conditions at our disposal to explain" social events (*MF,* 168).[4] As such, following Friedrich Hayek, Popper says that the social sciences generally must settle for "explanation in principle" rather than "explanation in detail"—that is, explanation of typical events rather than explanation of actual events (*MF,* 166). The best way to produce such explanations, he argues, is to construct models of typical social situations. For this reason, he says, constructing models of social situations is a central task of social science: "The fundamental problem of the social sciences is *to explain and understand events in terms of human actions and social situations.* The key term here is '*social situation*'" (*MF,* 166; Popper's italics).[5]

But what does a model of a social situation contain? Popper says that it consists of people and social relations, broadly understood. Social relations would include, for example, social institutions (such as bureaucratic regulations, financial markets, legal codes, and the like) as well as traditions and social norms. In addition to other people and social relations, a situational model will also include relevant features of the natural environment, such as natural laws and physical barriers that constrain people's behavior. At the center of the situational model is

the human actor, whose aims and knowledge of the situation are also part of the model. To illustrate this idea, Popper imagines the situation confronting a person—Popper dubs him "Richard"—attempting to cross the street (*MF,* 166–168). The physical barriers encountered by Richard in such a situation might include cars, other pedestrians, median strips, and so forth. The institutional and social elements might include rules of the road, traffic signals, crosswalk markings, and such. The situation also includes Richard's goals or aims—in this case, to cross the street—and the person's knowledge of the situation, which includes relevant theories and concepts that he possesses. Knowledge of the social situation in Popper's example of the pedestrian would include not only the physical obstacles that the person can see and hear, but also his understanding of social institutions that influence his action, such as the rules of the road and the meaning of traffic signals.

Of course, a person's understanding of the situation may be imperfect, and these imperfections may affect his or her actions. Richard's failure to notice a speeding car—a physical component of the situation—might explain his failure to cross the road. Similarly, Richard's misinterpretation of a social rule may also affect his action. Perhaps, improbably, he interprets the red light on the traffic signal to mean "go." A full-blown situational model will include both a description of the situation as it actually was and the situation as the actor perceived it (*MF,* 183 n. 19). In other words, the social scientist must strive to produce an objective reconstruction of situation faced by Richard, as well as a reconstruction of Richard's own assessment of the situation. Often, disparities between the two accounts will prove key in explaining the agent's behavior.

The Rationality Principle

To complete the situational model, Popper says we need to animate it by means of what he calls the "rationality principle." Unlike economists and rational choice theorists, Popper never developed a precise definition of rationality in this context. In chapter 4, we will examine Popper's rationality principle in greater depth, especially vis-à-vis economic theory, but a brief account is in order here.

Popper says that the rationality principle is merely the assumption that a person will act "adequately" or sensibly, given his or her goals and the situation. The idea is that a person simply "work[s] out" what is implicit in the situation, as posited by our model (*MF,* 169). Popper's account of the rationality principle is surprisingly and disappointingly vague, but the principle can be plausibly interpreted as a very "thin" model of rationality. No prespecified general aims or goals, such as wealth or power maximization or even happiness, are assigned to actors prior to the situation; nor, apparently, does Popper assume that agents always act instrumentally (that is, in a means-to-end fashion). Norm- or tradition-guided behavior can also be construed as rational (or so I shall argue on Popper's behalf in chapter 4). Similarly, there is no presumption that persons will act in a strictly self-interested or egoistic manner. As such, nearly all the

explanatory power of situational analysis lies in the situation itself rather than with the rationality principle. In fact, Popper says, the rationality principle should not be viewed as "the empirical or psychological assertion that man always, or in the main, or in most cases acts rationally" (*MF,* 169). Instead, it should be viewed as "the methodological postulate that we should pack or cram our whole theoretical effort, our whole explanatory theory, into an analysis of the *situation*—into the *model*" (ibid.; Popper's italics).

Popper admits that the rationality principle is an "almost empty principle" (*MF,* 169). Nonetheless, it plays a central and twofold role in situational analysis. The first role is essentially the same as that played by natural laws in models of the natural world. Whereas Newton's laws of motion and gravity could be said to animate a model of the solar system, the rationality principle animates a model of a person crossing the street. The rationality principle produces its general explanatory power by turning persons in the situational model into abstractions; they behave how "anybody" would behave in the situation. An actor's particular psychological idiosyncrasies are not relevant, Popper says, nor are any of the actor's beliefs, values, or goals that are not directly related to the goal that is implied by the situation (*MF,* 168). For instance, we should disregard the fact that Richard the pedestrian was humming a passage from a Verdi opera or contemplating Sanskrit texts as he crossed the road (*MF,* 168). Popper's point is not so much that such thoughts could not affect Richard's street crossing in any way—in fact, it is possible that in some situations they might (if, say, they distracted him). Rather, the point is that the situational model is supposed to be an abstraction, an ideal type of sorts, capable of explaining the behavior of abstract, typical persons acting in numerous structurally similar situations.

The second role of the rationality principle may be described as its "searchlight" power. Popper initially suggested the metaphor of the searchlight to describe the role that theories (or, more broadly, expectations) provide in scientific investigations and, indeed, all human knowledge (*OK,* 346). Popper claims that expectations always precede observations and are necessary to illuminate our investigation of the external world.[6] However, following James Farr (1985; 1987), we can extend the metaphor of the searchlight to describe the rationality principle's ability to illuminate the situation that actors confront. Popper says that we "learn more" by holding fast to the rationality principle (*MF,* 177). By retaining the presumption that actors behave rationally, even in the face of prima facie irrationalities, the rationality principle helps illuminate aspects of the situation that might have otherwise remained obscure. That is, we are led to explore dimensions of the situation that might explain why the person engaged in the apparently irrational behavior. Often new facts about the situation will be discovered that show the actor's behavior was, in fact, rational. Understanding a person's actions, then, becomes an exercise in developing a detailed description of his or her situation rather than an attempt to describe the individual's psychological state. Thus situational analysis can be

described as an interpretive method as well as a method for explaining social phenomena. Popper himself characterized situational analysis this way in his later work (*OK,* 162–180; see also Farr 1983a). In particular, Popper presented situational analysis, guided by the rationality principle, as the best method for history, at least insofar as the aim of historical inquiry is to understand the actions and beliefs of individuals in history. "My thesis," Popper writes, "is that the main aim of all historical understanding is the hypothetical reconstruction of a historical *problem-situation*" (*OK,* 170). Popper himself made occasional forays into the history of science where he employed situational analysis to enhance our understanding of, for instance, Galieo's theory of the tides and Kepler's metaphysics (*OK,* 170–180; *ALPS,* 74–78).

Merits of Situational Analysis

Much of this book will be dedicated to assessing the merits of situational analysis. As indicated in the introduction, I do not believe that situational analysis can function as the sole method for social inquiry. Nor do I think that situational analysis, as developed by Popper, is without shortcomings. That said, I think that situational analysis provides a suggestive model for social inquiry. Most importantly, it offers a way to transcend idiography—that is, mere particularistic explanations—without invoking universal laws, which, as we will see in chapter 2, are apparently not available in the social world. By constructing models of typical situations, social scientists can aspire to explain particular events as instances of typical events described by a situational model. This is not to say that situational models will resemble the overarching, powerful theories of natural science. The regularity of the regularities, so to speak, that situational models seek to describe will be limited by the extent to which people behave in typically rational or (as I will argue in chapter 6, contra Popper) typically irrational ways. Of equal importance, the regularities of the social world will be in part dependent upon social institutions, beliefs, and values. Because these undergo change—sometimes swiftly, sometimes slowly—so too will the regularities described by situational models. Thus situational models will largely remain ridden by exceptions and bound by time and culture. As such, situational models can be described as resembling the "theories of middle range" urged by Robert Merton (1967, 39–72). However, unlike those Merton describes, middle-range theories produced by situational analysis should not be thought of as placeholders for which theories of greater scope and power might one day be substituted.

Also to its credit, situational analysis is compatible with the fundamental insights of the interpretive approach to social inquiry—namely, that human action is meaningful and that any satisfactory social science must take this fact into account. In fact, as Popper himself claimed, situational analysis can be characterized as an interpretive method and as a general contribution to hermeneutics (*OK,* 178).[7] Situational analysis conceptualizes human action as

intentional and requires that we unpack the beliefs, values, and social rules that inform an agent's behavior. Thus if our situational model is well constructed, it will advance our understanding of the situation and the individuals who inhabit it. But situational analysis also aspires to transcend the idiography and thick description of interpretive social inquiry by constructing models of *typical* situations capable of unveiling similarities of logic underlying a variety of social phenomena. For social science, these models will chiefly be institutional models, such as models of parliamentary structures or bureaucracies. Such models will never produce precise predictions, but the best of them might produce tolerable retrodictions and help us with the practical problems involved in building institutions.

Another strength of situational analysis is that it reminds us to incorporate the physical environment into our situational models. Often the effects of the physical environment will be of little importance compared with the social environment, but in some cases reconstruction of the physical realm will prove crucial. Indeed, in some cases reconstructing the physical environment faced by an agent will help us understand his or her social environment better. As Noretta Koertge has argued, situational analysis helps to break down the dichotomy between material and ideological explanation by revealing that both approaches are subsets of situational explanation (Koertge 1985, 130–131).

Finally, situational analysis need not be used solely for the construction of models of typical social situations. Popper also sees situational analysis as the principle method for explaining particular social events—that is, as the method of history (*OK,* 186–190). As with the construction of situational models, Popper recommends that we ignore psychological factors and assume that the actions of a historical figure are guided by the rationality principle. Rather than a real person who holds particular and specific theories about the world animating a particular historical situation, an abstract typical person with abstract typical aims and beliefs animates a typical situation.[8]

AGAINST PSYCHOLOGISM AND CONSPIRACY THEORIES

To fully understand Popper's situational analysis, it will be helpful to contrast it with what Popper viewed as competing but flawed approaches to social inquiry—psychologism and conspiracy theories of society.

Psychologism

Popper offers the rationality principle as a superior substitute for what he labels "psychologism." Psychologism, a view that Popper ascribes to John Stuart Mill and unnamed others, is the belief that social behavior and social institutions are ultimately "reducible to the psychological laws of 'human nature'" (*OSE II,* 89). According to proponents of psychologism, the proper aim of

social science should be to uncover such laws of human behavior and then use them to explain complex social phenomena—in the same way that, say, astronomers use the laws of physics to explain celestial phenomena. Proponents of psychologism, Popper says, would seek to animate a situational model with laws of human psychology rather than the rationality principle. That is, when trying to determine what a person would do in a specific situation, instead of asking what would be rational for the person to do, the doctrine of psychologism says that we should determine what behavior the laws of human psychology would dictate. Presumably, such laws would be uncovered through social and psychological experiments or by surveying historical and social data. Popper also compares psychologism to "behavioristic" approaches to social explanation (*OSE II,* 90).

In chapter 14 of *The Open Society,* Popper mounts a concerted attack on psychologism, arguing that it is both philosophically dubious and impossible in practice. His primary objection to psychologism is grounded in his claim that human actions can never be explained by citing psychological motives only; a complete explanation will always include reference to the situation faced by the human actors, especially the social components of the situation (*OSE II,* 90). To illustrate this point, Popper asks us to consider a person seeking to buy a consumer good (*OSE II,* 96). A certain set of psychological facts about the person—say, his *desire* to purchase a television or his *belief* that this particular model is the best—might motivate the person to buy the television. However, those same psychological facts might produce different social effects if the situation facing the person were different. In one circumstance, his purchase of the television might contribute to a rise in the price for televisions (by increasing demand for the product). But in another market situation, his action might lower the price of television, (say, by making its mass production more profitable). Whether the person's actions decrease or increase the price of the good is dependent upon a host of situational factors—such as the number of televisions available or the number of buyers appearing on the market—that are clearly not reducible to psychological facts about individuals. Popper's point is that mere reference to a person's desires and beliefs will seldom be sufficient to explain all social phenomena. One must also make reference to the social situation that they confront. In this sense, social inquiry cannot be reduced to psychology.

Popper says advocates of psychologism generally concede that social explanations must make reference to the social environment, but they claim that the *formation* of human institutions can, at least in principle, be explained solely by human psychology. Thus strict adherence to psychologism forces one to trace the formation of social institutions back to the origin of society, where presumably psychological drives and dispositions were free of social influence. From that vantage, one could supposedly show how the laws of human psychology produced social institutions. Popper shows that Mill himself realized that social institutions affect human behavior and that therefore he was led to

the conclusion that an explanation of human behavior and social phenomena that relied solely on psychological descriptions would have to begin with human society's beginning. But this would be an impossible task, Popper claims, for at least two reasons.

First, humans—or what later evolved into Homo sapiens—were social before they were human. Thus in order for such a reduction to be possible even in principle, a presocial "man" would have had to exist prior to society. But this is a historical myth, of course; prehuman primates and their societies evolved together for millions of years before Homo sapiens arrived on the scene. Second, even granting that a presocial man once existed, it would still be impossible in practice to reconstruct the course of history and, in particular, the development of social institutions, owing to the incredible complexity of the exercise and to our vast ignorance of the subject. Mill himself was quite aware of this latter problem, as he makes plain in an observation from Book VI of his *System of Logic:*

> I do not think any one will contend that it would have been possible, setting out from the principles of human nature and from the general circumstances of the position of our species to determine *a priori* the order in which human development must take place, and to predict, consequently, the general facts of history up to the present time. After the first few terms of the series, the influence exercised over each generation by the generations which preceded it becomes . . . more and more preponderant over all other influence. . . . So long a series of actions and reactions between Circumstance and Man [i.e., human nature], each successive term being composed of an ever greater number and variety of parts, could not possibly be computed by human faculties from the elementary laws which produce it. (1987/1872, 104–105)

Simply put, after "the first few terms of the series," the social environment would become the dominant influence on human behavior (*OSE II,* 91–93). Popper agrees, but goes on to claim that human nature itself—which he defines in terms of "hopes, fears, and ambitions"—is largely a by-product of social institutions, and as such, he says, it would make more sense to try to reduce human psychology to its social roots rather than the other way around (*OSE II,* 93–94).

Popper further argues that psychologism fails to appreciate the fact that many, perhaps most, of our social institutions are not consciously designed. They are, rather, the unintended—and often unwanted—by-products of human actions. He compares social institutions to animal paths cut through a dense forest (*OK,* 117). Such paths usually arise without any creature's intention; rather, they emerge over time as one animal after another follows the tracks laid down by others before it. The same is often the case with human-made paths, too. Of course, in one sense, such paths are the product of human intention, insofar as they result from individuals' intentions to pass through the forest. But, in most cases, nobody ever intended to create the path as such. Further,

once the path emerges, it creates its own set of constraints and problems that affect human behavior and even human aims. Similarly, most social institutions are the product of a slow accretion of countless human actions. The institution of the "free market," for instance, emerged in Europe over hundreds of years, beginning perhaps with small exchanges of goods between traveling salesmen and local nobility at medieval fairs. Over time, tariffs between local principalities and fiefdoms were relaxed or eliminated, the notion of a "just price" gradually gave way to the notion of a fair market price, standards and norms of bookkeeping emerged, and so on (Heilbroner 1954, 18–41). No one ever intended to create such a market; it simply emerged as the aggregate result of countless individual acts over many centuries. In fact, there was a lag between emergence of the institution and full consciousness of it as an institution.

Conspiracy Theories of Society

In addition, not only are institutions rarely the product of human design, but the same also holds true for most social events and phenomena, such as wars, recessions, poverty, and unemployment. Popper calls the belief that the social world is the result of human design the "conspiracy theory of society" (*OSE II,* 94–95; *CR,* 123–124). This belief entails the view that history is largely the product of powerful individuals—capitalists, aristocrats, and politicians—manipulating the world for their own interests. But attempting to explain social phenomena by uncovering conspiracies is the very opposite of good social science, Popper claims. Owing to the immense complexity and general unpredictability of the social realm, attempts by the powerful to manipulate it—especially covert attempts—will usually come to naught, or even backfire. This being the case, the aim of social inquiry should not be to show how individuals with various aims achieve their goals; rather, the "main task" of social science should be to uncover the unintended consequences of human action or to lay bare the "less obvious dependencies with the social sphere" or the "unintended social repercussions of intentional human actions" (*OSE II,* 94–95). In fact, Popper contends, to the extent that human action produces its desired effect, there is no problem for social science to study.

Popper claims that the conspiracy theory of society is widely held but he seems to view it is as mainly a "folk" or vulgar theory of society rather than an influential view among serious social theorists. However, though the conspiracy theory is generally false and enjoys little respect among informed social observers, to understand and explain much political phenomena it is important to acknowledge that many political actors in history have subscribed to the conspiracy theory and acted to counter it. Hitler, Popper says, tried to thwart the (nonexistent) conspiracy of the Learned Elders of Zion. "Vulgar Marxists" effectively adhere to a conspiracy theory of society—for instance, they hold that the impoverishment of the working class is the

result of a conspiracy by capitalists. But, Popper claims, Marx himself held no such view. Marx believed that capitalist and worker alike were caught up in social situation that resulted in such phenomena as overproduction of goods, declining wages, and economic depressions that nobody intended. In fact, Popper cites Marx as an early and forceful critic of the conspiracy theory of society (*CR,* 125 n. 3).

METHODOLOGICAL INDIVIDUALISM

Understanding Popper's opposition to psychologism proves key to illuminating an important but somewhat confusing aspect of his philosophy of social science—namely, his embrace of methodological individualism (*OSE II,* 98, 323 n. 11). Popper tells us that psychologism shares with methodological individualism a "sane opposition to collectivism and holism" (*OSE II,* 91). That is, psychologism "rightly insists that the 'behavior' and the 'actions' of collectives, such as states or social groups, must be reduced to the behavior and to the actions of human individuals" (ibid.). So, having just declared "the autonomy of sociology" and rejected reductionistic psychologism, Popper now tells us that we must "reduce" the behavior of collective entities to that of individuals. At first glance, this injunction might seem to contradict Popper's rejection of psychologism. But the following analysis will show, I hope, that there is no contradiction here.

Popper's support for methodological individualism is a well-known feature of his philosophy and dates back to his earliest writings on social science. With the possible exception of J. W. N. Watkins, whose work drew largely on Popper, Popper is cited as an authority on methodological individualism perhaps more frequently than any other thinker. Indeed, in scholarly essays on methodological individualism, it is practically de rigueur to begin with a nod to Popper's contributions to the topic (see, for instance, Lukes 1994, 451; Miller 1985, 459; Little 1998, 25 n. 1). However, despite Popper's emphatic, even impassioned support for methodological individualism, the version of the doctrine that he supported is actually rather trivial and perhaps should not even be considered a form of methodological individualism at all. In fact, Popper wrote surprisingly little about methodological individualism per se; instead, he devoted much more ink to describing what he saw as its methodological rivals—psychologism and an approach he dubbed "methodological collectivism." As such, deciphering Popper's understanding of methodological individualism is largely an exercise in discerning what it is not. That said, we can begin our examination of Popper's understanding of methodological individualism by considering the few and scattered places in Popper's work where he comes close to defining the term.

We have just seen that in chapter 14 of *The Open Society and Its Enemies* Popper claims that methodological individualism "insists that the 'behavior' and the 'actions' of collectives, such as states or social groups, must be reduced

to the behavior and to the actions of human individuals" (*OSE II,* 91). Later in the same chapter Popper adds that methodological individualism

> lends support to the important doctrine that all social phenomena, and especially the functioning of all social institutions, should always be understood as resulting from the decisions, actions, attitudes, etc., of human individuals, and that we should never be satisfied by an explanation in terms of so-called "collectives" (states, nations, races, etc.). (*OSE II,* 98)

And in *The Poverty of Historicism,* Popper described methodological individualism as the

> quite unassailable doctrine that we must try to understand all collective phenomena as due to the actions, interactions, aims, hopes, and thoughts of individual men, and due to traditions created and preserved by individual men. (*PH,* 158)

Unfortunately, these three passages represent about all that Popper offers by way of definition of methodological individualism; and there is a fair amount of ambiguity in these accounts. For instance, his claim that social phenomena should be viewed as due to the actions of individuals *does* seem "quite unassailable" if Popper is merely claiming that the actions of individuals must *somehow* figure into an explanation of a social event. So much seems self-evident, thus it is hard to imagine what doctrine Popper is implicitly attacking. But perhaps Popper is making a stronger claim. He does call for the actions of social groups to be "reduced" to those of individuals, but it is by no means clear what such a reduction would entail for Popper. However, we already know, given our previous discussion of Popper's anti-psychologism, that Popper was adamantly opposed to attempts to reduce sociology to psychology.

To help determine just what type of reductionism Popper has in mind, it will be helpful to consider Steven Lukes's examination of methodological individualism and reductionism in his widely cited essay on the topic (1994). We can start by noting that Popper's account of methodological individualism at first glance seems roughly equivalent to the definition offered by Lukes. After surveying the relevant literature, Lukes defines methodological individualism as the claim that "facts about society and social phenomena are to be explained solely in terms of facts about individuals" (Lukes 1994, 452). However, just as with Popper's definition (and as Lukes acknowledges), there is a good deal of ambiguity as to what should be permitted to count as facts about individuals.

Lukes suggests that there are at least four possible types of facts about individuals that methodological individualism can permit (ibid.). Type (1) facts describe humans as material objects. These sorts of facts neither refer to nor presuppose anything about human consciousness, much less anything about individuals' social relations. Such facts would include descriptions of brain states or human genetic properties. Permitting only these sorts of facts,

an adequate explanation of some social event—say, a revolution or presidential election—would have to be reduced to facts about patterns of neural firings in individuals' brains or to facts about their DNA structure. Obviously, Type (1) facts entail an extreme reductionism. Not only do Type (1) facts bar any inclusion of facts about social relations, but they also bar descriptions of facts about human consciousness.

Type (2) facts, as defined by Lukes, are descriptions of psychological dispositions or psychological processes that presuppose human consciousness but need not require any reference to social groups or institutions. Aggression, gratification, aversion, excitement, stimulus-response, and imprinting would be included among such facts.

Type (3) facts are what we might call minimally social facts about individuals. Included in Type (3) facts would be such concepts as power, authority, cooperation, anomie, and conflict. These sorts of facts do presuppose a social context, but they do not presuppose any *particular* type of social institution. For instance, this approach might describe a person as wielding a certain amount of power without describing the particular institution wherein he or she wields that power. One could simply say that a person exercised power over a certain number of other individuals.

Finally, we arrive at the least restrictive Type (4) facts. These types of facts are maximally social because they refer to particular social institutions or groups, or to particular types of institutions or groups. Such facts might include descriptions of individuals voting, cashing checks, getting baptized, issuing an injunction, or using cash to purchase a car. These facts, in turn, respectively presuppose a democratic government, a banking system, a church, a legal system, and a monetary system. Obviously, most explanations of social phenomena, whether those of laymen or social scientists, are replete with Type (4) facts.

We are now in a better position to consider what Popper might have meant when he called for explanations of social phenomena in terms of the behavior of individuals. First, it is clear that Popper would have rejected any call for social science to be reduced to Type (1) facts. We shall see in chapter 2 that Popper, swimming against the tide of materialism, argued that it is impossible to reduce mental states to brain states. But here we can simply note that Popper's anti-psychologism would surely rule out this version of methodological individualism. He could hardly argue the impossibility of reducing sociology to psychology while at the same time advocating that sociology be reduced to biology. We should note that very few serious thinkers want to reduce social science to Type (1) facts. Even if such an approach were possible in principle—which is doubtful—the technical knowledge needed to produce such an explanation is eons away, if it will ever be attained.

It is also evident that Popper would reject the claim that in the social sciences explanations must be couched solely in terms of Type (2) facts. Again, given Popper's rejection of psychologism, his version of methodological individualism

surely cannot be interpreted to permit only such nonsociological, psychological dispositions into an explanation of a social event. As we saw above, Popper emphatically rejected Mill's claim that social events and facts can be explained by reference to "the psychology of 'human nature'" alone (*OSE II,* 90). This would surely encompass such traits as indolence or propensity toward violence, as well as more obviously socially oriented human traits.

Upon initial inspection, it appears that Popper's recommendations for social science might be compatible with explanations limited to Type (3) facts. However, these minimally social facts are still too confining for Popper's version of methodological individualism. In fact, Popper explicitly rejects the claim that social science can be reduced to these sorts of facts. He admits, for instance, that such "psychological facts" about individuals as "the craving for power" are no doubt important for the study of politics. But he adds that craving for power is "undoubtedly a social notion as well as a psychological one," by which he means that to gain a complete understanding of this craving, we would have to trace its development within the framework of some particular social institution, such as the family (*OSE II,* 97). In other words, to understand the craving for power, we would have to examine the social institutions and the socialization process that help to inculcate such psychological dispositions in an individual. Popper also says that such psychological concepts as love, ambition, and even his own notion of the "strain of civilization"—a feeling of uneasiness that Popper says is the cost of living in an open society—are both psychological *and* sociological concepts because they cannot be fully characterized without relating them to the social situation (*OSE II,* 98). So it is clear that for Popper explanation of social phenomena by means of such minimally social concepts as power and authority would require reference to specific social situations.

We are left to consider Type (4) facts, and there is no doubt that Popper permits—in fact, requires—the inclusion of these types of facts into social explanations. Popper, who dubs his approach to social inquiry "institutionalist," is quite explicit on this point (*OSE II,* 90). Institutionalists

> can point out, first of all, that no action can ever be explained by motive alone; if motives (or any other psychological or behaviorists concepts) are to be used in the explanation, then they must be supplemented by a reference to the general situation, and especially to the environment. In the case of human actions, this environment is very largely of a social nature; thus our actions cannot be explained without reference to our social environment, to social institutions and to their manner of functioning. (*OSE II,* 90)

Elsewhere, Popper even goes so far as to assert that the chief goal of social inquiry should be the analysis of "abstract relations." By this he appears to mean that social scientists should analyze the rules and regulations that govern individuals' behaviors, as opposed to analyzing the actual individuals who are governed by such rules and regulations (*OSE I,* 175).

Noting that Popper called for social explanations that include references to the social situation, Lukes registers some puzzlement as to why Popper (and Watkins, too) insisted on calling his position methodological individualism (Lukes 1994, 457).[9] And it is puzzling. If Popper permits maximally social propositions into social science's explanations, what type of social explanation is he conceivably rejecting? Surely Popper envisioned his version of methodological individualism as barring some types of explanations. The answer, I think, is that Popper's main goal in developing his account of methodological individualism was to counter what he believed to be a widespread but deeply misguided approach to social inquiry—the approach he dubbed "methodological collectivism." This is the approach that he accused Hegel and, at times, Marx of employing.[10] It entails the belief that some sort of transcendent entity or suprahistorical force can impose its will on individuals and thereby produce social phenomena. In other words, supraindividual entities are deemed to be prior to individuals in order of explanation; individuals are merely puppets to such forces. For Hegel, Popper says, this force would be the "national spirit"; for Rousseau, it would be the "general will" (*PH,* 148–149). Another holistic entity would be Reason, in the Hegelian sense, which directs the dialectical march of history. Watkins seems to have had something like Popper's methodological collectivism in mind when he attacked "*sinister*" or "*in*human" social explanations (Watkins 1994, 445; his italics). Watkins says that these types of explanations account for social phenomena not in terms of "human factors," but rather in terms of "an alleged historicist law which impels people willynilly along some predetermined course" (ibid.). In contrast to the methodological collectivist, "the methodological individualist denies that the individual is ever frustrated, manipulated or destroyed, or borne along by irreducible sociological or historical *laws*" (Watkins 1994, 450 n. 8).

Watkins's comments not only help elucidate Popper's discontent with methodological collectivism, but they also intimate a link between historicism—the view that the aim of social science is to predict the course of history—and methodological collectivism. Popper viewed methodological collectivism and historicism as natural allies (*PH,* 71). Historicists often posit some holistic entity—for example, the Nation or Reason—that subsumes and controls individuals and thereby determines the course of history. However, we should note that for Popper historicism need not entail methodological collectivism. Popper argued that Mill was at once an historicist and a proponent of psychologism. For Mill, it was human nature that ultimately determined history's procession rather than some holistic or suprahistorical force.

Given our analysis, how should we understand Popper's version of methodological individualism? It appears that Popper intended something like this: Explanations in social science always require a description of individuals acting within social situations. The agency of the individual can never be made subservient to the will of some holistic entity; it is ultimately the individual

that animates the social world and never the other way around. At the same time, however, the social situation cannot be reduced to facts about individuals—whether as isolated beings, psychological entities, or material properties. In fact, most of the work involved in developing a situational model will be dedicated to producing a description of the social situation. The actions of the individual, on the other hand, will be assumed to be guided by the rationality principle regardless of the situation.

The Ethics of Methodological Individualism

Popper's strong opposition to methodological collectivism cannot be explained solely on methodological grounds. As noted above, Popper considered methodological individualism to be not only methodologically mandatory, but ethically mandatory as well (Stokes 1998, 80; Lukes 1994, 454). For Popper, the methodological priority of individuals was linked to the moral priority of individuals. This is a prominent theme in *The Open Society* as well as *The Poverty of Historicism* (see *OSE I,* 86–119). In both works, Popper repeatedly warned against the dangers of presuming that holistic entities such as the state or the nation have wills or interests of their own that somehow supersede or transcend those of individuals (*OSE II,* 98–99). Social science based on methodological individualism, he believed, would mitigate the danger of reifying such holistic entities. In *The Poverty of Historicism,* Popper goes so far as to claim that methodological individualism is a "democratic-individualist" approach to social investigation, whereas methodological collectivism entails a "collectivist-nationalistic" stance (*PH,* 148). Popper feared that belief in the reality of collective "spirits" would lead to injustice and suffering on the part of individuals in the name of the "interests" of states or nations or tribes. This was his moral indictment against Plato and Hegel—that they sacrificed the individual on the altar of, respectively, the city and the state. For Popper, methodological collectivism was the handmaiden to the "totalitarian justice" of Platonism and Hegelianism. As we have seen, Popper believed that social institutions and entities have a reality insofar as they influence individuals,[11] but he argues that it does not follow from this that institutions themselves have interests or needs or goals. Institutions exist solely for the interests and needs and goals of the people who compose them. Popper espied a methodological parallel to this point, namely that the existence as well as the behavior of collective entities—states, nations, institutions—are always dependent upon the existence and behavior of individuals. In Popper's words, we need people to "animate" social entities. But, as Popper realizes, it does not follow from this that the behavior of collective entities is *reducible* to the actions of individuals

Thus Popper tries to find a sensible middle ground with his version of methodological individualism and his attack on psychologism and methodological collectivism. Although clarifying his position is made difficult in part

by his confusing labels, for Popper, methodological collectivism is the belief that the attributes and behavior of a collective entity are prior to and independent of the attributes and behavior of individuals. One wonders if any serious thinker actually advocates such a bizarre and seemingly indefensible position. Popper's other methodological opponent—psychologism—is, at first glance, more plausible, but as Popper makes clear, it too is an untenable reductionisistic strategy. It seems, then, that Popper must reject both approaches if sociology is to remain largely autonomous from psychology.

SUMMARY

The goal of this chapter has been to introduce Popper's theory of situational analysis. To bring situational analysis into sharper relief, we also considered some approaches to social science that Popper rejected—namely, psychologism and methodological collectivism—as well as one important social science doctrine that he embraced, methodological individualism. In the following chapters, we will further explore (and sometimes criticize) situational analysis by considering Popper's encounters with positivism, hermeneutics, economics, Marxism, and psychology.

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CHAPTER TWO

Metaphysics, Realism, and Situational Analysis

The previous chapter introduced Popper's situational analysis and considered how it relates to other aspects of his philosophy of social science, including his support for methodological individualism and his rejection of psychologism, conspiracy theories, and methodological collectivism. This chapter and chapter 3 will place situational analysis within the even broader framework of Popper's overall philosophy, especially his philosophy of natural science and his metaphysics. Tracing Popper's encounter with positivism provides a guide for elucidating his philosophy of natural science, given that he developed his most important ideas on scientific explanation in the 1920s and '30s largely in response to the positivism dominant at that time. By the end of this chapter and the next, I hope to accomplish two goals. The first is to offer a more refined and modestly reformulated understanding of situational analysis. The second is to produce a richer understanding of Popper's overall philosophy of science, which will include noting some potential problems and inconsistencies in his thought.

This chapter will attempt to enrich our understanding of Popperian social science by reflecting upon Popper's response to four tenets of positivism—verificationism, empiricism, antimetaphysics, and antirealism. Popper, we will see, made important modifications to the first two tenets and totally rejected the latter two. Our emphasis will be on Popper's defense of metaphysics and scientific realism because Popper's stance toward these two doctrines has especially important ramifications for situational analysis. In particular, we will consider Popper's own contribution to metaphysics and ontology—namely, his theory of Worlds 1, 2, and 3—and the realist understanding of social entities it entails. Our examination of Popper and positivism will continue in chapter 3, where we consider his response to three other key tenets of the doctrine—skepticism toward causes, the covering-law model of explanation, and the unity of scientific method.

THE VIENNA CIRCLE'S POSITIVISM

To help assess Popper's relation to positivism, I want to present a sketch of the key ideas that undergird the doctrine. Such an account is necessary because today the term *positivism* is often used loosely and often used as a term of abuse. For many critics of positivism, the doctrine means nothing more than the attempt to model the social sciences on the natural sciences or, even more broadly, any attempt to quantify social phenomena.[1] Further, positivism is often—and wrongly—associated with political conservatism. In fact, nearly all of the key figures of twentieth-century positivism were leftists, and some—including Otto Neurath, Rudolf Carnap, and Moritz Schlick (who was killed by a Nazi student)—were socialists with Marxist leanings (Hacohen 2000, 186–195; Ayer 1959, 6–7). In order to understand Popper's philosophy we will need to understand the positivism that he was reacting to and eventually claimed to have "killed"—namely, the logical positivism of the Vienna Circle (*UQ,* 88).

Positivism, needless to say, has a long history. Following the hints of his teacher Saint-Simon, August Comte coined the term *positivism,* although the deeper roots of the doctrine can be traced to the British empiricists, such as Bacon, Locke, and Hume, in addition to its French sources. These thinkers emphasized the primary importance of sensory or empirical data in producing our knowledge of the world and expressed skepticism toward any assertion that could not be verified by empirical observation or demonstrated through logical or mathematical analysis. Leszek Kolakowski, in his history of positivism, described the essence of the doctrine as follows:

> Defined in the most general terms, positivism is a collection of prohibitions concerning human knowledge, intended to confine the name of "knowledge" (or "science") to those operations that are observable in the evolution of the modern sciences of nature. More especially, throughout its history positivism has turned a polemical cutting edge to metaphysical speculation of every kind, and hence against all reflection that either cannot found its conclusions on empirical data or formulates its judgments in such a way that they can never be contradicted by empirical data. (Kolakowski 1968, 9)

The central importance of sensory data and the skepticism toward metaphysics remained the key ideas animating the version of positivism developed in the 1920s and 1930s by the Vienna Circle, which included such thinkers as Rudolf Carnap, Otto Neurath, Herbert Feigl, Carl Hempel, A. J. Ayer, and the young Ludwig Wittgenstein (Ayer 1959, 3–28; Hacking 1983, 41–57; Hacohen 2000, 41–57; Joergensen 1970; Kolakowski 1968, 174–206). It is the Vienna Circle's account of scientific knowledge and explanation, usually referred to as "logical positivism" or sometimes "logical empiricism," that philosophers of natural science generally have in mind when they speak of positivism (with or without a preceding adjective). As with any philosophical

movement, there were significant differences among the views held by prominent members of the Vienna Circle. Still, the core ideas of the Vienna Circle's positivism can be identified, which I have broken down into seven key tenets. These tenets are, admittedly, simplifications that overlap considerably. Moreover, in developing these tenets, I have been influenced by Popper's reaction to positivism as he defined the doctrine. It may be that Popper so urgently wished to demonstrate that he had killed positivism that he simplified or distorted the doctrine in order to make it an easier target. But since my goal is to elucidate Popper's ideas, and not to develop a separate nuanced historical account of positivism, this simplification of positivism is acceptable for my purposes.

The seven tenets are as follows: (1) *Primacy of sensory data:* data gained through the senses provides the foundation for our knowledge of the world. (2) *Verificationism:* the only statements or theories worthy of being called scientific are those that have been shown to correspond to empirical facts via observation and experiment. (3) *Antimetaphysics:* statements that cannot in principle be verified by empirical observation are, strictly speaking, meaningless. (4) *Antirealism:* unobservable entities, structures, and mechanisms invoked by scientists are at best useful fictions that help us organize phenomena, but they do not really exist. (A weaker formulation of this tenet is that scientists must remain agnostic about the existence of unobservables because it is impossible to establish their reality.) (5) *Skepticism about causes:* necessary connections between events cannot be demonstrated empirically and lie outside of legitimate science. Thus positivists often interpret the claim that one event causes another as nothing more than the claim that the first event always precedes the second event. (6) *Support for deductive-nomological or "covering-law" explanation:* explanation of an event requires demonstrating that the event was logically necessary given certain initial conditions and the presence of one or more universal laws of nature. (In its strongest formulation, positivism denies that science explains anything; rather, it claims that science merely organizes phenomena or experience). (7) *Unity of scientific method:* the above six principles embody the one, true path to knowledge about the social as well as the natural world.[2]

VERIFICATIONISM, EMPIRICISM, AND METAPHYSICS

Popper was often called a positivist by philosophical friends and foes alike, but this was a label that he adamantly rejected (see *UQ,* 87–90; and *ISBW,* 89). In fact, his first major published work, *Logik der Forschung,*[3] was largely an attack on the Vienna Circle, and Popper himself described that work as such (*ISBW,* 89). The essence of the Vienna Circle's positivism, Popper contends, was a combination of Ernst Mach's claim that "nothing exists other than sensations," Comte's doctrine that "[k]nowledge consists of *descriptions of facts (and not of explanations and hypotheses),*" and Bertrand Russell's "'logistic' philosophy

of mathematics" (ibid.; Popper's italics). But Popper held that his own philosophy was anathema to the Vienna Circle's because he was "an anti-inductivist; and anti-sensationalist; a champion of the primacy of the theoretical and the hypothetical; a *realist*" (ibid.; Popper's italics). Let us consider Popper's reasons for describing himself this way by exploring his positions vis-à-vis the tenets of positivism that I have identified.

