CHAPTER 5

The Critical Dimension
in Sociological Theory

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Human beings "make their own history, but not of their own free will; not under circumstances they themselves have chosen but under the given and inherited circumstances with which they are directly confronted" (Marx & Engels, 1848/1974, p. 103). The implications of this are profound. Human action can change the world. This means that generalization from existing reality does not exhaust social possibility, and thus is a biased basis for science. But human action is shaped by externally imposed or inherited conditions. This means that the range of possible historical developments is not limitless. Nor is human action inexplicably spontaneous. History and action are understandable on the basis of systematic research. Such understanding may never be complete, but it can be improved. Moreover, the making of this understanding is part of the human making of history not external to it.

This is crucial background to critical theory. It is also a challenge to positivism, which would reduce the complexity of social life and history to explanation by a few invariant laws. Equally, it is a challenge to those "postmodernists" who would reduce the struggle for understanding to a struggle for power. Reductionism of either sort does violence to the achievements of social science and to the everyday sociocultural competence of human beings. Invariant laws (or something asymptotically close to them) may be formulated. The pursuit of power (and other interests) certainly does shape knowledge. But neither laws nor interests accounts for the whole of knowledge.

Neither positivism nor relativism will do. Sociology needs systematic empirical research and a struggle to win social facts from the misunderstandings of everyday life, ideology, and previous partial knowledge (Bourdieu, Chambordeon, & Passeron, 1991). Sociology also needs critical awareness of the conditions and limits of knowledge and of social action. Yet, almost since its inception, sociological theory has been divided by a series of partially homologous but consistently problematic oppositions: positivist–critical, empirical–theoretical, objective–subjective, structure–action. The result is that the development of sociological theory is impeded by muddled arguments, unnecessary divisions between research and theory,

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and failures to refine empirical understanding through critical analysis including reflexive analysis of the production of knowledge itself. Attempts at universality falter on weak attention to historical and cultural specificity; conversely, attention to difference degenerates too readily into relativism. Equally, critical theory that is not informed by empirical research must fail in one of its most important tasks: grasping contemporary social reality in relation to historical change (both past and prospective) and in relation to the struggles of human actors to shape it.

In the present chapter my aim is limited to clarifying the nature of the disputes and through this the importance of critique *within* science and critical theory within sociological theory generally. I first provide an introduction to the idea of critical theory, both as it came into sociological currency with the Frankfurt School and as it identifies an approach extending beyond those origins. Next, I identify some misunderstandings built into the split between critical and positivist theory in sociology. In the remainder of the chapter, I explore how three enduring arguments inform the division in sociological theory and the need for critique.

THE IDEA OF CRITICAL THEORY

The idea of "critical theory" came into currency in Germany during the 1920s and 1930s. Initially, it described not so much a new kind of theory as elements common in varying degrees to several existing theories. Marx, Kant, and Hegel were joined with Freud, Nietzsche, and Weber. Rejection of generalization from surface appearances was a common theme. Critical theorists sought to establish underlying conditions of possibility and ask why some possibilities were realized and others not. This was not merely a matter of statistical chances, they argued, but of human projects such as the exercise of power and struggle against it.

At the same time, critical theory combined—unstably—the Hegelian–Marxian concern for historical totality with Nietzsche's, Weber's, and Freud's engagement with the complex play of the irrational and arbitrary amid apparent rationalization. Horkheimer and Adorno (1944/1969) saw the latter as parallel to Marx's focus on the tensions between individual rationality and systemic determinations and crises in capitalism. This informed a critique of instrumental reason and also a critique of the "fetishization" or reification by which the products of living humanity appeared as alien and sometimes opposed forces and even human beings could be approached, by explanatory scientists as much as capitalist employers, as things. Georg Lukacs was an important forebear, bringing neo-Kantianism and Marxism together in his critique of reification. Lukacs (1922) showed among other things that Marx's work could be read against the grain of economic reductionism as a profound inquiry into new kinds of culture and knowledge in the capitalist era, and that aspects of cultural change might be basic to capitalism, not merely superstructural. The critical theorists challenged reductionist marxism just as they challenged the positivist notion of the unity of science, which would apply the same external and ahistorical mode of explanation to human action as to physics. But the critical theorists were not antiscience; they sought to improve empirical research as well as theory, in part by combining the two and in part by approaching each less ideologically.

The key protagonists of early 20th-century critical theory were Max Horkheimer, Theodore Adorno, and a number of colleagues in the Institute for Social Research in Frankfurt. But just as the idea of critique was older, critical theory also would spread beyond the Frankfurt School. The phrase itself drew on a triple meaning. First, there was the Kantian sense of critique as an inquiry into the conditions and limits of knowledge, whether focused on pure reason, practical reason, or judgment. Critique in this sense probed beneath the surface of

apparent knowledge to ask how it was that we could know and sought to reconstruct knowledge more securely on the basis of such inquiry. Second, there was the older idea of critique as the public practice of judgment, informed not only by personal taste and intellectual skill but by reasoned argumentation. Critique in this sense was rooted in Socratic dialogues and exemplified by the 18th-century literary public sphere. It also became a part of political life and informed many ideas of science as a kind of public sphere in which reasoned argument and evidence could be evaluated critically by all participants.[1] Third, the idea of critical theory carried the implication of opposition to the established social order. This sense of the word shared with much of our own everyday usage the emphasis on negativity, as criticism suggests objections more than appreciations. But while social critics posed all manner of objections to existing social arrangements and offered fantastic images of what an ideal society might be like, critical theory was disciplined by Marx's rejection of abstract utopianism.[2] Joining normative to empirical theory, it demonstrated that other arrangements were possible, not only preferable. Frankfurt School critique was both "defetishizing" in showing the human and contingent sources of seemingly natural facts and "immanent" in showing how present reality contained the bases and pressures for its supercession.[3]

Max Horkheimer gave a classic formulation to the emerging notion of critical theory in a 1937 essay. Asking "what is theory," he noted the availability of an easy answer:

> for most researchers, it is the sum-total of propositions about a subject, the propositions being so linked with each other that a few are basic and the rest derive from these. The smaller the number of primary principles in comparison with the derivations, the more perfect the theory. (Horkheimer 1937/1972, p. 188)

There was a tendency in the physical sciences for theory to become ever more abstract and distant from the objects of ordinary experience and to be rendered in mathematical form. Ultimately, nonetheless, "the real validity of the theory depends on the derived propositions being consonant with the actual facts" (p. 188). This notion of theory developed primarily with regard to the natural sciences, but was adopted widely in the social sciences. Here Horkheimer (1937/1972) begins to introduce critique, without yet naming it as such; he points out that the social or human sciences follow the natural sciences partly for extraintellectual reasons: "the so-called human studies (*Geisteswissenschaften*) have had but a fluctuating market value and must try to imitate the more prosperous natural sciences whose practical value is beyond question" (p. 191). Knowledge, this reveals, is not simply a reflection of empirical reality; it is a social project.