Regarding (1), *the primacy of sensory data,* Popper argued that there are no unmediated, theory-free observation statements that scientists can use to construct or corroborate theories (*LcSD,* 422–424). Popper insisted that conjecture about the world always precedes observation. Even in our simplest encounters with our environment, expectation about the world is prior to our experience of it and indeed makes experience possible; there is no such thing as pure experience for Popper. Of course, Popper did not deny the importance of empirical investigation and experiment for testing theories. But he adamantly rejected the contention that genuine knowledge is obtained by purifying the data we receive via our senses—an approach he derisively referred to as the "bucket theory of the mind" (*OK,* 258–259, 341–347). Popper also insisted that the objectivity of science does not depend upon purification of sensory data; rather it depends on the critical spirit of scientists—that is, their willingness to put theories, whether their own or those of others, to the test—and on institutional settings that permit free exchange of ideas and criticism (*OSE II,* 217–220).

Popper's rejection of (2), *verificationism,* was part of his most famous and important contribution to philosophy of science, namely his claim that falsifiability rather than empirical verifiability distinguishes science from nonscience. In contrast, the logical positivists held that empirical verifiability demarcated science from nonscience. But Popper argued that theories, hypotheses, conjectures, or presumed laws of nature can never be proved true no matter how many times they have been corroborated by empirical observation. This insight, which marked Popper's most fundamental criticism of the logical positivists, stemmed from Hume's notorious problem of induction. In the eighteenth century, Hume had scandalized philosophy when he pointed out that our (supposed) knowledge of the world relies upon induction: from repeated, observed instances of some phenomenon we reach conclusions about unobserved instances of that phenomenon. Such reasoning leads us to conclude, for instance, that the sun will rise again tomorrow, that bread nourishes, that water flows downhill. Moreover, the laws of nature discovered by natural science, Hume held, are no different in kind. We conclude that the law of gravity will continue to hold true merely because it has repeatedly done so in the past. But such knowledge can never be rationally justified, Hume argued, because induction is always logically invalid. As Popper put the matter, "rationally, or logically, *no amount* of observed instances can have the slightest bearing on unobserved instances" (*PS,* 107). The problem of induction plunged Hume into radical skepticism, concluding that neither our common sense beliefs about the world nor the laws of nature discovered by science could ever obtain the status of justified knowledge. However,

despite the logical invalidity of induction, Hume argued that induction remains psychologically compelling. We are psychologically wired to expect that future experiences will conform to the patterns of past experiences of the same kind. Or, in Hume's language, "custom and habit" derived from repetition compel us to believe that fire warms, water quenches thirst, and unsupported objects always fall to earth, even as philosophical reflection convinces us that such beliefs are unwarranted.

Popper agreed with Hume that induction is invalid, but disagreed with Hume's claim that humans (and other animals) nonetheless rely upon induction to reach conclusions about the world. "The belief that we use induction is simply a mistake," he said. "It is a kind of optical illusion" (*PS,* 104). Humans do not develop expectations about their world through repeated observations of instances; instead, Popper argued, the opposite is the case. Expectation precedes observation:

> Without waiting, passively, for repetitions to impress or impose regularities upon us, we actively try to impose regularities upon the world. We try to discover similarities in it, and to interpret in terms of laws invented by us. Without waiting for premises we jump to conclusions. These may have to be discarded later, should observations show that they are wrong. (*CR,* 46)

The pursuit of knowledge about our world always begins with hypotheses, expectations, theories, or guesses, and we learn only when we put them to the test. All human knowledge, including scientific theories and purported laws of nature, is thus conjectural and grows through trial and the elimination of error. We learn about the world, Popper said, when our expectations prove false. Hume was correct when he argued that no repeated confirmations of our theories can demonstrate their truth. For this reason all empirical knowledge remains fallible, and the pursuit of *demonstrable* knowledge about our world must be in vain. However, though we cannot be rationally justified in holding that a theory is true, we may be justified in holding that it is false:

> Thus we can say: Hume was right in his negative result that there can be no logically valid positive argument leading in the inductive direction. But there is a further negative result; there are logically valid negative arguments leading in the inductive direction: *a counterinstance may disprove a law.* . . . But the second negative result concerning the force of counterinstances by no means rules out the possibility of a positive theory of how, by purely rational arguments, we can *prefer* some competing conjectures to other. (*PS,* 111)

We may rationally conclude that those theories that make daring, wide-ranging conjectures about the universe—and have withstood rigorous attempts to falsify them—are preferable to timid and untested theories (*LScD,* 112–135; *OK,* 1–31). Accordingly, Popper held that the only theories worthy of the being called scientific are those that are susceptible to falsification, and the more susceptible, the better.

With respect to (3), *antimetaphysics,* Popper held that metaphysical speculation, while unfalsifiable, could nonetheless be rationally criticized (*CR,* 193–200). Indeed, far from being an opponent of metaphysical discourse, Popper devoted much of his time and effort in his later years to developing elaborate arguments in favor of metaphysical theories. Among the metaphysical doctrines that he defended were free will, indeterminism, scientific realism, and his theory of an ontological realm of abstract and autonomous thought that he dubbed "World 3."[4] Moreover, Popper maintained that all scientific theories contain metaphysical elements that cannot be purged, although he did encourage, to the extent possible, their elimination in order to make the theory more testable (*RAS,* 179). In addition, Popper contended that metaphysical theories with apparently no testable consequences may one day become testable. As an example he cited atomic theory, originally an unfalsifiable metaphysical conjecture when first proposed by Democritus (*OSE II,* 299). Popper might also have characterized ancient Greek theories about the composition of planets and stars as metaphysical theories that later became scientific when techniques were developed to test them. Of course, once a theory becomes testable, it is by definition no longer metaphysical. However, Popper admitted that many metaphysical problems are likely to remain so forever, such as the problem of other minds and the determinism versus indeterminism debate.

But how can we assess the validity of a metaphysical theory, given that it is, by definition, incapable of being falsified by empirical evidence? Though metaphysical conjectures are unfalsifiable, Popper said, they can still be subject to critical discussion. He claimed that we should prefer theories that are more consistent with well-corroborated knowledge, prove better at solving problems than other theories, and generate solutions to related problems (that is, prove to be "fruitful") (*CR,* 199). But how does one assess whether a metaphysical theory "solves" a problem better than its competitor if one cannot use logical analysis or empirical evidence as the final court of appeal? Popper was vague here, but his criteria for evaluating a metaphysical theory are akin to the criteria used in assessing the persuasiveness of a textual or historical interpretation. Though Popper himself does not explicitly make this claim, he comes close to doing so in *The Open Society.* Remarking on his interpretation of Plato, Popper says that he does not

> claim scientific status for [his interpretive] method, since the tests of an historical interpretation can never be as rigorous as those of an ordinary [scientific] hypothesis. The interpretation is mainly a *point of view,* whose value lies in its fertility, in its power to throw light on historical material, to lead us to find new material, and to help us rationalize and to unify it. (*OSE I,* 171; Popper's italics)

The parallel between this description of the merits of a good interpretation and a good metaphysics is obvious. Most importantly, neither an interpretation

nor a metaphysical theory can be decisively falsified by empirical evidence (which is not to say that empirical evidence cannot be of some importance in reconstructing an historical event or a text's meaning). I might elaborate on this comparison by noting that, in general, assessing the validity of an interpretation of, for instance, a particular passage from a novel will entail assessing how well it fits with the overall theme or context of the novel as well as, perhaps, the social context in which the novel was written. In turn, assessing the overall theme of the novel will require interpretation of the individual passages that compose it. The pattern is therefore, to some extent, circular—thus the so-called hermeneutic circle. Unlike scientific inquiry, there is no way, as it were, to break out of the circle and anchor the interpretation to something that is purportedly beyond human judgment—namely, empirical evidence. But though we lack such an external reference point in textual interpretation, it hardly follows that all interpretations of a text are totally arbitrary or that any interpretation is as good as the next. Similarly, while a metaphysical theory can never be definitively falsified, much less verified, we can say that some metaphysical theories seem more plausible and more consistent with other knowledge. And surely lack of falsifiability in no way makes metaphysics meaningless, as the positivists would have it. In chapter 3 I will suggest that the falsifiability of a situational model lies somewhere between empirical testing of a scientific theory and interpretation of a text. This, in part, stems from the inability of situational models to produce precise predictions, which in turn stems from the absence of lawlike regularities in the social world and in human psychology.

POPPER'S METAPHYSICAL AND SCIENTIFIC REALISM

Among the metaphysical theories that Popper embraced was realism; thus he rejected (4), *antirealism,* and the instrumentalism implicit in it as well (*OK,* 37–44; *RAS,* 80–88; *SIB,* 9–10). When Popper defended realism, he was often concerned with the mostly uncontroversial view that the objects of our everyday experience are real and partly cause our experiences rather than being creations of our own mind (idealism). Popper dubbed this common-sense approach "metaphysical realism." He acknowledged that metaphysical realism could neither be corroborated nor falsified via empirical investigation, nor conclusively demonstrated through logical argument. Any conceivable evidence corroborating the claim that there is a real world "out there," could always be countered by the assertion that the evidence itself is just a dream. Nonetheless, metaphysical realism is much more plausible than idealism, Popper contended. Citing an argument against idealism by (surprisingly) Winston Churchill, Popper notes that our senses are not our only portals to the external world. Churchill argued that one could use machines equipped with sensory devices to independently verify the existence of certain objects in the external world, such as the sun (*OK,* 43–44). But, Popper acknowledges, someone could always

claim that the machines themselves were a dream or otherwise a product of the human mind. This argument against realism is "silly," Popper admits, but he also acknowledges that it cannot be disproved (ibid.). Against the most extreme form of idealism, namely solipsism, Popper makes the following argument. He says that he has experienced many amazing creations that he cannot conceive of having produced—Bach's musical compositions and Shakespeare's plays, or even cartoon illustrations and television advertisements (*RAS,* 83; *OK,* 41). Solipsism implies that his mind somehow subconsciously generates such creations—an exceedingly bizarre and improbable result that, in addition, "amounts to megalomania" (*OK,* 41). But again, he admits, solipsism nonetheless remains neither empirically falsifiable nor demonstrably false.

More importantly for our concerns, Popper also embraced scientific realism—the view that unobservable theoretical entities, structures, and forces described in some scientific theories are potentially real, as opposed to being merely useful fictions that help scientists organize phenomena (*SIB,* 10). The aim of science for Popper is to produce better explanations of the world, not merely to produce greater predictive power. This enterprise

> can hardly be understood if we are not realists. For a satisfactory explanation is one which is not *ad hoc;* and this idea—the idea of independent evidence—can hardly be understood without the idea of discovery, of progressing to deeper layers of explanation: without the idea that there is something for us to discover, and something to discuss critically. (*OK,* 203)

However, owing to the conjectural nature of all knowledge, the most we can say about any entity or force described in a scientific theory is that it is *potentially* real, its reality being dependent upon whether or not the theory in which it is implicated is true. But the truth of a theory is something we can never know for certain. Thus Popper thought we could never know for certain if particular theoretical entities are real. Nonetheless, Popper held that it is reality that our theories bump up against when they are falsified or corroborated.

Popper's conjectural theory of knowledge makes asserting scientific realism less problematic—though perhaps also of less importance—than it is for positivists. As we saw above, positivists claim that knowledge about the world is gained through the senses, and as a result they tend to view sensory data as the most fundamental type of knowledge—even, in earlier extreme forms of positivism, as the *only* type of knowledge about the world. Thus a sort of hierarchy of knowledge emerges from this perspective: the macroworld, the observable world of everyday experience, becomes the paradigm of what is real, while the reality of unobservable theoretical constructs becomes problematic. But for Popper, this view rests on a false distinction: *all* knowledge is conjectural and theory dependent, whether it is knowledge of the everyday world or of the unobservable world of microphysics. Theories and conjectures must be understood in the broadest sense to include inborn expectations and intuitions acquired through evolution, as well as abstract theories of physics.

Even our simplest observation of the everyday world involves an active and conjectural process rather than a passive reception of data. Popper notes, for instance, that

> the neurophysiology of the eye and that of the brain suggest that the process involved in physical vision is not a passive one, but consists in an active interpretation of coded inputs. It is in many ways like problem solving by way of hypothesis. (Even the inputs are already partially interpreted by the receiving sense organ, and our sense organs themselves may be likened to hypotheses or theories—theories about the structure of our environment, and about the kind of information most needed and most useful to us.) (*SIB,* 45)

Moreover, just like abstract theories of science, inborn expectations are potentially false. Of course, such expectations will usually be at least good approximations to the truth, else they would be removed from the population through natural selection. For instance, it appears that infants are born with a number of intuitions about the physical world that are useful for everyday life but are at best crude approximations to the truth judged by the standards of contemporary physics, or even Newtonian physics (Pinker 1997, 319–320). Inborn intuitions about, for example, momentum and falling objects have to be corrected through scientific training. We might even describe science as the project to improve or even supersede our intuitions about the world. Kant was right, Popper says, in arguing that we necessarily impose categories and structures onto our world, but wrong in supposing that these impositions have a priori validity and cannot be transcended (*RAS,* 152–155). Thus for Popper our knowledge about the realm of microphysics lies along a continuum with our knowledge of the observable macroworld. *All* our knowledge is conjectural, potentially false, and likely capable of improvement.

Given the conjectural and theory-bound nature of all knowledge, what criteria can we establish for determining whether or not we are warranted in calling something "real"? Popper suggests two standards. The first is efficacy upon something that is unproblematically real.[5] The material world is the paradigm of reality, so anything that can affect material things is ipso facto real. But common sense tells us that mental events—pain, emotions, thoughts—are also real, so anything that affects them should be considered real, too (*OU,* 117). The second criterion for realness is independent corroboration of a theoretical entity's existence—or, as Popper says, "by the discovery of effects that we would expect to find if [the entity] did exist" (*SIB,* 10; see also *OU,* 116). It is preferable for both of these criteria to be fulfilled, but the first criterion, efficacy, is sufficient to warrant calling something real. Thus for Popper theoretical entities and forces and even abstract concepts are candidates for reality, just as are the objects of everyday experience. Einstein's theory of Brownian motion hypothesized that, under certain experimental conditions, unobservable theoretical entities (atoms) would cause observable objects (very small particles suspended in liquid) to move. The experiment proved a success, satisfying Popper's two

criteria for realness; therefore, atoms are real (*SIB,* 9). Moreover, while Popper acknowledges that, probably owing to our early childhood experiences, material objects form the "paradigm of reality" for us, nonetheless we should not concede that "material things are in any sense 'ultimate'"(ibid.). Material things, modern physics has taught us, may in certain cases be "interpreted as very special physical processes" (ibid.).

But I should stress here that, for Popper, in claiming that certain theoretical entities, such as atoms or neutrinos, are real, we make no claim to have described those entities completely. Popper held that good scientific theories get closer to the truth (they have greater "verisimilitude"), but no theory ever produces an ultimate explanation—that is, an explanation whose truth would be somehow intuitively obvious and in no need of further refinement (*OK,* 194–195). Popper rejected such "essentialism" (ibid.). Science, he said, does "probe deeper and deeper into the structure of the world," but there can be no end to science; rather, the task of science continually renews itself (*OK,* 196). We can always seek a deeper, "more essential" explanation of the phenomena described by any given theory (ibid.). And, because verifying—as opposed to falsifying—a theory is impossible, even if we did produce a complete, exhaustive, irreducible account of some phenomena, we would have no way of knowing that the theory was in fact perfect and final. A theoretical entity such as the atom might one day be superseded by a theory with a richer, deeper account of the microscopic world. Nonetheless, the older atomic theory has, however imperfectly, described reality and that description accounts for the predictive power atomic theory has so far produced.

REALISM, WORLD 3, AND SOCIAL INQUIRY

What relevance does Popper's realism have for social inquiry? This is a question of some importance, although it has scarcely been explored in the literature on Popper. This is unfortunate because a full understanding of Popper's ideas on social science, including situational analysis, requires an understanding of his realism. In particular, to fully understand the connection between Popper's realism and his understanding of social science, we need to consider Popper's theory of the three worlds. This was Popper's highly original contribution to ontology, which he began to develop in the 1960s in such essays as "Epistemology Without a Knowing Subject" and "On the Theory of Objective Mind" (*OK,* 106–190). He further developed this pluralist ontology in *The Self and Its Brain,* an inquiry into the mind-body problem published in 1977. A brief account of Popper's theory is needed before we explore its relevance to social inquiry.

Popper claimed that the world could be divided into "at least three ontological distinct sub-worlds," which he called Worlds 1, 2, and 3 (*OK,* 154). Worlds 1 and 2 correspond respectively to body and mind in the traditional mind-body dualism. That is, World 1 represents the material world, and World

2 is the realm of subjective mental states. Like other advocates of mind-body dualism, Popper held that World 2 was an irreducible, nonmaterial, and autonomous realm. However, Popper was not a mind-body dualist—he was an ontological pluralist. He held that there was a third ontological realm beyond the material world and the world of subjective experience. This was Popper's World 3, which he described variously as "the world of *objective contents of thought,*" "the world of the products of the human mind," and "the world of intelligibles, or *ideas in the objective sense*" (*OK,* 107, 155; *SIB,* 38; Popper's italics). This world, according to Popper, includes "stories, explanatory myths, tools, scientific theories (whether true or false), scientific problems, social institutions, and works of art" (*SIB,* 38.).

In positing World 3, Popper placed himself in the company of another ontological pluralist, Plato. Specifically (as Popper himself emphasized), World 3 in some ways resembles Plato's Forms. Like the Forms, World 3 objects are real and autonomous entities that play a central role in human cognition. Plato thought people were born with an intellectual intuition that allowed them, however dimly, to "see" the Forms, and that they used this faculty in making intellectual judgments. Indeed, philosophy could be described as the task of learning to see the Forms better. Similarly, Popper said that people think largely by "grasping" World 3 entities, as when they try to solve a problem by contemplating a scientific theory (*SIB,* 43).

However, there are important differences between the Forms and World 3. Unlike the Forms, which Plato held to be eternal, immutable, and divine in origin, Popper's World 3 is a purely human construct. But despite their human origins, Popper argued that World 3 entities take on a life of their own—they become "autonomous"—once they are created. That is, World 3 objects become independent and objective features of our universe and continue to exist regardless of whether any person happens to be thinking about a particular World 3 object at any given moment: "[A] book remains a book—a certain type of product—even if it is never read" (*OK,* 115). What Popper meant is that the objective knowledge contained in the book—say, a series of mathematical formulas—continues to exist and continues to retain the potential to affect human (or other intelligent beings') consciousness regardless of whether it is ever read. Moreover, Popper contended, the creation of a World 3 object typically produces new and, as a rule, unintended problems and facts in the World 3 universe that may not be initially evident. For instance, Popper held that natural numbers are a human creation. Yet with their invention "there came into existence odd and even numbers even before anybody noticed this fact, or drew attention to it" (*SIB,* 41). Prime numbers were also brought into existence with the creation of natural numbers, and this in turn created a new World 3 problem: namely, whether or not there are an infinite number of prime numbers (*OK,* 118). It took some time following the invention of natural numbers for this problem to be noticed, and many years more before the problem was solved. Finally, Popper argued

that World 3 contains false as well as true theories about the world, unlike Plato's Forms, which were flawless, ethereal exemplars of imperfect ideas and objects found in the terrestrial world.

Now, as we saw above, Popper argued that efficacy on material objects is a sufficient condition for calling something real. And, indeed, Popper argued that World 3 is real just because it affects World 1, via World 2 (*SIB,* 38): "[I]nteraction with World 1—even indirect interaction—I regard as a decisive reason for calling a thing real" (ibid.). When, for instance, a person grasps or attempts to grasp a World 3 object—say, for instance, a scientific theory—it affects her mental state (World 2), which in turn may affect the physical world (World 1). For example, an electrical engineer might study a physics theory to help her construct a new type of computer chip. Thus her interaction with a World 3 theory, through the medium of World 2, leads to an alteration of World 1—namely the creation of the new computer chip. We could also say that World 3 affects World 1 simply by altering the brain states of the engineer. But, according to Popper's theory, this interaction would still take place with World 2 as the medium through which World 1 is altered. That is, grasping a World 3 object causes a change in an individual's subjective mental state (World 2), which in turn causes a change in the person's brain state. Finally, it would be consistent with Popper's position to say that the theory's effect on the engineer's mental state is sufficient to show the reality of World 3, although perhaps not quite as decisive as its efficacy on World 1, if only because the reality of World 2 is not universally acknowledged.

As noted above, scientific and mathematical theories are not the only inmates of World 3. Its inhabitants also include social institutions, traditions, language, and values, and therefore Popper's theory has obvious relevance for his philosophy of social science. As we saw in chapter 1, Popper's methodological individualism in no way requires reduction of social institutions to facts about individuals; rather, it merely bars assigning intentions, wants, or beliefs to holistic entities. Now we can add that social institutions for Popper must be considered real in a very robust sense—namely, that they influence individuals, their bodies as well as their minds.[6] This influence has obvious importance for understanding situational analysis.

Let us return to the example of Richard the pedestrian, first discussed in chapter 1, which Popper used to describe the elements of a situational model. Recall that Richard faces social institutions as well as physical obstacles as he tries to cross the street. The social institutions, Popper says, might include "rules of the road, police regulations, traffic signals, zebra crossings," and the physical obstacles Richard encounters include such things as parked and moving automobiles and other people (*MF,* 167). Popper notes that some of the social institutions, such as the zebra crossings and traffic signals, are incorporated in physical objects, whereas others "are of a more abstract nature," such as the rules of the road (ibid.). In light of our discussion above, these social institutions and physical objects that Richard encounters can now be described as

World 3 and World 1 entities, respectively. Popper himself does not describe them as such in his discussion of Richard the pedestrian, written as it was in 1963, but this is clearly consistent with his later pluralist ontology. We can also say that the World 3 entities Richard encounters are real in the same sense that the traffic cones and median strip are. The social institutions affect Richard's behavior, as do the physical objects. Specifically, Popper says, social institutions and physical objects affect Richard's behavior as barriers. Indeed, Popper claims that Richard may experience the rules of the road and other abstract social institutions

> exactly as if they were obstacles, either physical bodies such as cars or physical laws (which are "prohibitions") such as the law of conservation of momentum pertaining to moving cars. In fact, I propose to use the name "social institution" for all those things which set limits or create obstacles to our movements and actions almost as if they were physical bodies or obstacles. Social institutions are experienced by us as almost literally forming part of the furniture of our habitat. (*MF,* 167)

A small inconsistency in this passage should be noted. At first Popper describes Richard's experience of social institutions as "exactly" like that of physical barriers, but then a moment later says the experience is "almost" the same. Nonetheless, Popper has laid out an account that is consistent with his argument for the reality of World 3. Acting as barriers, social institutions influence Richard's behavior; therefore, they are real. The fact that social institutions are abstract entities, rather than physical bodies, in no way detracts from their reality. For Popper, abstract entities can be just as real as physical entities: "World 3 objects are abstract (even more abstract than physical forces), but none the less real" (*SIB,* 47).

However, Popper's account of social institutions as barriers seems both incomplete and problematic. Incomplete because he leaves unanswered just how, exactly, social institutions function as barriers. Problematic because describing social institutions as barriers seems too confining, given Popper's robust account in other contexts of the way that people use World 3 entities to solve problems, create works of art, communicate with others, and so forth. In the following paragraphs I would like to attempt to remedy these shortcomings. First, I will try to develop a richer understanding of how institutions might function as barriers that remains consistent with Popper's situational analysis as well as his overall philosophy. Then I will suggest how Popper might have described social institutions as World 3 entities that enable as well as constrain situational actors, just as physical objects may both enable and confine human action.

We can begin by asking what, precisely, Popper meant when he claimed that social institutions are barriers (*SIB,* 47). One possible interpretation of this statement is that some social institutions, such as rules of the road, become so ingrained in our minds that they cause us to habitually, even subconsciously,

avoid taking certain actions. That is, they function as a kind of psychological barrier. From this perspective, Richard declines to walk outside of the crosswalk or declines to cross the street when the sign reads "Don't Walk" not because he reasons that such behavior might be dangerous or trigger public disapproval or generate some other "costs." Rather, without thinking he obeys the road rules. Now, this is certainly a plausible description of the way that some social institutions might function as background rules guiding our lives. It seems an especially apt description of such World 3 entities as norms because norms often become internalized. In fact, internalization is one criterion that social scientists sometimes use to distinguish between social institutions and social norms (Elster 1989, 147). From this perspective, social institutions rely on formal sanctions—for example, fines, punishment, or expulsion from a group—to influence behavior. In contrast, someone who has internalized a norm will obey it even if violation of the norm goes undetected. For instance, a person might choose not to litter even if there is no one around to observe his behavior. The norm might be so ingrained that he adheres to it in a completely subconscious and automatic manner.

But it seems unlikely that Popper intended, or would have embraced, this understanding of the way that social institutions function as barriers. First, it appears to run afoul of Popper's anti-psychologism; and, second, it loses plausibility when it is applied to social institutions other than norms. Recall that one of Popper's goals in developing situational analysis was to purge social explanations of psychological assumptions about actors. But this reading suggests that Popper has smuggled in psychology despite himself. By describing norms as internalized dispositions, we seem to be characterizing an actor's subjective state, a World 2 entity. However, it is important to emphasize that there is nothing wrong per se with incorporating norms into situational analysis. In fact, in chapter 4 we will see that openness to inclusion of norms is one way that situational analysis can be distinguished from rational choice theory. But to be consistent with Popper's anti-psychologism, a norm must be understood as something external that the actor consciously heeds and rationally responds to, rather than as a deeply embedded psychological disposition. As Popper says, in situational analysis "a man with particular memories or associations becomes a man whose situation can be characterized by the fact that he is equipped objectively with particular theories or with specific information" (*ISBW,* 79). In any event, even if norms and some social rules (such as rules of the road) can be understood as deeply ingrained psychological dispositions, it is certainly not possible to view *all* social institutions this way. Surely people primarily experience such institutions as markets, governmental organizations, and schools as external entities that they interact with and manipulate rather than as internalized dispositions.

How then might we conceptualize social institutions and norms as barriers in a manner consistent with Popper's anti-psychologism? This, it seems, would require that we ascribe agency to actors in their interaction with social

institutions. Social institutions must be understood as being external to actors, and as being entities that actors consciously interact with (or, at least, heed) in the same way that scientists use theories to solve problems. Imagine that the rules of the road include the injunction "Don't cross the street when the sign reads 'Don't Walk.'" Richard could respond to this rule in an instrumental manner. He grasps the rule, weighs the potential costs and benefits of adhering to the rule, and in the end elects to abide by it. The potential costs of ignoring it might include getting hit by an oncoming automobile, being fined, or being shamed in public. The benefits of heeding it in this case are perhaps nothing more than avoiding the potential costs. However, Richard's calculation need not be instrumental. He might reason that crossing the barrier is an option, but that he ought not do it, perhaps on the grounds that he has a duty to abide by the law. In chapter 4 we will see that it would be consistent with Popper's rationality principle for a citizen to vote out of a sense of duty rather than as a result of instrumental calculation. Note that in both of these examples social institutions do not function as barriers that strictly prohibit certain courses of action, as physical barriers sometimes do (especially laws of nature); rather, they make certain actions more attractive and others less attractive. Nor does this conception of social institutions imply strict determination of Richard's behavior. To be sure, Richard's behavior is *influenced* by the road rules, and for this reason we can say that they are real, in accordance with Popper's criterion. If he acts rationally or "adequately," he will follow the rules. But nothing prevents him from blithely ignoring the rules, just as he could ignore some physical barriers, such as an oncoming automobile, though obviously he might regret doing so, if he lives. People do not always act rationally, Popper admitted; that is, they sometimes act contrary to their own goals and beliefs. To use Popper's own example, a flustered motorist acts irrationally when he continues frantically seeking a parking space in a lot that he knows to be full (*MF*, 172). Therefore we cannot say that individuals' actions are strictly determined by their World 3 environment.

Though more plausible, this understanding of Popper's notion of social institutions as barriers is, however, surely an unacceptably restrictive understanding of human interaction with social institutions. We can start by noting that Popper himself hardly envisioned other World 3 entities, such as scientific theories, as barriers to human action—or, rather, *solely* as barriers to actions. Popper saw scientific theories as enabling human action in the sense that they organize experience so that nature can be explored. As we have already seen, for Popper there is no such thing as experience without expectation, and expectation may be provided by everything from an animal instinct to a full-blown scientific theory. Scientific theories—and nonscientific theories, too—are World 3 tools that we use to explore our world. They may be employed in a manner not unlike physical instruments, such as microscopes and radio telescopes. But it also true, of course, that scientific theories at the same time function as barriers. They may blind us to certain experiences or lead us to

interpret those experiences wrongly. Popper's discussion in *Objective Knowledge* of Galileo's rejection of the theory that the moon affects the tides provides a fine example of how theories may blind a scientist to alternative explanations of phenomena (*OK,* 170–176). Popper argued that Galileo rejected the now universally accepted lunar theory because he was wedded to the Copernican theory of circular planetary orbits. In turn, he was committed to Copernicus's theory because it could apparently be explained solely by two physical laws that he himself had discovered—inertia and conservation of angular momentum. But commitment to this theory blinded Galileo to scientific evidence that strongly corroborated the connections between lunar cycles and the tides. Of course, there is nothing exceptional about Galileo's case; all scientific theories constrain and enable at the same time. They necessarily close off certain interpretations of data while opening up others.

The power to constrain and enable are also properties of other World 3 entities, such as musical and artistic traditions. Popper quite properly saw these resources as aids to creativity, such as when an artist or musician draws upon a certain tradition when creating a composition (*OU,* 128). Traditions may be said to enable a musician or artist by providing guidelines for exposition and by generating the essential tension necessary for creativity. But at the same time traditions block potential avenues of artistic exploration. Remarking on Beethoven's creativity and musical tradition, Popper says the following:

> As a composer [Beethoven] freely subordinated his will to the structural restrictions of World 3. The autonomous World 3 was the world in which he made his great and genuine discoveries, being free to choose his path like a discoverer in the Himalayas, but being restrained by the path so far chosen and by the restrictions of the world he was discovering. (*OU,* 128)

So, given Popper's endorsement of the constraining and enabling powers of scientific, artistic, and musical theories, why might not social institutions—for example, schools, banking systems, legal codes, and churches—be understood similarly? Popper is certainly right to claim that social institutions may function as barriers, but in what sense can they be said to enable action? Popper's notion that science itself is a social institution provides an answer. For Popper, science conducted by a sole individual is simply not possible (*OSE II,* 219–220). Science is an inherently public enterprise that requires a community of scientists, each dedicated to subjecting other scientists' theories to critical scrutiny. Without such public scrutiny, science cannot progress, for no person can foresee all the shortcomings, misconceptions, prejudices, and lacunae in his or her own theories. Indeed, as Popper emphasizes, the objectivity of science does not reside in the subjective state of a scientific inquirer, that is, a state in which a scientist has purged his or her mind of all preconceptions (ibid.). Rather, objectivity depends upon the public character of scientific inquiry. This, in turn, partly relies on the presence of certain norms, or what Popper calls a "friendly-hostile" attitude among scientists (*OSE II,* 217).[7] Scientists

must believe that it is proper and fitting to publicly criticize each other and to be the subjects of such criticism.[8] Social institutions, such as scholarly journals and scientific conferences, as well as a liberal political environment, also contribute to public criticism. Popper argues that without such norms and institutions, producing a genuine scientific discovery would be almost "miraculous" (*OSE II,* 219). If we were to construct a model of the situation confronting a scientist (whether an actual scientist or a typical scientist), norms of friendly hostility and institutions that facilitate criticism would surely form part of the scientist's World 3 environment. And it is clear that these norms and institutions should be understood as enabling the scientist to carry on his or her work, rather than serving as barriers.

The example of scientific practice shows that social institutions may facilitate certain types of activities rather than serving as barriers, but there is a deeper and more important sense in which social institutions can enable certain actions. This involves the innumerable situations in which social institutions actually create the possibility of certain types of actions. For an example of this type of relationship between action and institution, consider the practice of voting in a democratic country. This type of action depends upon the presence of certain institutions, perhaps most obviously the institution of parliamentary elections, which enables citizens to participate in the election of representatives. But, unlike the case of scientific inquiry, the institution of parliamentary elections enables not by facilitating certain actions, but by creating the possibility of certain actions, namely the act of voting. The creation of the parliamentary system and elections quite literally gives citizens a power that they would lack in a nondemocratic system. The very concept of voting, thus the ability to vote, would not exist apart from the existence of certain democratic institutions. This point, incidentally, has been emphasized by social-scientific realists such as Roy Bhaskar, William Outhwaite, and Jeffery Isaac, theorists who see a continuum between realism in the natural and social sciences. Isaac, for example, develops what he calls a realist theory of power, wherein power is conceptualized as the capacities provided to people by virtue of institutional roles. He defines "social power" as "*the capacities to act possessed by social agents in virtue of the enduring relations in which they participate*" (Isaac 1992, 47; his italics). For example, a capitalist in a capitalist system has the power to purchase labor power and a worker has the power to sell his labor. A teacher has the power to assign grades, a student has the power to attend class, and to evaluate the teacher at the end of the course. Without the social institutions and social roles that create the categories of capitalist/worker and teacher/student, such "powers to" would be nonexistent. This insight seems to me to be wholly compatible with Popper's understanding of the interaction between agents and World 3 entities. Also, this similarity between Popper and social-scientific realists such as Isaac reinforces our finding from earlier in this chapter that Popper's realism is applicable to his understanding of social as well as natural science.[9] This is a somewhat ironic finding given that Isaac,

Bhaskar, and Outhwaite all single out Popper as an avatar of the reductionsitic, positivistic social science that they wish to combat.

Thus, just like physical objects, social institutions may be understood as entities that both constrain and enable human actions. A brick wall might inhibit a person's movement, but a hammer or a microscope can enable a person to perform certain activities, like build a house or observe tiny organisms. Similarly, social institutions may inhibit certain behaviors, but they also facilitate certain behaviors, too, and often they create the very possibility of certain actions. Thus Popper's definition of social institutions solely as barriers must be rejected. Instead, social institutions should be viewed as both constraining and enabling. Happily, this expanded understanding of social institutions is completely consistent with Popper's situational analysis as well as his ontology of the three worlds.

SUMMARY

This chapter has shown that Popper's World 3 entities must be viewed as real if we are to understand situational analysis. In particular, the social institutions, practices, norms, traditions, and other World 3 entities that confront actors in situational analysis should be seen as real because they influence human behavior. However, Popper's view of social institutions solely as barriers is inadequate. Social institutions—along with other World 3 entities, such as scientific and artistic theories—may enable as well as constrain human action.

A subsidiary goal of this chapter was to make a contribution, however small, to the understanding of Popper's overall philosophy, including his views on natural science and metaphysics. At the very least, I hope to have made clear exactly why Popper should not be considered a positivist, given his opposition to positivist doctrines of verificationism, naïve empiricism, and antimetaphysics. And I hope to have demonstrated that Popper's stance with respect to these doctrines is relevant to his social science. In the next chapter, we will continue to develop our understanding of situational analysis by examining Popper's confrontation with three other tenets of positivism.

CHAPTER THREE

Social Laws, the Unity of Scientific Method, and Situational Analysis

This chapter continues our exploration of Popper's wider philosophy and its implications for situational analysis, again using his response to various aspects of positivism as our guide. We will focus on the other key tenets of positivism that I have identified—skepticism toward causality, the covering-law model of explanation, and the unity of scientific method. Our main findings will concern lawlike regularities in the social world and the unity of scientific method. We will find that, despite Popper's claims (especially his earlier claims) to the contrary, laws play essentially no explanatory role in his social science. Moreover, his claim that the methods of the natural and social sciences are essentially the same will be shown to be plausible only if their methodologies are described in a highly abstract way. When more concrete and stringent criteria are posited for the scientific method, important differences remain between natural and social inquiry. The most important difference, we shall see, involves falsifiability—and thus the very practice of situational analysis.

CAUSATION, COVERING LAWS, AND REALISM

Much of what Popper wrote appears completely at odds with the fifth tenet of positivism, designated in the previous chapter as *a skeptical attitude toward causes.* For instance, he dismissed the claim that "the aim of science is merely to establish correlations between observed events, or observations (or, worse, 'sense data')" (*MF,* 105). Popper held that the true goal of science is to discover "new worlds behind the world of ordinary experience: such as, perhaps, a microscopic or submicroscopic world—gravitational, chemical, electrical, and nuclear forces, some of them, perhaps, reducible to others, and others not" (ibid.). That claim is consistent with his critique of induction and naïve empiricism. In fact, it is merely a restatement of his realism—science attempts to discover real structures, forces, and entities that lie behind the world of

everyday experience. It also expresses a realist notion of causation insofar as a scientific explanation would require identifying the forces and mechanisms that produce various phenomena. Interestingly, however, Popper also embraced what I have designated as the sixth tenet of positivism—*the covering-law model of explanation*—and upon first inspection his notion of a causal explanation appears identical to the "standard" positivistic account (*LScD,* 59–62; *PH,* 122–124; *RAS,* 131–147). According to Carl Hempel, a central figure in the development of the model, a scientific explanation "may be conceived as a deductive argument" in which the initial conditions and general laws function as the premises (Hempel 1965, 336). Similarly, in *The Logic of Scientific Discovery,* Popper asserted that "[t]o give a *causal explanation* of an event means to deduce a statement which describes it, using as premises of the deduction one or more *universal laws,* together with certain singular statements, the *initial conditions*" (*LScD,* 59; Popper's emphasis). Hempel cites Popper as among the principal developers of the covering-law model, and, indeed, it is sometimes referred to as the "Popper-Hempel theory" (Hempel 1965, 337).[1] Popper also endorsed the symmetry of explanation and prediction—that is, the claim that to explain an event is the same as predicting its occurrence (*PH,* 124). Positivists embraced this account of explanation and causation because it locates causality in the logical structure of an explanation rather than in nature itself. In doing so, it circumvents the problem of identifying a "necessary connection" between events, which Hume famously demonstrated could not be uncovered by induction alone.

Popper initially avoided discussion of ontological necessity or causality. In the first publication of *The Logic of Scientific Discovery,* he noted that the initial conditions of a covering-law explanation were "usually called the 'cause'" and that the predictions described what was "usually called the 'effect,'" but he added that he himself would not use such terms, apparently considering them superfluous (*LScD,* 60). However, he later revised his position, although one has to do a little digging outside the main text of his works to uncover the genesis of the change. In a footnote in *The Open Society and Its Enemies* and in an appendix added to the 1959 edition of *The Logic of Scientific Discovery,* Popper embraced the notion of natural necessity and announced no more hesitation in using the word "cause" to describe it (*OSE II,* 362–364; *LScD,* 421–441). Popper reached this new stance by characterizing universal laws as conjectures about the "structural propert[ies] of our world" (*LScD,* 432). As such, he says, a universal hypothesis "asserts the truth of the statement that A *causes* B, provided that the universal hypothesis is true" (*OSE II,* 363; my emphasis). In other words, if the proposed law is true (something that we can never know for certain), then it entails certain naturally or physically necessary consequences. So in Popper's revised version of covering-law explanations, causality seems to reside ontologically in conjectural universal laws, while logical causality is located in the deductive structure of a particular explanation. Thus causal connections are hypothesized to be real—that is, necessary—connections, but,

owing to the conjectural nature of all knowledge, we can never say for certain that the causal account offered is true.

Yet this account still seems to be in some tension with Popper's realism. For a positivist, any unobservable forces or entities cited in the laws and initial conditions of a scientific explanation are merely useful fictions that help the scientist organize observable phenomena. But, as we saw above, for Popper theoretical entities are potentially real, and a realist ascribes causal powers to structures, theoretical entities, and forces. Thus it would seem that for Popper the forces or entities or structures—and perhaps even abstract structures like World 3—that *produce* phenomena, including universal laws, should be saddled with the actual causation. In any event, most realists reject the covering-law model of causation. As Ian Hacking has argued, the covering-law model only makes sense within a positivistic framework that denies or downplays cause, metaphysics, and theoretical entities (Hacking 1983, 44–53). But for a realist, as William Outhwaite has argued, "deducibility from a general law is not an explanation, but merely a regularity to be explained by demonstrating the existence and functioning of a mechanism which produces the regularity" (Outhwaite 1987, 34). Thus, from the realist's perspective, the covering-law model is like a consolation prize, a second-rate account of causality that positivists offer because they believe that, at best, talk of causally efficacious theoretical entities and forces is unverifiable and, at worst, metaphysical nonsense. But because Popper believed that unobservable entities, forces, and fields are potentially real and that we can come to know something about their nature, he should have had no use for the covering-law consolation prize. I therefore propose that the covering-law model of explanation is best seen as an artifact of Popper's early philosophy and can be severed from the core ideas of his mature thought without damaging them. Causation can be understood in purely realist terms and remain consistent with Popper's philosophy of natural science. However, later in this chapter I will argue that a realist understanding of causality probably should not be extended to Popper's situational analysis, at least with respect to the actions of the human agents. For Popper, human action should not be understood as causal, at least insofar as it is rational.

Popper and Social Laws

As with his account of laws in the natural sciences, Popper's thinking on universal laws in the social world underwent a dramatic change over the years. Let us first consider what Popper had to say about social laws in his early work, and then we will discuss how his ideas on social laws shifted as he developed his theory of situational analysis.

In *The Poverty of Historicism* and *The Open Society and Its Enemies,* Popper insists that one of the aims of social inquiry should be to uncover social laws. Furthermore, he expresses confidence that social laws do exist, even going so far as to describe them as "natural laws of social life" (*OSE I,* 62; see also *OSE*

I, 67–68; *PH,* 61–62, 97–104). In *The Poverty of Historicism,* Popper cites a number of supposed social laws, most of them from economics (*PH,* 62). They include "You cannot introduce agricultural tariffs and at the same time reduce the cost of living," and "You cannot have full employment without inflation." From the field of politics he cites, "You cannot make a revolution without causing a reaction," and "You cannot introduce a political reform without strengthening the opposing forces, to a degree roughly in ratio to the scope of the reform." However, a moment's reflection reveals that Popper's "laws" are either trivial, such as his maxims about revolutions and social reform, or simply false, such as his conjecture regarding the relationship between employment and inflation. For instance, such a relation need not apply to socialist economies and probably does not apply to capitalist economies in all conceivable situations. Indeed, Popper's examples do not fulfill the requirements for universal laws that he himself enumerates elsewhere. Those criteria include that a law shall be applicable "everywhere, and at all times" and that it admit of no exceptions (*RAS,* 134; see also *RAS,* 66–67, 137; *PH,* 103; *OSE I,* 57–58; *LScD,* 62).

That Popper could not provide examples of genuine lawlike regularities in the social world is not surprising. They are probably nonexistent, and the reasons for their absence are several. Among the most important is the constant flux of the social world. As institutions, practices, and beliefs invariably change, the regularities associated with those institutions and practices alter or even completely disappear. To illustrate, consider that until recently there was something of a consensus among mainstream economists that unemployment in the U.S. could not sink below 6% without triggering inflation. But from 1998 to 2000 the U.S. unemployment level hovered around 4% while inflation remained low, leading some economists to suggest that the U.S. had entered a "new economy." Owing to computers and other technological innovations that increase productivity, economists hypothesized that businesses were able to hold prices down even as competition for workers forced wages up. Thus the presumed lowest noninflationary unemployment level of 6% was never a constant like the constant in the law of gravity—that is, timeless and universal. Rather, it was merely a by-product of certain institutional arrangements, beliefs about the economy, and human knowledge. In this case, the change in the lowest noninflationary unemployment level was presumably the result of growth in human knowledge, specifically new technological innovations. Importantly, changes in human knowledge, including those that alter economic regularities, cannot be predicted, as Popper himself persuasively argued in the preface to *The Poverty of Historicism* (*PH,* vi–viii). Therefore, there is no way to predict how social regularities might alter in response to new developments in knowledge. We might also note that theories about the economy may themselves affect the regularities associated with the economy. If, for instance, the chairman of the Federal Reserve Board believes that the U.S. has entered a new economy, this will affect his decisions to raise or

lower the prime lending rate, which in turn will affect bond prices, employment rates, and other economic values. This so-called reflexivity of social theories is ubiquitous in social life, but there is no comparable phenomenon in the natural world—that is, our theories about the natural world do not affect the laws that govern it.

Popper was not unaware of the claim that social regularities are relative to particular cultures and historical periods. In fact, in *The Poverty of Historicism,* he explicitly addressed the contention (*PH,* 97–104). He acknowledged that there are social regularities that hold good only for certain historical periods, but he claimed that, in the first place, the situation is no different in the natural sciences. Many of the regularities of the natural world, he noted, are specific to time and place, such as the length of days, which varies as one moves away from the equator. Even the enduring regularities of the planets' orbits in the solar system are confined to our solar system only. But, he argues, the fact that such time- and place-specific regularities are part of the natural world in no way bars the existence and discovery of truly universal laws that span all times and places. And, of course, many such laws have been discovered—Newton's laws, to name the most obvious—and these are the most prized findings in natural science. He then adds that

> there seems no reason why we should be unable to frame sociological theories which are important for all social periods. The spectacular differences between these periods are no indications that such laws cannot be found, any more than the spectacular differences between Greenland and Crete can prove that there are no physical laws which hold for both regions. (*PH,* 101)

But, significantly, Popper offers no examples of social laws that are not dependent on time and place, whereas the supposed laws he does offer elsewhere (such as those noted above) are the sort that are obviously dependent upon time-specific social institutions or are examples of natural, not social, laws. For instance, he claims that an historian's explanation of Bruno Giordano's death at the stake relies on the "tacitly assumed" law that "all living things die when exposed to intense heat" (*PH,* 145). But such a law is clearly a physical law, not a social one. Presumably, genuinely universal social laws would somehow be impervious to alterations in social structures such as institutions, culture, and norms. But Popper does not even hint at the form such laws might take.

Popper was also aware of the reflexivity of social predictions, dubbing it the "Oedipal effect" (*PH,* 12–17; *OSE I,* 22). This effect may bar precise prediction of future social events, but, he says, this merely adds weight to his argument against the possibility of historical forecasts. Among the key arguments undergirding *The Poverty of Historicism* is that knowledge affects the future, and because we cannot know what we will know in the future, we cannot predict the future. The Oedipal effect is just another factor that tends to undermine prediction in the social sciences. However, what Popper apparently failed

to notice is that the Oedipal effect not only bedevils attempts to predict future social events, but it also may undermine social regularities themselves. If a theory about the social world, including a hypothetical social law, becomes public knowledge, it might encourage the taking of measures to alter the social regularity. For instance, steps could be taken to counter Popper's "law" regarding agricultural tariffs and the cost of living, price controls being the most obvious. This might have some unwanted consequences, but it nonetheless could alter the purported regularity. Or, in the realm of politics, consider Robert Michels's "iron law of oligarchy," which says that popular political movements, no matter how democratically inclined, will gradually become hierarchical in their organization (Michels 1949). But if the members of certain political organizations learn of Michels's law by reading his *Political Parties,* they might then take steps to counter it, perhaps by imposing certain institutional reforms designed to ensure maximum participation in decision making and frequent rotation of leadership positions. In their 1957 study of the International Typographical Union, Seymour Lipset et al. identified a number of factors that they believed explained how the union had been able to resist the pull of Michels's "law." These included relative homogeneity of interest among union members, high levels of interaction between union members off the job, low levels of bureaucratization, and relatively small differences between status of union leaders and rank-and-file members (Lipset et al. 1957, 413–418). The union might also have chosen to reinforce norms of democratic participation. In fact, as James Farr has noted, Michels himself recommended that his "law" might be thwarted in working-class movements by taking steps to enhance the intellectual awareness of its members (Farr 1987, 60). If such steps proved successful, we would have an example of the Oedipal effect undermining a social regularity uncovered by social science.

Where does this leave social laws then? To the extent that social regularities depend upon the existence of certain institutional, cultural, or normative arrangements—and to the extent that such regularities may be undermined by social reflexivity—there would appear to be little chance that genuine lawlike regularities will emerge in the social world. Still, because many social relations and institutions are relatively enduring, and because human behavior in certain circumstances is fairly consistent, it seems possible that some wide-ranging and long-term (but not universal or timeless) social regularities might very well exist. So, if we relaxed our definition of a social law somewhat, we might be able to speak of "laws" of the social world. These would presumably include many of the regularities of economics, as well as of politics, such as Michels's iron law of oligarchy and perhaps Popper's laws regarding political revolutions noted above. Still, even permitting such a relaxation, daunting impediments remain to thwart social scientists' ability to identify the regularities that do emerge in the social realm. Such factors include the sheer complexity of social phenomena and the frequent impossibility of performing controlled experiments, either for practical or moral reasons. And, in any event, we should not

forget that this relaxed notion of a law would not count as a law at all by Popper's definition. At least in his early work, Popper demanded the real thing.

Situational Analysis and Social Laws

Significantly, it appears likely that Popper eventually abandoned his belief in reality of lawlike regularities in the social world. To my knowledge, he never acknowledged his rejection of social laws in print, but references to them in his writings disappeared after *The Poverty of Historicism* and *The Open Society.* The Australian economist Colin Simkin, a friend and colleague of Popper, wrote in his 1993 book *Popper's Views on Natural and Social Science* that "Popper has come to doubt whether there are universal laws in economics, and hence in any of the social sciences" (Simkin 1993, 112). Simkin, however, does not cite any textual evidence for this claim. He and Popper were longtime friends, and his claim about Popper's beliefs appears to be grounded in his personal familiarity with Popper. Also, Rafe Champion, a Popper scholar, has claimed that in informal conversations in the early 1970s Popper acknowledged that he had become convinced that there were no genuine social laws (personal e-mail communication with Champion, October 2001). In any event, regardless of whether Popper ever formally repudiated his belief in social laws, when we turn to his most sustained consideration of social science methodology, and specifically to situational analysis, we find that laws perform no explanatory role. Indeed, Popper never even mentions social laws in his discussions of situational analysis. The reader will recall from chapter 1 that Popper accepted the claim that his rationality principle, despite being nearly vacuous, was in fact false, albeit a useful falsehood (*MF,* 177). Like the laws of physics that animate models of the solar system, the rationality principle animates a situational model. But the rationality principle cannot be described as a genuine law because it is already known to be less than universally valid. Also in chapter 1, we saw that Popper rejected psychologism as well as the claim that the regularities of the social world can be reduced to laws of "human nature," or laws of biology or physics for that matter. Rather, Popper says, the regularities found in society are the result of persons acting rationally within a social situation, and he explicitly describes the social situation as a malleable human construct:[2]

> It must be admitted that our social environment is man-made in a certain sense; that its institutions and traditions are the work neither of God nor of nature, but the results of human actions and decisions, and *alterable* by human actions and decisions. (*OSE II,* 93; my emphasis)

To the extent that social regularities are dependent upon institutions and traditions, the emergence of genuine—that is, timeless and universal—social laws would seem to be barred.

Thus, despite Popper's early claim that social science should seek to uncover lawlike social reguarlities, it appears that we have two sound Popperian

reasons for supposing that genuine social laws do not exist: the falseness of the rationality principle and the malleability of the social world. And because Popper argues that situational analysis is the only proper method of the social sciences, it appears to follow that, from his viewpoint, it is the only method available for uncovering social regularities (*MF,* 166). Therefore there can be no hope—or, rather, nothing but pure hope—that social science will discover genuine social laws. Popper seems to accept this conclusion when he writes, "if my view of the social sciences and their methods is correct, then, admittedly, no explanatory theory in the social sciences can be expected to be true" (*MF,* 176). I say "seems" to accept the conclusion because Popper does not explicitly repudiate the reality of genuine social laws in this passage. However, in the context of the passage, Popper is discussing the falseness of the rationality principle, which, he recommends, should lie at the center of all situational models. The falsity of the rationality principle makes all social theories false. And why is the rationality principle false? Because individuals sometimes do not act rationally even in the broadest understanding of the term—that is, people sometimes act contrary to their own beliefs and goals, as in the case of the flustered motorists noted in the previous chapter. Because the rationality principle does not present a true account, always and everywhere, of human behavior, it is not a genuine law. Thus because the regularities described by situational models (including the "laws" of politics and economics) are animated by the rationality principle, they cannot be empirical laws at all; rather, they are best understood as useful analytical constructs or ideal types. And if this is the case for the purported laws of economics, it is likely so much more the case for "laws" in other branches of the social sciences.

Free Will, Social Laws, and Situational Analysis

There is yet one more reason to suppose that situational analysis is incompatible with the existence of social laws—namely, Popper's belief in indeterminism and especially his belief in human free will.

Popper was an indeterminist; that is, he believed that the future was not strictly determined by the past. He allowed that the universe could be described as "*partially* but not completely determined," by which he meant that "events follow each other according to physical laws" (*OU,* 126). But Popper held that "there is sometimes a *looseness* in their connection, filled in by unpredictable and perhaps probabilistic sequences similar to those we know from roulette or from dicing or from tossing a coin or from quantum mechanics" (*OU,* 126–127; Popper's italics). This unpredictability does not stem solely from our less than complete understanding of causal processes. Rather, Popper spoke of "absolute chance"—chance built into the very nature of the universe (*OU,* 125). This absolute chance applies not only to quantum mechanics and its probabilistic laws, but to other, more mundane physical processes, too. "Although I do not believe that quantum mechanics will remain the last word in physics," Popper

wrote, "I happen to believe that its indeterminism is fundamentally sound. I believe that even classical Newtonian mechanics is in principle indeterministic" (*OU,* 126). Popper held that, owing to the looseness of causal connections, even relatively simple events that can be easily predicted and explained—for example, the trajectory of a baseball or the movement of a clock—can never be predicted with infinite precision, not even in principle.

Is this indeterminacy of the physical world arising from causal looseness sufficient to establish human freedom? No, Popper answers—it is "necessary but insufficient" (*OU,* 127). Acknowledging an element of chance into causal processes does not help us understand free will because "what we want to understand is not only how we may act *unpredictably and in a chancelike fashion,* but how we can act *deliberately and rationally*" (*OU,* 126; Popper's italics). The loose, unpredictable nature of causal processes "has no similarity whatever to the problem of the freedom to write a piece of poetry, good or bad, or to advance a new hypothesis concerning, say, the origin of the genetic code" (ibid.). To begin to account for human freedom, Popper argues, what is needed "is the thesis that *World 1 is incomplete;* that it can be influenced by World 2; that it can interact with World 2; or that it is causally *open* towards World 2, and hence, further, toward World 3" (ibid.; Popper's italics). Earlier in this chapter, we reviewed Popper's arguments for the reality and causal efficacy of Worlds 2 and 3, as developed in *Objective Knowledge* and *The Self and Its Brain.* Popper repeats those arguments in his discussion of free will and indeterminism, but adds a new argument in favor of the efficacy of Worlds 2 and 3: a causally closed World 1 is incompatible with a world filled with human creations. This holds regardless of whether the laws governing World 1 are held to be strictly deterministic or an element of chance is permitted within this realm. If, on the one hand, World 1 is deemed to be strictly determined and totally impervious to human thoughts and World 3 entities, all physical events and objects that humans have created—including Mozart's music, Einstein's theories, Monet's paintings, and Shakespeare's plays (as physical events or objects, not World 3 entities)—could be explained without remainder by the laws of physics and chemistry, and, moreover, were preordained at the beginning of the universe. Determinism implies, Popper argues, that "billions of years ago, the elementary particles of World 1 contained the poetry of Homer, the Philosophy of Plato, and the symphonies of Beethoven as a seed contains a plant" (*OU,* 127). If, on the other hand, an element of chance is permitted within World 1 (while still remaining closed to Worlds 2 and 3), the situation is no better: it entails that the product of human creativity—or, rather, the *apparent* products of human creativity—are "a matter of sheer chance" (*OU,* 128).

How then are we to explain human freedom? Popper suggests that understanding the interaction between the three worlds is central to explaining free will. Specifically, he says that human freedom may be partly understood as the product of the "*causal openness* of World 2 toward World 3, and *vice versa*" (*OU,*

114). Humans make decisions, solve problems, propose hypotheses, and create music in part by "grasping" and manipulating World 3 entities. Popper argues that this interaction introduced genuine novelty into the universe and resulted in an "open universe"—that is, a universe whose future is not preordained but is open, where genuine novelty is constantly being introduced as the result of interaction between the three worlds. This openness introduces another source of indeterminism into the universe, one that is of more interest and importance than causal looseness: "If man is free, at least in part free, then so is nature; and the physical World 1 is open" (*OU,* 127).

But Popper realized that his admittedly vague description of the interaction between the three worlds in no way amounted to a satisfactory, much less complete, explanation of human freedom. He suspected that full understanding of human freedom and creativity may be beyond our comprehension. Indeed, he called the emergence of the human brain and of human freedom "the third great miracle" of our universe—the other two miracles being the emergence of life and animal consciousness (*OU,* 122–123). Understanding these three phenomena may be forever beyond human reach, he believed.

It is not my intention here to evaluate the persuasiveness of Popper's argument for free will and indeterminism. What is important for our discussion is to consider how his support for these metaphysical ideas affects his philosophy of social science, especially situational analysis. Quite obviously, for Popper the human action at the center of situational analysis is not strictly determined or even governed by laws. The actor in a situational model responds to the situation rationally and, we can now say, freely. This freedom *somehow* arises out of the interaction between the actor's conscious mind and the World 3 and World 1 entities that he or she encounters. There might be an obvious, rational (or "adequate") response to many situations that will help us predict how people will behave. But other situations, most notably those involving creativity in the arts and sciences, will naturally elude prediction. We could not predict, for instance, that, given his problem situation, Einstein would propose that time and space are relative. Nor could we predict that Picasso would decide to use only shades of gray to paint *Guernica,* given his problem of visually depicting the horror of aerial bombardment. Those are creative acts (creative acts of genius, actually). This is not to say that situational analysis and the rationality principle cannot help us understand the actions and ideas of scientists and artists. On the contrary, as Popper argued in *Objective Knowledge,* situational analysis can help us understand why certain artists and scientists might reject or embrace certain theories (*OK,* 170–177). For instance, returning to Popper's account of Galileo's theory of the tides discussed in chapter 2, Popper argued that we need to understand Galileo's problem situation in order to understand why he rejected the theory that the moon affected the earth's tides. Galileo, Popper says, was committed to explaining celestial phenomena using only his law of inertia and the law of conservation of rotary motion (*OK,* 173). Lunar effects on the tides could not be accommodated within this

framework. Galileo's refusal to incorporate the moon's effects into his explanation of the tides was rational, rather than obstinate, given his beliefs. Indeed, science requires a certain tenacity in defending one's theories, especially parsimonious theories such as Galileo's. However, given our analysis above, situational analysis cannot help us predict genuinely creative acts, including creative scientific acts. We could not predict, for instance, that Galileo would propose his law of inertia given his problem situation. We could not say that any rational person, given Galileo's situation, would propose the law of inertia, for positing the theory was an act of creative genius. (However, understanding his problem situation would surely help us better comprehend why Galileo saw his theory as a solution to his problem.) This unpredictability places a clear limit on the usefulness of situational analysis. But this may not be a particularly damaging limit if, as Popper says, the main purpose of situational analysis in the social sciences is to generate situational models of typical events involving routine, adequate action.

It should now be clear that laws play no role in Popper's situational analysis. In the first place, the social situations that permit the emergence of quasi regularities in the social realm undergo constant change, which in turn causes the regularities associated with them to change or disappear entirely. More fundamentally, human behavior is not determined; it is free. This means that there can be nothing necessary about even the most regular of social regularities. In the end, I think it is impossible to reconcile what Popper says about laws of the social world in *The Poverty of Historicism* and *The Open Society* with what he says about situational analysis (including his discussion of situational analysis in chapter 14 of *The Open Society*). But I think we can say that situational analysis is clearly central to Popper's methodological recommendations for social science, whereas his comments on laws and social science are mostly made in passing while discussing other topics. Whenever he engages in an extended discussion of social science method, situational analysis emerges in the forefront and laws fade into the background. Clearly Popper's support for universal social laws stemmed from a desire to stress the continuity between natural and social science. But I think Popper's claim that situational logic marks the most important difference between the natural and social sciences was of greater import than he himself realized (*PH,* 141). In any event, an unacknowledged shift occurs in Popper's thoughts on laws and social explanations in his later works. By the 1960s, the need for uncovering laws in the social world almost completely disappears from his recommendations for social science. For instance, in his essay "The Logic of the Social Sciences," written in 1961, universal laws are not even mentioned (*ISBW,* 66–68).

But if situational analysis cannot make use of laws to explain social behavior, how does it explain? This is a question that I will address more fully in the next chapter. Here I will simply contend that situational analysis should not be understood as a type of causal explanation at all. If human beings' actions are not wholly causally determined—as the doctrine of free will maintains—then,

with rational agents at the center of a situational model, situational analysis cannot be construed as producing causal accounts of behavior. In chapter 4 I will argue that situational analysis explains by uncovering and untangling hidden connections—in a phrase, by laying bare the logic of the situation.[3]

THE UNITY OF SCIENTIFIC METHOD

Finally, we need to consider Popper's stance toward one of the central ideas of positivism—*the unity of scientific method.* Popper emphatically and repeatedly endorsed the unity of scientific method, although he also rejected unreflective "aping" of the natural sciences by social scientists, which he called "scientism" (*MF,* 75). He specifically objected to attempts to apply naïve empiricism and inductive methods to exploration of the social as well as the natural world. In his support for scientific unity, he thus repudiates other elements of positivism. However, as we have just seen, Popper at least initially claimed that natural and social science both seek to uncover lawlike regularities, but this claim appears to be incompatible with Popper's situational analysis, and Popper probably eventually rejected the notion that there are genuine social laws.

Even after social laws lost their role in Popper's social science, Popper continued to insist on the unity of scientific method. What, then, did he view as the method that all sciences share? In his most sustained discussion of the issue—the essay "The Logic of the Social Sciences"—Popper declares his "main thesis" to be the following: "The method of the social sciences, like that of the natural sciences, consists in trying out tentative solutions to those problems from which our investigations start" (*ISBW,* 66; see also *MF,* 92–101). As we saw in chapter 2, according to Popper all science involves proposing solutions to problems, whether of the practical or theoretical type, and the method of problem solving is trial and error: propose solutions to problems and then test those proposals. More specifically, Popper argues, all science follows the following pattern: $P_1 \rightarrow TT \rightarrow EE \rightarrow P_2$. That is, science begins with a problem (P_1), and then a tentative theory (TT) is proposed to solve it. Next, the theory is tested, and an effort is made to eliminate errors (EE) in the theory. Following error elimination a new problem emerges (P_2), and then the process begins anew. Popper says elsewhere that this notion of scientific method can be viewed simply as "systematiz[ing] the pre-scientific method of learning from our mistakes" (*MF,* 100).

What are we to make of Popper's account of scientific method? On the one hand, it is hard to quarrel with the claim that all science involves critical problem solving.[4] On the other hand, one must admit that this is not a terribly discriminating view of science. Most social science research programs could probably be construed as exercises in critical problem solving—but, then again, so could a whole range of activities that we would not normally be inclined to call scientific. By broadening the definition of science thus, Popper

seems to have drained the concept of much of its interest.[5] Indeed, describing science as nothing more than critical problem solving would seem to incorporate mathematics and metaphysics into the scientific fold. We might even describe art, music, literature, athletics, automobile repair, or any other systematic human endeavor as exercises in problem solving. Popper himself often characterizes art and music this way (*OK,* 182). For instance, he describes Beethoven as being confronted with the problem of how, and at what point, to introduce singing into his Ninth Symphony (ibid.). Further, Popper's own attempts to defend his pluralist ontology, indeterminism, and human free will are surely exercises in problem solving, but Popper described his queries into those topics as metaphysics, not science. Thus, despite what Popper claims, we need a criterion to unify the natural and social sciences that is more discriminating than critical problem solving, one that, we may hope, is consistent with Popper's overall thought.

We can begin by noting that elsewhere in "The Logic of the Social Sciences" Popper argues that the primary aim of all scientific theories is to produce a true description of the world (*ISBW,* 76). Following Alfred Tarski, Popper argues that "true description" should be understood as correspondence to the facts. By adding that science involves attempts to describe the world, we can at least remove art, music, logic, and mathematics from under the rubric of science. Those endeavors do not make factual claims about the world, or at least that is not their defining element. But we are still stuck with metaphysics, which, like science, involves attempts to describe and explain the world. The difference between science and metaphysics, by Popper's own definition, is that the former can be empirically tested whereas the latter cannot. This immediately suggests a genuinely Popperian candidate to unify the sciences—empirical falsifiability. As we saw in chapter 2, Popper argued that falsifiability is what separates science from nonscience. This was no minor proposition for Popper; it was the central idea governing his philosophy of natural science. It would not be surprising, then, if Popper suggested falsifiability as a unifying feature of the natural and social sciences. Oddly enough, in "The Logic of the Social Sciences," Popper does not explicitly argue that falsifiability is an essential property shared by theories in both the natural and social sciences, though this conclusion would seem to follow from his general account of science. Let us consider, then, how falsifiability might work as a unifying feature of the natural and social sciences.[6]

FALSIFICATION AND SITUATIONAL ANALYSIS

Given Popper's argument that all empirical observation is laden with theory, all attempts to falsify a theory, whether of the natural or social sciences, become problematic. In the absence of theory-free observations, it is always possible to challenge the empirical evidence scientists employ to try to falsify a theory. This is because it is always possible that the theories that undergird the

observations themselves are flawed, biased, or misinterpreted in some way (although the degree to which theory informs empirical evidence surely varies greatly). Thus, Popper admits, even in the natural sciences no falsification can ever be deemed clear-cut or final (*MF,* 90). Evidence in the social sciences is also always theory-laden, and often to a greater degree than in the natural sciences. But social science also suffers from its own unique—and perhaps more daunting—problems of falsification. Among the most significant is the difficulty of making precise predictions. Some of the reasons for this difficulty have already been discussed, including the lack of lawlike regularities in the social world, the difficulty if not impossibility of conducting controlled experiments, the complexity of social phenomena, and the Oedipal effect. Naturally, without precise predictions it is difficult to test a theory, and therefore the falsifiability of social science theories suffers.

Situational analysis in particular is hampered by falsifiability problems. Recall from chapter 1 that Popper argues that science tries to explain two basic types of phenomena: singular events and repeating events (or regularities). Explaining the former, Popper says, requires scientists to invoke initial conditions and universal laws; the latter requires construction of a model. Social science, Popper contends, is usually confined to constructing models of typical social situations. This is because "explaining and predicting singular events by universal laws and initial conditions is hardly ever applicable in the theoretical social sciences" (*MF,* 165–166). Later in the same essay he claims that "sufficient laws" and initial conditions are "never" available in the social sciences (*MF,* 168), though he does not really explain why this is so. Laws are simply not available in the social realm, and, owing to the complexity of the social world, it is difficult to isolate initial conditions. Models, Popper says, are necessarily simplified depictions of the real world and therefore are false (*MF,* 172–173). In addition, lacking genuine lawlike regularities, situational models must rely upon the rationality principle to set them in motion. But, as we saw in chapter 1, the rationality principle itself is false; Popper acknowledges that people usually act adequately to the situation but sometimes do not (*MF,* 172). The rationality principle is adopted not because it is a well-corroborated principle or because it is presumed to be valid. Rather, it is a useful methodological device to help social scientists construct models of social situations. That is, it is useful to assume that people, in the main, act adequately to the situation.

There is, we might say, a dual falseness built in to every situational model, which arises from the falseness of all scientific models and the falseness of the rationality principle. Popper acknowledges as much:

> Now if the rationality principle, which in the social sciences plays a role somewhat analogous to the universal laws of the natural sciences, is false, and if in addition the situational models are also false, then both the constituent elements of social theory are false. (*MF,* 173)

But this means that testing a situational model will often be a highly uncertain enterprise, more so than with a natural science model, which will usually have the advantage of employing well-corroborated universal laws. It will never be safe to assume that any of the constituent parts of a situational model are even provisionally beyond criticism. Thus when predictions generated by a model do not bear out, it will be especially difficult to know which part of the model is at fault.

But in addition to the dual falseness of situational models, there is an even more important reason for supposing that falsifying situational models will always be more problematic than falsifying theories of natural science—a reason that Popper did not fully appreciate. This stems from the inherent and unavoidable interpretive element in most social science theories, including situational analysis. To understand why the interpretive element is central to social inquiry and why it makes unambiguous falsification of situational models problematic, we will need to pause briefly to consider interpretive theory, especially as it relates to social inquiry.

Interpretivism, or hermeneutics, offers an alternative approach to social inquiry with radically different epistemological and methodological assumptions than those of mainstream social science. The central claim advanced by interpretivists is that the social world is unlike the natural world in that the social world is a realm of meaning that includes both the subjects and objects of inquiry (i.e., people), whereas people impose whatever meaning the natural world may possess. As such, the social world—which includes social practices, institutions, beliefs, values as well as language itself—is analogous to a text insofar as it involves engagement and interpretation. Given this, advocates of interpretivism contend that the appropriate methods for understanding the social world are fundamentally different from those of natural science. For interpretivists, the goal of uncovering social laws, and then using them to explain social events or individual actions, is thoroughly misguided. Explaining—or, as they prefer to say, understanding—a particular action of a person simply involves showing that the person's actions made sense, given his or her values, beliefs, and the social institutions in which he or she is embedded in. It does not involve subsuming the particular action under a general law in order to predict human behavior. In fact, interpretivists tend to eschew causal language and typically argue that reasons should be understood not as causes of action but rather as rationale. Uncovering a person's reason for action is usually an adequate explanation in itself; no deeper or general explanation is required.

To his eternal annoyance, Popper was often called a positivist, but his recommendations for social inquiry have rarely been dubbed interpretive (Farr [1983; 1985] is an exception). Yet we can already see from the brief description above that interpretive social inquiry bears a resemblance to situational analysis. Both approaches seek to explain individuals' actions by placing them within the broader social context, and both approaches conceptualize human

action not in causal terms but rather as reasonable or adequate behavior, given a person's beliefs, goals, and social environment. The similarity between situational analysis and the interpretive approach was actually noted by Popper himself. In fact, in his 1968 essay "On the Theory of Objective Mind" he presented situational analysis as the proper method for interpreting human action (*OK,* 178). Although Popper had previously described situational analysis as a method of explanation *and* understanding, he had tended to stress its continuity with natural science rather than its compatibility with the humanities. Now he presented situational analysis as a full-blown interpretive approach. The 1968 essay was also significant because, for the first time, Popper explicitly tied situational analysis to his ontological theory of the three worlds. Specifically, Popper hoped to make a contribution to hermeneutics by positing that interpretation entails "the understanding of objects belonging to the third world which constitutes the central problem of the humanities" (*OK,* 162). He claimed that this marked a "radical departure" from the traditional understanding of hermeneutics, which held "that the objects of understanding belong mainly to the second world, or that they are at any rate to be explained in psychological terms" (*OK,* 162). In other words, Popper argued that understanding does not lie in disclosing the subjective mental states of a person (a view that Popper attributed, questionably, to Collingwood and Dilthey[7]); rather, it lies in elucidating—that is, interpreting—the World 3 entities that the person encounters. Such World 3 entities would include theories, norms, arguments, conjectures, and language itself, which, Popper said, is a repository of theories about the world (*OK,* 165).

In "On the Theory of Objective Mind," Popper was concerned with historical explanation, but his argument has obvious relevance for our understanding of situational models. As Popper himself emphasizes, a situational model will always include a description of the World 3 environment encountered by actors implicated in the model. This means that social scientists will have to interpret the World 3 entities that are part of the model. When the model is put to the test—that is, when social scientists try to falsify the model—critical attention will mainly focus on the World 3 environment. Social scientists will ask, Have we described the social institutions, norms, values, and practices accurately? But when they try to criticize the interpretation of the World 3 aspects of the model, the kind of criticism that they bring to bear on the problem will be different from that employed in natural science. We have already seen, in our discussion of the distinction between metaphysics and science in chapter 2, why this is so. According to Popper, we test a scientific theory by assessing how well it corresponds to reality, a reality that is objective and independent of us. If the predictions borne out by theory appear to be contradicted by the facts, we must revise or reject our theory. Similarly, we could posit a particular meaning of a World 3 object—such as a text, social practice, or social norm—and then test our theory. But we will not test our theory against an independent, external, objective reality. Instead, the validity our

conjectural meaning will be assessed by its overall coherence with other World 3 objects in a web of meaning. Establishing this coherence will be subject to the so-called hermeneutic circle. That is, the meaning of the World 3 object in question will depend upon its constituent parts, but the meaning of the individual parts will in turn be dependent upon the meaning of the whole. For instance, in order to understand a particular passage in a text, we must understand the general meaning of the whole text. But to understand the whole text, we must understand the individual passages that compose it. In seeking a fuller understanding of the text, we also might seek to incorporate it into a wider web of meaning, say, a tradition or social practice. However, in the end there will be nothing extratextual (understood in the broadest sense of "text") against which to test our theory of meaning. It is precisely this difference in judging theories that, for instance, Charles Taylor sees as fundamental to the difference between natural and social science (Taylor 1985b, 17–18).

Popper acknowledges the existence of the hermeneutic circle (*OK,* 187 n. 39), but he never explicitly draws out its implications for testing conjectural reconstructions of World 3 problem situations. Recall also from chapter 2 that Popper, in another context, acknowledged that "the tests of an historical interpretation can never be as rigorous as those of an ordinary hypothesis [in the natural sciences]" (*OSE I,* 171). Popper did see a difference between testing interpretations and testing scientific hypotheses, but he seems to have viewed the difference as more a matter of degree than kind. However, there is a qualitative distinction between interpretive criticism and criticism in the natural sciences. Criticism of natural science theories mainly involves empirical testing. Even if the empirical evidence used to test a scientific hypothesis is always, as it were, encased in theory that requires interpretation, at the core there still lies a real, extratextual world that the theory attempts to explain. True, empirical evidence will often be important in criticizing interpretations of World 3 entities. For example, evidence obtained from an archeological dig might help anthropologists reconstruct the meaning of some ancient ritual. Nonetheless, a significant part of interpretive criticism will remain trapped inside the hermeneutical circle, with no extratextual court of appeal.

Where does this leave the falsifiability of situational models then? It appears that they are hampered by dual falseness and the hermeneutic circle. This means that falsification of a situational model will always be much more subject to debate compared with natural science theories, and no falsification of a situational model will ever be definitive. But, as Popper argued with respect to metaphysics, lack of falsifiability does not mean that situational models may not be rationally criticized. This suggests to me that, in terms of falsifiability, we should view situational analysis as lying somewhere in between natural science and metaphysics.

Regarding the unity of scientific method, our conclusion is as follows. In the broadest sense, Popper's claim that natural science and social science may

be characterized as exercises in critical problem solving is unobjectionable as far as it goes. But this unity is gained only by eliding some very important differences between the two areas, especially with respect to falsifiability, which I have argued is a more worthy Popperian candidate for uniting the sciences than problem solving.

SUMMARY

This chapter completes our exploration of Popper's response to positivism and its implications for his social science. We can now say that Popper clearly was not a positivist, at least not after the fashion of the Vienna Circle. In chapter 2 we saw that Popper rejected verificationism in favor of falsificationism, and he rejected the positivists' claim that purified sense data form the foundation of science and knowledge, arguing instead that all scientific inquiry begins with theory and all empirical evidence is laden with theory. He also argued, against the positivists, that metaphysics is not meaningless but can be rationally criticized, and that the aim of science is to describe a real world that lies beyond appearance. That is, he was a scientific realist.