Horkheimer's essay goes on to elucidate a number of distinctions between "traditional" and "critical" theory. This very first one is basic, though. In a mild and understated form, it raises the point that knowledge is to be explained in part by social conditions (though this does not necessarily invalidate it or render it practically useless). This does not mean that truth

[1]This underwrites such ideas as the necessity of making publicly available the evidence on which scientific fundings are based, and indeed, the general requirement to publish scientific findings. On the public sphere of 18th-century literary criticism and its broader significance, see Hohendahl (1982). More generally, this idea of public communication has informed not only Habermas's (1962/1989, 1997) account of the political public sphere but his (1984, 1988) understanding of science.

[2]Cf. Marx and Engels (1848/1974) and Marx (1845/1975). At the same time, critical theorists have been concerned with the possibility that rationalization and reification eliminated the sources of negativity—of challenging the facticity of actually existing society with recognition of its internal contradictions and instabilities and imagination of how it could be otherwise. Habermas (1989), for example, has worried over a possible "exhaustion of utopian energies" in the contemporary era. See also Marcuse (1964, 1968).

[3]Seyla Benhabib (1986) usefully traces distinct though related strands of immanent and defetishizing critique, both with strong Hegelian roots. On false necessity, see Unger (1987).

claims are to be settled by extrascientific authority (say, institutional power); it does mean that what is known and in what ways knowledge is formed are both shaped by extrascientific factors. Horkheimer's statement also exemplifies a distinctive feature of critical theory. It seeks to advance knowledge in part by identifying the factors that limit or distort the ways in which other existing theories grasp reality. It takes on itself, in other words, not only the task of identifying errors but the task of understanding the implications of different foundations for knowledge, including scientific inquiry, and different conceptual and theoretical approaches. This is the sense of critique that Marx appropriated from German philosophy and put to work in *Capital*, which he subtitled "A Critique of Political Economy." The classical political economists, he argued, had produced impressive economic theory that was nonetheless distorted by their affirmative, uncritical relationship to capitalism. They analyzed processes historically specific to capitalism as though they were universal, presented the commodification of human labor as though it were natural and based simply on freedom rather than a result of coercion, and neglected tendencies to systemic crisis.

Ideally a critical confrontation with other works of social explanation not only establishes the good and bad points of competing perspectives, but shows the reasons behind their blind spots and misunderstandings and demonstrates the capacity to incorporate their insights on stronger foundations. It does this partly by situating the assessment of scientific truth within history, including both the history of transformations and achievements in science and the history of the conditions of social knowledge more generally. Second, seeing theory as critique we also can see the reasons why knowledge advances not simply by the accumulation of truths or the replacement of false understandings by true ones, but by movement from worse to better understandings.[4] In such a view, judgment of what is better is never entirely neutral or free of perspective but necessarily reflects particular formulations of problems for understanding. Finally, with the centrality of critique and judgment in mind we can see why it is important to conceive of science not simply on the model of the individual knowing subject, but in terms of communication among scientists. Improvements in scientific knowledge are achieved not only through observation, analysis, and theorization, but through critical discourse. This is one reason why it is important for scientific works to be publicly accessible and also for the internal organization of science to facilitate open debate and further investigation.

Critique is important, then, as part of the ongoing process of establishing a better, more adequate understanding of the social world. It is not simply a negative effort, a demonstration of weakness, but a direct contribution to better science. It also helps clarify the limits of all specific formulations of scientific knowledge. Neither Marx nor Horkheimer argued that the limitations of specific theoretical systems invalidated all knowledge. Indeed, each thought the modern era had seen terrific progress in knowledge. But each also insisted on the partiality of actually existing systems of knowledge. Indeed, partiality in the sense of incompleteness implied partiality in the sense of bias. The embeddedness of knowledge in history meant not only that it was incomplete until the owl of Minerva flew, but that its achievement was a practical human project. Like all other practical projects, it was pursued in part on the bases of interests (or passions or other motivations) that shaped the specifics of the project (Habermas, 1971).

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[4]Though implicit in Marx and other 19th-century critical theorists, this argument was developed most clearly in 20th-century hermeneutic philosophy (esp. Gadamer, 1975). From this source Habermas incorporated a version of the insight into his critical theory (1965, 1984) (though see Holub, 1991, on the limits of Habermas's openness to hermeneutics). See discussion of the idea of "epistemic gain" in Taylor (1998) and Calhoun (1995).

This applied as well to critical theory itself. One of the requirements of critical theory is a continual reflexive inquiry into the historical, intellectual, and institutional conditions of the critical theorists' own work. Not surprisingly, Max Horkheimer and his colleagues were generally more perspicacious in identifying the blind spots of others. This should not distract us from the centrality of reflexivity to the more general project of critical theory. Certainly, the founding generation of the Frankfurt School was attentive to the question of what social position and intellectual resources made their own work possible.[5] This dimension of critique, however, has in many ways been developed further by critical theorists outside the Frankfurt School, perhaps most notably Pierre Bourdieu (e.g., 1988, 2000).

The idea of a critique of the conditions and limits of knowledge is basic to scientific reason as such (though not all scientists or even philosophers of science take it up in the same way). In fact, Vienna's logical positivists—Horkheimer's prime antagonists in his 1937 essay—gave primary importance to just this sense of critique, arguing that all knowledge claims are tentative and open to revision through critical analysis as well as empirical test. More distinctive to the critical theory tradition is the critique of "false necessity," though this is closely related. A kind of empiricism (and sometimes positivism) underpins an approach to knowledge based on generalization and verification and claims unity across the natural and the human sciences. This encourages the idea that society could be no other way than as it is, or at least encourages mistaking historical and cultural contingencies for universal processes and mechanisms. This sort of empiricism also serves functionally as a part of "affirmative" theories that offer understanding of existing social arrangements that is always biased toward their maintenance. Simply to generalize from existing social conditions is to miss their location in history, with both a past and a future and usually with internal contradictions and struggles that reflect one and shape the other. Simple generalization does violence not only to historical change and transformation but to human action as a distinctive source of creativity in the world. Yet this is not merely an error of theory but a participation of theory in society and culture at large. Reification—to use Lukacs's category—shapes both the everyday consciousness of workers for whom the commodification of labor seems natural and the scientific consciousness of an era in which corporations seem persons of almost as natural a sort as human beings.