Our findings in this chapter regarding Popper's stance toward other aspects of positivism—namely, causation as constant conjunction, the covering-law model of explanation, and the unity of scientific method—produced more ambiguous results. We saw that Popper embraced the notion of natural necessity and thereby repudiated causation as constant conjunction. However, he continued to endorse the covering-law model of explanation, which I suggested is at best superfluous if, like Popper, one supports the concept of natural necessity and, more broadly, scientific realism. I suggested that the covering-law model should be viewed as an artifact of his earlier philosophy of natural science and can be severed from his mature philosophy without harm. Turning to social science, I argued that the covering-law model of explanation can have no place in Popperian social science. This is because, first, genuine lawlike social regularities are nonexistent, and, second, laws play no role in Popper's situational analysis anyway. Regarding causation and situational analysis, I contended that the actions of an agent at the center of a situational model should not be construed in causal terms. To be consistent with Popper's support for the doctrine of human free will, we should view an agent's action as freely chosen, albeit generally rational and therefore fairly predictable in many situations. Finally, we saw that models based on situational analysis are not subject to the same degree of falsifiability as natural science theories.

In the end, whether Popper should or should not be labeled a positivist is, in itself, ultimately of little importance. As Popper would surely say—in fact, as he did say with respect to this question—words do not matter (*ISBW,* 89). What matters are the ideas behind them. The main value of examining Popper vis-à-vis positivism is to elucidate his general philosophy of science and to enrich our understanding of Popperian social science and situational analysis in particular.

CHAPTER FOUR

Situational Analysis and Economic Theory

Popper developed situational analysis largely as a result of his encounters with economic theory and—strange as it may seem to some readers—Marxism. We will examine Marx's influence on Popper in the next chapter. In this chapter we will see how economic theory influenced Popper's social science methodology and then consider the important ways in which Popper departed from the economists' approach.

A complete understanding of situational analysis requires an understanding of economic theory. Popper viewed economics as the most developed social science, and he favored examples from economics when reflecting upon social science explanation (see *MF,* 176, 182 n. 6; *OSE II,* 95–97; *OSE I,* 67; *PH,* 62).[1] More importantly, Popper claimed to have modeled situational analysis on economic theory. Specifically, in *Unended Quest,* Popper stated that in developing situational analysis his aim was "*to generalize the method of economic theory (marginal utility theory) so as to become applicable to the other theoretical sciences*" (117–18). The link between economics and situational analysis is evident in Popper's earliest discussions of situational analysis. In *The Poverty of Historicism,* Popper compared situational logic to the "pure logic of choice" described by the "equations of economics" (*PH,* 141). In the second volume of *The Open Society and Its Enemies,* Popper declared that situational analysis "is, in fact, the method of economic analysis" (*OSE II,* 97). In his 1961 lecture "The Logic of the Social Sciences," Popper claimed that the "logical investigation of the methods of economics yields a result that can be applied to all social sciences" (*ISBW,* 79). And in his most in-depth discussion of situational analysis—his 1963 lecture delivered to the economics department at Harvard entitled "Models, Instruments, and Truth"—Popper told his audience that his views on the methodology of social sciences grew out of his "admiration for economic theory" (*MF,* 154; *PS,* 353–354).

Surprisingly, however, Popper never spelled out precisely what he understood the method of economics to be. This is particularly troubling because, Popper's own claims to the contrary notwithstanding, it is far from obvious

that Popper's situational analysis is in fact the same approach used by economists (to the extent that a single approach can be identified even among "mainstream" or "orthodox" economists). Also somewhat surprising is the fact that much of the scholarly commentary on Popper's philosophy of social science fails to address his claim that situational analysis is based on economic theory. Several recent books, for instance, those by Stokes (1998) and Corvi (1997), discuss situational analysis but make no mention of its links to economic theory. An exception, however, comes from the economist Colin Simkin, who, in his 1993 book on Popper, did emphasize the connections between situational analysis and economics.

Recently, however, mainly as a result of a 1997 conference on Popper and the social sciences arranged by the Research Unit for Socio-Economics in Vienna, a number of scholars have begun examining the relationship between economics and situational analysis. Most of the scholars who attended the conference—or, at least, most of those who published essays on Popper and economics after the conference—reject the claim that situational analysis and economic theory offer essentially the same approach for examining the social world. Egon Matzner and Ian Jarvie contend that Popper's development of situational analysis can be understood as an early salvo in "economic imperialism," the ongoing attempt to apply the methods of economics to other branches of social science (Matzner and Jarvie 1998, 335). Yet Matzner and Jarvie argue that situational analysis is significantly different from traditional economic theory. Unlike standard economic theory, situational analysis does not disregard the role of social institutions in human action, and therefore, they claim, situational analysis is best understood as a fusion between economic theory and sociology, insofar as situational analysis stresses instrumental action *and* social situation (Matzner and Jarvie 1998, 337). Similarly, in a separate essay Matzner and Amit Bhaduri conclude that situational analysis cannot be described as a generalized version of standard economic theory precisely because standard economic models ignore the social situation (1998). Paul Ormerod and Bridget Rosewell offer a related criticism, claiming that orthodox economic theory fails to include initial conditions and the historical situation in its standard models of consumer behavior. Situational analysis, they claim, avoids these errors (1998).

Like Matzner and Jarvie, Peter Hedstrom et al. also conclude that Popper's situational analysis should be viewed as an early attempt to expand the reach of economic methods. But they criticize Popper's theory for neglecting one of the key insights of more recent economic theory: namely, that in many social situations, especially those involving multiple interaction between actors, there may be no single action for any given person that is clearly the most rational. In the language of economic theory, such situations produce "multiple equilibrium." Hedstrom et al. also note that the most interesting part of an explanation often reveals how a person came to hold a certain belief in the first place, rather than why that person behaved a certain way given his or

her beliefs. Popper, however, has little to say about belief formation or how situational analysis might contribute to our understanding of this matter. However, Hedstrom et al. also find some virtues in situational analysis. They praise it as a version of "middle-range theory"—that is, theory that hovers between idiography and totalizing "grand theory." And they also laud situational analysis for emphasizing that explanation of the social realm will often rely upon construction of abstract models. Models allow for what Popper, following Friedrich Hayek, calls "explanation in principle" instead of "explanation in detail" (*MF,* 166).

A few scholars, I should note, have been less kind when comparing situational analysis to economic theory. In a discussion of rival accounts of rational choice theory, Mario Bunge quickly dismisses Popper's rationality principle on the ground that it is too vague to be testable and therefore violates Popper's own central criterion of science (Bunge 1996, 366). However, Bunge's criticism is off the mark. As we saw in chapter 3, Popper claimed that the value of the rationality principle is not negated if it is falsified because the rationality principle is already known to be false. Its value lies in its proximity to the truth and its usefulness for constructing situational models.

The chief difference between economic theory and situational analysis, according to Mark Notturno, is that economics aims at prediction whereas situational analysis aims at explanation and understanding (1998). Specifically, Notturno claims that situational analysis seeks to explain events *after* they have happened, by laying bare all the elements in the situation in question and especially by tracing the unintended consequences of human action. Notturno further argues that utility maximization—the very component of economic theory that Popper apparently saw as the core of economic theory—cannot be a component of situational analysis because utility maximization theory depends on identification of aims *prior* to the situation. In economics, that prior aim is, standardly, wealth maximization. But Notturno reminds us that Popper insisted that aims are internal to the situation, that is, part of the situation itself. Thus, as we saw in chapter 1, Popper's rationality principle is an "almost" empty principle wherein the actor merely acts out the goals that are already implicit in the situation (see *MF,* 169). For situational analysis, then, whether a person aims to maximize wealth or anything else in a particular situation is an empirical question, to be determined by examination of the situation in question. Moreover, Notturno says, nonmaximizing types of behavior can still be rational within the framework of situational analysis (Notturno 1998, 419). Notturno's explication of situational analysis as it relates to economic theory is, I think, essentially correct. In what follows, however, I will take his analysis a step further to show precisely how the different concepts of rationality in economic theory and situational analysis are related to their stances concerning prediction.

My own view, which I develop below, is that, while the origins of situational analysis can clearly be traced to Popper's encounter with economic

theory, and while situational analysis even in its latter formulation still bears a passing resemblance to economic method, in the main Popper's theory offers a rather different approach to social explanation. In particular, I contend that Popper's notion of rationality with regards to situational analysis, despite superficial similarities to economic models of rationality, is in fact quite different from the generally accepted notions of rationality developed by economists. This has significant implications for the types of explanations produced by situational analysis as compared with economics. In fact, despite Popper's claim that situational analysis is merely a generalized version of economic theory, I will show that it is unlikely that he would have supported current attempts to expand the application of economic methods into the other social sciences.

RATIONALITY AND ECONOMIC THEORY

Before we assess Popper's claim that situational analysis in fact generalizes the method of economic science, we need to pause to consider what the standard economic theory is. While there is no single method that all economists employ, economics is more unified methodologically than any other social science. As such, it is not too difficult to locate some central features of the discipline. Moreover, "marginal utility theory" or utility maximization, the particular aspect of economic theory that Popper apparently wished to emulate, is a well-developed concept that clearly lies at the heart of mainstream economics. Utility maximization, in turn, is the core assumption of rational choice theory. In fact, economic theory is widely regarded as an application of rational choice theory. So we might start our examination of economic theory by first considering the key elements of rational choice.

Minimally, rational choice theory conceptualizes humans as intentional agents who act *instrumentally,* that is, as agents whose actions are goal directed and calculating. Following Jon Elster, we can say that instrumental behavior essentially adheres to the formula "If you want to achieve *Y,* do *X*" (Elster 1989, 113). Instrumental, goal-oriented behavior should be distinguished from noninstrumental behavior, such as tradition-guided behavior, habitual behavior, and, perhaps most importantly, norm-guided behavior. At least in its pure form, such noninstrumental behavior is not goal directed; it is simply done, as it were, for its own sake. Citing Elster again, norm-driven behavior follows the simple formula "Do *X*" (Elster 1989, 113). By focusing on the instrumental dimensions of human action, the social world described by rational choice theory appears significantly different from the natural world, at least as it is perceived from the standpoint of natural science. From the rational choice perspective, events in the social world are largely the aggregate outcome of intentional human behavior, rather than solely the product of objective forces or laws of nature that are, so to speak, imposed on humans and other things in the universe.

But standard rational choice theory requires more from a person than instrumental action. It also requires that a person's goal-directed, calculating action be *rational* in some sense. The utility maximization assumption of rational choice theory functions as the most fundamental requirement for assessing the rationality of an action (Arrow 1951, 3). Utility maximization stipulates that, given a range of options for attaining a desired end, a rational person will choose the option that he or she believes will be most effective in achieving that end. This does not require that the person prefer the actions that will *in fact* prove most effective in attaining her preferences; it merely stipulates that the person should perform the action that she *believes* will be most effective in attaining her desired end. In the real world, many decisions take place in uncertain or ambiguous circumstances, and in such situations it may be too difficult or too costly for a person to determine which action will be most effective. Given this, most rational choice theorists believe that it is too constraining to require a person to choose the action that is in fact the best. However, some rational choice theories do assume "perfect information" on the part of actors.

Rational choice theory faces a similar problem in determining the rationality of beliefs, as opposed to the rationality of action. Establishing criteria for optimality of beliefs is notoriously difficult. This is because typically costs are associated with gathering information that informs beliefs, and it may be impossible to determine how much cost a person will be willing to incur in seeking out information. For instance, in many situations there may be no way to establish beforehand how much time a person should spend collecting information about his situation prior to acting. A military commander who spends too little time collecting intelligence on the enemy may fail to uncover key facts about enemy troop location. On the other hand, if the commander spends too much time collecting intelligence, he may miss an opportunity to exploit a temporary enemy weakness. No general rule or procedure will ensure that the commander's information gathering is optimal; he will simply have to rely on educated guesses. Facing such difficulties, some rational choice theorists simply take beliefs as a given and stipulate no requirements for determining the rationality of belief formation.

In addition to the central postulate that people, guided by their beliefs, act intentionally to maximize their utility, rational choice theory typically includes at least two additional assumptions about human behavior. First, rational choice models usually assume that a person can *rank* his or her preferences (Elster 1989, 23). This assumption does not require that a person be able to assign a precise value to his preferences; it merely stipulates that, given options A, B, and C, a person can rank those options in order of desirability. This may include ranking two or more options as equally desirable. Second, most rational choice models require that a rational person's preferences be *transitive,* meaning essentially that a person's preferences must be consistent (ibid.). If a person prefers A to B and B to C, she must also prefer A to C.

Why are transitivity and the ability to rank preferences considered essential components of rationality for most economists? Because they allow for comparison of preferences. Once rank and transitivity are established, numerical values can be assigned to preferences so that higher numbers correspond to stronger preferences and lower number to weaker preferences.

These two assumptions of preference ranking and transitivity are part of most versions of rational choice theory. However, economists' models of human action typically (though not invariably) further require that rational actors be *egoists*—that is, that they act to maximize their own private interests. Further, economists usually stipulate what type of particular narrow interest a rational person will try to maximize. Typically, economists posit that the main interest that actors seek to increase is wealth. Other candidates include maximizing leisure time or minimizing labor. Similarly, political scientists who adopt rational choice methodology often stipulate that political actors—politicians, bureaucrats, voters—are egoists who attempt to maximize their narrow self-interests, such as power, votes, influence, or wealth. Following Green and Shapiro (1993), we might divide rational choice theories into two major kinds: those that rely on "thin" models of rationality and those that employ "thick" models of rationality. Thin rational choice theories assume that persons seek to maximize utility and have rankable and transitive preferences. Thick models of rationality include those assumptions but further assume that persons are egoistic and seek to maximize prespecified ends, such as wealth or power.

It should be emphasized, however, that rational choice theory need not specify that agents seek to maximize a *particular* end; the theory merely requires that agents seek to maximize *some* end. And even if a rational choice model does stipulate a particular end for its actors, that end need not be wealth or power; it could also be public esteem, virtue, piety, or simply happiness. Nor is egoism a necessary feature of rational choice models. Rational choice can tolerate people acting in calculating ways to further the ends of others; there is nothing necessarily inconsistent about someone acting instrumentally to further some altruistic end. A soldier's act of jumping on a hand grenade to save his foxhole mates, for instance, could be described within the rational choice framework. A rational choice theorist could simply hypothesize that the soldier's goal, perhaps guided by a utilitarian ethos, was to save as many of his fellow soldiers as possible, and the means for attaining that goal, given his beliefs about the impending explosion of the grenade, was to smother it with his own body. However, despite rational choice theory's capacity for incorporating altruistic behavior into its framework, economists usually assume that people—or other entities that they may wish to treat as solitary actors, such as nations or firms—do not act in a selfless manner. In fact, economists typically try to demonstrate that apparently altruistic behavior can be explained as selfish behavior, when viewed in the proper light. Thus an economist might try to explain the soldier's apparently selfless act as really an attempt to further his

own ends. Perhaps the soldier pounced on the grenade anticipating reward in the afterlife, or maybe he was thinking of posthumous glory he would receive on earth. Economists adopt the egoism and wealth-maximizing assumptions because without them the danger of a rational choice explanation degenerating into triviality or tautology is great. Absent these assumptions, virtually any activity can be redescribed as instrumental and rational, but usually at the expense of draining any real explanatory power from the theory. Mother Theresa's tending to the poor could be conceptualized as instrumental and egoistic, for instance, by claiming that her real goal in aiding the poor is to maximize the warm feeling of goodness she gets from helping them. The explanation, such as it is, may be accurate, but if so, all it really does is restate the obvious using rational choice language—that is, it explains nothing. There is no reduction of Mother Theresa's apparently altruistic behavior to narrowly self-interested behavior. Rather, the concept of egoism is merely expanded to include feelings of satisfaction attained by helping others. Moreover, such an explanation is grounded in a highly implausible theory of human motivation—that is, that people pursue their goals as a means to generate happiness, rather than pursuing the goals as ends in themselves. A more plausible account of Mother Theresa's behavior is that she desires to help others and that any internal satisfaction she gains from doing so is a by-product, not the goal, of her action.

SITUATIONAL ANALYSIS AND ECONOMIC THEORY

At first glance, it is not hard to imagine why economic theory (understood as a subset of rational choice theory) would appeal to Popper. First, the approach places the individual, rather than impersonal objective forces, at the center of the social world. As such, economic theory appears to align with Popper's support for methodological individualism over methodological collectivism and historicism. In addition, rational choice theory conceptualizes human rationality as the motor behind social events, a view that would have obvious appeal to a thinker like Popper who valued rationality, understood principally as openness to criticism, as the ultimate human and societal virtue. Moreover, insofar as such an approach emphasizes human choice, as opposed to causal determinism, it could be deemed compatible with Popper's belief in human free will and an "open universe." Nonetheless, Popper's claim that situational analysis is merely the economic model in a generalized form does not withstand close scrutiny.

The most fundamental dissimilarity between situational analysis and economic theory lies in the different requirements that the two theories place on individual actors. Rational choice theory, even in its "thin" variety, still places relatively tight strictures on the actors, requiring them to maximize utility and to keep their preferences consistent. And "thick" versions of rational choice further require that the actors be self-interested seekers of some prespecified goal,

such as wealth or power. In contrast, Popper demands that we place the weight of an explanation on the situation rather than the action, with the behavior of the actor constrained solely by the rationality principle—the vague and lenient requirement that the person act "adequately" to the situation in light of his beliefs. Put simply, the rational choice concept of rationality does a lot more work in a rational choice explanation than Popper's rationality principle does in a situational analysis explanation. What counts as rational behavior in situational analysis is determined by the particular situation, whereas rationality in economic theory is prior to and external to the situation.

This account of the rationality principle sits uneasily with Popper's claims about the relation between economics and situational analysis. But before I defend this claim further, I want to pause to consider the history of the rationality principle vis-à-vis economic theory in Popper's works. It appears to be the case that the rationality principle—and situational analysis generally—became less like economic theory as Popper developed the concept over the years, even though Popper never formally acknowledged these changes.

To begin, Popper developed the rationality principle partly by reflecting on economic theory. Popper's first discussed "the logic of the situation" in *The Poverty of Historicism,* but an apparent prototype of the theory appeared earlier, in the first volume of *The Open Society.* There, in a footnote, Popper described Plato's account of the dynamics of tyranny as "the first attempt toward a *logic of power*" (*OSE I,* 315; Popper's italics). He immediately adds that he "chose the term in analogy to F. A. von Hayek's use of the term *logic of choice* for the pure economic theory" (ibid.). Unfortunately, Popper does not discuss how, precisely, the logic of power and of choice are analogous, nor does he explain how Plato employed such an approach, and there is no mention of the rationality principle. Still, the mere pairing of the logic of choice and the logic of power suggests that Popper was thinking of economics when he began to develop what he would later call "situational analysis." However, Popper's first account of "the logic of the situation" in *The Poverty of Historicism* does contain a description of the rationality principle that resembles an economic approach. In that work, as in his later discussions of situational analysis, Popper identifies rationality as the animating principle of a situational model. But instead of equating rationality with acting "adequately," Popper says that people act rationally when they "make optimal use of all available information for the attainment of whatever ends they may have" (*PH,* 140). The emphasis on optimality, rather than the more vague and lenient notion of "adequacy," obviously echoes economic theory. Moreover, Popper also says that situational models "perhaps" should assume "possession of complete information" on the part of all persons in the model (*PH,* 141). This tight stricture on beliefs is entirely absent from Popper's later versions of situational analysis in which he asserts that rational action merely requires that persons act adequately to the situation *as they see it,* and not necessarily as the situation is objectively (*MF,* 181 n. 19). Finally, in *The Poverty of Historicism* Popper says that influences

such as "traditional prejudice" would lie outside the realm of a model constructed by the "pure logic of choice" (again echoing Hayek) (*PH,* 141). The ban on tradition-motivated action would presumably extend to other noninstrumental spurs to action such as habit and norms.

So Popper's earliest discussion of the rationality principle certainly seems consistent with his claim that he was attempting to generalize the methods of economics. But this early discussion of the rationality principle is not consistent with the notion of rationality found in Popper's latter and more considered discussions of situational analysis. Moreover, it should be noted that Popper's examination of rationality in *The Poverty of Historicism* is very brief—not even encompassing two pages of text—and his definition of rationality as optimal use of information is offered parenthetically. In Popper's first extensive discussion of the rationality principle, contained in his 1963 address to Harvard's economic department, Popper drops the economics-inspired language and identifies rationality with acting "adequately" or "appropriately," or with acting out what is "implicit" in the situation (*MF,* 169). Popper's account of rationality is particularly striking because he is addressing economists. In such a context, one might expect Popper to emphasize the economic roots or dimensions of his rationality principle, if any were to be found. Moreover, Popper tells the economists that the "'principle of acting adequately to the situation'" is his "own version of the 'rationality principle,'" possibly implying that he has carved out a notion of rationality distinct from the rationality principles found in economics (*MF,* 177). We should also note that Popper's last detailed discussion of the rationality principle, the 1967 essay "*La rationalité et la statut du principe de rationalité,*" makes no mention of economic theory, and rational behavior is once again identified as adequate or appropriate behavior (*PS,* 359). [2]

Thus, despite its origin, it seems plausible that the rationality principle, and situational analysis generally, became less like economic theory in Popper's later writings. Indeed, situational analysis in its latter formulation seems to be a distinctly Popperian concept. However, the matter is complicated somewhat by the fact that in Popper's last—and very brief—mention of situational analysis, in his 1976 *Unended Quest,* Popper notes the ties between situational analysis and economic theory. Specifically, he says that in developing the theory he had been trying "*to generalize the method of economic theory (marginal utility theory) so as to become applicable to the other theoretical social sciences*" (*UQ,* 117–118; Popper's italics). But the passage is somewhat ambiguous; Popper is commenting on the *origin* of the idea, and he adds that in "later formulations," situational analysis developed into a theory for "constructing a *model of the social situation,* including especially the institutional situation" (*UQ,* 118; Popper's italics). Hence, the passage could be interpreted to mean that his later formulations of situational analysis were not necessarily a version of economic theory. In any event, Popper's last extended discussions of the rationality principle are the best indication of Popper's considered views on the topic.

Admittedly, however, the textual evidence for a shift in Popper's conception of the rationality principle from a more to a less economic-oriented approach is not crystal clear. Thus my argument that Popper's situational analysis is not of a piece with economic theory must show that a plausible interpretation of Popper's sometimes vague description of situational analysis reveals incompatibilities with economic theory. These incompatibilities stem mainly from the different concepts of rationality that undergird the two approaches—respectively, Popper's notion of adequacy versus the economist's concept of egoistic utility maximization.[3]

First, unlike standard rational choice explanations, Popper's notion of rationality, understood as acting "adequately" to the situation, would seem to include norms, tradition, values, and other noninstrumental spurs to action within the bounds of rational behavior. As we have previously noted, norms, traditions, and values are among the inhabitants of World 3 encountered by a situational actor. Thus to act in accordance with a norm or tradition would be to act adequately. Some textual support for this claim can be found in Popper's brief discussion of social anthropology in *The Myth of Framework:* "Social anthropology tries (or should try) to describe the institutional and *traditional* framework as well as the problems of a society in such a way that the typical actions of its members become rationally understandable as appropriate" (*MF,* 170; my emphasis). Thus it appears to follow that acting in accordance with tradition (and presumably with norms, too) as well as acting instrumentally counts as rational behavior for Popper. It also seems that Popper had, by the time of *Myth of Framework,* lifted his ban on using "traditional prejudice" to explain behavior, which, as noted above, he advocated in his brief discussion of situational analysis in *The Poverty of Historicism.*

But rational choice explanations cannot include norms as causes of human action. To do so would violate a central goal of rational choice explanations—namely, to cut through the morass of factors that potentially affect human behavior and reveal that, perhaps contrary to intuition or appearance, social events are solely the by-product of calculating, self-interested individuals acting instrumentally. Of course, rational choice theory may still incorporate norms into explanations in a variety of ways. It may view them as a type of "rule-of-thumb" rationality—that is, shorthand rules that reduce the costs associated with determining optimal behavior. Or rational choice theory can view norms as constraints that may impose psychological costs—typically guilt—on a person's instrumental behavior. But what rational choice theory may not do is conceptualize norms as direct *causes* of action—as "do X" rather than "to get Y, do X," to use Elster's formulation. This would violate the theory's central commitment to explaining behavior instrumentally. Indeed, norms can be a problem for economic theory, as they frequently lead people to act in ways that are apparently contrary to their narrow self-interest.

To illustrate the difference between an explanation guided by Popper's principle of rationality as adequacy and one guided by utility maximization,

imagine attempts to explain the following event. In the wake of an earthquake that has disrupted water lines and thereby rendered drinkable water a temporarily scarce commodity, local merchants mostly decline to raise the price of bottled water, even though demand has risen sharply and they could get a much higher price for water. Instead, the merchants simply limit the amount of water that individuals can purchase. A situational analysis explanation guided by Popper's rationality principle will attempt to explain the merchants' actions by analyzing the social situation that confronts the merchants. Part of that situation includes the fact that demand for water has risen and that merchants can thus charge a higher price for it. If the merchants' sole goal in the situation were to maximize profit, it would be rational for them to raise prices. But the situational analysts also uncover a norm governing the merchants' behavior—namely, an ethic against price gouging—that trumps the goal of maximizing profit. The merchants act adequately by adhering to the norm. But an economist committed to the assumption that all economic actors are egoistic profit maximizers obviously cannot claim that the merchants act rationally by avoiding price gouging. He will have to reinterpret the merchants' behavior as subtly egoistic, perhaps by arguing that the merchants wish to maintain a reputation for fair dealing, which, though costly in the short run, will pay dividends in the long run.

The second important consequence arising from the two approaches' different conceptions of rationality concerns their potential for generating predictions and explanations. Among the advantages of rational choice theory are its ability to generate counterintuitive and novel predictions, and its potential for providing parsimonious explanations of a wide range of puzzling phenomena. In a few cases, rational choice is able to generate elegant explanations by relying solely on the assumptions of utility maximization, transitivity, and the ability of actors to rank their preferences—that is, by relying on a "thin" model of rationality. Kenneth Arrow's famous "impossibility theorem" of democratic decision making is one such example (1951). Arrow demonstrated that in situations where voters or legislators are offered more than two policy choices, there may be no single policy choice unambiguously favored by a majority. Arrow's theorem, which has troubling implications for democratic politics, does not require voters to seek to maximize a particular goal, nor does it require that voters be egoists. It merely requires that voters have some preferences, that they can rank their preferences, and that their preferences are transitive.

Arrow's theorem is an exception, however. Most of the interesting predictions and parsimonious explanations generated by rational choice theory rely on theories that assume that people are egoists who maximize a certain, theoretically prespecified end. With respect to politics, among the most important such theories relying on a "thick" model of rationality is Mancur Olson's theory of interest group formation. Prior to Olson's *The Logic of Collective Action,* many political scientists had simply assumed that people with

common interests would naturally form groups. But Olson argued that interest group formation often presents a "free-rider" problem. A free-rider problem occurs when persons may consume or otherwise benefit from a political or social good regardless of whether they contribute to securing that good. Examples of such "public goods" would include clean air, public television, national defense, and lower taxes. Olson argued that interest groups often pursue public goods and as such they will tend to be chronically understaffed and underfunded. In most situations, rational persons will fail to join or contribute to such groups because they will realize that any contribution they make to such organizations is not likely to have any real effect on securing the public good that the organization seeks. A person's $50 contribution to the Sierra Club is not likely to have any discernible effect on clean-air legislation, but if such legislation does get enacted, the free-riding noncontributors will be able to enjoy cleaner air anyway. Similarly, Olson argued, rational workers will decline to join unions because they can enjoy the benefits that unions produce—for example, higher wages and better benefits—while avoiding the costs of joining the union, principally union dues. Olson argued that unions and other public-good organizations can get members only by providing "selective incentives" exclusively to those who join. Thus, Olson claimed, the only way to get workers to join unions, or any other group seeking to secure a public good, is to provide selective incentives, such as health insurance benefits or union-sponsored social events, that only members can receive. According to Olson, the collective action dilemma also explains why unions often favor "closed shop" practices, which require all new workers to join unions and thereby prevent workers from taking a free ride. A host of other situations important to political science can be described as collective action situations plagued by the free-rider problem, including voting in an election and participating in a revolution.

For our concerns, the important point here is that Olson's theory necessarily relies on a "thick" model of human rationality. In order to make the counterintuitive predictions that interest groups will find it difficult to recruit members, Olson's theory must stipulate beforehand what sort of particular interests potential group members pursue, and, further, it must bar those interests from being altruistic. Individual laborers in Olson's theory must view unions solely as vehicles for securing goods that benefit them personally, for example, by increasing their personal income or leisure time. Workers may not seek to advance the wealth or leisure time of other workers. Nor may they seek to "maximize" a norm-dependent good, such as the warm feeling they might receive by contributing to worker solidarity. If workers were permitted to seek their collective good directly—without overriding concern for their personal, narrow interest—then Olson's theory would be robbed of its interesting and wide-ranging prediction that unions will not form when selective incentives to entice potential members into joining are absent. Instead, the theory would have to consider the potential for union formation on a case-

by-case basis. Whether a particular union would or would not form would be in part dependent upon whether workers preferred individualistic or altruistic goals. It would also depend upon whether norms of solidarity or norms of "doing one's part" influenced workers. If workers were allowed to be influenced by such norms, then the collective action problem might disappear altogether. Abandoning the assumption of egoism might help the theory explain actual instances of interest group formation and participation, but by doing so, the theory will lose parsimony and the potential to make counterintuitive predictions.

In contrast, I want to argue on Popper's behalf that making counterintuitive predictions or generating parsimonious explanations is simply not a goal of situational analysis. At most, situational analysis employs a model to explain a particular situation as being an instance of a *type* of event. From this model, situational analysis can make loose and tentative predictions about what sort behavior might occur in that situation. But even such loose predictions are, at most, of only secondary concern for situational analysis. As I argued in chapter 1, and as Notturno has argued, the primary goal of situational analysis is explanation, laying bare the situational elements that lead persons to act as they do and then tracing the repercussions of their actions, especially the unintended repercussions. Also, situational analysis enhances understanding, insofar as it makes sense of, rather than predicts, behavior. With its thick model of rationality, rational choice theory can make predictions about how people will act in a variety of diverse situations. In contrast, for situational analysis what counts as rational behavior will vary from situation to situation, preventing precise predictions about human behavior in different circumstances. But, as we saw in chapter 3, this lack of precision should not be viewed as a drawback of situational analysis because hard prediction in the social sciences, will remain forever elusive. Absence of genuine lawlike social regularities, the falseness of the rationality principle and of all models of social situations, the plasticity of social institutions, the immense complexity of the social world, and the Oedipal effect all conspire against prediction. Even the predictive power of economic theory, though undoubtedly the best found in the social sciences, is still rather meager. Outside of economics, the predictive successes of rational choice theory have been even less impressive, as has been persuasively argued by Green and Shapiro (1993). Thus the criticism that situational analysis lacks the ability to generate novel predictions or forecast future events loses much of its force because no social science methodology is particularly distinguished by its ability to do so.

A third implication arising out of the different concepts of rationality contained in rational choice theories and situational analysis concerns aspirations to universalism. For rational choice, the criteria for rational behavior are generally assumed to be transcultural and transhistorical. That is, all rational choice models assume that, regardless of time or place, a person is rational if and only if he or she seeks to maximize utility and is able to rank his or her

preferences. Thicker versions of rationality may also stipulate that all rational persons seek to maximize some particular goal, such as power, wealth, influence, or simply happiness. These assumptions give the theory potential to generate predictions and explanations of a wide variety of phenomena across a range of cultures and historical periods. In contrast, owing to its internal conception of rationality, the range of explanations generated by situational analysis must be more limited by time and place. To return to the problem of collective action, a rational choice explanation of group formation may assume that all potential members of groups seek to maximize their private wealth and minimize their labor. As such, the rational choice model may be used to explain interest group formation—or lack of it—in a variety of places and a range of time periods. However, explanations based on situational analysis would have to rely on more, as it were, site-specific notions of rationality. Determining what is rational for a person to do in a particular situation—that is, determining what sort of behavior would be adequate—would entail assessing the costs and benefits confronting a potential group member in a particular situation. But it would also require uncovering any meanings, norms, traditions, or habits that might inform his or her actions. For situational analysis, what counts as a cost or benefit, and what norms affect a person's behavior, would presumably differ from situation to situation. What would be rational behavior for a worker considering joining a union might be rather different from what would be rational for a person considering joining the Sierra Club. Norms of solidarity might play a key role in explaining the worker's behavior, but might be irrelevant in explaining Sierra Club membership. While Popper clearly intended situational analysis as a tool for developing models of typical social events, the range of events that any particular model could explain must be more limited than explanations offered by rational choice theory. This is why I have described situational analysis as an approach aimed at producing theories of "middle range." Rational choice, in contrast, aspires to be a theory of universal range.

EXPLAINING VOTER TURNOUT: RATIONAL CHOICE VERSUS SITUATIONAL ANALYSIS

To further highlight the differences between situational analysis and rational choice, it is instructive to consider in some detail how the two theories can be employed to explain a political phenomenon. One of the first areas of politics to receive attention from rational choice theory was voter turnout. In his landmark work *An Economic Theory of Democracy* (1957), Anthony Downs attempted to explain low voter turnout in modern representative democracies, as well as general voter apathy, as citizens' rational response to their situation. Specifically, Downs argued that it was irrational for citizens to vote because the likelihood of an individual's vote affecting the outcome of an election was extremely small. As such, the costs associated with voting—for example, the

time spent registering to vote or driving to the polls, as well as the costs associated with developing an informed preference for a particular candidate—outweighed the potential benefits of voting. Moreover, Downs said, voting could be viewed as a collective action problem. The benefits that might accrue to a citizen as a result of the voting process—whether conceived narrowly as the pecuniary benefits he receives when his favored party wins office or more broadly as the benefits he receives from living in a country where the democratic process is upheld—are public goods. A citizen would not be denied the benefits produced by particular candidate's policies just because he did not vote. Nor would he be denied the benefits of living in a democracy. Therefore, it would be rational for a citizen to abstain from voting.

Downs might be credited with enriching our *understanding* of low voter turnout by highlighting how cost and the general irrelevance of a single vote in large elections might serve as disincentives to vote. Indeed, some empirical studies have demonstrated that relatively small changes in the costs of voting, including inclement weather or establishment of same-day, on-site registration, can affect voter turnout. Nonetheless, *explaining* voter turnout actually remains a problem for rational choice theory rather than an example of its successful application. If voters were truly rational in the sense prescribed by rational choice theory, then nobody or almost nobody would turnout at the polls. But, of course, voters do turn out to the polls in large numbers, even in national elections where each vote has only an infinitesimal chance of affecting the outcome. In many countries in Western Europe, turnout regularly exceeds 75% of eligible voters. Even elections in United States, where turnout in national elections sometimes dips below 50%, refute rather than confirm the rational choice prediction.

Some rational choice theorists have made attempts to explain the apparent lack of evidence for their theory while remaining true to their methodology. For instance, Riker and Ordeshook (1968) have suggested that voters seek to maximize psychic gratification by voting. They argue that voters derive satisfaction from performing what they perceive to be their civic duty, their duty to support their favored political party, their duty to uphold a democratic system, or a combination of such felt obligations. But Riker and Ordeshook's solution has, with good reason, impressed few political scientists. While it is doubtless that feelings of duty and civic pride often enter into citizens' decision to vote, forcing such norm-driven behavior into the rational choice paradigm drains the theory of any real explanatory power, as we saw above. If we are permitted to characterize voters' actions as a means to produce psychic gratification, it is hard to imagine any action that could not be described as rational in accordance with rational choice theory. Taking a vow of chastity, sending donations to starving children in Central America, or helping a little old lady cross the street could all be described as instrumentally rational behavior that produces the good feeling that attends adhering to a norm. To put a finer point on it, Riker and Ordeshook's attempt to save the rational choice explanation of voter

turnout is ad hoc and nearly tautological. A non-empty rational choice explanation of voter turnout would have to somehow demonstrate that, appearances to the contrary, voters were acting egoistically to secure a narrow, personal benefit. For instance, it might be shown that the potential material benefits of voting actually outweighs the cost of voting, or that the electoral situation does not really pose a collective action problem because the benefits secured by voting are not true public goods.

Some rational choice theorists have in fact tried to save the theory's application in just such ways. While acknowledging that the odds of one voter's ballot making a difference in an election are minute, some political scientists have argued that a voter casts her ballot out of desire to avoid the awful feeling of having her favorite candidate lose by one vote, a situation that could have been avoided had she gone to the polls (Ferejohn and Friorina 1974). This approach essentially argues that the potential costs of not voting, viewed from a certain light, are in fact much greater than are generally supposed. That is, one must also consider how psychically devastating a one-vote loss could be for a nonvoter. Such a possibility could motivate people to vote out of fear of the intense feeling of regret that they would experience if their favored candidate lost by one vote. This explanation has the virtue of being nontrivial and appears to remain within the confines of rational choice theory, but unfortunately it is quite obviously false, at least for most voters in most situations. There is little evidence that any significant number of voters actually employs such a convoluted thought process. Moreover, it is arguable that such a "minimax regret" theory actually relies upon norms because the feeling of regret that the nonvoter would feel in such a situation seems parasitic on a norm of "doing one's fair share." Absent such a norm, a rational person would realize that he was no more responsible for his favored candidate's loss than the other fifty million people who supported the candidate but failed to vote. His guilt should be divided fifty million ways, in other words, making the likelihood of a one-vote loss of trivial concern.

After more than forty years' worth of efforts to explain voting with rational choice models, it is evident that the attempt has been a failure. Indeed, by now it should be clear that any attempt to explain voter turnout solely with rational choice theory is a rather silly enterprise, a fine example of a theory-driven problem having become completely untethered from empirical reality, not to mention common sense. Voting in liberal democracies is obviously influenced by a variety of factors, and just as assuredly those various factors are weighted differently in different individuals and in different groups. Such factors include costs and benefits narrowly conceived, but they no doubt also include feelings of civic pride, partisan allegiance, and democratic duty. In addition, factors of psychological processing also probably affect voting behavior. For example, people in general tend to overestimate their efficacy in all sorts of situations, and there is reason to suppose that this is the case in voting. More generally, people have a difficult time understanding the probability of

events. Such miscalculations are part of everyday life and help explain phenomena such as playing the lottery and other forms of gambling (Kahneman and Tversky 1984).

Now consider how we might go about explaining voter turnout with Popper's situational analysis. Because Popper says that the rationality principle merely requires that a person act "adequately" given the situation as the actor perceives it, there would seem to be no requirement that a person's actions must be guided solely by instrumental concerns. A person's acting out of a sense of duty or out of allegiance to some tradition would be just as adequate as a person's acting instrumentally to attain some goal. A combination of instrumental action and norm-driven action could also be adequate; there is nothing irrational about having multiple reasons for performing an action. So, if we wished to explain voting via situational analysis, we might go about it in the following way. We begin by describing the situation facing a typical voter, which might include the social norm that citizens ought to do their part to uphold democracy, including voting in elections. The typical voter may also be aware that her vote is unlikely to affect the outcome of the election, and she may realize that the benefits that will flow from voting will not be restricted to those who vote. That is, she will realize that the goods secured by voting are public goods. Nonetheless, she feels that the duty to vote strongly outweighs the trivial cost of voting. Thus the voter acts adequately by casting her ballot. Note that, as Popper requires, the weight of the explanation rests almost entirely in the description of the situation. The voter merely acts adequately by doing what the situation implies she should do, and there is nothing ad hoc about claiming that she acts in accordance with a norm rather than acting instrumentally to secure some tangible benefit. Nor is there anything wrong with describing her behavior as the product of both norms and instrumental calculations.[4] If the person acts contrary to what the situation would seem to dictate, then Popper says we should reexamine the situation to make sure we have described it correctly.

However, while Popper's theory has no difficulty explaining voting behavior, it should be obvious that the explanation offered is fairly trivial. Or, to be more kind, the real value of the explanation comes from the empirical work of uncovering what factors, including norms, affect the voter's behavior. The assumption of rationality, functioning like a searchlight, might help to bring such factors to light. But adding that a person acts adequately by voting, given that the norms that he upholds dictate that he should do so, adds almost nothing to the explanation. The rational choice explanation, although obviously false, at least has the virtue of making a parsimonious, wide-ranging, and counterintuitive prediction about voter behavior—namely, that citizens will not vote. Situational analysis itself in this instance produces no compelling model or account of voting behavior. This is not to say that analyzing voting behavior is not an important area of research for political scientists. I only mean to say that the real work in this case involves explaining the formation of

the different values, beliefs, and goals that lead people to cast ballots, rather than explaining the act of voting once these values, beliefs, and goals are assumed. The latter merely amounts to a pedantic restatement of the obvious. In all likelihood, the interesting part of explaining voting will lie in uncovering the factors that lead a person to adopt certain beliefs and norms toward voting—that is, an inquiry into how certain beliefs and normative attitudes regarding voting were formed in the first place and how those norms are sustained. Part of that project would surely lie within the purview of situational analysis. An historical inquiry into a voter's political development, for instance, might reveal that his beliefs and values regarding voting were rationally grounded, given his situation. But just as surely other aspects of such an inquiry would lie outside the range of situational analysis altogether, insofar as the voter's beliefs and especially his values were produced and sustained through socialization, which is a largely subconscious and unintentional process. In such situations, explaining voting behavior would largely fall under the purview of political psychology rather than situational analysis.

UNTANGLING COMPLEX PATTERNS OF INTERACTION

My claim that situational analysis is of little value in explaining voting behavior is not meant to be a deep criticism of situational analysis. Not all social phenomena are good candidates for explanation by situational models. The proper subjects of situational analysis for social science are relatively complex patterns of interaction between actors and institutions, especially those that produce interesting unintended consequences. As we have seen, this is what Popper identified as the "main task" of the social sciences—to uncover "the less obvious dependencies within the social sphere" and "the unintended social repercussions of intentional human actions," adding that "action which proceeds precisely according to intention does not create a problem for social science" *(OSE II,* 94, 95). Situational models lay bare the interaction of actors that produce these unintended consequences. Of course, one can use situational analysis to describe practically any intentional human action, including the most trivial human actions, such as Popper's example of Richard the pedestrian (*MF,* 166–168). But Popper's use of situational analysis to explain Richard's crossing the street is not intended to show that situational analysis offers some previously lacking insight into why Richard crossed the street. He simply uses this example of a very simple social situation to bring the elements of a situational model into sharp relief. As Popper says, "In so far as [individuals] act in the way in which they want to act, and realize the aims which they intend to realize, no problem arises for the social sciences" (*CR,* 124).

Some good candidates for situational analysis to explore would include Popper's list of sociological "laws" in *The Poverty of Historicism,* which I discussed in chapter 3. These "laws" would be better understood as a list of phenomena in need of explanation via situational models. For instance, Popper

cites the law that "You cannot introduce a political reform without strengthening the opposing forces, to a degree roughly in ratio to the scope of the reform" (*PH,* 62). Popper labels this a "sociological law," but it lacks the precision needed for genuinely testability and, even given a loose and charitable interpretation, it is surely false anyway. Nonetheless, it describes an identifiable and fairly typical observable pattern associated with political reform. As such, it is a candidate for a situational model that can demonstrate how typical persons acting adequately to reform a political institution tend to strengthen forces opposed to reform. Developing this model entails disentangling the actions of numerous individuals to reveal how the behavior of one group of actors triggers actions in other groups, which in turn triggers certain actions by still other actors or affects the behavior of the original actors, and so forth. The hope is that the model of the interaction that produces this effect will prove general enough to enhance our understanding of reform efforts in a variety of political situations. Presumably included in this model are the various goals of the actors involved, the institutional constraints on actors, and the norms affecting their behavior.

The need for situational models that explain unintended consequences provides a clue to why Popper was so impressed by economics. Economics is rife with typical phenomena that are interesting chiefly owing to their unintended consequences. Most famously, Adam Smith's "invisible hand" description of a free market economy showed how persons acting in their own economic self-interest may produce the unintended but happy consequence of greater overall wealth. In fact, Popper himself cites examples from economics to illustrate how human actions in certain economic situations can produce typical but unintended consequences. He notes how a homebuyer's presence on the market can have the unintended (and unwanted) consequence of raising housing prices, or how a person's decision to take out an insurance policy can have the unintended effect of encouraging other people to invest in insurance shares (*OSE II,* 96). Popper urges social scientists to uncover other typical patterns of human interaction outside of the economic realm that produce similar unintended consequences.

Unfortunately, Popper makes little effort to demonstrate how situational analysis might be applied outside of economics. As noted earlier in this chapter, Popper does mention "the logic of power" as a possible candidate for such behavior within the realm of politics, but fails to elaborate (*OSE II,* 97). In a footnote, however, he mentions that examples of the logic of power can be found in chapters VIII and IX of Plato's *Republic* and in various works by Aristotle, Machiavelli, Pareto, and "many others" (*OSE II,* 324 n. 13). As regards the *Republic,* Popper is apparently referring to Plato's analysis of dictatorial power. Plato details how a man of the people who gains political authority may be forced to consolidate and secure his power by ever more brutal means, including killing his most able advisers as well as his own relatives (Plato, 306–311). Further, he will tend to surround and protect himself with

slaves, foreigners, "drones" (criminals and beggars), and bodyguards whose interests would be imperiled if the dictator were to be killed or driven from power. Plato's analysis of power aims to explain why absolute dictatorships typically degenerate into reigns of terror. The phenomenon has less to do with the psychology of the types of individuals who wind up in dictatorial positions than with the logic of a dictatorial situation. The situation virtually forces the dictator to act ruthlessly:

> [The dictator] has to keep a sharp eye out, then, for anyone with courage, self-confidence, intelligence, or wealth. He has no choice in the matter: he's bound to treat them as enemies and to intrigue against them, until he's purged the community of them. That's the nature of his happy state. (Plato, 310)

The logic Plato uncovers, Popper indicates, still operates in modern times, as seen in the bloody purges conducted by Joseph Stalin and Sadam Hussein.

We might also characterize a number of explanations contained in *The Open Society* as unacknowledged examples of situational analyses of political phenomena. Consider Popper's account of the "inner contradictions" of Communist parties of the late ninteenth and early twentieth century (*OSE II,* 190–192).[5] Popper says that a core tenet of the parties' ideology is that the increasing immiseration of the working class is inevitable and will eventually precipitate a communist revolution. However, in order to win the trust of the workers, the Communist parties must strive to better the lot of the workers, even though their theory claims that such efforts must prove fruitless. The futile fight will produce the dual benefit of raising class consciousness and demonstrating to the workers that only full-scale revolution can end their suffering. "But," Popper says,

> contrary to all expectations and prophecies, the fight is successful. The demands are granted. Obviously, the reason is that they had been too modest. Therefore one must demand more. But the demands are granted again. And as misery decreases, the workers become less embittered, more ready to bargain for wages than to plot revolution. (*OSE II,* 191)

This leads the Communists to reverse policy, for "Something must be done to bring the law of increasing misery into operation" (ibid.). The solution is to adopt "a policy fomenting catastrophes of all sorts," such as stirring up colonial unrest, even if there is no chance of success. But the new policy of intentionally making things worse raises the suspicions of the workers, and they begin to leave the party. "For they are realists," Popper says, and "to obtain their confidence, one must work to improve their lot" (ibid.). As more workers exit the party, the Communists reverse policy and once again strive to lessen the workers' suffering. "With this, the 'inner contradictions' of the theory produce the last stage of confusion" (ibid.). The goals and policies of the party are now so roiled that it becomes difficult to distinguish ideological traitors from the

party faithful. In the end, the disillusioned either quit the party or relinquish their intellectual integrity—they "learn to believe blindly in some authority" and become "hostile to reasonable argument" (*OSE II,* 192).

It is not my intention to assess the validity of Popper's account of the degeneration of the Communist party. I merely want to suggest that it provides an example of a situational model of a typical political phenomenon. Popper seems to regard his account as a description of what happened to numerous Communist parties across Europe. He tries to explain the decay of the Communist party by describing how workers and party members produce the unintended effect of party degeneration simply by acting rationally, given their social situation and their beliefs. The explanatory act is essentially one of untangling the interaction of workers and party members and thereby laying bear the mechanisms that lead to party degeneration. Note that it is not an idiographic, historical account of the decay of one particular party; it is meant to explain a *type* of event—the general tendency toward decay found in Communist parties—by clarifying the logic of the situation. Popper's description does not explain the logic of political parties in general; rather, it is meant to explain the logic of *Communist* parties during a certain historical era. As such, it stands as a historical theory of middle range, hovering between idiography and universal theory.

SUMMARY

Popper said that the main task of social science should be uncovering patterns of human interaction that lead to unintended consequences. Many explanations in economics do just that. Thus, in the beginning, Popper was led, somewhat precipitously, to recommend adoption of economic methods by other social sciences. But Popper's claim that situational analysis is merely the method of economics generalized is not tenable, in his own work or in examples relevant to the social sciences. While it is evident that situational analysis in its early formulation was clearly modeled on economic theory, the theory in the final formulation developed by Popper represents a quite different approach to explaining the social world. Although it shares with some economic theories the goal of uncovering patterns of human interaction and the unintended consequences that they produce, it does so without relying upon the model of human rationality employed by economic theory.

I conclude this chapter by noting that behavioral economic theory resembles situational analysis more than does standard economic theory. Behavioral economists, such as Truman Bewley, Robert Shiller, Robert Frank, and George Akerlof, seek to develop a richer understanding of thought processes that inform economic action. Many of them have incorporated some of the models of psychological processing developed by Daniel Kahneman and Amos Tversky that describe various typical mental "heuristics" used by people to solve problems. As I will argue in chapter 6, situational analysis would benefit from

incorporating thought processing into its situational models, even though this might seem contrary to Popper's anti-psychologism. But, in addition to developing more nuanced models of human thinking, behavioral economists also seek to incorporate norms into their explanatory models. Bewley, for instance, has explored the puzzling fact that wages generally do not fall during recessions (Bewley 1999). Standard economic theory predicts that employers should lower labor costs during economic downturns, but for some reason employers are reluctant to do so, preferring instead to lay off some workers rather than cut every worker's pay. However, after many failed attempts to explain this puzzling phenomenon with standard economic models, Bewley decided to examine what actual economic actors have to say on the matter. After conducting extensive interviews with hundreds of employers, labor leaders, and business management consultants, Bewley concluded that employers are unwilling to reduce wages during recessions largely because it violates a widely shared norm of fairness among workers. Bewley shows that workers will often punish employers who cut wages, even at the expense of the their own economic interests. Employers typically decline to cut wages party because of their own sense of fairness, but more because it violates employees' sense of fairness and therefore hurts company morale. Another component in Bewley's explanation relies on psychological facts about people—the typical person's aversion to loss is greater than his or her attraction to gain, and the average person also tends to be unrealistically optimistic. Workers tend to vastly underestimate the possibility of losing their jobs, even as co-workers are laid off.

By incorporating norm-guided behavior into the realm of economic action, Bewley and other behavioral economists are bringing economics closer to Popper's situational analysis. If this new school of economics were to become dominant, then, perhaps ironically and belatedly, Popper's claim that situational analysis is the method of economic science generalized would become true.

CHAPTER FIVE

Popper's Debt to Marx

In the previous chapter we considered the economic roots of situational analysis. Our finding that Popper was inspired by the methods of economics was perhaps not terribly surprising, given his close ties with liberal economists, most notably Friedrich Hayek. But we also saw that situational analysis in its latter formulations bore only superficial similarity to the economists' approach. This chapter will consider another source of Popper's situational analysis, one that was perhaps even more influential than economic theory. That source is Marxism. This will no doubt strike most readers as a surprising claim because Popper is generally regarded as one of the twentieth century's most influential and forceful critics of Marxism. In his biography of Marx, Isaiah Berlin declared that Popper had produced "the most scrupulous and formidable criticism of the philosophical and historical doctrines of Marxism by any living writer" (Berlin 1963, 239), while Bryan Magee, in his introductory examination of Popper's thought, confessed that he could "not see how any rational man can have read Popper's critique of Marx and still be a Marxist" (Magee 1973, 89). Popper's principal critique of Marxism is widely understood to be that Marxism is unfalsifiable and thus a pseudoscience. According to Popper's former student Imre Lakatos, Popper "wanted to show that some allegedly scientific theories, like Marxism and Freudianism, are pseudoscientific and hence that they are no better than astrology" (Lakatos 1978, 168).

While there is no doubt that Popper was highly critical of many aspects of Marx's thought, Popper's critique of Marx was not as total or one-sided as is often supposed. In particular, he did not think that Marx himself was a purveyor of pseudoscience—at least, he did not think that all of the important aspects of Marx's thought could described as such. As we shall see, Popper found much to admire in Marx's work and believed that Marx had made important contributions to the methodology of social science. In fact, Popper's situational analysis bears a strong resemblance to the method that Marx employed to explain various aspects of capitalism. Indeed, situational analysis appears to have been inspired in part by his reflection on Marx's methods.

This inspiration came not through Popper's consideration of Marx's scattered and somewhat inconsistent remarks on methodology. Rather, it arose out of Popper's critical engagement with Marx's actual explanatory practices, especially those found in *Capital.* The bulk of this chapter will be dedicated toward defending this claim, but I close by comparing Popper's interpretation of Marx's methodology with that of the so-called analytical Marxists. The two interpretations are surprisingly similar, and, not coincidentally, the methodological approaches proposed by Popper and the analytical Marxists are also similar. Of course, my claims contradict the traditional, and by no means unfounded, interpretation of Popper as a hostile critic of Marx. So before we discuss Popper's debt to Marx, we will need to examine Popper's critique of Marxism.

POPPER'S CRITIQUE OF MARX

I have so far been examining Popper's contributions to the philosophy of social science. But Popper's fame largely rests, first, upon his philosophy of natural science and, second, on his political philosophy. With respect to his political works, Popper is chiefly identified as a critic of totalitarianism and a proponent of "the open society." Popper's criticism of Plato, Hegel, and Marx forms the basis for his critique of totalitarianism, yet Popper's assessment of each thinker is quite distinct. Plato was, for Popper, a benighted genius who, in a sincere attempt to create the most just city, wound up advocating a monstrous regime that destroyed individual liberty and perverted justice. Popper's condemnation of Hegel, however, is unqualified. Popper viewed him as a figure without redemption—an intellectual fraud, opportunist, and lackey of the Prussian monarchy who deluded a generation of philosophers with his impressive sounding but nonsensical philosophical system (*OSE II,* 27–80).[1] In the process, Popper charges, Hegel also laid the philosophical groundwork for expansionist nationalism and, ultimately, fascism. Popper says that he deigns to discuss Hegel not because of the intrinsic worth of Hegel's philosophy, which according to Popper is nil, but because of its deleterious effects on history and philosophy.

Popper's stance toward Marx stands in sharp contrast to his attitude toward Hegel. Although he was highly critical of Marx, he also expressed great admiration toward him, praising him as a genuine humanitarian and champion of human freedom:

> One cannot do justice to Marx without recognizing his sincerity. His open-mindedness, his sense of facts, his distrust of verbiage, and especially of moralizing verbiage, made him one of the world's most influential fighters against hypocrisy and pharisaism. He had a burning desire to help the oppressed, and was fully conscious of the need for proving himself in deeds, not only in words. (*OSE II,* 82)

"Marx loved freedom," Popper adds later, "real freedom, (not Hegel's 'real freedom')" (*OSE II,* 102). With these passages, Popper signals to the reader that Marx, unlike the hypocritical windbag Hegel, is a humane and honest scholar who should be treated with respect. But Popper's admiration extends not only toward Marx as a person, but also toward him as a social scientist:

> [Marx] opened and sharpened our eyes in many ways. A return to pre-Marxian social science is inconceivable. All modern writers are indebted to Marx, even if they do not know it. This is especially true of those who disagree with his doctrines, as I do; and I readily admit that my treatment, for example of Plato and Hegel, bears the stamp of his influence. (*OSE II,* 82)

These comments indicate that the conventional view of Popper as having thoroughly rejected Marx's methods is misguided. Not only does Popper reveal his admiration for Marx, he also claims that he is indebted to him as a social scientist. Yet, at the same time, Popper says that he "disagrees with [Marx's] doctrines," and soon after he tells us that this disagreement is fundamentally a disagreement over methodology. "Marxism is fundamentally a method," Popper says, a method that is "very poor indeed" (*OSE II,* 84).

These comments are puzzling. On the one hand, Popper characterizes Marx as a groundbreaking social scientist and, on the other hand, a purveyor of a "very poor" method. How can these seemingly contrary claims be reconciled? The truth appears to be that Popper did not believe that every aspect of Marx's methodology was flawed, despite his occasional rhetorical flourishes to the contrary. Rather, he believed that some parts of Marx's methodology were good, and others bad. Our task, then, is to determine which parts of Marx's thought Popper approved and which he deemed seriously flawed. The most logical place to begin this inquiry is to review Popper's two well-known criticisms of Marxism.

That Popper was a critic of Marxism is, of course, undeniable. Marx's philosophy is clearly one of the targets of criticism in Popper's *The Poverty of Historicism,* although Marx's name only appears sporadically throughout the text.[2] In *The Open Society and Its Enemies,* however, Popper's critique of Marx is sustained and explicit. Indeed, more than half of the second volume of that work is dedicated exclusively to Marx's work. In both *The Poverty of Historicism* and *The Open Society,* Popper's criticism of Marxism is deeply tied to his critique of Marx's methodology. Popper argues that not only is Marx's approach to explaining the social world fundamentally flawed, but he also contends that this flawed approach is implicated in abetting a number of undesirable social consequences, including totalitarianism. Broadly speaking, Popper makes two charges against Marx's approach. First, that it is unfalsifiable and thus not scientific; and, second, that Marx's methodology is a version of historicism, a widespread but scientifically untenable approach to social explanation. Let us briefly consider each one of these criticisms in turn.

The charge of unfalsifiability

Marx made a number of predictions that never materialized. He predicted declining rather than rising wages for the working class and a declining rate of profit for capitalists. He predicted that attempts by capitalist nations to mollify the vicissitudes of the business cycle would be ineffectual. And, of course, he predicted socialist revolutions in the most advanced capitalist nations. But Popper himself says that the failure of these predictions in itself does not detract from the scientific character of Marxism. "Science progresses through trial *and* error," he says. "Marx tried, and although he erred in his main doctrines, he did not try in vain" (*OSE II,* 82). For Popper it is not falsification of predictions per se that makes a theory nonscientific; rather, it is the failure to produce falsifiable predictions in the first place. What then, according to Popper, are some examples of such pseudoscience masquerading as legitimate science? Among his favorite examples is astrology. Astrology may appear scientific insofar as it makes predictions based on a more or less coherent theory of the universe. But either astrologers' predictions are too vague to be falsified, or they produce endless ad hoc hypotheses to account for apparent falsifications of their forecasts.

Popper also accuses Marxism of evading falsification. He notes, for example, that Marx predicted that the first socialist revolution would take place in the most advanced industrial country—England, for Marx—but, of course, the first socialist revolution occurred in economically backward Russia. This was no minor deviation from the Marxist theory of historical materialism; it was a complete inversion of it. Instead of the forces of production dictating politics, the opposite had happened. Popper points out that the revolution was first and foremost a *political* revolution, which eventually produced an economic revolution when Russia was industrialized under Lenin's directive. But, Popper says, Marx's theory was drained of scientific status when Marxists refused to interpret the Russian revolution as a falsification of Marxism: "The reinterpretation of Marx's theory of revolution to evade this falsification immunized it against further attacks" (*UQ,* 43; see also *OSE II,* 108). In the face of the Russian revolution and other apparent contradictions of Marxism, Marx's followers gradually adopted a "conventionalist twist" to avoid falsifications of their theory. That is, they "reinterpreted both the theory and the evidence in order to make them agree. In this way they rescued the theory from refutation; but they did so at the price of adopting a device which made it irrefutable" (*CR,* 37). In doing so, Popper says, "they destroyed [Marxism's] much advertised claim to scientific status" (ibid.).

But Popper's attack is really aimed at Marx's followers, not Marx himself. More importantly, Popper does not charge that Marx's theory is nontestable—nowhere does he say anything to indicate that the Marx's predictions were *inherently* unfalsifiable. For this reason, Marx's approach must be distinguished from astrology and Freudian psychoanalysis, Popper's other favorite example of

bogus science. Those theories, Popper says, are intrinsically nontestable. The predictions that astrology and psychoanalysis generate are so vague or ambiguous that it is always possible to interpret apparently falsifying evidence in such a way that it does not contradict these theories (*CR,* 37). Popper makes no similar claim regarding Marxism; in fact, he calls Marxism a "truly scientific" theory and accuses Marx's "latter-day followers, the Vulgar Marxists" of abandoning its scientific elements (*CR,* 125 n. 3; see also *OSE II,* 101). Thus, contrary to conventional understanding of Popper, it is clearly wrong to assert (as even such careful students of Popper's work as Lakatos frequently did) that astrology, Freudian psychoanalysis, and Marxism form Popper's trio of pseudoscience (Lakatos, 168). For Popper, only the first two belong in that category.[3]

The critique of historicism

Popper's second general criticism of Marxism is that it is a form of historicism—in fact, "the purest, the most developed and the most dangerous form of historicism" (*OSE II,* 81). But what is historicism? According to Popper, it is "an approach to the social sciences which assumes that *historical prediction* is their principle aim, and which assumes that this aim is attainable by discovering the 'rhythms' or the 'patterns,' the 'laws' or the 'trends' that underlie the evolution of history" (*PH,* 3). Popper strongly objects to historicism, on logical as well as methodological grounds (and on ethical grounds, too, though I will not discuss them here). He wrote *The Poverty of Historicism* with the principal aim of unmasking historicism's methodological errors, but he later developed a succinct, persuasive refutation of the doctrine on logical grounds in an essay entitled "Indeterminism in Classical Physics and Quantum Physics." The argument was reproduced in the preface to the first English language printing of *The Poverty of Historicism,* published in 1957. Briefly stated, it goes as follows. Human knowledge grows, and future social events are strongly affected by human knowledge. However, we cannot predict what knowledge humans will produce in the future (else we would already have that knowledge); therefore we cannot predict the future (*PH,* vi–vii).[4] Note that the argument does not require a rejection of strict determinism, although Popper does reject determinism, as we saw in chapter 3. It may be that the future of human history is completely contained in its past, and, in particular, it is conceivable that all human ideas are in some sense determined by past events (though Popper himself believed that human thoughts frequently introduce genuine novelty into the universe). Popper's argument merely stipulates that we cannot know all the forces that will affect future events, especially the force of human thought. All Popper's argument requires is the acknowledgment that human ideas enter into the causal chain of history, that thoughts are not mere epiphenomena. Even a strongly reductionistic materialist theory of history must provide a place for the efficacy of human ideas. No serious historical materialist—and most certainly not Marx—maintains the idea that social events can occur without the mediation of human thought.

Popper also critiques historicism on broader, methodological grounds. He does not deny that trends or patterns can be detected in history or that knowledge of such trends might afford us some limited, relatively short-range, and exception-ridden predictions about the human future. What he denies is that trends or patterns can be invoked to make long-range historical forecasts. The typical historicist error, he says, is to confuse trends or patterns with genuine laws. Unlike trends, laws are absolute and unconditional; they do not rely on initial conditions for their efficacy. In contrast, trends "depend upon the persistence of certain specific initial conditions" (*PH,* 128). In other words, we might say that genuine laws are always in force, always acting upon the universe, even if the force of a law at any given moment may not be evident because its effects are "canceled out" by other laws. Trends, however, do not have any force or efficacy per se; rather, they are merely manifestations of a certain conjunction of conditions and laws. Change the conditions, and the trends evaporate or alter. Popper notes, for example, that

> [t]here is . . . a trend towards 'accumulation of means of production' (as Marx puts it). But we should hardly expect it to persist in a population which is rapidly decreasing; and such a decrease may in turn depend on extra-economic conditions, for example, on chance inventions, or conceivably on the direct physiological (perhaps biochemical) impact on an industrial environment. (*PH,* 129)

But historicists fail to see this crucial distinction between laws and trends; in fact, they view their favored trends as if they were "absolute trends"—that are not subject to conditions (*PH,* 128).

Popper does acknowledge, however, that the natural sciences occasionally produce relatively precise, long-range predictions. But these only occur in the rare cases where a physical system is "well-isolated, stationary and recurrent," such as the solar system, where the appearances of comets or eclipses can be predicted thousands of years in advance (*CR,* 339). But the social world is not isolated or stationary, nor is it recurrent; so for the most part social scientists cannot assume that any trends that they uncover in history will continue. There may be, Popper admits, some repetitiveness in human society, and this may afford a modest ability to prophesy. For example, there is

> undoubtedly some repetitiveness in the manner in which new religions arise; or new tyrannies; and a student of history may find that he can foresee such developments to a limited degree by comparing them with earlier instances, i.e. by studying the *conditions* under which they arise. But this application of the method of conditional prediction does not take us very far. For the most striking aspects of historical developments are non-repetitive. Conditions are changing, and situations arise . . . which are very different from anything that ever happened before. (*CR,* 340; Popper's italics)[5]

This being the case, the goal of social scientists should be to identify the conditions that produce trends. Once they do so, they will realize that the conditions that produce trends can and will change, and that when this happens, the trends will alter or disappear. For example, historians may detect a trend in human history toward technological improvement, and they may at the same time find out something general about the social conditions that are likely to foster technological innovations. But in doing so they will also become conscious of the fact that such a trend can always be disrupted, for example, by the imposition of a political regime that bans scientific inquiry or the outbreak of a pandemic disease.

Popper says that notable proponents of historicism include Plato and Hegel. Plato's historicism derived, according to Popper's interpretation, from his belief that all things in the universe tend to decay from their original, ideal form. Popper calls this Plato's "law of decay," and he claims Plato believed that cities were among the entities subject to this law. Following the natural historical course dictated by the law of decay, the ideal city gradually degenerates to timarchy (rule by a militaristic class) to oligarchy to democracy and, finally, to dictatorship. The *Republic* was a blueprint for arresting this degeneration, Popper says (*OSE I,* 20–21; see also Book VIII of the *Republic*).[6] Hegel's historicism could be described as the opposite of Plato's. Instead of an inevitable movement from perfection to decay, history marches ineluctably toward the Ideal. History, which according to Hegel is the manifestation of the "Universal Spirit" or God, progresses via the unfolding of "Reason" on earth. Thus Hegel's theory of history is teleological and progressive (although Popper claims that Hegel's theory was really intended to support his reactionary politics). But contrary to the beliefs of other "optimistic" historicists, such as John Stuart Mill, Hegel believed that history progressed through an indirect, dialectical route rather than a more or less straightforward progressive course.[7]

Marx, too, was at times guilty of historicism, Popper tells us. The source of Marx's historicism is his theory of historical materialism—or, to be precise, one half of Marx's historical materialism, for Popper distinguishes two elements in the theory: a historicist element and an element he dubs "economism" (*OSE II,* 106). The latter is "the claim that the economic organization of society, the organization of our exchange of matter with nature, is fundamental for all social institutions and especially for their historical development" (ibid.). Popper has no quarrel with economism; in fact, he says that the economism of Marx's theory represents an "extremely valuable advance in the methods of social science" (*OSE II,* 107). The value that Popper espies in the theory is the insight that it is often very profitable to consider economic conditions as "fundamental" when trying to understand other aspects of societal or historical phenomena (*OSE II,* 106). That is, economism offers a very fruitful point of view for interpreting and explaining the social world. But Popper says that we should only consider economics to be fundamental "in an ordinary vague sense" (ibid.). In no way should we assume that economic conditions somehow strictly determine all other social

phenomena. In particular, for Popper human ideas—whether scientific, philosophical, religious or ethical—should always be granted a realm of independence and efficacy, even if examining economic conditions might shed some light on their development or longevity (*OSE II,* 107; *CR,* 332).[8]

Popper, of course, says that the other element of Marx's historical materialism—the historicist component—must be rejected. But how, exactly, did Popper understand Marx's historicism?[9] Popper cites passages where Marx invokes "inexorable laws" of society and employs highly deterministic language (*OSE II,* 136). In examining human economic relations, Popper says, Marx believed that he had uncovered the laws of historical development that predetermined socialist revolution and, ultimately, the emergence of a classless society. He quotes a famous passage from *Capital* where Marx says that once "a society has uncovered the natural law that determines its own movement, . . . even then it can never overleap the natural phases of its evolution, nor shuffle them out of the world by a stroke of the pen. But this much it can do; it can shorten and lessen its birth pangs" (*OSE II,* 86). Quite understandably, Popper interprets this passage as Marx embracing laws of historical development.

But what did Marx mean by a "natural law" in this context? In saying that the natural law "determines" society's movement, Marx seems to have in mind what Daniel Little has called "governing regularities" (Little 1998, 240). Natural laws, such as gravity, Newton's laws of motion, and the laws of electrodynamics, are the paradigm examples of governing regularities. Such laws "generate the behavior of a given kind of thing"; they "give rise to or constrain the thing's behavior" (ibid.). Gravity and Newton's laws of motion constrain the behavior of the planets in the solar system and give rise to their orbital trajectories. But there are also "phenomenal regularities." Such regularities have no constraining or causal power themselves; rather, they are the results of certain conditions and certain governing regularities. The orbital paths of the planets in our solar system are phenomenal regularities. That is, the orbital paths themselves have no causal or constraining power, unlike the natural laws that bind them.

Now, initially when Popper accuses Marx of historicism, he seems to be charging that Marx wrongly believed that he had uncovered governing regularities of history, that he had revealed some suprahistorical or transcendent force that guides or constrains history. However, what is interesting is that when Popper actually examines Marx's prophecies of socialist revolution and the emergence of a classless society "close up," as it were (in chapters 18 and 19 of *The Open Society*), the real charge that Popper levels against Marx is that he allowed "wishful thinking," mysticism, and romantic sentiments to crowd out his usually unsentimental and scientific judgment:

> For all his acute reasoning and for all his attempts to use scientific method, Marx permitted irrational and aesthetic sentiments to usurp, in places, complete control of his thoughts. It was romantic, irrational, and even mystical

> wishful thinking that led Marx to assume that the collective class unity and class solidarity of the workers would last after a change in the class situation. It is thus wishful thinking, a mystical collectivism, and an irrational reaction to the strain of civilization which leads Marx to prophesy the necessary advent of socialism. (*OSE II,* 333; see also 139, 197)

In addition, Popper accuses Marx of failing to flesh out the details of his reasoning that led him to forecast revolution and a classless society, noting that Marx's predictions are "only sketched." And, further, Popper charges that a poverty of imagination led Marx to ignore obvious possible developments that could thwart his predictions (*OSE II,* 136). For instance, in his analysis of Marx's prediction of socialist revolution, Popper notes that Marx simply assumes that, given that the proletariat has triumphed in a revolutionary struggle against the capitalists, a classless society will emerge (*OSE II,* 138). Marx bases this assumption on his belief that once the means of production is collectively owned and controlled, all sources of class conflict will disappear. But Popper notes that there are a number of potential sources of new class divisions, even if no single group in society controls the productive forces. Popper then spells out a scenario (obviously intended to describe events in the Soviet Union, although Popper does not explicitly say as much) in which the leaders of the revolution could form a new class based on their control of the bureaucracy and political institutions (*OSE II,* 138). He concludes by claiming that Marx's prophecy of a classless society is not necessarily wrong, just "inconclusive" (*OSE II,* 139). More generally, Popper says, Marx failed to see that politics is not impotent, and that state intervention can alter or even reverse many of the trends that Marx believed were inexorable within a capitalist system, such as the increasing impoverishment of the working class or the increasing concentration of capital (*OSE II,* 107, 125–127).

Now, unlike Popper's critique of historicism in general, the charges of romantic wishful thinking, sketchy reasoning, and poverty of imagination are not deep methodological critiques of Marx. The former is essentially a psychological assessment of Marx, while the latter two are basically reprimands for Marx's failure to work through the details of his explanations. Popper sees gaps in Marx's reasoning, but he registers no objection to the type of reasoning that Marx uses. Notably, in his close examination of Marx's analysis of capitalism, Popper does not criticize Marx for invoking laws of historical development to make his prediction of the economic collapse of capitalism and socialist revolution.

To sum up the findings of this section, Popper did indeed charge Marxism with evading falsification and with historicism, two errors that, for Popper, would call the scientific status of Marxism into question. However, upon closer inspection we found that Popper's charge of unfalsifiability was not aimed at Marx's thought per se, but rather at Marx's followers who turned Marxism into an uncritical orthodoxy. Popper did direct the charge of historicism at Marx

himself, although he indicates that Marx's followers were even more guilty of historicism. But we saw that this charge was directed at Marx's more sweeping pronouncements about history and the fate of capitalism. When Popper conducts a close analysis of Marx's predictions of socialist revolution and the emergence of a classless society, the inadequacies that Popper detects in Marx's explanations do not stem from a deep methodological error, such as invoking nonexistent laws that govern historical development. Rather, they arise from Marx's poverty of imagination, romantically induced wishful thinking, and sketchy reasoning.

POPPER'S DEBT TO MARX

Our brief tour through Popper's critique of Marx shows that Popper's criticisms were not as deep as is often thought and prepares the ground for my claim that Popper is in fact indebted to Marx methodologically. It should not be altogether surprising to assert Popper's debt to Marx; as noted above, Popper explicitly acknowledged that Marx had influenced his understanding of social inquiry (*CR,* 125 n. 3; *OSE II,* 82). However, Popper was rather vague about the precise nature of Marx's impact on him. What I argue below is that Popper's encounter with Marx appears to have significantly influenced Popper's own contributions to social science methodology. In fact, Popper's recommended approach to social inquiry, including his concept of situational analysis, is remarkably similar to some of Marx's actual explanatory practices or, at least, to Popper's interpretation of Marx's methods. What, then, did Marx teach Popper about social science?

First, Marx helped to convince Popper that the primary task of social science is to lay bare the unintended repercussions of social action. In numerous places Popper asserts that this is the chief goal of social science. He first introduces this notion of social science in chapter 14 of *The Open Society* while discussing what he characterizes as Marx's attack on psychologism (*OSE II,* 95). In a footnote to that chapter, Popper notes that Karl Polanyi, in private conversation, had first suggested to him "that it was Marx who first conceived social theory as the study *of unwanted social repercussions of nearly all our action*" (*OSE II,* 323 n. 11; Popper's italics). Several years later, in a 1948 essay entitled "Toward a Rational Theory of Tradition," Popper declared his "indebtedness to Marx," who "*was one of the first critics of the conspiracy theory,* and one of the first to analyze the unintended consequences of the voluntary actions of people acting in certain social situations" (*CR,* 125 n. 3; Popper's italics). Thus, although Popper never explicitly states that he borrowed this understanding of social science from Marx, it seems plausible that this was the case.

Second, Popper seems to have developed his version of methodological individualism through his encounter with Marx. In chapter 1, we considered Popper's defense of this doctrine in the context of his attack on psychologism and methodological collectivism. The bulk of that discussion was drawn from

chapters 13 and 14 of *The Open Society,* where Popper discusses methodological individualism in the context of Marx's explanatory practices. To have challenged psychologism and defended the autonomy of sociology was, Popper says, "perhaps the greatest achievement of Marx as a sociologist" (*OSE II,* 88). Although Popper stops short of labeling Marx an advocate of methodological individualism—in fact, he (somewhat inconsistently) accuses him of methodological collectivism—we will see below that Popper's own interpretation of Marx's explanations reveals Marx's methodological individualism.

In addition, though Popper initially developed his concept of situational analysis independently of Marx, it is clear that Popper considered many of Marx's explanations to be exemplary applications of situational analysis. Like situational analyses, what Popper calls Marx's "institutional analyses" are accounts of individuals acting rationally in accordance with their social situation. Also, the examples of Marx's institutional analyses that Popper praises could be characterized as situational models designed to explain a range of structurally similar situations rather than mere idiographic explanations. They are meant to shed light on capitalism in general, not merely the capitalism of ninteenth-century England.

To back up these claims, we need to find textual evidence in which Popper praises Marx for employing institutional analyses, adhering to the principle of methodological individualism, and uncovering unintended consequences. Popper's interpretations of Marx's analyses of the trade cycle and class conflict under capitalism are two such examples.