What Horkheimer called "traditional theory" reflected this reification insofar as it regarded human activity from an entirely "objective" vantage point, as a "thing" to be explained by external causes rather than internal reasons. The answer was not a simple inversion, pure subjectivism, but rather a critical inquiry into the conditions that produced the partially false objectification. Traditional theory could not achieve this, however, so long as it failed to locate itself in history and social practice. Ironically, the uncritical objectivism was supported by an uncritical exaltation of the scientific subject as knower. The attempt to find a Cartesian "view from nowhere" was consonant with acceptance of reification. This was reinforced

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[5]This concern was related to the question of whether Horkheimer, Adorno, and their colleagues could identify a standpoint for social critique that would relate their theoretical work to a possible practical project for social change. Initially, they had shared the Marxist–Lukacsian hope that the standpoint of the proletariat offered such a vantage point, and that the proletariat could become a crucial historical actor. The rise of Nazism dashed such hopes. While some critical theorists vested their hopes in students, the poor, and other possible historical actors, Horkheimer and Adorno became increasingly convinced that none was available. This was basic to their so-called "conservative turn" and to the idea that their theory constituted in part a "message in a bottle" for future generations. This in itself reflected analysis of the limits of the social position from which they could gain intellectual insight but not make it practically efficacious.

by the conception that theory—and science generally—should somehow be understood as properly set apart from the rest of social practice, the province of a group of free-floating intellectuals as Mannheim saw it or simply the province of the individual knower in the tradition of Descartes and Kant.[6]

Horkheimer (1937/1972, p. 197) wrote,

> The traditional idea of theory is based on scientific activity as carried on within the division of labor at a particular stage in the latter's development. It corresponds to the activity of the scholar which takes place alongside all the other activities of a society but in no immediately clear connection with them. In this view of theory, therefore, the real social function of science is not made manifest; it speaks not of what theory means in human life, but only of what it means in the isolated sphere in which for historical reasons it comes into existence.

This view of theory is linked not only to social irresponsibility but to a misleading, if flattering, self-image for theorists: "The latter believe they are acting according to personal determinations, whereas in fact even in their most complicated calculations they but exemplify the working of an incalculable social mechanism" (Horkheimer, 1937/1972, p. 197).[7] The most important result of such a self-misunderstanding, a failure both of reflexivity and of accurate empirical analysis of the conditions of theorizing, is a tendency to treat the existing social conditions as the only conditions that could exist.

If a theorist is unable to see his or her own activity as part of the social world, and especially if he or she simply accepts into theoretical self-awareness the social division of labor with its blinders, this encourages a treatment of the external world as simply fixed and "objective." This obscures the contingency and internal contradictions of the empirical world.

> The whole perceptible world as present to a member of bourgeois society and as interpreted within a traditional world-view which is in continuous interaction with that given world, is seen by the perceiver as a sum-total of facts; it is there and must be accepted. (Horkheimer 1937/1972, p. 199)

The theorist, like most individuals within society, thus fails to see the underlying conditions of social order (or chaos). But this does not necessarily result in a simple objectivism. It is more apt to result in a dualistic splitting of objective and subjective dimensions such that neither corrects the other. The reified view of the external world as mere ensemble of facts is compatible (indeed, perhaps shares an elective affinity) with reliance on a notion of individuals as discrete strategic actors confronting this world. The standpoint of the purposeful individual confers one kind of order on the facticity of the world just as functionalism or systems theory

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[6]Philosophers are particularly apt to be outraged by nonphilosophical histories of philosophy. These present it as something other than the history of the progress of reason (and thus a transcendence of "ordinary" history). As Bourdieu (2000, p. 42) has argued, "The refusal of thinking about genesis, and above all of thinking about the genesis of thought, is no doubt one of the major principles of the resistance that philosophers put up, more or less universally, against the social sciences, especially when these dare to take as their object the philosophical institution and, by the same token, the philosopher himself, the 'subject' par excellence, and when they refuse him the social extraterritoriality he grants himself and which he means to defend." The reactions of some philosophers to Randall Collins' (1999) recent study of the history of philosophy offer an example; they approach it less as a straightforward empirical project that succeeds to a greater or lesser degree than as a sort of category error, the application of sociological methods where they do not belong.

[7]To treat the individual as an asocial, ahistorical, objective starting point for knowledge, Horkheimer (1937/1972, pp. 210–211) wrote, is "an illusion about the thinking subject, under which idealism has lived since Descartes, is ideology in the strict sense .... Critical thinking is the function neither of the isolated individual nor of a sum-total of individuals. Its subject is rather a definite individual in his real relation to other individuals and groups, in his conflict with a particular class, and, finally, in the resultant web of relationships with the social totality and with nature." See also Bourdieu (1988, 2000) on the scholastic fallacy.

confers another. Individual and social world on such views each appear simply as environment to the other.[8] Not surprisingly, then, many theorists proceed to affirm the treatment of those basic social conditions that cannot readily be understood through purposive rationality, especially those results of human activity that are alienated from the control of conscious human beings, as though they were forces of nature. The products of historical human action are affirmed as unchanging and fixed conditions of human action, and theory cannot articulate the possibility of emancipation from these conditions.

Empirical generalizations are quite useful and of course may be made more precise by use of scope statements; not all are in that sense false universals. But to theorize on the basis of such generalizations alone is to incorporate the conditions of present-day society into theory of society in general. This tends to tie theory to an affirmation of the status quo in which present society appears not only as real but as necessary. Critique helps theory escape this determinism and this diremption from history and human action. This is not only a matter of critically analyzing the internal workings of theory, it is also a matter of approaching actual problems of empirical analysis with attention to the conditions of possibility. That is, we need to ask what sorts of social organization are "objectively" possible and why have some rather than other possibilities become real. The answer may involve the direct exercise of power, or it may turn on more indirect cultural hegemony, or it may be the result of historical accident.[9]

A POORLY FRAMED DEBATE

Horkheimer, Adorno, and other critical theorists engaged in a formative debate with the logical positivists of early 20th-century Vienna. They saw these as intellectually serious but mistaken on two key issues. One was their faith in the unity of science—the Comtean project by which distinctions between the human and natural sciences would vanish as humans came to be understood entirely objectively.[10] Building on Dilthey and Weber, the Frankfurt theorists insisted that such understanding of human actors could never be complete. Moreover, they argued that if pursued without a critical complement that gave greater respect to the distinctiveness of human beings and the importance of action, such positivism would inevitably do violence to humanity. Secondly, they objected to the positivists' notion of science as outside of history and free from social influence. This allowed the illusion of perfect scientific certainty, but that could only be ideological and potentially condone disastrous overconfidence (generally on the lines of being certain enough of ends to claim justification for troubling means, as in various 20th-century projects of social engineering).