In *The Open Society,* Popper says that Marx's explanation of trade cycles and their connection to the production of surplus workers, though perhaps not a wholly satisfactory account of the phenomenon, is nonetheless "ingenious" and "most valuable" (*OSE II,* 179, 197). What Popper admires is the way Marx tries to explain this complex and puzzling phenomena, though he stops short of endorsing the exact details of Marx's explanation. Marx's account of the trade cycle shows how depressions, unemployment, and starvation wages are the inevitable but unwanted results of a complex series of interactions between capitalists and workers. According to Popper, Marx's explanation runs roughly as follows (*OSE II,* 180–181). During a business expansion, unemployment decreases as capitalists hire more workers from the "industrial reserve army" to increase production. However, as the ranks of the unemployed decrease, the capitalist threat of replacing workers with the desperately poor unemployed (who, lacking unemployment insurance or other means of support, will work for starvation wages) begins to lose its force and wages tend to rise. This in turn raises labor costs, which creates new incentives to replace workers with machinery that had been unprofitable before the wage hike. As more and more machines come on line, however, the capitalists begin letting the now relatively expensive workers go. But eventually the number of unemployed becomes so great that consumer purchases begin to decline and thus some factories are forced to cut back production or even lie idle. As a result, a vicious

circle begins to set in: more workers lose their jobs, leading to less consumption, which causes production to slow yet again, and so on. Now a depression—or, as Marx calls it, a "crisis"—has emerged. But the seeds of economic renewal are already present in this situation. The ranks of the industrial reserve army have now swelled, and its members are willing to work for starvation wages. The low wages make production profitable again, and an economic recovery sets in, completing the trade cycle. Marx stipulates that with each successive cycle, the depression will become deeper and the suffering of the workers greater, eventually leading to a collapse of the entire system and a socialist revolution.

As we saw above, Popper criticizes this last step of the explanation, arguing that Marx failed to provide a genuine explanation of the increasing intensities of economic crises and instead relied upon wishful thinking and historicist prophecy to, as it were, fill in the gaps (*OSE II,* 181, 197). Also, Popper notes, Marx failed to anticipate the various forms of state and political intervention that might reduce the severity of the trade cycle. But what, for Popper, were the merits of Marx's explanation? First, one of its obvious goals is to explain how various unwanted phenomena—unemployment, depressions, subsistence wages—are the unintended social repercussions of individuals acting within the confines of the capitalist system (*OSE II,* 197). Marx untangles a complex web of interaction between individuals and their social/economic environment to show how that interaction produces observable social phenomena. Marx, of course, was not the first to notice trade cycles, but he was among the first to give a plausible explanation of them. In contrast to Marx, the "bourgeois" economists of his day were reluctant to even acknowledge trade cycles because their existence contradicted the bourgeois theory that the free market could never produce a glut of production (Marx 1978, 443–444).[10] Second, Marx's explanation adheres to the principle of methodological individualism, as defined by Popper. For Popper this principle does not require reducing explanations to descriptions of individuals' motives or to other dispositional facts about individuals; it merely bars granting intentions or goals to supraindividualistic or holistic entities such as states, nations, or classes. Individuals are needed to animate an explanation, but any adequate account of social phenomena will require a description of the social environment that the individual faces, including social institutions. Marx's explanation of the trade cycle is compatible with methodological individualism. Depression, unemployment, and increasing productivity are all products of numerous individuals acting rationally within their social situation. Marx neither attempts to reduce his explanation to dispositions of capitalists or wage earners, nor does he invoke holistic entities such as classes to explain the phenomena.

According to Popper, Marx's general theory of class conflict also shows his anti-psychologism and anti-holism. Popper notes approvingly that Marx viewed class conflict as "institutional," rather than as something residing in the heads of class members. Marx saw class interest as part of "an objective social

situation," Popper tells us, rather than a psychological phenomenon or a "state of mind, a thought, or a feeling of being interested in a thing" (*OSE II,* 112). In particular, Popper argues, Marx does not explain class conflict as arising from sinister motives of capitalists. "It must be admitted," Popper says,

> that [Marx] sometimes speaks of such psychological phenomena as greed and the profit motive, etc., but never in order to explain history. He interpreted them, rather, as symptoms of the corrupting influence of the *social system,* i.e. of a system of institutions developed during the course of history; as effects rather than causes of corruption; as repercussions rather than moving forces of history. (*OSE II,* 101)

Popper's point is that the capitalist does not exploit the wage earner directly as the result of some malicious motive. Rather, the capitalist is bound by the situation to oppress the worker; he cannot do otherwise lest he lose his position in the ruling class and presumably wind up as a proletariat himself. "Thus," Popper says, "the rulers are determined by their class situation; they cannot escape from their social relation to the ruled" (*OSE II,* 112). Furthermore, even if the capitalist has beneficent motives, he cannot improve the workers' lot. If the capitalist decides to raise wages or retain employees despite a drop in demand for products, that capitalist—and his workers—will only come to ruin when the capitalist is undersold by more efficient businesses (*OSE II,* 113).

Popper also praises Marx's explanation of class conflict for avoiding the "conspiracy theory of society" fallacy, discussed in chapter 1—the common error of attributing unwanted social phenomena to the machinations of powerful groups or individuals. Indeed, Popper says that Marx was one of the first critics of the conspiracy theory of society, but his insight was lost on the "Vulgar Marxists" (*OSE II,* 95–100; see also *CR,* 125 n. 3). According to Popper, the "average Vulgar Marxist" believes that

> Marxism lays bare sinister secrets of social life by revealing the hidden motives of greed and lust for material gain which actuate the powers behind the scenes of history; powers that cunningly and consciously create war, depression, unemployment, hunger in the midst of plenty, and all the other forms of social misery, in order to gratify their vile desires for profit. (*OSE II,* 100)

Popper's only quarrel with Marx's interpretation of class conflict is that he believes Marx exaggerates the role of economic relations in determining social phenomena (*OSE II,* 116). Popper acknowledges that viewing history as the history of class conflict provides a potentially enlightening vantage, and that, in general, economic relations should be considered of central importance for understanding politics. But, Popper says, one should never assume that all political conflict can be traced to conflicting class interests. The danger of such an approach is that it becomes tempting to frame all historical events as class struggles, regardless of fit. As Popper mentions, explaining the medieval conflict between popes and emperors in terms of class difference or explaining the First

World War in terms of the "have-not" nations of Europe versus the wealthy nations are examples of abuse of the class conflict paradigm (ibid.).

Popper concludes his analysis of Marx's methodology with the following observations about what he considers Marx's explanatory successes:

> [A] closer view of Marx's successes shows that *it was nowhere his historicist method which led him to success, but always the methods of institutional analysis.* Thus it is not an historicist but a typical institutional analysis which leads to the conclusion that the capitalist is forced by competition to increase productivity. It is an institutional analysis on which Marx bases his theory of the trade cycle and of surplus population. And even the theory of class struggle is institutional; it is part of the mechanism by which the distribution of wealth as well as of power is controlled, a mechanism which makes possible collective bargaining in the widest sense. Nowhere in these analyses do the typical historicist "laws of historical development," or stages, or periods, or tendencies, play any part whatever. On the other hand, none of Marx's more ambitious historicist conclusions, none of his "inexorable laws of development" and his "stages of history which cannot be leaped over," has ever turned out to be a successful prediction. Marx was successful *only* in so far as he was analyzing institutions and their functions. (*OSE II,* 197)

Here we clearly see Popper rejecting the historicist elements in Marx's explanations while acknowledging the value of his institutional analyses. Marx's institutional analyses, as described by Popper, contain the key elements of what Popper deemed good social explanation—namely, they trace the unintended consequences of individual actors responding rationally within certain institutional settings. This understanding of social explanation would later form the core of Popper's concept of situational analysis. This, I suggest, is what Popper meant when he said that he was indebted to Marx.

POPPER AND THE ANALYTICAL MARXISTS

I want to close this chapter by arguing that Popper's methodological recommendations for social science bear a strong resemblance to those of so-called analytical Marixists. In turn, and not coincidentally, the analytical Marxists' reading of Marx bears a strong resemblance to Popper's. That a group of scholars claiming allegiance to Marxism is producing some of the best current Popperian social science may seem like a rather astonishing claim. But I believe that this is in fact the case, and it makes my claim that Popper's views on Marx have been widely misunderstood more plausible.

Analytical Marxism emerged in the late 1970s and includes such theorists as John Elster, John Roemer, G. A. Cohen, and Daniel Little. Although there are important differences in these thinkers' understanding of Marx and their recommendations for social inquiry, a number of key tenets to their approach can be identified. In particular, Popper and the analytical Marxists share a

commitment to methodological individualism and explanations grounded in the assumption of human rationality.

Analytical Marxists insist that all social explanation must be grounded in "microfoundations," which Little defines as a "doctrine that maintains that macroexplanations of social phenomena must be supported by an account of the mechanisms at the individual level through which the postulated social processes work" (Little 1998, 10; see also Elster 1989, 3–10). More specifically, Little says, the microfoundations doctrine requires that

> an assertion of an explanatory relationship at the social level (causal, structural, functional) must be supplemented by two things: knowledge about what it is about the local circumstances of the typical individual that leads him to act in such a way as to bring about this relationship; and knowledge of the aggregative processes that lead from individual actions of that sort to an explanatory social relationship of this sort. (Little 1998, 203)

Elsewhere, Little describes this approach as one grounded in the "logic of institutions" (Little 1998, 42). According to Little, explanations based on the logic of institutions assume

> rational individuals pursuing independent ends under structured conditions of choice. A society is made up of a large number of individuals who act out of a variety of motives. These individuals are subject to very specific incentives and conditions which limit their actions and propel them in particular directions. And large-scale social patterns may be explained in terms of the conditions within which individuals make plans and act. (Little 1998, 42)

Implicit in this description of microfoundations and institutional logic is a commitment to methodological individualism—or, as Little says, the principle that the "mechanisms through which social causation is mediated turn on the structured circumstances of choice of intentional agents, and nothing else" (Little 1998, 42). That is, any complete explanation must describe how the actions of individuals produce social phenomena. In the standard case, this will require a description of the social situation that individuals confront and the assumption that individuals act rationally with respect to their situation, but the mechanisms on the individual level may also be grounded in findings from social psychology. Thus analytical Marxists reject tendencies within Marxist scholarship to rely on holistic explanations in which the explanation of some social phenomena is couched in terms of supraindividual entities, such as states or social classes (Elster 1983a, 60). The commitment to microfoundations also leads analytical Marxists to reject functionalism or structuralism as valid forms of explanation, unless they are supplemented by microfoundations. Elster, in particular, has argued forcefully that functionalist explanations in social science, which generally explain the emergence or presence of some social institution on the ground that it fulfills some "need" of the social system, are always incomplete at best. A full-blown explanation requires uncovering the feedback mechanism that supports

the emergence or continuation of the institution, and the feedback mechanism must be couched in terms of individuals (Elster 1983a, 61).

The similarities between analytical Marxism and Popper's account of social explanation should be obvious. First, the commitment to microfoundations, in particular, Little's logic of institutions, looks very much like Popper's situational analysis. Both place the individual, acting rationally within his or her social situation, at the center of social science explanation. In addition, like the analytical Marxists, Popper calls for social science to be grounded in methodological individualism, and he and the analytical Marxists understand the term in basically the same way. For both, methodological individualism is a middle ground between reductionistic psychologism and holistic methodological collectivism. Finally, the analytical Marxists and Popper both see the tracing of the unintended consequences of numerous individuals acting within a social structure as a primary goal of social inquiry.

But the similarities between Popper and the analytical Marxists do not end here. In addition to offering similar prescriptions for social science, another important parallel between Popper and the analytical Marxists is the way that they read Marx. When trying to discern Marx's methodology, the analytical Marxists tend to focus on Marx's actual explanatory practices, especially those found in *Capital,* and to downplay his rather sparse commentary on social science methodology. In other words, they draw a distinction between Marx's explicit theory of social inquiry and his implicit theory, and they find that Marx's explicit theory frequently misdescribes his implicit theory. In his implicit theory Marx seeks to explain complex social and economic phenomena by relying on accounts of individuals acting in certain social and economic relations. Further, the analytical Marxists argue, Marx's method is not positivistic; that is, it does not seek universal laws to explain particular social phenomena, nor does it conceptualize causation as constant conjunction (see Farr 1986). Rather, Marx's approach is better described as a form of realism, at least insofar as it requires identification of the causal mechanisms that bring about social phenomena. For Marx, the mechanisms that produce social phenomena are individuals acting in structured situations. In addition, analytical Marxists largely disregard the Hegelian or dialectical aspects of Marx's work. Little, for instance, argues that by the early 1840s Marx had rejected Hegel's dialectical logic as an approach to social inquiry, essentially on the ground that Hegel's exclusively a priori analysis of concepts could reveal nothing about empirical reality (Little 1998, 33). It is true, Little admits, that even in his later work Marx occasionally slipped into Hegelian language. But these passages can best be understood as rhetorical flights inspired by Marx's Hegelian youth rather than accurate representations of Marx's explanatory method. In fact, Little contends, dialectical logic played no role whatsoever in the actual explanations found in Marx's mature works: "When Marx got to work on his detailed treatment of the empirical data of capitalism, he left his Hegelian baggage behind" (Little 1998, 31).

Admittedly, Popper does not read Marx in exactly the same way as Little. Above we noted that Popper saw both good and bad elements in Marx's approach. The bad elements were mainly Marx's historicist tendencies, which, according to Popper's interpretation, led Marx to think that historical laws that could be used to predict the future. Popper also strongly rejected any dialectical elements in Marx's thought, and of course Popper utterly repudiated anything in Marx's work smacking of Hegel. Significantly, however, we found that when Popper criticized Marx's methods, he tended to focus on Marx's more sweeping claims about history rather than Marx's close analysis of some social phenomena or other. When Popper turned his attention to the latter, he found much in Marx's work that was praiseworthy. He found a Marx who produced explanations based on institutional analyses, that is, accounts of how individuals acting within the confines of social institutions produce social phenomena. Thus, simplifying a bit, we might describe the difference between Popper's interpretation of Marx and the analytical Marxists' reading as follows. For Popper, Marx engaged in good social science when he produced specific explanations of capitalism via situational logic and methodological individualism, but he produced bad social science when he resorted to historicism and the "oracular philosophy of Hegel" (*OSE II,* 198). The analytical Marxists in effect claim that by the early 1840s, Marx had dispensed with most of Hegelian baggage and had begun generating explanations of social phenomena via methodological individualism and causal mechanisms. Hegelian flourishes continued to erupt in Marx's writings from time to time, but they were of no real methodological importance.

Absent from my discussion of analytical Marxism thus far is an account of how analytical Marxists understand rationality. In particular, I have not discussed their widespread support of rational choice explanations. While it is not possible to attribute the same understanding of rational choice theory's role in explanation to all analytical Marxists (in fact some reject rational choice theory altogether), in general we can say that analytical Marxists tend to embrace a much richer understanding of rational action than is usually embraced by economists. Analytical Marxists tend to place greater emphasis on the institutional environment that actors confront, and they are more ready to incorporate norms into agents' decision making. As we saw in chapter 4, this is also a plausible description of rationality implicit in Popper's situational analysis. In particular, we might say that Popper's rationality principle bears a strong resemblance to what Little calls "broadened practical rationality" (Little 1998, 93–94). Like the conception of human rationality contained in rational choice theory, broadened practical rationality assumes that people are goal-oriented and weigh potential costs and benefits in pursuing their goals. However, the more stringent requirements of rational choice theory—for instance, that individuals are always capable of consistently ranking their preferences or assigning precise probabilities to the outcomes of different actions—are relaxed. Nor does Little's approach imply strict utility maximization or assume

that agents seek only their narrow self-interest. Further, Little seeks to dispense with overly abstract or schematic descriptions of an individual's context of choice, particularly the tendency to describe all human relations as essentially competitive markets. Instead, Little requires that the context of the agent's choice be enriched with a concrete account of the natural and social environment. Finally, broadened practical rationality incorporates norms into the agent's decision-making process, conceptualized either as constraints on the individual's goal-seeking or as commitments, such as a commitment to class solidarity.

SUMMARY

My purpose in this chapter has been threefold. First, I wanted to show that the conventional view that Popper rejected Marx's methodology is misconceived. The criticism that Popper levels against Marx is largely aimed at vulgarizers of Marx's work, and, in any event, the criticism is not as deep as has often been thought. This contention makes the second claim of this chapter more plausible: that Popper's own views on social science—his anti-psychologism, his plea for social science aimed at unveiling the unintended consequences of human action, and his concept of situational analysis itself—bear a strong resemblance to some of Marx's explanations in *Capital,* as least as Popper interpreted them. Indeed, it seems likely that Popper was at least partly inspired by Marx in developing his views on social inquiry. Finally, I wanted to reveal the close similarity between Popper's recommendations for social science and those of the analytical Marxists. The similarities between their views can in part be explained by their similar interpretations of Marx's methods. It is perhaps not without irony that the contemporary social scientists whose explanatory practices most closely resemble Popper's recommendations for social inquiry claim to be the rightful heirs of Marx. But this fact should not be altogether surprising, as I hope this chapter has made clear.[11]

CHAPTER SIX

The Shortcomings of Situational Analysis

Throughout this book I have tried to show that situational analysis offers a promising model for conceptualizing social science explanations, but I have also criticized Popper's version of situational analysis. I have argued that social institutions implicated in situational models should be understood as enabling as well as constraining actors' actions. I have also argued that, contrary to the spirit of Popper's account of scientific method, the differences between natural and social science methodologies seem as important as the similarities. However, neither of these objections to Popper's version of social science requires a substantial reconfiguration of situational analysis as a method. Acknowledging that social institutions may enable action or that the hermeneutic element of situational analysis marks a significant difference vis-à-vis natural science does not alter the criteria for constructing or evaluating a situational model. It merely requires a slight alteration of our understanding of situational analysis.

In this final chapter, I would like to discuss what I believe to be two important and related shortcomings of Popper's situational analysis as a method. The first shortcoming of Popperian situational analysis concerns the *range* of situational analysis. In numerous places Popper claims that situational analysis should be the sole method of social science (see, for example, *MF,* 173). But this claim cannot be correct. Situational analysis has great breadth as a methodology, but not all social phenomena of interest to social science falls within its purview. In particular, situational analysis is often ill suited to explain the formation of desires, norms and, in certain cases, beliefs that animate situational models. When the formation of desires and norms is conscious and intentional, situational analysis may be a useful tool. But more typically people adopt and develop desires and norms through subconscious and nonintentional processes. When this is so, psychology and social psychology offer more suitable theoretical approaches for uncovering the mechanisms that lead people to develop particular norms and desires. Belief formation, on the other hand, is typically governed by rational inquiry. But

clearly not all beliefs are produced through rational processes alone. Just as with desires and norms, people often adopt beliefs via subconscious mechanisms. To the extent that they are generated through subconscious processes, the study of desires, norms, and beliefs clearly falls outside of the purview of situational analysis. Yet quite obviously such processes must be of great interest to social science.

The second shortcoming of situational analysis concerns the subconscious psychological processes that occur *within* the scope of situational analysis rather than outside of it. Recall that Popper requires that we never abandon the rationality principle when building our situational models. That is, we must continue to assume that actors implicated in our models always respond "adequately" to their situation even if prima facie evidence strongly suggests that the action was irrational. However, drawing on the work of Jon Elster, I will argue that the rationality principle is not always adequate for explaining all phenomena to which we apply situational analysis. Situational models, I will try to show, often require the inclusion of psychological mechanisms to explain irrational action, as well as irrational belief formation. This is, I admit, a highly contentious claim, given that Popper's expulsion of psychology from explanations of human action is a central feature of his situational analysis. Nonetheless, I maintain that psychology can be incorporated into situational analysis without seriously violating the spirit of Popper's methodological vision.

In the following sections I discuss these two general problems with situational analysis and then conclude with an analysis of Elster's model of political revolutions. Elster's explanation offers a fine example of situational analysis that incorporates psychological components. His approach also offers a schema for social science explanation that, like situational analysis, gives pride of place to instrumental rationality but is open to explanations invoking nonrational and irrational action, should explanations assuming rationality prove inadequate. Social scientists wishing to employ situational analysis would do well to follow Elster's guidelines.

THE LIMITED RANGE OF SITUATIONAL ANALYSIS

Recall that for Popper the desires and beliefs of individual actors in a situational model are assumed to be part of the model itself. Desires and beliefs are not to be conceptualized as psychological properties of the individuals who figure in the situational model. They are to be transformed into aims and information held by a typical individual implicated in the situational model. The model is thus intended to explain how an abstract "anybody" would act in the situation, given that information and those beliefs (*MF,* 168). Popper says that the actual psychological states of actual individuals implicated in the model are not relevant to what the model seeks to explain. Returning to his model of Richard the pedestrian, Popper tells us,

> I propose to treat Richard's aims and Richard's knowledge not as psychological facts, to be ascertained by psychological methods, but as *elements of the objective social situation.* And I propose to treat his actual psychological aim of catching the train as irrelevant for solving our particular problem, which only requires that his aim—his "situational aim"—was to cross the road as quickly as was compatible with safety. (*MF,* 167–168, Popper's italics)

We shall not be interested, Popper goes on to say, whether Richard was thinking about Verdi's operas or Sanskrit texts as he pursues the goal of crossing the street, which might not be in his conscious mind at all as he does so. In short, Richard's psychological state, including the goals in his conscious mind, are not strictly relevant; what is relevant is his objective goal, as opposed to his subjective thoughts. The goal built into the situational model—the goal that, for whatever reason, interests us—is the actor's objective goal. As we saw in chapter 1, situational models can thus be understood as ideal types rather than as complete replicas of particular social situations. No attempt is made to reconstruct the actor and the situation in all its complexity; only certain salient features are reconstructed.

The next section of this chapter will explore some problems with totally expelling psychology from situational models. But here I want to note that, even if we drain all psychology out of situational analysis and turn the subject's desires and beliefs (including his or her normative beliefs) into objective properties of our models, we still must be concerned with questions regarding the formation of desires and beliefs. Even though those desires, beliefs, and norms will transform into abstract aims and information in our situational models, the abstract aims and information represented in the model still presuppose certain actual psychological desires and beliefs held by the actor. That is, the abstract aims and information in a situational model are ultimately representations of a particular person's real desires, beliefs, and norms.

Popper, however, seems to be solely concerned with what happens in the social system *given* certain individuals' beliefs and goals. For Popper the main aim of social inquiry is to reveal how the complex interaction of individuals' actions produces social phenomena, especially unintended consequences. He shows little interest in explaining how the relevant actors came to hold their beliefs and desires in the first place. Popper's lack of interest in desire and belief formation perhaps stemmed from his fixation on economics. As previously noted, Popper saw economics as the most highly developed social science and almost always turned to economics to make a point regarding social explanation. Given his interest in economics, it is understandable that Popper would come to see untangling complicated social processes as the primary goal of social inquiry. When explaining the complex inner workings of an economy, the causes of the desires, beliefs and norms of the individual actors in that economy may be of relatively little theoretical interest. Their beliefs and goals can be made abstract and very simple. To use one of Popper's examples, the

typical home buyer appears on the market seeking the highest value house for the lowest price (*PS,* 352). What interests Popper is how the buyer's act reverberates through the social system, not how he or she came to desire a new home in the first place. But while economics is generally not concerned with the formation of beliefs and, even less so, the formation of desires, how beliefs, norms, and desires are generated is of great importance to the other social sciences.[1] As we saw in chapter 4, situational analysis is not likely to enhance our understanding of voter behavior if, as appears to be the case, the key lies in understanding the norms that inform voting. In fact, application of situational analysis to the problem of voting does little more than restate the obvious using arid academic language. It merely describes voters' behavior as rational because voters believe they ought to vote. The question of real theoretical interest regarding voting behavior turns out to be, What is the precise nature of that belief and where does that belief come from? Social scientists try to determine how feelings of civic duty (or whatever values inform the behavior) are generated and sustained.

Now, it is certainly true that not all norm and desire formation falls outside of the range of situational analysis. To the extent that norms are formed through conscious and intentional processes, situational analysis can shed light on their formation. A person may, for instance, consciously adopt certain values through philosophical inquiry or through rational reflection on his or her experiences. But the formation of norms and values occurs in part through nonintentional, subconscious processes. Political norms and values, for instance, are largely the product of family and peer group socialization—and, apparently, genetic inheritance (Alford, Funk, and Hibbing, 2005). A political science that does not inquire into the nature of such processes would be quite barren. Desires, too, can be the result of rational, intentional behavior, as is the case in so-called character planning. An individual might decide that certain desires are more respectable, sophisticated, or elevated and then try to develop such desires. For example, a person might intentionally develop desires for fine wines or classical music by taking a wine-tasting course or a classical music seminar. But character planning is surely the exception, not the rule. For the most part, desires are the result of nonintentional factors and mechanisms, such as socialization and biological evolution.

Beliefs, of course, are frequently, even typically, developed through rational processes. Science is the exemplar of rational belief formation. Through trial and error and general critical inquiry, a scientist may develop beliefs that are rationally grounded. As noted in chapter 1, Popper argued that the history of science can be described as a history of problem situations. The investigation of scientific problem situations should uncover, among other things, how scientists come to adopt their scientific beliefs.[2] For Popper, the methodological tool for uncovering the process of belief formation is situational analysis. This method can be applied to all situations in which people develop beliefs through rational criticism. Further, it might be possible to argue, on Popperian grounds, that *all*

beliefs are the product of trial and error. To the extent that trial and error is part of an individual's rational, conscious process of belief formation, then situational analysis would presumably be useful in explaining how a person came to hold certain beliefs. But beliefs about the world—understood broadly as expectations or prejudices—can also be formed through nonconscious, nonintentional processes of trial and error. I have in mind expectations, intuitions, and instincts generated through the evolutionary mechanism of natural selection. All animals, including humans, contain a massive reservoir of such beliefs, as Popper would be the first to acknowledge. But, of course, one cannot use Popper's rationality principle to explain the development of instincts. The process of instinct formation does not rely upon an individual organism's rational behavior but rather on random genetic mutation and natural selection. Moreover, some beliefs are products of neither natural selection nor rational criticism, but rather of subconscious socialization.

Because situational analysis is not methodologically suited to explain the development of all beliefs, desires, and values, it is clear that situational analysis is methodologically limited. Thus situational analysis cannot be the sole method of the social sciences, as Popper claimed. But this limitation on range in no way impugns the usefulness of situational analysis for shedding light on myriad social phenomena. In fact, it seems plain that there could be a rather clearly demarcated division of labor between situational analysis and modes of inquiry that seek to explain subconscious and nonintentional desire, value, and belief formation. Those other approaches, we might say, provide the goals and knowledge that are built into situational models. This is perhaps consistent with Popper's understanding of situational analysis. Indeed, he suggests defining social science or sociology as that area of inquiry concerned with explaining aspects of the social world that cannot be reduced to psychology: "The task of describing this social environment . . . is therefore the fundamental task of social science. It might well be appropriate to allot this task to sociology" (*ISBW,* 78). However, because explaining the formation of beliefs, values, and desires is central to much inquiry that we normally describe as social science, such a definition seems overly narrow.

IRRATIONALITY AND SITUATIONAL ANALYSIS

We have just seen that many types of social phenomena of interest to social inquiry—namely, nonintentional and subconscious phenomena—fall *outside* the range of application of situational analysis. But if we are concerned with how the rationality principle can be inadequate *within* the range of situational analysis, we must be concerned with behavior that is conscious and intentional but also irrational. To address this matter, we can divide irrationality into two kinds: irrational action and irrational-but-intentional belief formation.[3] Action, of course, is by definition conscious and intentional, and it is, standardly, rational. But action may be deemed irrational whenever a person

acts contrary to the dictates of his or her own goals and beliefs. Regarding belief formation, people do not generally form particular beliefs intentionally in the sense that they do not normally directly *choose* what to believe. If they do so, it often involves self-deception, as in so-called wishful thinking. People nonetheless often employ conscious, intentional *processes* designed to produce rationally grounded beliefs. In this sense, we can say that beliefs are formed rationally and intentionally. As discussed throughout this book, for Popper beliefs produced through a process that is open to criticism—whether by means of empirical evidence or logical argument—may be deemed rationally grounded. This rational type of belief formation can be elucidated by situational analysis.

Let us now examine the case of irrational actions and then irrational belief formation in some detail to see why situational analysis cannot adequately account for them.

Irrational Action

Popper does not deny that action can be irrational. In "Models, Instruments, and Truth," he produces two separate discussions of irrational action. The most sustained comes under his own subheading of "'Irrational' Actions" (*MF,* 178). He discusses two types of supposedly irrational behavior under that rubric. The first stems from an actor's failure to comprehend all the relevant aspects of his or her situation. From the standpoint of an objective observer—that is, from a standpoint from which all relevant details of the situation are known—a particular action might appear irrational. Popper notes, however, that such apparently irrational action is often rational from the actor's limited perspective. That is, the action is adequate to the situation *as the person saw it.* Noting Winston Churchill's dictum that "wars are not won but only lost," Popper cites as an example the inevitable tactical blunders that typify the actions of leaders in wartime (*MF,* 178). Such blunders, Popper says, generally arise from a leader's limited knowledge of the situation owing to the fog of war. To explain such behavior while holding fast to the rationality principle, Popper says that the situational analyst must "reconstruct a wider view of the situation" than the actor's (ibid.). He continues:

> This must be done in such a way that we can see how and why the situation as they saw it (with their limited experience, their limited or overblown aims, their limited or overexcited imagination) led them to act as they did—that is to say, adequately for their inadequate view of the situation. (*MF,* 178)

But note that Popper has not really described a case of genuine irrationality as I have defined it. The war leaders in Popper's example do not act contrary to the dictates of their own beliefs and aims. Rather, their actions are adequate given their beliefs and aims, and are thus only apparently irrational. Once their real aims and beliefs are made clear and then combined with an

account of their objective situation, the irrationality of their action evaporates. This appears to explain why Popper placed "irrationality" in scare quotes for his section heading.[4]

Continuing his inquiry into irrational actions, Popper next discusses explaining the actions of a "madman" (*MF,* 179). He again counsels the situational analyst to develop a rich account of the madman's aims and beliefs about his situation, combined with an objective description of the situation. The madman's aims may seem bizarre and his beliefs completely unfounded, but within his own world, his behavior may indeed be rational, that is, consistent with his beliefs and aims: "[U]nderstanding his actions means seeing their adequacy according to his view—his madly mistaken view—of the problem situation" (Ibid.). Yet again the apparent irrationality of the action vanishes once the situation is more fully described. Popper then discusses how we might employ situational analysis to explain how the madman came to hold his "madly mistaken view." But the question then becomes one of irrational belief formation rather than irrational action.

So, despite promising a discussion of irrational action, Popper instead tries to show that irrational action is often an illusion. Situational analysis, correctly employed, tends to dispel that illusion. Once the actor's beliefs and situation are properly described, we will usually find that he or she acted adequately. However, Popper does provide a very brief account of genuine irrational action, as opposed to merely apparent irrational action. Elsewhere in "Models, Instruments, and Truth," Popper considers a case of irrational behavior involving a flustered motorist driving frantically around a parking lot, continuing to seek a parking space even though he realizes that the lot is full (*MF,* 172). Although Popper does not say so, presumably the reason that he deems the motorist's behavior to be irrational is because his behavior is contrary to his goals and beliefs. The motorist wants to park his car, he believes that the lot is full, but he continues to act as if it is not. With this example, as noted in chapter 1, Popper admits that genuine irrational action does occur; thus his rationality principle is by no means empty or tautological. Nonetheless, Popper seems to view this example of irrational action as of little importance and, in any event, argues that it dictates no change in the methodology of situational analysis. However, this seemingly trivial example is of great importance because it points to a significant shortcoming of situational analysis. Popper should have explored its ramifications for his theory with greater care. Still, he does offer several arguments intended to persuade the reader that deviations from the rationality principle, though real, do not recommend alteration of situational analysis as a methodology. It will be instructive to review these arguments as a starting point for our critique.

First, Popper says that we "learn more" when we assume that a person's actions are always rational responses to his or her situation (*MF,* 177). If we hold fast to this assumption, even given strong initial evidence to the contrary, it will tend to lead us to explore an individual's situation in greater depth.

Often, Popper says, we will find that the situation was much different than we had initially supposed. Once the situation is properly described, the person's action will be revealed to have been rational after all. As noted in chapter 1, for this reason the rationality principle may be said to function as a "searchlight," helping to illuminate aspects of the situation that might not be initially evident. The second advantage of adhering to the rationality principle is that we maximize the objectivity of our situational models and thus their openness to criticism. The rationality principle requires that we convert psychological facts about individuals into features of the situation. This, in turn, Popper says, makes social explanations *objective* because elements of the situation are open to public inspection and thus to criticism, which for Popper is the sine qua non of scientific inquiry. In fact, he describes situational analysis as a "*purely objective method* in the social science, which may well be called the method of objective understanding" (*MF,* 177; Popper's italics). In contrast, Popper says, psychological components of an explanation remain *subjective,* residing in the heads of individuals and thus difficult, if not impossible, to criticize. Understanding a person's actions, then, becomes an exercise in developing a detailed description of his or her situation, rather than an attempt to describe the individual's psychological state. The third benefit of the rationality principle, Popper says, is that its absence "seems to lead to complete arbitrariness in our model-building" (*MF,* 178). Popper does not elaborate on this claim, but his point seems to be that it would be hard to know even where to begin if we did not first assume that individuals in our social models act rationally. This is presumably even truer with respect to complicated social phenomena in which large numbers of individuals interact with each other.

Should we be persuaded by these arguments that we should never abandon the assumption of rationality? I think not. Regarding the first argument, it is certainly true that by holding fast to the rationality principle, what initially appeared to be irrational action may be revealed to be a rational response to aspects of the actor's situation that we had not anticipated or even imagined. As a result of adhering to the rationality assumption, models of the situation may become more detailed and refined; that is, we will learn more, as Popper says. But what if, after an exhaustive explanation of the situation, the action still appears to be irrational? Are we to give up on the explanation? Surely at some point we must entertain the possibility that the actor was in fact not behaving rationally. But once that point is reached, the explanation need not and should end by simply declaring the behavior to be irrational. We must go further and try to categorize the irrational behavior as a *kind* of irrational behavior. This will typically require identifying the particular psychological mechanism that produced the behavior. Following Elster, we may define psychological mechanisms as "frequently occurring and easily recognizable causal patterns that are triggered under generally unknown conditions or with indeterminate consequence" (Elster 1999, 1). Elster says that we are often able to identify certain

psychological mechanisms even though we cannot state the precise conditions that trigger them. In other words, we may not be able to predict their occurrence, but we know them when we see them. Elster encourages efforts to uncover the conditions that might trigger particular psychological mechanisms, but he admits that such predictive power may be forever beyond the reach of social science. Nonetheless, our ability to retrospectively categorize certain behaviors as typical kinds of causal patterns grants us a modicum of explanatory power that transcends mere description.

Let us return to the example of the motorist. Popper invokes a kind of mental turbulence—the motorist being flustered—to explain why he engages in his strange behavior. The explanation thus relies upon a description of the motorist's psychological state. Popper himself characterizes his explanation of the motorist's behavior as entailing a psychological account: "In thus hoping against hope, we do not act rationally, even though we act in accordance with a *psychological mechanism* whose evolution is rationally understandable" (*MF,* 172; my italics).[5] Here Popper seems to be arguing that the motorist's agitated response can be explained as being the product of natural selection. He probably had in mind an explanation something like this: In highly stressful situations (often triggered in human prehistory by dangerous events, such as an encounter with a saber-toothed tiger or stampeding woolly mammoth) a person typically becomes highly agitated, which is accompanied by a release of extra adrenaline. This might help the person survive the encounter by providing a burst of energy or perhaps slowing blood loss if the person is injured. However, an unfortunate by-product of this agitation is clouded judgment. Nonetheless, despite the reduction of rationality, the agitated state on average has increased human survivability over the course of evolutionary history. Thus the evolution of the response may be deemed rational in this sense, but the process that triggers the stressful response is not rational in the sense of Popper's rationality principle. It is neither intentional nor conscious, and, as Popper's example makes clear, often in the modern world the stressful response produces decidedly irrational results.

Now, the question that Popper's example poses is this. Why, given his example of the agitated motorist, does he continue to insist that situational analysis devoid of any psychological components is *"the* proper method for the social sciences" (*MF,* 173; Popper's italics)? Is it really the case that we necessarily learn more by refusing to abandon the rationality principle? Clearly not, for we certainly stand to learn something by switching from a rational explanation of the motorist's behavior to a psychological account. If through, say, psychology experiments we can produce a more refined model of the agitation/frustration response exhibited by the motorist, we might be better able to describe and predict the precise nature of the motorist's response. For instance, we might gain greater insight into the conditions that trigger such a response, the typical duration of such agitated responses, and the particular kinds of aggressive behavior the frustration response is likely to generate.

Of course, the potential value of psychological explanations does not necessarily recommend that we should simply substitute such explanations for those based on the rationality principle. Rather, a more defensible position, it seems, would be to argue that social scientists ought to begin with the assumption of rationality, but be prepared to abandon it once explanations relying on it are exhausted. The searchlight properties of the rationality principle are quite valuable and should be thoroughly exercised before seeking out alternative kinds of explanation. But when we do seek alternative explanations, those based on psychological models of behavior will often be the most useful. There is every reason to suppose that social science could—and does—benefit from psychological models of irrational action, the frustration response being but one example. Frustration is a kind of emotion, one of many that can cloud or distort judgment. Spite, anger, joy, sadness, and despondency, for instance, can all lead to irrational behavior.