These two issues have remained basic to differences between critical theory and so-called positivism but the debate has become muddled. Positivism has become a misleading label

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[8] A point famously and repeatedly made by Niklas Luhman (e.g., 1998) from the standpoint of systems theory.

[9] One flaw to a good many otherwise important critical analyses is their tendency to rely on more or less explicit conspiracy theories to account for the specific patterns of social or cultural organization. But to show that existing reality could be otherwise and that some people benefit from having it remain as it is does not amount to demonstrating that they have the foresight or power to have determined the actual course of history. As Pierre Bourdieu has many times pointed out, social "games" are set up so that those who are their recurrent beneficiaries may reap rewards from actions that never make their interests explicit.

[10] This project has returned to active discussion following E. O. Wilson's (1998) publication of *Consilience*, drawing its title term from Whewall's 1840 evocation of the project of a unified science. The heirs of Vienna logical positivists (some of whom renamed themselves "logical empiricists") founded an annually extended *International Encyclopedia of Unified Science* as one of their main publications.

because it refers sometimes to a general broad empiricism and sometimes to specific philosophical positions and ideas about the progress of science that flourished in the 19th and early 20th centuries. In recent decades, the term "positivism" was kept alive in social science by critics who made it a term of abuse, and then defiantly claimed by advocates of the view that the social sciences should be as much like the natural sciences as possible. Nonetheless, there are important points of disagreement. Consider these core assumptions, offered by one of sociology's leading contemporary advocates of positivist theorizing:

> There is an external universe "out there" which exists independently of our conceptualizations of it; this universe reveals certain timeless, universal, and invariant properties; the goal of sociological theory is to isolate these generic properties and understand their operation. (Turner 1987, p. 165)

Each of the three points Turner makes is important to distinguishing positivism from critical theory.

The critical theorist need not disagree about the existence of the universe, but she or he must question whether it exists "external" to human beings and somehow "out there." Are we not in the midst of this universe? Is human knowledge (and thus conceptualization) not part of it? Likewise, the critical theorist can rejoice at the discovery of "timeless, universal, and invariant properties" to social life. Alas, they are few and appear to account for only a little of social reality as research reveals it. Such knowledge may grow, but the critical theorist will insist on asking recurrently of each ostensible transhistorical invariant, might this in fact be more historically or culturally specific? Even more basically, the critical theorist will point out that the universe does not "reveal" properties, or at least not in any form equivalent to human knowledge of them. Human beings understand those properties only by conceptualizing them—rendering them into language—or in a special sense of the word "understand," by making them objects of effective practical action. Even the properties of the universe that seem most clearly to exist externally to and independently of human beings, say, gravity, are known to human beings only through language or practical orientations to action. Specifically, they are known to theory only through language.

Last but not least, Turner would focus sociological theory on isolating and understanding the transhistorical invariants of social life. The critical theorist will include among the goals of sociological theory the understanding of patterns of difference and change. To be sure, knowing transhistorical invariant laws of social life will be helpful in this, to the extent these may be reliably discerned. But a key goal of critical theory is precisely to be able to locate the present in relation to history, specific patterns of meaning in relation to cultural diversity, and specific institutional forms in relation to other possible ones. Turner's goal reflects the idea of theory as "nomothetic" that came to prominence in the turn of the century *methodenstreit*. Its implicit opposite is the merely "idiographic" particularity of history. But this distinction itself is misleading. It opposes efforts to explain all reality by a small number of universal laws to efforts to account for particular events (either by description or by explanation in a different, noncovering law sense). But there is much to social science that is neither the pursuit of universality by reduction nor the abandonment of general significance to pure particularity.

In the 1950s and 1960s, a famous "positivism dispute" brought the issues to the fore again, at least in German sociology (Adorno et al., 1976). Adorno and then Habermas argued the case for critical theory. Oddly, though, no participant in the debate claimed to represent positivism. Karl Popper was *accused* by Adorno of being positivist, but misleadingly. Popper's "critical rationalism" was influenced by logical positivism but broke with it on crucial points. Perhaps most notably, Popper (1934, 1972) replaced the idea of the accumulation of verified truths by the notion of progress through the falsification of erroneous hypotheses. This

progressive elimination of error through "conjectures and refutations" underwrote a great deal less certainty than either Comte or the logical positivists had thought science could provide and than the name positivism implied. Neither did Popper try to defend a complete unity of human and natural sciences (though he did hold that each could pursue the kind of objectivity he advocated).

Confusions also have beset the ideas of critique and critical theory. First, the theoretical project of examining the conditions of knowledge is easily confused with simply stating objections to the views of others, regardless of the grounds. Second, the phrase "critical theory" is often used to designate a specific group of theorists (the Frankfurt School) rather than to identify more abstractly and generally an approach to theory. While members of the Frankfurt School have been among the foremost advocates for and developers of critical theory in the 20th century, they neither invented it nor own it.[11] Third, and most problematically, critique is commonly identified with "antiscience" arguments rather than seen as a dimension of science.[12] In the 1960s and 1970s especially, it became common to link the idea of critique to a kind of antiscience perspective, sometimes one rooted in radical subjectivism, and to use the label "positivist" to lump together (and often condemn) all approaches claiming scientific objectivity. The language of objectivity is indeed problematic, but the opposition is simplistic.

In three senses, objectivity is at issue. First, there is the question of what it means to claim that facts are objective. Does it mean that they are external to theory (and more generally, language), or to the mind of the knower? Second, there is the question of whether human beings may be understood as objects in the same sense as physical phenomena or non-language-using animals. Among sociologists, so-called "positivists" are apt to quote Durk-

[11]By means of his writing, his force of personality, and his ability to create an institution, Horkheimer was able to claim the label of critical theory distinctively for the work of his Institute for Social Research. Based in Frankfurt before and after the war, this was an enormously vital and distinctive intellectual enterprise. But no single institution or scholarly group should be granted title over an intellectual approach as broad and as basic as critical theory. As I have argued elsewhere (Calhoun, 1995), this needs to be understood in terms of the several different intellectual streams that flowed together for a time in the work of the Frankfurt theorists; it needs to be seen in the work of a wide range of later thinkers who have shared a critical approach even when they differed substantively from each other and labored at long distances from Frankfurt. The Frankfurt School gave critical theory a name, but the name fits a much wider range of work than that of any one school. Max Horkheimer, Theodore Adorno, Friedrich Pollock, Herbert Marcuse, and other members and associates of the Institute for Social Research produced a variety of specific studies that exemplified critical theory at work on substantive problems (see for discussion Jay, 1975, and Wiggershaus, 1994). These included analyses of state capitalism, the authoritarian personality, mass culture, and the dialectic of enlightenment. All suggest themes that remain important, but critical theory as such needs to be distinguished from any specific set of substantive themes.

[12]Heidegger and some of his followers within both hermeneutic and poststructuralist traditions do argue against science, but such positions are neither the primary nor the best parts of critical theory. The antiscience arguments stem largely from a critique of the kind of dualism that radically distinguishes subject and object, and thus alienates mind from matter. Where dualism opposes consciousness to the world, the Heideggerian tradition emphasizes being-in-the-world (the hyphens represent inextricable interconnection). A shift away from Husserl's phenomenology and even Dilthey's hermeneutics, such an approach abandons the project of verifiable or "transitive" knowledge as it has been understood in the tradition of science. Knowledge is not to be understood as an understanding— let alone control—of something external. While many versions of post-Heideggerian philosophy stand simply opposed to empirical science, it may nonetheless make useful contributions to critical theory that does pursue scientific knowledge. Notably in the work of Gadamer it has offered important insights into the operation and limits of dualistic epistemology, and the distance between "truth" and the operations of specific methods for producing knowledge. See Gadamer (1975) and Taylor (1998, Chapter 1). This helps critical theory to challenge mechanistic understandings of how knowledge might be grounded in mental processes and more generally to move beyond the philosophy of consciousness to grasp intersubjectivity (see Habermas's 1984 discussion and the clear summary in 1987).

heim (1895) in both regards. Social facts are external, enduring, and coercive. Social facts should be treated as things.[13] Third, there is the question of how much science (including sociology) should itself be understood in objective or external terms, on the basis of inquiry into its social bases and more or less impersonal processes.

Behind the arguments over objectivity lies the even more basic question, "what is truth?" This is importantly different from asking "what is true?" The latter question may be answered with a variety of "positive" claims about the world: grass is green, groups larger than ten are likely to subdivide, and so forth. Much "everyday positivism" simply stays at this level. The former question, however, demands an account of how we know. This is one source of science's vital self-reflexive inquiry into procedure. It is also one entry point of critique. "Critique" thus refers to examination of the grounds, and thus both the limits and the orientation, of all knowledge. On what basis can we know anything? How can we be sure? What implications do the bases of knowledge have for the character or substance of that knowledge?[14]

None of this means that extrascientific considerations ought to be decisive for assessing the value of truth claims. It does mean that institutional and other extraintellectual factors shape what questions scientists address and how. As a result, while these factors do not determine what is true, they do partially determine what is known. They also influence how "truth" is known: what connections are made among facts, into what contexts they are situated, through what language and concepts, and with what practical orientations they are grasped. None of these various senses of the "construction" of truth amounts to saying that there is no truth, though they do suggest that there is no single, invariant, perfect statement of it.

In order to see what is at stake in the confused arguments between positivism and critical theory, and even more, the unargued assumptions of social scientists on both sides, it is helpful to grasp something of their historical development. Nineteenth-century positivism was indeed influential in these, even though it is not so much the starting point as a false claim about the end point. As Hegel thought the owl of Minerva flew in early 19th-century Prussia, so Comte thought it flew just a few years later in France.

THE CONDITIONS AND LIMITS
OF KNOWLEDGE

In a sense, all modern science started with critique. Tradition was not simply accepted on faith, but examined. The authority of the ecclesiastical hierarchy and even sometimes the Bible itself were challenged by appeals to direct observation and individual reason. Commonplace "truths," like the flatness of the earth, were subjected to empirical and rational tests and rejected unless they could meet standards of internal logic and consistency with observed facts.

On both rationalist and empiricist sides, science staked its claims in terms of the modern

[13]Durkheim was famously inconsistent in following his own methodological advice, and indeed some of his most prominent contributions to sociology would have been impossible on such a strict positivist basis. Alexander (1982) has shown how Durkheim's positions vacillated in this regard as he sought to defend sociology in more or less positivist terms and yet attempted to address questions of subjective consciousness and absorb influences from phenomenology and idealist philosophy.

[14]This is not just a question about bias in the narrow sense of illegitimate intrusions of value or prejudice. Much broader, it joins questions like how does scientific knowledge depend on specific technologies (e.g., microscopes) to those of how it depends on specific conceptual schemes (e.g., atomism).

era's increasingly prominent individualism. Descartes famously exercised doubt of every possible claim to certain knowledge until he came to what he took to be the bedrock, the demonstration of his existence by his thought ("I think therefore I am").[15] Bacon enunciated an increasingly dominant faith in facts and Locke articulated in more detail how these fruits of observation could only be discerned by individuals on the scene to see/hear/feel/taste/smell empirical reality. We should not exaggerate, however, the opposition of rationalism and empiricism in 17th- and 18th-century thought; there was a good deal of agreement among philosophers who claimed opposite first principles. Rationalists and empiricists alike presented science as a critical method in relation to nonscience. But at least from the 18th century, critique also began to be internalized within science, deployed in relation to reason and empirical evidence, and brought to bear on the question of their limits and validity.

Lacking space (or I hope need) to retell the story at length, let me evoke it through one of the decisive points at which the broad agreement faltered. Critique came into clear prominence within science in considering questions about how to relate the claims of empirical evidence to those of reason. This was a development broader than any single individual, but it is usefully represented by attention to the pivotal work of David Hume.

Hume famously questioned an extremely widely held belief about human nature and experience, one taken as axiomatic and indeed obvious by most scientists. Why, he asked, do we believe that every event must have a cause? Indeed, why do we believe that for *any* event we can establish its cause? On what basis do we claim to make inferences from some observed events to other ostensible (but unobserved) causes? For example, we step outside, observe a wet street, and hold that rain that we did not see falling must have caused this state of affairs. Hume's question is not simply whether there might have been some different cause: a firehose, say, instead of rain. His question is about the very status of inference, which is why it goes to the basis of science. What allows us to reason from observed to unobserved phenomena?

Without going into the particulars of Hume's argument, the key is that correlation can never prove cause.[16] He suggests that we may well have developed an impression about the connection of rain to wet streets based on frequent observation, and that this may be accurate but that it still does not amount to establishing causation (in the strict sense of necessary relation). It does not demonstrate a necessary connection but only a contingent one. We can see the conjunction between events, but no matter how frequent that is, it can never amount to observing causality as such.[17] The attribution of cause is introduced by the human mind and not based in any strictly rational fashion on induction from sense impressions (i.e., from empirical data). Indeed, Hume suggested, it turns importantly on the imagination. Accordingly, Hume suggested, the formation of such beliefs needed to be studied as a psychological process not a logical one.[18]

This was a challenge to the notion that beliefs such as those in relations of cause and

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[15]To doubt everything was Descartes' basic method, but not to the point of being a full-fledged skeptic. Hence, having discerned a ground for certainty in his own cognition, he proceeded to try to build up a more positive system of knowledge from there, including crucially a proof of the existence of god.