Emotions are not the only source of irrational action, of course. An important source of irrationality that is not emotionally induced is weakness of will. This occurs whenever a person's deeper, more fundamental goals are frustrated by desires that a person deems to be fetters on his or her goals. Weakness of will thus presents a case of someone failing to perform an action that he or she believes is the best means to attain a desired end. The concept is controversial, however, because weakness of the will might be described as resting on a metaphysical distinction between "lower" and "higher" goals or "authentic" and "inauthentic" desires. But the metaphysical component of the concept might be avoided by simply relying upon self-reports of conflicting desires rather than on philosophical accounts of authentic desires or higher purposes. Individuals often experience certain desires as inhibiting the pursuit of other goals that they judge to be more important or fundamental. For instance, a person might eat a doughnut instead of going jogging, thus undermining his goal of losing weight, which he regards as deeper or more fundamental than the fleeting desire for junk food. He thus experiences the desire for junk food as a fetter on his goals. Still, it could be objected that action, not introspection or stated preferences, is the ultimate indicator of preference. We might argue that if a person gives into temptation, it must be the case that she actually prefers the immediate but trivial pleasure to the long-range goal, even if she describes the distant goal as deeper or more fundamental. However, this argument is not persuasive because the claim that actions, not introspection, are the only legitimate indicator of our desires turns preferences into mere epiphenomena. Thus desires become superfluous to a situational model. All that matters is what people do. This strongly behavioristic model is obviously very different from the type of situational analysis envisioned by Popper. Popper's notion of human action guided by reason requires that knowledge, goals, and action remain analytically separate. This being the case, it seems that weakness of will remains a theoretically possible type of irrational action for situational analysis. And the possibility of weakness of will is of no small

importance for social inquiry. Still, even if one rejects weakness of will as a genuine case of irrational action, the reality of irrational action triggered by emotions still seems incontrovertible, and those phenomena must be dealt with in some way by social science.

So Popper's argument that we necessarily learn more by always adhering to the rationality principle is not persuasive. But what about Popper's claim that situational elements are subject to objective criticism whereas psychological claims about individuals generally are not? To defend this claim, Popper uses the example of an historian's attempt to explain the actions of Charlemagne. Popper argues that the best way to explain Charlemagne's actions regarding some historical event of interest is to reconstruct the emperor's problem situation such that his desires and beliefs become objective aims and theories. This method, Popper says, "is certainly an individual method and yet it is certainly not a psychological one; for it excludes, in principle, all psychological elements and replaces them with objective situational elements" (*ISBW,* 79). Such an approach is attractive because

> above all situational analyses are rational, empirically criticizable and capable of improvement. For we may, for instance, find a letter which shows that the knowledge at Charlemagne's disposal was completely different from what we assumed in our analysis. By contrast, psychological or characterlogical hypotheses are hardly ever criticizable. (*ISBW,* 80)

But this claim is surely false. It easy to imagine objective, criticizable evidence regarding Charlemagne's psychological state that could have affected his actions as well as his perception of his situation. We can imagine another letter from, say, a confidant to Charlemagne describing what today we might subsequently recognize as symptoms of manic depression or the early stages of Alzheimer's disease or some other mental ailment that might shed light on the emperor's puzzling behavior. Or perhaps other first-person accounts might describe Charlemagne's jealous nature or fiery temper that could blind him to the foolishness of his pursuits. Such findings would be objective and critizable in the same way that the knowledge from Popper's imagined letter would be. It seems plainly wrong to exclude "in principle," as Popper says, such evidence (*ISBW,* 79). Of course, it may indeed make sense to begin our attempt to understand an individual's actions by assuming his or her rationality and even to push that assumption as far we can. But that is no reason to decline invoking psychological factors to explain an individual's apparent irrationality once rational explanations have been exhausted.

Undoubtedly the historical record regarding a particular individual's psychological state—his or her personality, mental health, or intelligence—may be rather spotty. In such cases, the only real methodological strategy available might be to assume rational behavior and to reconstruct the situation facing the relevant actor as best as one can. But in many situations evidence regarding an historical figure's psychological attributes will be available for public scrutiny. It

is a rather odd approach to historical explanation that would deny historians the capacity to develop psychological profiles to help explain the actions or beliefs of, for instance, Nero, Hitler, Lee Harvey Oswald, or Osama Bin Laden. I might add that, at least in certain instances, explaining the actions of Popper himself may require consideration of his psychological disposition. One may, as Popper himself did in his intellectual autobiography *Unended Quest,* reconstruct his life as a series of attempts to solve problems. But of course this will not tell the whole story about many incidents in his life that may be of interest to us. For example, an explanation of his notorious encounter with Wittgenstein at Cambridge's Moral Science Club (the so-called poker incident) would be incomplete without noting the two philosophers' well-documented thin skins and rather abundant egos.[6]

But we still have to contend with Popper's third argument in favor of strict adherence to the rationality principle—that is, that without the principle our model building would become completely arbitrary. This argument is easy to contend with, given our discussion of psychological accounts of action. Popper is surely correct that we should *begin* with the assumption of rationality; without that assumption, it is indeed difficult to imagine how we would begin to make sense of social phenomena in need of explanation. But, again, when and if the rationality principle loses its ability to explain human action, we should feel no hesitation in turning to psychological accounts of behavior. Moreover, declaring that a certain action is irrational need not be an arbitrary explanation provided that we take the further step of categorizing the irrationality as an instance of a particular psychological mechanism.

Irrational Belief

Irrational action is not the only type of human irrationality of interest to social inquiry. Beliefs can be irrational, too; or, to be more precise, they can be formed in irrational ways. As noted above, to the extent that belief formation is unintentional, it lies outside of situational analysis. But people often form their beliefs through intentional processes, and when they do, their behavior is subject to situational analysis. Scientific investigation is the paradigmatic example of intentional belief formation. Scientists propose and test theories, then adopt and reject beliefs about the world as a result of their inquiry. The history of scientific theories can be effectively explored via situational analysis, as Popper himself illustrated with his explanation of Galileo's rejection of the theory that the moon affects the tides. Galileo's refusal to endorse the theory has been derided as an irrational commitment by some historians, but Popper showed that Galileo's beliefs, though false, were not irrational given Galileo's situation, which included various scientific theories to which he was committed. As noted above, Popper directly addresses the explanation of irrational belief formation in "Models, Instruments, and Truth," where he considers the case of a

"madman" and his "madly mistaken" views about the world. Once again, Popper argues that irrational beliefs are not really irrational, when viewed from the actor's perspective. And again he suggests that situational analysis can be used to explain how a madman arrives at his wildly mistaken beliefs about the world:

> We may in this way even try to explain how he arrived at his madly mistaken view: how certain experiences shattered his originally sane view of the world and led him to adopt another—the most rational view he could develop in accordance with the information at his disposal—and how he had to make this new view *incorrigible,* precisely because it would break down at once under the pressure of refuting instances, which would leave him (so far as he could see) stranded without any interpretation of his world—a situation to be avoided at all costs, from a rational point of view, since it would make all rational action impossible. (*MF,* 179; Popper's italics)

This is a plausible view of belief formation, but a problematic application of the rationality principle. In fact, Popper seems to have smuggled a psychological component into this explanation. The process by which the madman develops his incorrigible beliefs is subconscious since a person cannot intentionally adopt beliefs that he or she at the same time knows not to be true. "[O]ne cannot decide to believe, any more than one can decide to forget," Elster notes (1989b, 37). Such beliefs would not be genuine beliefs. If a person develops a false belief as a result of limited information, we may justly call that a rationally held, though false, belief. But if a person adopts a belief that is in no way supported by the evidence that he or she has encountered, we cannot call that a rationally held belief. In such cases we must turn to a psychological explanation of the belief formation.

Now, it often happens that people come to believe certain things to be true just because they would like them to be true, regardless of, and even in spite of, evidence. We call such beliefs wishful thinking. Elster sees wishful thinking as the paradigmatic example of irrational belief formation. Wishful thinking occurs, he says, when beliefs are "subverted by the passions they are supposed to serve" (Elster 1989b, 37). He adds that wishful thinking is a "pervasive phenomenon, the importance of which in human affairs can hardly be overstated" (ibid.) It is instructive that Popper himself uses the concept of wishful thinking to explain irrational belief formation. As we saw in chapter 5, Popper cited wishful thinking to explain Marx's failure to see that communist revolution was but one of many possible outcomes of economic and political conflict arising out of the industrial revolution:

> It was romantic, irrational, and even mystical wishful thinking that led Marx to assume that the collective class unity and class solidarity of the workers would last after a change in the class situation. It is thus wishful thinking, a mystical collectivism, and an irrational reaction to the strain of civilization

> which leads Marx to prophesy the necessary advent of socialism. (*OSE II,* 333; see also 139, 197)

Popper first tries to explain Marx's predictions regarding communism as rational, but when this approach fails to explain the matter fully, he then resorts to a psychological account of Marx's belief formation. Marx's romantic notions of a classless society and his anxiety stemming from the strain of civilization produce in him a burning desire to see such a society come into being. But this very desire blinds him to numerous potential obstacles to its realization. The culprit in this irrational process is wishful thinking, a psychological phenomenon.[7] Popper's explanation thus does not rely upon the rationality principle; rather, he invokes a psychological explanation of Marx's beliefs, and he does so because his attempt to explain Marx's beliefs by using the rationality principle has failed. Popper praises Marx's explanation of the inner workings of a capitalist economy, which, Popper found, relied upon accounts of individuals acting rationally in certain situations. But Marx's prediction of the emergence of a classless society cannot be understood as being grounded in rational assessment of the situation, so Popper is forced to seek another explanation. At this point he produces the suggestion that Marx succumbed to wishful thinking. He then laments: "Wishful thinking is apparently a thing that cannot be avoided. But it should not be mistaken for scientific thinking" (*OSE II,* 139). In this context, we should understand Popper to mean "rational thinking" when he writes "scientific thinking."

So wishful thinking, by Popper's own acknowledgment, appears to be an example of psychological explanation that may be invoked when rational explanations fail. What are some other kinds of irrational belief formation? Over the past several decades, psychologists such as Amos Tversky and Daniel Kahneman have documented with ever increasing precision a number of common cognitive distortions that people are prone to when forming beliefs. These are often broadly categorized into two types, "hot" and "cold" belief distortions. Hot belief distortions occur when our emotions or desires influence our beliefs. Wishful thinking is perhaps the most important example of a hot belief. Another important example is the so-called sour-grapes effect, which occurs when our beliefs about the desirability of a thing are subconsciously altered just because we cannot possess it. The concept takes its name from one of Aesop's fables in which a fox decides that some grapes are sour because they are too high for him to reach.[8] "Cold" belief distortions occur, in Elster's words, "without any nudging from the passions" (Elster 1989b, 38). Many such errors stem from a deep-seated human tendency to make faulty inferences regarding probability in everyday life. A well-known example of this phenomenon is the gambler's fallacy, which is a kind of faulty reasoning based on intuition. It occurs when a person wrongly believes that the probability of an event is affected by another, independent event, such as when a person believes that the probability of a coin toss producing a "heads"

increases following a string of "tails." Other examples of inferential error include the common error of placing too much weight on personal experiences or anecdotal evidence. No good reason exists for barring the incorporation of such psychological mechanisms into situational models to explain belief formation once explanations guided by the rationality principle have been exhausted.

ELSTER'S MODEL OF REVOLUTIONS

One of the attractive features of situational analysis is its ability to generate models of social situations that transcend idiography, even if such models never attain the explanatory power of a universal theory. These models are capable of shedding light on a variety of social phenomena though they generate no real predictive power. We have already discussed some examples of situational models that hover somewhere between mere description and general theories. These include Popper's analysis of the "inner contradictions" of Communist parties, Marx's analysis of trade cycles, Plato's explanation of dictatorial power, and Michels's "iron law of oligarchy." But what would a situational model that relied upon the rationality principle but that also incorporated psychological phenomena look like? A good example of such a model is Elster's explanation of political revolutions (Elster 1993, 15–24).[9]

Elster describes his explanation, which he says was inspired by reflection upon actual revolutions (especially the French Revolution and the revolutions in Eastern Europe in the late 1980s and early 1990s), as a "dynamics of revolution" that relies upon "applied political psychology" (Elster 1993; 15). He tells us that in developing the explanation, he began by describing "the *situation* potential revolutionaries find themselves in, and their motives" (Elster 1993, 16; my italics). In a footnote, he expands further on his methodology:

> To explain a given phenomenon, the actors are initially assumed to have rational, self-interested motivations. If their behavior cannot be explained on this minimal basis, altruistic (although still rational) motivations are introduced. If the explanation is still inadequate, nonrational motives are admitted. In the last case, it is important to indicate the specific kind of irrationality we have in mind. Using the irrational as a residual category merely names the problem without solving it. (Elster 1993, 19 n. 41)

This prescription, it should be obvious, closely resembles the revision of situational analysis that I proposed in the previous section: Begin with the assumption of rationality and a preliminary description of the situation encountered by the relevant actors. Hold fast to the rationality assumption until potential explanations relying on it are exhausted. Only after that point has been reached, seek psychological mechanisms that might explain apparently irrational behavior. However, Elster in the above citation draws two analytic distinctions that Popper does not make. First, Elster marks a distinction between rational and nonrational behavior that is not present in Popperian situational analysis. For

Elster, only instrumental behavior counts as rational behavior, whereas Popper's rationality principle counts noninstrumental, norm-guided behavior as within the bounds of rationality. Elster, in contrast, dubs norm-driven behavior as "nonrational," as distinguished from rational or irrational behavior. However, the distinction appears to be nominal. Elster and Popper both agree that norms provide a type of motivation to action that cannot be reduced to instrumental calculation, and they agree that norm-guided behavior should not be considered a kind of irrational behavior. For both thinkers, genuine irrationality occurs when a person's actions are contrary to their beliefs and goals. Second, unlike Popper, Elster distinguishes between self-interested instrumental behavior and altruistic instrumental behavior. However, here he is simply claiming that it is *useful* to begin with the assumption of self-interested instrumental behavior. There is no presumption that self-interested behavior is somehow more rational than altruistic behavior.

According to Elster, what is the situation that revolutionaries confront? It can initially be described as a classic free-rider dilemma. A successful revolution would secure a public good—that is, the benefits flowing from a regime change would accrue to most citizens and could not be denied those who had not risked anything to overthrow the old regime. Thus, at first glance, it appears that it would not be rational to participate in revolutionary agitation, just as it would not be rational, from the standpoint of "thick" rational choice theory discussed in chapter 4, to vote in democratic elections. But revolutions do occur from time to time, so we obviously need to pursue the explanation further. "If all else failed," says Elster, "we could account for [inexplicable behavior] on the basis of the irrationality and madness of those engaging in them. But before doing so, however, we need to find out whether there are any other explanations still falling within the bounds of rational behavior that could show how they develop" (Elster 1993, 16).

Thus far, Elster recommends the very same approach advocated by Popper: we should hold tenaciously to the assumption of rationality and train our investigation on the situation to explain apparently irrational behavior. It could be the case, Elster suggests, that the regime is so oppressive that their situation literally could not be worse, in which case it would be rational to join the revolution. But he immediately dismisses this description of the situation as highly implausible. Imprisonment, torture, and death are surely worse fates compared with the conditions that most revolutionaries find themselves in. Moreover, even for those facing death through, say, starvation stemming from the policies of an oppressive regime, the kind of death risked by revolutionary participation might be worse. He notes that, for instance, many Chinese rebelled against Imperial China even though they knew that, if captured, they would die the death of a thousand cuts, "to which," Elster says, "any existence or even any other death would be preferable" (Elster 1993, 17). A more plausible explanation that still adheres to the rationality assumption is that participants in the revolution are provided selective incentives. Participants

might, for instance, be promised privileged positions within the new regime, and those who decline to participate could be threatened with punishment. However, this explanation is ultimately not satisfactory either, Elster says, because it cannot account for the behavior of the leaders of the revolution. They would have little incentive to carry out their threats or dole out special rewards after the revolution succeeds, thus the credibility of their proffered rewards and punishments would be undermined. Moreover, Elster notes, while the revolution is still ongoing, the resources at the leaders' disposal are typically rather meager.

Finally, Elster considers the possibility that participation itself could be, as it were, its own selective incentive. As Elster says, "some people may see the revolution as a holiday, a happening or a feast, and its instrumental efficiency as purely secondary or even irrelevant" (Elster 1993, 18). For such people, participation would be straightforwardly rational, and the free-rider problem would evaporate because revolution would be an end in itself rather than a means to some other end. However, Elster claims that, at best, such individuals constitute a small number of the revolutionaries. "At the very most," Elster writes, "all they are useful for is to swell the ranks of a movement that as a whole is inspired by different and more serious motivations" (ibid.).

At this point, Elster's abandons his attempt to explain revolutions by invoking only "rational, self-interested motivations" and moves on to consider motives that are instrumental but also altruistic (Elster 1993, 19). An individual so motivated would take into account the benefits that would accrue not only to her but also to others in the wake of a successful revolution. But, Elster says, even such an altruistic utilitarian would probably balk at participation in the early stages of the revolution, where success is very much in doubt and the risks and costs of joining the cause are great. Nor would such a person gain much advantage by joining the revolution during its "final phase, when success already looks a matter of course but the personal risk involved is still not negligible" (ibid.). Elster concludes that is during the "intermediate phase" of the revolution that altruistic utilitarians would most likely join the cause.

Having considered a variety of explanations based on instrumental behavior, Elster next considers nonrational behavior. He suggests that many participants will be motivated by a norm of fairness (Elster 1993, 20). Persons spurred by such a norm participate "if, and only if, a sufficient number—which can vary from individual to individual—of others do so too" (ibid.). The fairness norm is thus conditional. It relies upon the notion that individuals ought to join the revolution only if others have done so, in the spirit of doing one's fair share. Actions inspired by such a motive are neither instrumental nor future oriented, but we would hardly want to describe them as irrational.

Having examined some potential rational and nonrational motivations for revolutionaries, Elster finally considers the kinds of irrational behavior that

could conceivably motivate revolutionaries. A common type of irrationality, Elster says, is "everyday Kantianism" (Elster 1989a, 192). Unlike the altruistic utilitarian, a person motivated by everyday Kantianism will participate in the revolution without calculating the likely consequences of his or her actions. They will join the revolution "if and only if universal cooperation is better for everybody than universal defection" (Elster 1989a, 192).[10] However, although it may appear to be a kind of norm-driven behavior, everyday Kantianism is actually irrational behavior, Elster says, because it is anchored in a kind of "magical thinking" that he dubs "everyday Calvinism" (Elster 1993, 20; see also 1989a, 196–202).). Elster defines everyday Calvinism as a kind of "cognitive fallacy" that involves "confusing the diagnostic and the causal values of an action" (1989a, 11). More plainly, it is "the belief that by acting on the symptoms one can also change the cause" (1989a, 196). Explaining the origin of the term, Elster notes, "If a prederminist doctrine like Calvinism led to entrepreneurship, it could have done so only via the magical idea that manipulation of the signs of salvation could strengthen the belief that one was among the elect" (ibid.). George Quattrone and Amos Tversky have produced experimental evidence of everyday Calvinism (1986). In one study, they measured subjects' tolerance of cold water following strenuous exercise. They then told the subjects that high tolerance of cold water following exercise indicated a strong heart and predicted long life expectancy. When the experiment was run a second time with the same participants, the subjects held their arms in the vat of icy water for a longer time.

Elster suggests that a similar type of thinking might account for the behavior of some revolutionaries at the early stages of a revolution. Such individuals cannot be motivated primarily by instrumental thinking, Elster claims, because the risks of participation in the early stage are so great and the chances of success far from certain. Nor could the fairness norm account for the behavior because it is only triggered after a certain percentage of people join the movement. But everyday Calvinism could explain the formation of the revolutionary nucleus. "In interpersonal collective action," Elster says, "magical thinking amounts to believing, or acting as if I believed, that my cooperation can cause others to cooperate" (Elster 1989a, 201). Another experiment by Quattrone and Tversky confirms the possibility of magical thinking in this kind of situation (1986). They found that subjects who were informed that an election result would be decided by turnout were more likely to vote and inclined to see their vote as diagnostic of the likelihood that other like-minded voters would also vote. "That is, an individual may regard his or her *single* vote as diagnostic of *millions* of votes, and hence a sign that the preferred candidate will emerge victorious" (50). The experiment, Quattrone and Tversky conclude, demonstrates "that people may make decisions diagnostic not only of their own attributes but of the decisions likely to be made by their like-minded peers" (56). This flawed thinking may help explain why people bother to vote even when voting is costly and the odds of a single vote affecting an election are vanishingly small.

Elster suggests that the core revolutionaries might also succumb to this fallacy, believing that mere participation in the movement will cause others to join. Magical thinking, I might note, is phenomenon closely related to wishful thinking. Surprisingly, Elster does not mention wishful thinking as among the potential irrational kinds of belief formation that might motivate certain revolutionaries. However, as previously noted, Elster (like Popper) does attribute Marx's prediction of inevitable communist revolution in part to wishful thinking, so it seems likely that he would be open to attributing that particular kind of irrationality to lesser revolutionaries.

Having tried to compile all the rational, nonrational, and irrational motivations that could plausibly inform revolutionary activity, Elster proposes that these may now be invoked to explain particular revolutions. He then presents a hypothetical revolution triggered by "a small nucleus of revolutionaries fired by the vision of a better society" (Elster 1993, 22). Their behavior cannot be explained as being the product of instrumental reasoning, for their likelihood of success is not great enough to justify the very real and severe risks they incur. "It matters not whether they are mad, irrational, Kantians or men of principle. The essential fact is their commitment to a noninstrumental value" (ibid.). Still, a full explanation would require that the investigator identify to the best of his or her ability the *kind* of nonrational or irrational motivations that stirs particular groups of early-stage revolutionaries. These presumably might include everyday Calvinism and wishful thinking. The "second stage" of the revolution, Elster says, is marked by an "influx of individuals spurred on by diverse motives" (ibid.). Some moved by a sense of fairness might now start joining, animated by a desire to share the burden. Others might be motivated by selective incentives provided by revolutionaries, such as promises of prestigious positions in the new regime. Another group inspired by altruistic utilitarian motives might also sign on, having concluded that the revolution has a reasonable chance of success and that their actions can make that success even more probable. Still others might enlist for the sheer pleasure of revolutionary activity and the release it offers from their everyday routine.

Once the second phase of the revolution has begun, Elster assumes that the regime takes notice and begins to implement measures designed to thwart the movement. In an attempt to vent steam from the movement, it offers some concessions but at the same time brutally represses many of the revolutionaries. This has the unintended effect of legitimizing the opposition to the government and also signals to others who are dissatisfied with the regime that their animus is widely shared. At the same time, the risks of joining the revolutionary movement increase. "The net effect on the movement," Elster says, "will depend on the precise combination of stick and carrot chosen by the regime and on the distribution of the various types of motivation in the population" (Elster 1993, 23).

Elster next supposes that the net result of the interaction of the revolutionary agitation (and the regime's attempts to stymie it) is to encourage more

people to join the movement. At this point a snowball effect of sorts is triggered, as more and more people are motivated by the fairness norm. Others motivated by instrumental efficacy join the cause as the probability of success grows greater and the danger of repression recedes. At the same time, the momentum of the revolution is slowed somewhat by the exit of other instrumentally motivated members who conclude that their services are unlikely to make a difference to the revolution now that it is widely embraced. Also departing at this stage are many who joined the revolution as a vacation from their routine lives. The revolution has lost much of its appeal to them, having become more bureaucratized along with its increased size. "Because of these changing dynamics," Elster concludes, "the movement may never reach a stable membership, as individuals of different types attract and repel each other in an endless saraband" (Elster 1993, 23).

Elster's explanation of the revolution, we can see, involves untangling the complex web of human interaction that generates the phenomenon. Indeed, we might describe his account as having untangled the logic of revolutions. The explanation relies upon a description of the situation encountered by the relevant actors, guided by the assumption that they act rationally. When the rationality assumption appears to be inadequate—in this case, at the start of the revolution—psychological mechanisms are invoked to explain the kind of irrational behavior observed. Elster has thus created a model of social situation that is more than idiographic but less than a general theory. In other words, it appears to be a theory of middle range. This account, I believe, aligns with Elster's own understanding of his explanation:

> In any given historical case, the most one can do is to provide a post factum identification of individual motivations and the ways in which they interact to produce the final outcome. The very idea of creating a general theory of revolutions that would enable us to predict or, for that matter, manipulate the behavior of the masses is absurd. Yet as I have been at some pains to emphasize, rejecting theory in this sense does not imply that we are doomed to mere description (or at most to what Clifford Geertz calls "thick description"). Political psychology can, I believe, help us to identify the mechanisms that we can expect to see at work in any revolutionary situation, thus offering an intermediary degree of generality. I do not claim to have provided an exhaustive list, but neither do I think that the catalogue can be extended indefinitely. (Elster 1993, 24)

I might add that there is every reason to believe that Elster's approach could profitably be applied to numerous other phenomena of interest to social scientists. Indeed, Elster himself has already applied his methodology to generate middle-range models of, for instance, constitution making and wage negotiations (Elster 1993, 24–34; 1989a, 50–96). He has also employed this approach to redescribe numerous explanations of social phenomena found in the works

of Tocqueville, Paul Veyne, Alexander Zinoviev, Karl Marx, and many others (see Elster 1993, 1985).

SUMMARY

In this final chapter I have shown that Popper's situational analysis can benefit greatly by incorporating psychology, and in particular psychological mechanisms, into its explanatory models. While Popper called for the expulsion of psychology from situational analysis, I have argued that the incorporation of psychology into situational models does not violate the central aim of the approach—to generate middle-range models of social phenomena that rely on individuals acting in structured situations. The use of psychology in situational models need not insulate them from objective criticism, nor do psychological explanations of human behavior need to replace explanations animated by the rationality principle. Psychological mechanisms may, rather, supplement explanations grounded in rational action, as in Elster's explanation of political revolutions. I would like to think that Popper would have approved of Elster's approach to explanation. Indeed, as we saw in Popper's account of Marx's prediction of communist revolution, Popper himself invoked the psychological mechanism of wishful thinking to account for certain aspects of Marx's theory. Perhaps pointing out to Popper his use of psychology in his own methodological practices would have been sufficient to convince him of the value of psychology for situational analysis.

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Conclusion

I hope the reader is convinced that Popper's views on social science not only provide insight into the nature of social inquiry but also offer needed direction for the practice of social science. For some time now, social scientists have been mired in self-doubt about their discipline. Indeed, the failure of efforts to model social inquiry on a particular—and often deeply flawed—understanding of natural science has threatened the very existence of social science as an academic discipline. The enthusiasm of the post-World War II behaviorist movement has long since waned, the approach having borne little fruit. The search for general laws or universal theories of social life has come up empty, and the capacity to predict human behavior and social events is meager if not nonexistent. Unfortunately, in general the failure of this approach has not led to a reconsideration of social science method but rather to an emphasis on technical refinement of methods. Such refinements would be welcome if they had discernible benefits in actual social science explanations, but this has not been the case. Instead of fostering better understanding of the social world, social science has become increasingly untethered to reality and thus socially irrelevant. The more recent rational choice movement has not fared better, at least outside the realm of economics. While rational choice theories are often elegant, they typically bear at best only passing resemblance to the real social world. Worse, rational choice practitioners tend to train their efforts on phenomena that appear to be amenable to the approach rather than directing their research toward problems of social importance. This, too, has led to social inquiry that is increasingly irrelevant to the pressing problems of social life.

This unhappy state has led many social scientists to reject any attempts to model the social sciences on the natural sciences and to propose abandoning the search for general explanation altogether. All that social science may provide, according to some, is "thick" descriptions of social phenomena or idiographic accounts of social events. While interpretive or hermeneutic approaches clearly have their place in social inquiry, the claim that there is

no room for causal explanation or general theories in social science is, I think, too pessimistic. The absence of general laws, universal theories, and precise predictive capabilities in the social sciences does not mean that general explanations in the social sciences are impossible. In fact, as I hope to have shown the reader, the construction of social models that offer some general explanatory power is within the reach of social science. Popper's situational models offer one approach that weds interpretation to explanation. Insofar as situational analysis requires a rich account of the institutions, beliefs, norms, traditions, and habits that inform human action, it mirrors the interpretive approach. And indeed Popper's method may be employed to explain particular social events. But it may also be used to enhance our understanding of typical social phenomena and institutions—for example, revolutions, trade cycles, and elections; bureaucracies, political parties, and universities—by revealing how the intricate interaction of actors may produce certain typical phenomena, especially unintended consequences.

We will never be able to predict with any confidence and precision when a revolution will occur or which party will win an election or when an economic recession will set in. But we can say something about the general features of such events all the same. We can make sense of them in hindsight by showing how they are the result of individuals responding rationally to their situation—or, at least, responding in irrational but nonetheless understandable ways. Although this is not the goal that many social scientists have sought, it does offer a genuine and intellectually satisfying kind of explanation that can increase our understanding of the social world.

Notes

INTRODUCTION

1. The Chinese students' embrace of Popper was conveyed to me in private conversation by Xiao Sun, a Chinese doctoral student in sociology at Princeton University. Like many others before them, the Chinese students probably misread Popper's critique of Marxism. In chapter 5 I will argue that Popper did not necessarily view Marxism as unscientific.

2. An abbreviated version of the Harvard address, entitled "La rationalité et le statut du principe de rationalité," was published in an edited French volume, *Les Fondements Philosophique des Systèmes Économiques,* edited by Emil M. Classen. That essay was later published in English in *Popper Selections,* edited by David Miller, which appeared in 1985. The full address was not published until 1994, when it appeared in *The Myth of Framework,* edited by M. A. Notturno.

CHAPTER ONE

1. In fact, Popper claimed that he could trace the genesis of his theory that falsifiability demarcates science from nonscience to his more or less simultaneous encounter with Marxism and Einstein's theory of gravity in his youth (*UQ,* 113). Hacohen (2000), however, casts doubt on Popper's claim, arguing that Popper's ideas on falsification and the demarcation between science and nonscience developed gradually in the 1920s and early '30s. We will consider Popper's falsificationism and his complex attitude toward Marx in, respectively, chapters 3 and 5.

2. In chapter 4 I will argue that laws play no real role in Popperian social science.

3. I say "almost" because Popper contended that the theory of evolution could be described as an instance of situational logic (*UQ,* 167–169), although Popper's reasons for claiming this are not entirely clear to me. Popper accepted the evolution of species on earth as fact, but nonetheless maintained that the theory of evolution was best described as a metaphysical research program rather than a scientific theory. This is because he viewed evolutionary theory as nonfalsifiable and almost tautological. What evolutionary theory really says, according to Popper, is that if you have entities that produce copies of themselves with a degree of variability and the situation is such that some of those entities will prove better able to survive in a given environment (and thus produce more copies of themselves), then, over time, entities will emerge that are better adapted to the environment. But the prediction that better-adapted entities will emerge is implied by the premises of variable reproduction and selective pressures; it is thus tautological and

therefore necessarily rather than contingently true. In other words, Popper says, evolution is guaranteed by the logic of situation. This description bears some resemblance to Popper's situational analysis (discussed in this chapter), in which agents, animated by the "rationality principle," act out what is already implicit in a particular situation. Because what counts as rational is, as it were, built in to the situation, predictions regarding the agent's behavior are tautological. As far as I know, this is the only instance of situational analysis outside of social science described by Popper. As regards the persuasiveness of Popper's account of evolutionary theory, I will only comment that, while Darwinian theory may not be able to produce nontautological *predictions* regarding the future development of organisms, it seems to me that it has been remarkably successful in making surprising and novel *retrodictions* concerning past events in evolutionary history. Chief among these is the prediction of the existence of extinct intermediary species between related species. Had no such intermediary species been uncovered, evolutionary theory would have been falsified—or, at least, an auxiliary hypothesis would have been required to save the theory. Of course, this does not vitiate Popper's argument that the general proposition that things evolve given the proper circumstances is a nearly empty claim. But I think it does show that the theory of evolution has produced bold and falsifiable (and strongly corroborated) retrodictions and thus deserves to be called a scientific theory.

4. The reasons for the absence of lawlike regularities in the social realm will be explored in chapter 4.

5. However, Popper more frequently cites tracing the unintended consequences of human actions as the chief goal of social science (*MF*, 74, 128; *OSE II*, 95). A full statement of Popper's understanding of the goal of social inquiry could, I believe, be stated as follows: The primary aim of social science is to unveil and explain the unintended repercussions of human action. This will always require development of a situational model, animated by the rationality principle.

6. The opposing and wrongheaded view, that human minds (via the senses) are merely passive receptacles of data about the world, Popper dubs "the bucket theory of mind" (*OK,* 341).

7. Farr (1983a) provides a sustained analysis of situational analysis as a contribution to hermeneutics.

8. In chapter 3 we will examine the limitations of using the rationality principle to explain unique, creative acts as opposed to typical, rational behavior.

9. Lest I give the wrong impression, the goal of Lukes's essay is to demonstrate that methodological individualism, even in its most seemingly trivial formulations, is false. Popper is not the central target in the essay; he is merely introduced as a prominent proponent of methodological individualism.

10. Popper's reasons for labeling Marx a methodological collectivist are not altogether clear and seem inconsistent with much of what he has to say about Marx's methodology. Nonetheless, it is hardly unusual to charge Marx with employing methodological collectivism. Marx has frequently been accused of treating certain holistic entities—especially class, or Man, or History, or capital—as if they had a will of their own (Jon Elster, for instance, accuses Marx of treating "humanity" as well as "capital" as supraindividual entities [Elster 1986, 7, 116]). In particular, Marx is often accused of invoking functionalist explanations in which certain social phenomena are said to occur because they are in the interest of capital or the ruling class or history.

Interestingly, however, Popper does not accuse Marx of reifying social classes or history or capital into supraindividual entities (indeed, Popper praises Marx for explaining class conflict as resulting from individuals acting in certain social contexts [*OSE II,* 111–112].) For the most part, Popper simply labels Marx a methodological collectivist without explaining his reasons for doing so. However, in one instance—contained in a footnote in *The Open Society*—Popper appears to cite the "system of economic relations" as the holistic entity to which Marx wrongly ascribed supraindividual power. After noting that he and Marx both agree that social theory should aim to uncover the "unwanted social repercussions of nearly all our actions," Popper goes on to point out a key difference between himself and Marx:

> For Marx is a *methodological collectivist.* He believes that it is the "system of economic relations" as such which gives rise to the unintended consequences—a system of institutions which, in turn, may be explicable in terms of "means of production" but which is not analyzable in terms of individuals, their relations, and their actions. As opposed to this, I hold that institutions (and traditions) must be analyzed in individualistic terms—that is to say, in terms of the relations of individuals acting in certain social situations, and of the unintended consequences of their actions. (*OSE II,* 323 n. 11, Popper's italics)

Here Popper appears to be claiming that, for Marx, "economic relations" somehow produce unwanted social repercussions—depressions, unemployment, falling rates of profit—directly, as it were, without the mediation of individual actors. He also appears to be claiming that, for Marx, the "means of production" somehow affects the economic relations, again without the mediation of individual actors. Perhaps Popper is accusing Marx of employing a sort of holistic/functionalist explanatory scheme, in which economic relations in a particular society emerge and thrive *because* it is optimal for the particular means of production. For example, feudalism emerges as a set of economic relations *because* it is the optimal economic relation for the handmill, or capitalism emerges *because* it is the optimal economic relation for the steam mill. If this is a fair interpretation of Popper's critique of Marx, it is not a particularly unusual critique: Marx has often been accused of employing holistic/functionalist explanations. However, it is beyond the scope of this chapter to determine whether this is a fair description of Marx's methodology. My aim here is to determine what Popper was attacking when he attacked methodological collectivism. I will add, however, that this interpretation of Marx's methods seems wholly inconsistent with what Popper says elsewhere about Marx. In fact, as we shall see in chapter 5, Popper appears to have viewed Marx as having employed situational analysis to explain unintended social repercussions.

11. Popper's arguments for the reality of social institutions and the way that individuals interact with them will be explored in some depth in chapter 2 and 3 when we consider Popper's ontological theory of the three worlds.

CHAPTER TWO

1. Popper responded to such critics thus: "I do not deny, of course, the possibility of stretching the term 'positivist' until it covers anybody who takes any interest in natural science so that it can be applied even to opponents of positivism, such as myself. I only contend that such a procedure is neither honest nor apt to clarify matters much" (*MF,* 75).

2. While ethics were always of peripheral concern to the Vienna Circle (Ayer 1959, 22), an additional tenet that might be added to the positivist creed is *emotivism*—the doctrine that ethical statements are not factual claims and therefore cannot be verified or falsified through observation. According to this theory, ethical claims are better understood as subjective expressions of approval or disapproval. The cause of such emotive evaluations (whether biological, psychological, or sociological) might fall under the rubric of science, but the expressions themselves cannot. I will not discuss Popper's views on ethics in this chapter.

3. Published in 1935, and first published in English in 1959 as *The Logic of Scientific Discovery.*

4. We will consider Popper's arguments in favor of realism and the existence of World 3 below. His defense of human free will and indeterminism will be examined in chapter 3.

5. I am deliberately avoiding citing *causal* efficacy as a Popperian criterion for realness. My avoidance merely reflects the vagueness in Popper's criterion. Below we will see that Popper counts World 3 entities as real because they influence Worlds 1 and 2, but, for reasons that we will explore in chapter 4, this influence does not appear to be causal for Popper.

6. I might add that, for Popper, individuals can be understood as the fusion of World 1, 2, and 3 entities. Their bodies are World 1 objects, their subjective experiences are World 2 entities, and the content of their thoughts partly consists of their relation to World 3 entities. Indeed, Popper says that children only attain full consciousness when they develop language skills. The ability to use the language (a World 3 entity)—and especially the ability to use personal pronouns—are necessary for full self-awareness (*SIB,* 49).

7. Popper publicly espoused allegiance to the norms of scientific criticism and showed no restraint in criticizing others publicly. Yet, notoriously, Popper could not abide criticism of his own work. He seemed to view any criticism of his work as a personal attack. This is well documented in Hacohen (2000) and Agassi (1993).