[16]This is why statistical methods based on correlation matrices, such as regression analysis, cannot establish the order in which variables are related; some extra-statistical reason must be adduced.

[17]This becomes particularly important in sociology where relationships are extremely complex and predictions often weak. As Raymond Boudon (1971/1974) put it, we analyze relationships not of strict causality, but of more or less "weak implication."

[18]Hume is often understood simply as a skeptic who completed the negative phase of British empiricism. For the idea that he was in fact offering a more general theory of human nature, see Stroud (1977). Hume's was a critical theory of the relations among reason, passion, knowledge, and morality and as such intended as a contribution to understanding the human predicament, not only a negative argument debunking specious beliefs.

effect could be rational responses to sense data alone. Before Hume, it was easy to hold that human observation worked more or less like a law court. The mind acted as a judge or juror, believing in those things for which there was adequate evidence. The mind could be tricked, but this amounted to an error in observation. What Hume showed was that the belief in cause and effect could never be rational on these empirical grounds. That is, there will be reasons for such belief, but they will not be because experience has rationally determined it. On the contrary, it must be because there is a psychological principle of thought that establishes the link where empirical evidence alone cannot. "If reason determin'd us," Hume (1739–1740/1958, p. 89) wrote, "it wou'd proceed upon that principle, that instances, of which we have had no experience, must resemble those, of which we have had experience, and that the course of nature continues always the same." This principle of the basic continuity of existence (or what Hume called the "principle of union among ideas") is necessary to thought but cannot be justified on purely empirical grounds. More generally, Hume pursued extremely rational reasoning to the conclusion that our most basic beliefs about the world are without rational foundation and must in principle remain so. This does not mean that we must therefore abandon all such beliefs; on the contrary, they remain fundamental but as beliefs supported by experience, practical need, and tradition.

Hume's argument was pivotal to modern philosophy. Contentions about whether it was altogether sound and what its implications are continue to the present day. The point is not to adjudicate these disputes but to grasp the significance of the argument as critical theory. What Hume did was to subject a widespread and basic assumption to critical analysis. His radically skeptical reflection led him to reject the notion of planning progress on the basis of putative rational–scientific laws and instead turn to the study of history, suggesting that knowledge was limited to greater or lesser historical generalization.[19]

Immanuel Kant was impressed by the brilliance of Hume's arguments, which he said woke him from his "dogmatic slumbers." That is, they persuaded him that existing claims to certain knowledge were arbitrary at best. But Kant was unwilling to accept that there could be no rational foundation for thought and moral conviction. He thought skepticism as well as dogmatism needed to be overcome. Famously, therefore, he answered Hume with a further act of critical theory. In his *Critique of Pure Reason*, Kant (1781/1965) agreed that knowledge could hardly be based on sense data alone. Rather, he suggested, knowledge was achievable precisely because the human mind operated with basic categories, including that of causality, that made thinking possible. This indicated (as indeed Hume had argued) that knowledge depended not just on its objects—the things in the world—but on the knower. Kant, however, was prepared to develop a much more elaborate account of what knowers must be like on the basis of the abstractly necessary conditions of knowledge. Some forms of knowledge could be universal and like mathematics known universally with the certainty of pure reason. Others, like ethics, could be known only by judgment and practical reason, and thus were less perfectly universal. In both cases, Kant reminded his readers, knowledge, including science, remained a

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[19]Indeed, one of the conclusions Hume drew from his argument was that in many regards we should trust the accumulated wisdom of very extended experience and distrust claims to overturn this by means of abstract deductions. This was paradoxical insofar as it was his own very rationalistic explorations that led him to this emphasis on the limits of reason. Nonetheless, it informed his interest in empirical history as a process of learning through experience and a respect for tradition quite different from the more common 18th century attack on it. This also informed Burke and the conservative tradition with its suggestion that there was accumulated wisdom in tradition and established practice that should not be overturned on the grounds of abstract theory, as famously in the French Revolution, which was very much a revolution of rationalism and science against tradition as well as commoners against king.

project. It made no sense to claim dogmatically (in the manner of Leibniz) that scientific knowledge had already attained perfection.[20]

Kant thus formulated an approach to critical theory aimed at establishing the bases for knowledge by reference to the capacities and limits of the knower.[21] Some of his successors would hold that Kant had relied too much on the idea that the human mind was a universal phenomenon, present in principle in each individual, and thus a basis for universal knowledge. Hegel insisted famously on rethinking mind as first social and second historically developing. The latter meant that knowledge could not simply accumulate, but that there was an integral relationship between the development of capacities to know and production of knowledge. Marx introduced a critical analysis of the categories of knowledge (e.g., value) that included attention to how they helped to constitute a specific form of social reality as well as the scientific knowledge tied to it.[22] Along with others, Marx gave more stress to issues of perspective. Kant had acknowledged that in the exercise of judgment it mattered where the individual stood, but argued for overcoming such bias simply by taking a broad view. Marx stressed that the "this-sidedness" of knowledge was not so easily escaped and reflected its embeddedness in practical activity and processes of historical change.[23] His arguments became pivotal, thus, to "ideology critique" as an examination and sometimes unmasking of the ways interests and perspective shape apparently neutral knowledge. Others made the point that individuals never exist except as products of and participants in culture. Knowledge is made possible not just by sense data and mind, but by language, concepts, and dialogue. When such considerations are acknowledged, the critical examination of the conditions of knowledge becomes even more empirically complex but remains vital.

This sort of critique also is basic to substantive scientific theory. Einstein's famous "thought experiments," for example, involved efforts to subject received assumptions (reinforced by everyday culture and experience as well as scientific orthodoxy) to critical examination, theoretically analyzing their necessity, grounds, and significance, not simply adhering to them so long as they were not directly falsified by empirical evidence. Moreover, they turned crucially on the idea that the position and actions of the scientific observer might have an

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[20]Kant saw his work as superseding the opposition of dogmatism (e.g., Leibniz) and skepticism (e.g., Hume) in previous philosophy. In a sense, positivism and relativism represent a version of the same opposition. Perhaps critical theory is best construed not as offering a claim to transcend the polarity, however, but rather a commitment dialectically to interrelate claims to knowledge and assertions of its limits.

[21]See Goetschel (1994) for a useful discussion of how Kant developed this notion of critique. Of course, he did not invent it *ex nihilo*. His approach was part of a general modern turn to ground knowledge in the individual. This is often symbolized by reference to Descartes, and is indeed marked deeply by the dualistic approach he exemplified, sharply distinguishing mind and body, for example. In any case, Descartes too focused more than invented an approach that was already developing more broadly in his day. It also had ancient forebears—not least among some of the neo-Platonists and in Augustine—though these were concerned mainly with different sorts of knowledge. Future research would probe the specifics of human knowledge further, considering in a way Kant could not the limits of the human eye and other sense organs, the way brains work and cognition develops. Such research has roots in the British empiricists approach to psychology. It only becomes a part of critique when its implications for the project of scientific knowledge itself are considered. At the same time, Kant's approach (and that of most idealism after him) relies heavily on *a priori* reasoning about the nature of mind and knowledge.

[22]Thus "value" is not inherently quantitative. The process of commodification reflects and furthers quantification of value as capitalism develops (Marx, 1867/1977, Chapter 1; Postone, 1993).

[23]This became the basis for innumerable variants of "standpoint theory" and other forms of perspectivism. Some of these focused mainly on the necessary limits of knowledge which must always be "this-sided," while others laid claim to identifying standpoints that offered universal or at least better knowledge. This line of argument has been especially important in legitimating claims to knowledge from subordinated positions. See discussion in Calhoun (1995, Chapter 6).

impact on the knowledge he could achieve[24]; so too in the social sciences. The critical examination of the conditions of knowledge is not something that can be satisfactorily relegated to a sort of philosophical metatheory: to a preparation of the epistemological path for "real" theory. On the contrary, the contributions of critique extend into empirical theory and reach throughout the substantive concerns of social science. This, however, is just what 19th-century positivism tried to deny.

THEORY-LADEN FACTS:
REALISM AND CONSTRUCTIVISM

Two of the great founders of sociology—Henri, Comte de St. Simon, and Auguste Comte (coiner of the very term, "sociology")—also were the founders of "positivism." By this they meant the application of scientific method to all of human existence. They were inspired equally and without clear distinction by two somewhat different understandings of science. The first had been spreading since Francis Bacon and focused on the growth of empirical knowledge; science was the accumulation of demonstrated facts. The second was the somewhat more recent burst of technological innovation that shaped the industrial revolution; here science was the capacity to dominate nature and control the conditions of our lives by the application of knowledge. That St. Simon and Comte did not distinguish these two dimensions made possible a key ambiguity in the idea of "positivism," still evident in different meanings of the word "positive." What made positivism positive was first the certainty granted by empirical knowledge and second the progress offered by technology.

St. Simon and Comte thought that all of human life could be reorganized on positivist principles. Scientists were cast in two roles. First, as researchers they would discover the laws governing all existence. Second, as something close to Platonic Guardians they would use this knowledge to organize society, including family life, politics, and even religion, in the "scientifically" best way possible. Comte presented this notion through what he called the "law" of the three stages. Every individual person, every branch of human knowledge, each society, and ultimately all of humanity must pass through three stages. In the theological stage knowledge is little more than fiction as people represent natural phenomena as results of supernatural agency. In the metaphysical stage, supernatural beings are replaced by abstract forces (natural law, for example, or the Hegelian cunning of history). Finally, in the positive stage, human beings accepted that there was no reality beyond that of this world and the rational laws that organized its observable facts.[25]

St. Simon and Comte had relatively few followers for their religious program, but many more for their scientific one.[26] Comte's theory of progress contributed to the development of

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[24]Einstein assumed this knower was a "he." Some later critics have suggested that the gender identity of the knower could have a further impact on the knowledge that he or she could achieve, others that Einstein's use of a gendered pronoun was irrelevant.

[25]Foucault (1966) famously redescribed this transition in his account of the movement from classical to modern knowledge, correspondence to causes. According to Foucault, this involved not linear progress but a fundamental shift (a "rupture") in categories of understanding that could not be said simply to be better or worse. The two ages offered different "epistemes," different approaches to relating words and things, creating an image of an orderly world, and indeed creating knowledge.

[26]Indeed, the religious aspect of Comte's positivism did flourish for a while, and in moderated form influenced Durkheim. In Britain, buoyed by the evolutionary current, public figures like Frederic Harrison and Richard Congreve supported Comte's notion of a Church of Humanity, complete with its own positivist humans and pantheon of saints. In the early 20th century services were still being held weekly in London and a few provincial centers. Populism had its greatest public influence in Latin America, where it became an influential political ideology.

evolutionary thought, though under the impetus of biology that rapidly outstripped his own theory. His conception of science as a combination of description and prediction was influential. Perhaps most importantly, their French positivism joined forces with British empiricism to help shape utilitarianism, political economy, and evolutionary theory, notably in the theories of Jeremy Bentham, John Stuart Mill, and Herbert Spencer.

Positivism eventually came unglued, however, over questions about the relationship between theory and facts. Much of the appeal of positivism came (as it still comes) from the notion that its descriptions of the world were neutral accounts of empirical facts and its prescriptions for the world accordingly based on universal scientific knowledge rather than particular social interests. This is precisely what Karl Marx challenged, contending that both the French positivists and the British utilitarians and political economists had produced theories that not only misunderstood the facts of contemporary society but reflected a social interest in affirming key features of existing social arrangements. Marx's (1867/1977) *Capital* opened with a critique of the basic categories of political economy, seeking to show that these do not simply reflect reality but organize perception of it in a problematic way. Moreover, Marx demonstrated that these categories, e.g., work redefined as the quantifiable commodity form of labor, were in important ways constitutive not only of political economy but of capitalism itself. Thus aspects of a historically specific form of social organization were made to appear as though they were transhistorical universals.[27] By uncovering this operation Marx showed that other possibilities were open; existing social conditions were real, but not necessary. The positivist political economists did not see this, Marx contended, partly because their interests lay within the existing political economic system not in its transcendence.

Marx suggested, moreover, that much existing political economy was preoccupied with seeking generalizations about surface facts rather than penetrating to the underlying structure of capitalism. As a result, it merely documented what was going on within capitalism rather than explaining capitalism. Here Marx touched on an issue that was basic to scientific progress of his era. Darwin even more influentially (and perhaps successfully) made a similar move in explaining the origin of species. He argued that underlying processes of generation and inheritance of difference combined with selection through sexual reproduction to explain crucial aspects of evolution. Like Marx's theory of capitalism, Darwin's theory of evolution (or more modestly, of the origin of species) sought to explain observable reality on the basis of unobservable but theoretically coherent phenomena.