8. Real-world experience lends weight to Popper's claim that norms and institutions dedicated to public criticism are both necessary to ensure the progress of science. For instance, despite ample funding for scientific research and a rigorous scientific education system, Japan produces relatively few Nobel laureates in science compared with Western countries, especially the United States. This has been attributed to a general Japanese aversion to public criticism, which extends to the scientific community. Japanese scientists report that they feel uncomfortable criticizing fellow scientists at conferences and in journals, and many prefer to work in the West, where such criticism is more accepted. Recently, Japan has created a national commission, headed by Hideki Shirakawa, a Nobel laureate in chemistry in 2000, to reinvigorate Japanese science. According to the *New York Times,* in their efforts to improve Japanese performance, "disillusioned scientists cite as most major obstacle fact that research community has never managed to fully embrace peer review and criticism, whose sparks have always served to light creative fires in West" (*New York Times,* 7 August 2001; see also Rauch 1993, 126–127).

9. In a recent work, Jeremy Shearmur has argued that Popper's social science may plausibly be described as realist (Shearmur 1996, 127–131). However, Shearmur

sees Popper's realism as being incompatible with Popper's methodological individualism, which, Shearmur argues, requires reducing social facts to facts about individuals. He therefore suggests modifying Popper's methodological individualism to allow for the causal efficacy of social structures. But such a modification is not needed. As we saw in chapter 1, Popper's methodological individualism in no way bars the reality or efficacy of social structures or institutions. It merely denies that holistic entities such as states or nations or classes can have intentions or needs or wants. Moreover, as we have seen in this chapter, Popper's counts social institutions as among the efficacious, and therefore real, inhabitants of World 3. Bhaskar evinces similar misunderstandings of Popper's methodological individualism (Bhaskar 1998, 208), while Isaac shows confusion regarding Popper's anti-essentialism and realism (Isaac 1992, 43–44).

CHAPTER THREE

1. In fact, Popper believed that Hempel had stolen the covering-law model of explanation from him (Hacohen, 2000, 488 n. 147).

2. This passage undercuts the claim advanced by critical theorists such as Habermas and Adorno that Popper's understanding of social inquiry tended to reify social arrangements. As Popper described the accusation, "Adorno and Habermas . . . believe that because my epistemology is (they think) postivist, if forces me to defend the *status quo.* In other words my (supposed) epistemological positivism forces me to accept a moral and judicial positivism"—which Popper defines as the doctrine that moral and legal values are nothing more than "prevailing custom and the prevailing law" (*ISBW,* 88, 91). But Popper was well aware of the contingent nature of social institutions and the regularities associated with them. Where he differed from the critical theorists was in how to go about altering the social world for the better. Popper correctly distills their substantial disagreement as "revolution versus piecemeal reform" (*MF,* 68, 76). That is, the critical theorists believed that only radical change could produce real change, whereas Popper, fearing the inevitable unintended consequences that come with institutional changes, supported less ambitious reforms. Still, the critical theorists' misunderstanding of Popper is understandable. In fact, Popper did claim that laws of the social world existed and could be uncovered. What I am arguing in this chapter is that in his later work he abandoned the identification of laws as a necessary component of social explanations.

3. This conclusion is similar to that of Hacohen, who claims that Popper initially sought to develop a "causal nonhistorical social science" that uncovered universal lawlike regularities but eventually settled for a "noncausal science" that relied on "social models that were historical in all but name"; that is, according to Hacohen, Popper settled for models of social situations related to "periods and contexts of relatively short duration" (Hacohen, 2000, 492).

4. Popper sometimes describes the scientific method even more broadly—as "critical discussion" (*MF,* 93, 158).

5. Ernest Gellner, though an admirer of Popper, argued forcefully that Popper relaxed his standards for legitimate science too much in his later work (Gellner 1985, 4–67, especially 60–61).

6. In chapter 5 we will explore Popper's falsifiability criterion in some depth in the context of his encounter with Marxism.

7. It should be noted that, even in 1968, Popper's characterization of interpretive theory as being dominated by psychologism was off the mark. The contention that understanding a person's actions required reproducing his or her internal psychic states had undergone withering criticism in Anglo-American circles from thinkers influenced by the later Wittgenstein, and from phenomenologists on the Continent (Dallmayr and McCarthy 1977, 3–9). By 1968, interpretive theorists who reflected upon the methodologies of social science—including Charles Taylor and Peter Winch, as well as continental thinkers such as Hans-Georg Gadamer who explored the ontological implications of interpretation—all emphasized that intentional human action was only intelligible within a framework of language-dependent rules and norms. Such rules and norms, they argued, could not be reduced to subjective mental states. In fact, by largely equating interpretive understanding with the examination of World 3 entities, Popper probably brought his interpretive theory into closer agreement with the dominant interpretive theory of the time. That said, important differences between Popper's interpretive theory and the theories of Taylor et al. remained.

CHAPTER FOUR

1. Colin Simkin has claimed that Popper said that economics was the only social science that ever interested him (Simkin 1993, 2). Simkin does not cite a source for this claim, however.

2. An English translation of the essay appears as "The Rationality Principle" in *Popper Selections.* The essay is largely an extract from Popper's 1963 lecture to the Harvard economics department, with a few changes and emendations.

3. Hacohen claims that rational choice theory and situational analysis are not the same. Popper, Hacohen says, "refused to take the profit maximizing (or interest calculating) individual as given, and his models opted to shift the analysis to the institutional setting" (Hacohen 2000, 493). He goes on to claim, "Situational logic did not represent economic imperialism but the sociologization of economics" (Hacohen 2000, 493 n. 170). This is consistent with what I am arguing in this chapter.

4. Farr (1987, 58–59) reaches a similar conclusion in his discussion of situational analysis and Duverger's "law," which attempts to explain the prevalence of two-party systems in simple-majority, single-ballot systems. Voters, Duverger assumes, act instrumentally when they cast their ballots and will not throw away their vote by voting for a third-party candidate with no chance of winning. Yet to explain why Duverger's supposed law is *not* universal—third parties do sometimes emerge victorious in simple-majority, single-ballot systems—we must turn to the norms affecting voting behavior, which can be easily incorporated into a situational model.

5. Popper's analysis of Communist parties is, in effect, an attempt to beat Marx at his own game. Popper's account follows his assessment of Marx's theory of trade cycles, one of the "inner contradictions of capital" espied by Marx. As we shall see in chapter 5, Popper praised Marx's analysis as a fine example of situational analysis, but nonetheless he deemed it flawed because Marx failed to see that political intervention could alleviate the poor's suffering and prevent the emergence of increasingly severe economic crises.

CHAPTER FIVE

1. If anything, I am understating Popper's contempt for Hegel. At various places in *The Open Society and Its Enemies,* Popper refers to Hegel as a "clown," a "charlatan," and a font of "windbaggery" and vacuous "gibberish" (*OSE II,* 28, 32, 54). He also approvingly cites Schopenhauer's assessment of Hegel: "a flat-headed, insipid, nauseating, illiterate charlatan" whose philosophy was the "craziest mystifying nonsense" (*OSE II,* 33). I will not here assess the validity of Popper's interpretation of Hegel, but I will note that even many sympathetic to Popper have found his reading of Hegel to be less than charitable. Perhaps most notable among them, Walter Kaufmann characterized Popper's account of Hegel as being riddled with mistranslations, deceptive "quilt quotes," and general shoddy scholarship (Kaufmann 1972).

2. However, despite the fact that Popper dedicated *The Poverty of Historicism* to those "who fell victim to the fascist and communist beliefs in Inexorable Laws of Historical Destiny," and despite the fact that Popper believed that Hegel and Marx bore some responsibility for, respectively, fascism and Soviet-style socialism, in that work Popper much more frequently singles out the historicist beliefs of Comte and Mill for criticism. And most often he simply attacks unnamed "typical" historicists.

3. Actually, it is arguable that Popper did not view psychoanalysis a pseudoscience. Instead, he seems to have viewed it as something like a metaphysical research program that, at present, was too amorphous to produce testable propositions, but given certain improvements might evolve into a genuine science. Popper makes a similar claim regarding Democritus's atomic theory, describing it as initially just metaphysical speculation, but eventually an empirically testable science (*CR,* 37–38; *PS,* 406).

4. A good example of recent historicist thinking that has entered public discourse is "Moore's Law," detected by Gordon Moore (cofounder of Intel Corp.), which states that the processing capacity of computer chips will double every eighteen months. Obviously, this predicted doubling is dependent upon developments in human knowledge that no one can possibly predict. Moore's Law describes a trend, not a law, and neither Moore nor anyone else can possibly know whether the trend will continue.

5. Incidentally, this passage hints at one of the two main purposes of situational analysis. As we saw in chapter 1, the primary aim of situational analysis is to lay bare patterns of human interaction in structured situations and to show how such action produces social phenomena, especially unintended consequences. The secondary aim of situational analysis, which this passage describes, it to identify typical situations and patterns of interaction that give rise to typical social phenomena. Such knowledge may produce some general explanatory power and help a social scientist make sense of an array of social phenomena in different cultural and historical settings. But the general explanatory and predictive power such knowledge produces will always be tentative and ridden with exceptions. In this way, situational analysis navigates between mere idiography and the deductive explanatory power imparted by genuine laws, which are not available in the social world.

6. Using Popper's own description of Plato's analysis of civic degeneration, one might challenge Popper's claim that it is the "law of decay" that determines the march of history for Plato. As we saw in chapter 4, Popper cites Plato's analysis of tyranny as

an example of Plato's unveiling of the "logic of power"—in other words, as an example of situational analysis in action (*OSE I,* 315). But Plato essentially uses the "logic of power" to show how democracies degenerate into dictatorships, and one might argue that he reveals and cites the logic of the situation to explain the other steps in civic decline. Also, as noted above, Plato believed that this degeneration could be arrested if proper steps were taken. All this implies that, for Plato, civic decline was not the inevitable result as cities succumb to the implacable force of the law of decay. Rather, it suggests not a law, but a tendency built into the situation, one that could be altered through social engineering. (But, for Popper, Plato would still be guilty of holistic rather than piecemeal social engineering in his efforts to alter the tendency.) Interestingly, one of Popper's charges against Marx is that, blinded by his commitment to historicist historical materialism, Marx failed to see that institutional intervention could mitigate many of capitalism's unfortunate tendencies (such as unemployment, immiseration of the workers, and trade cycles). Below we shall see that, even if Marx's historical materialism committed him to a deterministic view of history, it is plausible to contend that the analysis of capitalism he used in *Capital* did not. Similarly, we might argue that Plato's law of decay committed him to historical determinism, but his analysis of civic decay (in Book VIII of the *Republic*) did not. This is because *Capital,* like Book VIII, employs situational logic rather than historical laws to explain social and economic phenomena.

7. As with Popper's account of Plato, even given Popper's own interpretation of Hegel and his own definition of historicism, there are problems with labeling Hegel a full-blown historicist. Hegel obviously believed that there were rhythms or tendencies in history that could be discerned, and that the course of history was strictly determined. But, unlike Plato and Marx, he did not engage in historical forecasting or prophecy, except for the general prophecy that the world was becoming more rational. It is also arguable that Hegel believed that history had already come to an end, reaching perfection in the Prussian monarchy, and thus there was no need for any more prophecy. Popper seems to have interpreted Hegel this way (*OSE II,* 48).

8. Here Popper's conclusion is very similar to that reached by the analytical Marxist Daniel Little in his assessment of Marx's historical materialism. The theory, Little argues, is not really a scientific theory at all, but rather a research program that offers direction for social inquiry but does not actually explain any particular social or historical phenomenon. The real explanatory work is left to what Little calls "institutional logic," a concept that we will consider in the last section of this chapter (Little 1986, 65–67).

9. Interestingly, Popper does not trace the source of Marx's historicism to his supposed teleological view of history or to his dialectical materialism. In fact, Popper has very little to say about Marx's use of dialectical reasoning, despite the fact that this aspect of Marx's thought is widely regarded as central to his historical materialism. In *The Open Society and Its Enemies* Popper explicitly declines to discuss Marx's dialectics in any detail, saying that dialectics in general is a "rather dangerous muddle" and really not worthy of serious criticism (*OSE II,* 320). Anyway, Popper says, his criticism of historicism "covers all that maybe taken seriously in [Marx's] dialectics" (ibid.). Elsewhere in *The Open Society* Popper downplays the significance of dialectics in Marx's work (*OSE II,* 319, 320), but he does give some consideration to the role of dialectics in Marx's thought in a 1940 essay entitled "What is Dialectic?" (reprinted in *Conjectures*

and Refutations). There he claims that dialectical reasoning, whether of the materialist or idealist variety, is unscientific because it produces predictions that are so vague or elastic that they can always avoid falsification (*CR,* 334; see also *OSE II,* 138 and 334, where Popper makes the same argument parenthetically). For any particular thesis and antithesis posited, he says, a host of possible syntheses can be plausibly asserted. For instance, one might describe antagonistic tendencies within capitalism in roughly dialectical terms. On the one hand is the thesis of accumulation of capital in fewer and fewer hands, increasing productivity, and so forth; and on the other hand is the antithesis of the increasing misery of the workers and their growing class consciousness. Socialism might plausibly be described as a synthesis of this condition, but so could fascism or "'technocracy'" or "a system of democratic interventionism" (*OSE II,* 334). With so many potential syntheses, Marxists can (and have) repeatedly avoided falsification of their theory. As we saw above, this charge of evading falsification is the same criticism that Popper makes against astrology and Freudian psychoanalysis. However, once again, Popper mostly lays the blame for this unscientific streak in Marxism on Marx's followers rather than on Marx himself. Marx's followers, he says, seized upon the dialectical aspects of Marx's work and used it for "purposes of apologetics—to defend the Marxist system against criticism" (*CR,* 334). This orthodox form of Marxism, Popper notes, ironically became known as "Scientific Marxism" (*CR,* 335), but was in fact a betrayal of Marx's "anti-dogmatic" attitude toward science and criticism (ibid).

10. Marx writes, "Instead of investigating the nature of the conflicting elements which erupt in the catastrophe, the apologists content themselves with denying the catastrophe itself and insisting, in the face of their regular and periodic recurrence, that if production were carried on according to the text books, crises would never occur" (Marx 1978/1867, 443–444).

11. At least one other scholar has noted the similarities between the analytical Marxists and Popper. Marcus Roberts invites the reader to "consider the striking congruence between Elster's assessment of Marx's contribution to the development of social scientific methodologies, and that of that most ferocious critic of Marxism, Karl Popper" (1996, 227 n. 24). He goes on to point out that both men praise Marx for emphasizing the unintended consequences of human interaction in his explanations. For Roberts, a more traditional Marxist and a critic of analytical Marxism, the similar views of Elster and Popper regarding Marx only serve to heighten his suspicion that analytical Marxism represents a right-wing-inspired corruption of Marxism.

CHAPTER SIX

1. Unlike traditional economists, however, the new wave of behavioral economists, discussed in chapter 4, have taken a strong interest in desire formation.

2. To be clear, Popper does not believe that scientific knowledge consists of the subjective beliefs in a scientist's head. Scientific knowledge exists as objective hypotheses about the world. But, of course, individual scientists may have beliefs about the objective theories that inhabit World 3. Copernican theory says that the earth revolves around the sun, and Copernicus himself believed that the theory was true.

3. Desire formation may also be deemed irrational. However, desires are rarely produced intentionally, save for the case of character planning mentioned above, which

is surely a kind of rational desire formation. This being so, irrational desires, along with nonrational desire formation, fall largely outside the range of situational analysis.

4. I might note, however, that Popper may have slipped and smuggled a psychological category into his account by citing the potential effects of an "overexcited imagination," which certainly sounds like a description of a person's emotional state.

5. It is of some interest that this sentence, which appears in parentheses, was added to the essay in 1974, as Popper acknowledges in a footnote. The sentence was thus added during a time when Popper had become interested in evolutionary theory and biology, and had probably largely lost interest in the philosophy of social science. One wonders if Popper would have remained so keen to expel psychology from social inquiry had he continued to reflect upon social science methodology during this period.

6. For an entertaining and enlightening account of the incident, see David Edmonds and John Eidinow's *Wittgenstein's Poker* (2001).

7. Interestingly, Elster makes a similar claim about Marx in *An Introduction to Karl Marx* as well as *Making Sense of Marx.* "[Marx's] intellectual profile is a complex blend of relentless search for truth, wishful thinking, and polemical intent," he writes (Elster 1986, 2). The bias of wishful thinking "is most evident in his views on communist society—whether communism as he conceived it was at all possible, and whether it would come about in the course of history. He seems to have proceeded on two implicit assumptions: First, whatever is desirable is feasible; second, whatever is desirable and feasible is inevitable" (ibid.). Emotions also distorted Marx's thinking, Elster claims: "[Marx] was, very obviously, a very emotional person. Moreover, his emotions equally obviously distorted his thinking, both in what he wrote about the communist society and about the process of getting there" (Elster 1999, 299).

8. The sour-grapes effect may also be characterized as a type of irrational desire formation. On the one hand, the fox could be said to lose his desire for the grapes because his belief about the grapes has changed. But the process could also work in the other direction: first he loses his desire for the grapes, which triggers a change in his beliefs about the grapes. However, it seems likely that the causation works in both directions in the case of sour grapes. Changes in beliefs alter desires, but changes in desires also trigger changes in beliefs.

9. Ian Jarvie claims that Elster "uses situational logic but never notices that he does so" in "Nuts and Bolts of the Social," his introduction to the methodology of social sciences (Jarvie 1998, 379). I agree, but I am arguing that the situational analyses that Elster produces are superior to the kind recommended by Popper because Elster's incorporate psychological mechanisms.

10. Elster is well aware that everyday Kantianism differs from Kant's concept of duty, specifically his categorical imperative. The latter dictates that one ought to will only those actions that do not involve logical or practical contradictions (Elster 1989, 192).

References

Ackermann, Robert John. 1976. *The Philosophy of Karl Popper.* Amherst: University of Massachusetts Press.

Agassi, Joseph. 1993. "The Heuristic Bent." *Philosophy and Rhetoric* 26(1):9–30.

——. 1998. "Knowledge Personal or Social." *Philosophy of the Social Sciences* 28(4):522–551.

Alford, John R., Carolyn L. Funk, and John R. Hibbing. 2005. "Are Political Orientations Genetically Transmitted?" *American Political Science Review* 99(2):153–167.

Apel, K-O. 1983. "Comments on Farr's Paper (II): Some Critical Remarks on Popper's Hermeneutics." *Philosophy of the Social Sciences* 13:183–193.

Arrow, Kenneth J. 1951. *Social Choice and Individual Values.* New Haven: Yale University Press.

Ayer, A. J., ed. 1959. *Logical Positivism.* New York: Free Press.

Ball, Terence. 1972. "On 'Historical' Explanation." *Philosophy of the Social Sciences* 2:181–192.

——. 1981. "Popper's Psychologism." *Philosophy of the Social Sciences* 11:65–68.

Ball, Terence, and James Farr, eds. 1984. *After Marx.* Cambridge: Cambridge University Press.

Barnes, S. B. 1976. "Natural Rationality: A Neglected Concept in the Social Sciences." *Philosophy of the Social Sciences* 6(2):115–126.

Bartley, W. W. 1962. "Achilles, the Tortoise, and Explanation in Science and History." *British Journal for the Philosophy of Science* 13:15–33.

Bewley, Truman F. 1999. *Why Wages Don't Fall during a Recession.* Cambridge: Harvard University Press.

Bhaskar, Roy, and Tony Lawson. 1998. "Introduction." In *Critical Realism: Essential Readings,* 3–15 edited by Margret Archer et al. New York: Routledge.

Bhaksar, Roy. 1975. *A Realist Theory of Science.* Bristol: Leeds Books Limited.

——. 1998. "Societies." In *Critical Realism: Essential Readings,* 206–257 edited by Margret Archer et al. New York: Routledge.

Bichlbauer, Dieter. 1998. "Some Considerations about the Further Development of Situational Analysis." *Philosophy of the Social Sciences* 28:422–433.

Boland, L. A. 1998. "Situational Analysis beyond Neoclassical Economics." *Philosophy of the Social Sciences.* 28(4):515–521.

——. 2003. "Dealing with Popper in Economic Rationality." *Philosophy of the Social Sciences* 33(4):479–498.

Bunge, Mario. 1997. "Mechanism and Explanation." *Philosophy of the Social Sciences* 27:410–465.

Burke, T. E. 1983. *The Philosophy of Popper.* Dover, N. H.: Manchester University Press.

Comte, Auguste. 1974. *The Positive Philosophy.* New York: AMS Press.

Cooper, Wesley E., and John Farlow King. 1983. "Comment on Farr's Paper (I): Sir Karl Popper—Tributes and Adjustments." *Philosophy of the Social Sciences* 13:177–182.

Corvie, Roberta. 1997. *An Introduction to the Thought of Karl Popper.* New York: Routledge.

Currie, G., and Musgrave, A., eds. 1985. *Popper and the Human Sciences.* Boston: Martinus Nijhoff.

Dallmayr, Fred R., and Thomas A. McCarthy, eds. 1977. *Understanding and Social Inquiry.* Notre Dame: University of Nortre Dame Press.

D'Amico, Robert. 1989. *Historicism and Knowledge.* New York: Routledge.

Davidson, Donald. 1963. "Action, Reasons, and Causes." *Journal of Philosophy* 60(23):685–701.

——. 1976. "Hempel on Explaining Human Action." *Erkenntnis* 10:239–253.

——. 1994. "Psychology as Philosophy." In *Readings in the Philosophy of Social Science.* Edited by Michael Martin and Lee C. McIntyre, 79–89. Cambridge: The MIT Press.

Dennett, Daniel. 1991. *Consciousness Explained.* Boston: Little, Brown and Company.

Donagan, A. 1966. "The Popper-Hempel Theory Reconsidered." In *Philosophical Analysis and History,* edited by W. H. Dray, 127–159. New York: Harper and Row.

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

Edgerton, Robert B. 1985. *Rules, Exceptions, and Social Order.* Berkeley: University of California Press.

Edmonds, David, and John Eidinow. 2001. *Wittgenstein's Poker: The Story of a Ten-Minute Argument between Two Great Philosophers.* New York: HarperCollins.

Elster, Jon. 1982. "Belief, Bias, and Ideology." In *Rationality and Relativism,* edited by Martin Hollis and Steven Lukes, 123–148. Cambridge: MIT Press.

——. 1983a. *Explaining Technical Change.* Cambridge: Cambridge University Press.

——. 1983b. *Sour Grapes: Studies in the Subversion of Rationality.* Cambridge: Cambridge University Press.

——. 1985. *Making Sense of Marx.* Cambridge: Cambridge University Press.

——. 1986. *An Introduction to Karl Marx.* Cambridge: Cambridge University Press.

——. 1989a. *The Cement of Society: A Study of Social Order.* Cambridge: Cambridge University Press.

——. 1989b. *Nuts and Bolts for the Social Sciences.* Cambridge: Cambridge University Press.

——. 1993. *Political Psychology.* Cambridge: Cambridge University Press.

——. 1999. *Alchemies of the Mind: Rationality and the Emotions.* Cambridge: Cambridge University Press.

——. 2000. *Ulysses Unbound: Studies in Rationality, Precommitment, and Constraints.* Cambridge: Cambridge University Press.

Faludi, Andreas. 1998. "Why in Planning *The Myth of Framework* Is Anything but That." *Philosophy of the Social Sciences* 28(3):381–399.

Farr, James. 1983a. "Popper's Hermeneutics." *Philosophy of the Social Sciences* 13:157–176.

——. 1983b. "Marx No Empiricist." *Philosophy of the Social Sciences* 13:465–472.

——. 1985. "Situational Analysis: Explanation in Political Science." *Journal of Politics* 47:1085–1107.

——. 1987. "Resituating Explanation." In *Idioms of Inquiry: Critique and Renewal in Political Science,* edited by Terence Ball, 45–66. Albany: State University of New York Press.

Fay, Brian, and J. Donald Moon. 1994. "What Would an Adequate Philosophy of Social Science Look Like?" In *Readings in the Philosophy of Social Science,* edited by Michael Martin and Lee C. McIntyre, 21–35. Cambridge: MIT Press.

Ferejohn, John, and Morris P. Fiorina. 1974. "The Paradox of Not Voting: A Decision Theoretic Analysis." *American Political Science Review* 68:525–536.

Geertz, Clifford. 1994. "Thick Description: Toward an Interpretive Theory of Culture." In *Readings in the Philosophy of Social Science,* edited by Michael Martin and Lee C. McIntyre, 213–231. Cambridge: MIT Press.

Gellner, Ernest. 1985. *Relativism and the Social Sciences.* New York: Cambridge University Press.

——. 1988. *Plough, Sword, and Book: The Structure of Human History.* Chicago: University of Chicago Press.

Gilbert, Margaret, and Fred Berger. 1976. "On an Argument for the Impossibility of Prediction in the Social Sciences." *American Philosophical Quarterly* 9:99–111.

Green, D. P., and Shapiro, I. 1994. *Pathologies of Rational Choice Theory.* New Haven: Yale University Press.

Hacking, Ian. 1983. *Representing and Intervening.* Cambridge: Cambridge University Press.

Hacohen, Malachai Haim. 2000. *Karl Popper: The Formative Years, 1902–1945: Politics and Philosophy in Interwar Vienna.* Cambridge: Cambridge University Press.

Hall, J. 1997. "Social Foundations of Openness." *Philosophy of the Social Sciences* 27(1):24–38.

Hands, Douglas W. 1985. "Karl Popper and Economic Methodology: A Second Look." *Economics and Philosophy* 1:83–99.

Hedstrom, Peter, et al. 1998. "Popper's Situational Analysis and Contemporary Sociology." *Philosophy of the Social Sciences* 28(3):339–364.

Heilbroner, Robert. 1954. *The Worldly Philosophers.* New York: Simon and Shuster.

Hempel, Carl G. 1965. *Aspects of Scientific Explanation and Other Essays in the Philosophy of Science.* New York: Free Press.

——. 1994. "The Function of General Laws in History." In *Readings in the Philosophy of Social Science,* edited by Michael Martin and Lee C. McIntyre, 43–53. Cambridge: MIT Press.

Hollis, Martin. 1994. *The Philosophy of Social Science.* Cambridge: Cambridge University Press.

Isaac, Jeffrey. 1987. "After Empiricism: The Realist Alternative." In *Idioms of Inquiry,* edited by Terence Ball and James Farr, 187–201. Albany: State University of New York Press.

——. 1992. "Beyond the Three Faces of Power: A Realist Critique." In *Rethinking Power,* edited by Thomas E. Wartenberg, 32–55. Albany: State University of New York Press.

Jarvie, I. C. 1972. *Concepts and Society.* London: Routledge and Kegan Paul.

——. 1986. *Thinking About Society: Theory and Practice.* Boston: D. Reidel.

——. 1998. "Situational Logic and Its Reception." *Philosophy of the Social Sciences* 28(3):365–380.

Jarvie, I. C., and Sandra Pralong, eds. 1999. *Popper's* Open Society *after Fifty Years: The Continuing Relevance of Karl Popper.* New York: Routledge.

Joergensen, Joergen. 1970. "The Development of Logical Empiricism." In *Foundations of the Unity of Science,* Vol. 2, edited by Otto Neurath, Rudolf Carnap, and Charles Morris, 847–936. Chicago: University of Chicago Press.

Kahneman, Daniel, P. Slovic, and A. Tversky. 1982. *Judgment under Uncertainty.* Cambridge: Cambridge University Press.

Kaufmann, Walter. 1972. "The Hegel Myth and Its Method." In *Hegel: A Collection of Critical Essays,* edited by Alasdair MacIntyre, 21–60. New York: Doubleday.

Keegan, John. 1976. *The Face of Battle.* New York: Viking.

Kincaid, Harold. 1994. "Defending Laws in Social Scientific Laws." In *Readings in the Philosophy of Social Science,* edited by Michael Martin and Lee C. McIntyre, 111–130. Cambridge: MIT Press.

Koertge, Noretta. 1985. "Beyond Cultural Relativism." In *Popper and the Human Sciences,* edited by Gregory Currie and Alan Musgrave, 121–131. Boston: Martinus Nijhoff.

Kolakowski, Leszek. 1968. *The Alienation of Reason: A History of Positivist Thought.* New York: Doubleday.

Lakatos, Imre. 1978. *The Methodology of Scientific Research Programs.* Cambridge: Cambridge University Press.

Lakatos, Imre, and Alan Musgrave, eds. 1970. *Criticism and the Growth of Knowledge.* Cambridge: Cambridge University Press.

Lipset, Seymour Martin, Martin A. Trow, and James S. Coleman. 1956. *Union Democracy: The Internal Politics of the Internatoinal Typographical Union.* Glencoe, Ill.: Free Press.

Little, Daniel. 1986. *The Scientific Marx.* Minneapolis: University of Minneapolis Press.

——. 1991. *Varieties of Social Explanation.* Boulder: Westview.

——. 1998. *Microfoundations, Method, and Causation.* New Brunswick: Transaction Publishers.

Lukes, Steven. 1994. "Methodological Individualism Reconsidered." In *Readings in the Philosophy of Social Science,* edited by Michael Martin and Lee C. McIntyre, 451–458. Cambridge: MIT Press.

MacDonald, Graham. 1995. "The Grounds for Anti-Historicism." In *Karl Popper: Philosophy and Problems,* edited by Anthony O'Hear, 241–257. New York: Cambridge University Press.

Magee, Bryan. 1973. *Philosophy and the Real World: An Introduction to Karl Popper.* La Salle, Ill.: Open Court.

Mardiros, Anthony M. 1975. "Karl Popper as Social Philosopher." *Canadian Journal of Philosophy* 5:157–171.

Martin, Michael. "Taylor on the Interpretation and the Sciences of Man." In *Readings in the Philosophy of Social Science,* edited by Michael Martin and Lee C. McIntyre, 259–279. Cambridge: MIT Press.

Marx, Karl. 1978 [1867]. *Capital I.* London: Penguin.

Matzner, Egon, and Amit Bhaduri. 1998. "The Socioecnomic Context: An Alternative Approach to Popper's Situational Analysis." *Philosopy of the Social Sciences* 28(4):484–497.

Matzner, Egon, and Ian C. Jarvie. 1998. "Introduction to the Special Issues on Situational Analysis." *Philosophy of the Social Sciences* 28(3):333–338.

Mayer, Tom. 1994. *Analytical Marxism.* London: Sage.

McLachlan, H. V. 1980. "Popper, Marxism, and the Nature of Social Laws." *British Journal of Sociology* 31:66–77.

Merton, Robert. 1967. *On Theoretical Sociology: Five Essays.* New York: Free Press.

Michalos, Alex C. 1969. "Positivism versus the Hermeneutic-Dialectic School." *Theoria* 35:267–278.

Mill, John Stuart. 1987 [1872]. *The Logic of the Moral Sciences.* La Salle, Ill.: Open Court.

Miller, David. 1985. *Popper Selections.* Princeton: Princeton University Press.

Miller, Warren E., and J. Merrill Shanks. 1996. *The New American Voter.* Cambridge: Harvard University Press.

Minogue, Kenneth. 1995. "Does Popper Explain Historical Explanation?" In *Karl Popper: Philosophy and Problems,* edited by Anthony O'Hear, 225–240. New York: Cambridge University Press.

Nagel, Ernest. 1961. *The Structure of Science: Problems in the Logic of Scientific Explanation.* New York: Harcourt, Brace and World.

Notturno, Mark A. 1998. "Truth, Rationality, and the Situation." *Philosophy of the Social Sciences* 28:400–421.

——. 1999. "Popper's Critique of Scientific Socialism, or Carnap and His Co-Workers." *Philosophy of the Social Sciences* 29(1):32–61.

——. 2000. *Science and the Open Society: The Future of Karl Popper's Philosophy.* New York: Central European University Press.

Oakely, A. 2002. "Popper's Ontology of Situated Human Action." *Philosophy of the Social Sciences* 32(4):455–486.

Olson, Mancur. 1965. *The Logic of Collective Action.* Cambridge: Harvard University Press.

O'Hear, A., ed. 1995. *Karl Popper: Philosophy and Problems.* Cambridge: Cambridge University Press.

Ormerod, Paul, and Bridget Roswell. 1998. "Situational Analysis and the Concept of Equilibrium." *Philosophy of the Social Sciences* 28(3):498–514.

Outwaite, William. 1987. *New Philosophies of Social Science: Realism, Hermeneutics, and Critical Theory.* New York: St. Martins.

Pigden, Charles. 1995. "Popper Revisited, or What is Wrong with Conspiracy Theories?" *Philosophy of the Social Sciences* 25(1):3–34.

Pinker, Steven. 1997. *How the Mind Works.* New York: Norton.

Plato. 1974. *Republic.* Trans. Robin Waterfield. New York: Oxford University Press.

Polkinghorne, Donald. 1983. *Methodology for the Human Sciences.* Albany: State University of New York Press.

Popkin, Samuel L. 1979. *The Rational Peasant.* Berkeley: University of California Press.

——. 1963. *Conjectures and Refutations.* London: Routledge and Kegan Paul.

——. 1968. "A Revised Definition of Natural Necessity." *British Journal for the Philosophy of Science* 18:316–321.

——. 1971 [1950]. *The Open Society and Its Enemies, Volume 1: The Spell of Plato.* Princeton: Princeton University Press.

——. 1971 [1950]. *The Open Society and Its Enemies, Volume 2: The High Tide of Prophecy: Hegel, Marx, and the Aftermath.* Princeton: Princeton University Press.

——. 1972. *Objective Knowledge.* Oxford: Oxford University Press.

——. 1976. *Unended Quest: An Intellectual Autobiography.* London: Open Court.

——. 1982. "Popper's Psychologism: A Reply to Ball." *Philosophy of the Social Sciences* 12:69.

——. 1982. *The Open Universe.* New York: Routledge.

——. 1983. *Realism and the Aim of Science.* Totowa, N. J.: Rowman and Littlefield.

——. 1985. *Popper Selections.* Edited by David Miller. Princeton: Princeton University Press.

——. 1986 [1957]. *The Poverty of Historicism.* London: Ark.

——. 1992 [1959]. *The Logic of Scientific Discovery.* London: Routledge.

——. 1992. *In Search of a Better World.* Translated by Laura J. Bennet. London: Routledge.

——. 1994. *Knowledge and the Mind-Body Problem.* Edited by M. A. Notturno. London: Routledge.

——. 1994. *The Myth of Framework.* Edited by M.A. Notturno. London. Routledge.

——. 1997. *Lessons of This Century.* New York: Routledge.

——. 1999. *All Life Is Problem Solving.* New York: Routledge.

Popper, Karl, and John C. Eccles. 1977. *The Self and Its Brain.* New York: Springer International.

Quattrone, George, and Amos Tversky. 1986. "Self-Deception and the Voter's Illusion." In *The Multiple Self,* edited by Jon Elster, 35–58. Cambridge: Cambridge University Press.

Rauch, Jonathan. 1993. *Kindly Inquisitors: The New Attacks on Free Thought.* Chicago: University of Chicago Press.

Riker, William, and Peter C. Ordeshook. 1968. "A Theory of the Calculus of Voting." *American Political Science Review* 62:25–42.

Roberts, Marcus. 1996. *Analytical Marxism: A Critique.* New York: Verso.

Rosenberg, Alexander. 1995. *Philosophy of Social Science.* Boulder: Westview.

Russell, Bertrand. 1945. *A History of Western Philosophy.* New York: Simon and Shuster.

Ryan, Alan. 1991. "When It's Rational to be Irrational." *New York Review of Books,* October 10:19–22.

Sandven, Tore. 1999. "Autonomy, Adaptation, and Rationality—A Critical Discussion of Jon Elster's Concept of 'Sour Grapes,' Part I." *Philosophy of the Social Sciences* 29:3–31.

Savary, Claude. 1995. "Discovery and Its Logic: Popper and the 'Friends of Discovery.'" *Philosophy of the Social Sciences* 25(3):318–344.

Schlipp, P. A., ed. 1974. *The Philosophy of Karl Popper.* 2 vols. La Salle, Ill.: Open Court.

Shearmur, Jeremy. 1996. *The Political Thought of Karl Popper.* New York: Routledge.

——. 1998. "Popper, Hayek, and the Poverty of Historicism, Part I: A Largely Bibliographical Essay." *Philosophy of the Social Sciences* 28(3):434–450.

Simkin, Colin. 1993. *Popper's Views on Natural and Social Science.* New York: E. J. Brill.

Soros, George. 1997. "The Capitalist Threat." In *The Atlantic Monthly* 279(2):45–58.

Stokes, G. 1995a. "Politics, Epistemology, and Method: Karl Popper's Conception of Human Nature." *Political Studies* 43(1):105–123.

——. 1995b. "Popper and Human Nature Revisited." *Political Studies* 43(1):131–135.

——. 1998. *Popper: Philosophy, Politics and Scientific Method.* Malden, Mass.: Blackwell.

Suchting, W. A. 1972. "Marx, Popper, and 'Historicism.'" *Inquiry* 15:235–266.

Sunstein, Cass R. 2000. "The Human Variables." *The New Republic,* August 7:44–48.

Taylor, Charles. 1985a. *Human Agency and Language: Philosophical Papers 1.* New York: Cambridge University Press.

——. 1985b. *Philosophy and the Human Sciences: Philosophical Papers 1.* New York: Cambridge University Press.

Tucker, Robert, ed. 1978. *The Marx-Engels Reader.* New York: Norton.

Veyne, Paul. 1984. *Writing History: Essays in Epistemology.* Middletown, Conn.: Wesleyan University Press.

Von Wright, Georg Henrik. 1971. *Explanation and Understanding.* New York: Cornell University Press.

Ware, Robert, and Kai Nielsen, eds. 1989. *Analyzing Marxism: New Essays on Analytical Marxism.* Calgary: University of Calgary Press.

Watkins, J. W. N. 1994. "Historical Explanation in the Social Scienes." In *Readings in the Philosophy of Social Science,* edited by Michael Martin and Lee C. McIntyre, 441–450. Cambridge: MIT Press.

Williams, Douglas E. 1989. *Truth, Hope, and Power: The Thought of Karl Popper.* Buffalo: University of Toronto Press.

Winch, Peter. 1977. "Understanding a Primitive Society." In *Understanding and Social Inquiry,* edited by Fred R. Dallmayr and Thomas A. McCarthy, 159–188. Notre Dame: University of Notre Dame Press.

——. 1990 [1958]. *The Idea of a Social Science and Its Relationship to Philosophy.* Melksham, Wiltshire: Redwood.

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