This contributed to what came to be called the opposition between realism and instrumentalism (or sometimes constructivism). The most basic issue concerned whether theories were more or less arbitrary tools for examining the world or whether they grasped reality in some more determinate and confirmable way. Realists took the latter view, treating theoretically necessary unobservables as real. Interestingly, for all of positivism's claims for the perfection of knowledge, its most influential 19th-century advocate—John Stuart Mill—was basically an instrumentalist. He attempted to preserve the empiricist notion that all knowledge was based most fundamentally on sensory impressions (and accordingly was dubious about evolutionary theory). Mill made good use of syllogistic deductions, but he insisted on the basic importance of knowledge derived directly from experience. Experience might be aided by techniques and instruments of observation—telescopes or censuses—but it remained the basic stuff of knowledge. Theory was among the instruments; it offered organized ways of

[27]Unmasking this is arguably one of the contributions of dialectic reason to Marx's argument. At a general level, though, the point does not rest on more contentious Hegelian claims to a dialectic logic or approach to science. Marx was much more empirically oriented than Hegel, and critical of Hegel's claims to discern substantive truths on the basis of dialectical reason alone (on Marx as empiricist, see Little, 1998, Chapter 2). Postone (1993) offers a particularly helpful discussion of how Marx's categorical critique opens up the question of historical specificity.

talking about facts.[28] While theory included generalizations, sometimes formulated as laws, these could never be the products of inference from empirical knowledge. All inference, Mill argued, is from particulars to particulars. General laws can only be formulas for making inferences from known to unknown particulars; thus, they may be useful but ought not to be confused with empirical knowledge.

A crucial underlying problem here lay with empiricism itself. Philosophers (and philosophical psychologists) of the 17th and 18th centuries had worked with one or another version of a doubly problematic theory of ideas.[29] First, this suggested that knowledge consisted of a collection of basically discrete items of information in people's heads. Second, it held that these ideas got into people's heads on the basis of sensory impressions. While this theory is old in philosophical terms, it retains a certain currency in common sense and even informs the thinking of some nonphilosophically inclined scientists. Hume improved on this theory by distinguishing ideas from perceptions and adding the possibility that imagination might be an intellectual source, but he was still concerned chiefly with seeking empirical sources for how ideas came to be in people's heads. It was in this pursuit that he arrived at his radical argument concerning the limited empirical basis for certain kinds of ideas, like cause. Mill was the leading representative of this tradition in his day; among the later logical positivists, Mach emphasized the idea that causes are not found as such in nature. Both accepted the importance of theoretical terms such as cause, but held that they (along with other theoretical unobservables) meant that theory was a tool for understanding reality, not precisely a statement of it. "Real" knowledge was that which could be empirically verified.[30]

Although Mill held to the empiricist position, he also contributed to superseding it by turning attention more toward issues of method. Comte had considered experiments primarily as a way to create knowledge; he had not focused on the importance of testing it. Once "truth" was established, Comte expected it to be stable. Mill paid much more attention to the idea of disconfirmation or disproof. In this connection, he shifted the place of empirical data. Mill distinguished the "brute facts" of induction from empirical evidence as it might be deployed in ways that bore specifically on theoretical questions. He remained uncomfortable, however, with the idea that unobservable theoretical entities could be anything more than convenient

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[28]William James (1907/1995) would later suggest on pragmatist grounds that theories be conceived of as ways of predicting one set of observations from another set of observations. Though they might be helpful, they could not be repositories or guarantors of truth as such, but only as embodied in the practical operation of prediction.

[29]Some of the most basic issues are much older, including the notion that there is a clear and obvious distinction between "mind" and "physical world." The whole epistemological problem to which the theory of ideas and the realist/instrumentalist debate speaks derives from this distinction and the question of how minds can gain knowledge of that which is outside them. The empiricist tradition centers on Locke's assertion of the mind as initially a *tabula rasa* on which sensory objects make impressions; these are the basis of knowledge. While Locke thought that general ideas could be established on this basis (by a stripping away of particulars), Hume challenged precisely this view. Kant's idealism suggested that mind was not a *tabula rasa* but both more active than the metaphor suggested and structured by *a priori* categories of understanding. These last were crucial to the development of general or abstract ideas.

[30]Note that by "verification," Mill (and virtually the entire positivist tradition) meant empirical confirmation of truth. The insistence that knowledge proceeds by falsification which we associate with Karl Popper is not part of positivism, but as noted above actually a break with it based on critique (hence, Popper's name for it, "critical rationalism"). Popper (1958, p. 30) traces the roots of the sort of rationalism he advocates back to the Greek tradition of critical discussion: "the rationalist tradition, the tradition of critical discussion, represents the only practicable way of expanding our knowledge.... There is no way that starts from observation or experiment. In the development of science observations and experiments play only the role of critical arguments.... It is an important role; but the significance of observations and experiments depends *entirely* upon the question of whether or not they may be used to *criticize theories* (original emphases).

fictions. Positivists generally followed Mill in holding that only direct experience could produce empirical evidence and that all factual propositions required empirical verification. In the late 19th century, the prestige of biological evolutionism led many to accept some level of realism. Antirealist hopes for complete empirical grounding of theory were revived, however, with the rise of logical positivism. Anything else was condemned as idealism, intuitionism, or historicism.[31]

The issue was basic to the dispute between the Frankfurt School and the Vienna Circle of logical positivists. As Horkheimer wrote in 1936:

> The view that thought is a means of knowing more about the world than may be directly observed
> ... seems to us entirely mysterious" is the conviction expressed in a work of the Vienna Circle. This
> principle is particularly significant in a world whose magnificent exterior radiates complete unity
> and order while panic and distress prevail beneath. Autocrats, cruel colonial governors, and sadistic
> prison wardens have always wished for visitors with this positivistic mentality.[32]

In fact, some members of the Vienna Circle accepted realist positions; Reichenbach declared himself a "critical realist," a position claimed in the next generation by Bunge (1996). More generally, a minimal version of realism has become widespread in science; unobservable theoretical entities are treated as real, especially under the influence of atomic physics. Realism never means severing all connection to empirical data, to be sure, but it does challenge the straightforward empiricist understanding of truth.[33]

Empirically nonobservable theoretical terms are widely admitted in contemporary science, though there are a range of different "realist" justifications for this (Putnam, 1987). Some realist positions are treated with more skepticism than others. An example is the idea of "real types." Without going into detail, this involves the assertion that in some cases the concepts used to categorize particulars into general classes of objects are not more or less arbitrary features of theory but have an externally verifiable reality. Some scientists claimed that races were real types; few now assert this.[34] More persuasive candidates abound, though, such as the distinction of physical states into gas, liquid, and solid. Even here, typification is at least partially shorthand for a more complex reality. Rational choice theorists similarly wish to

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[31]The logical positivists accepted Kant's distinction of analytic and synthetic propositions, and thus granted truth value independent of empirical evidence or experience to mathematics and similar purely formal reasoning. Quine (1953) later attacked precisely this distinction and held that nothing could be known independently of experience.

[32]Horkheimer, "Der neueste Angriff auf die Metaphysik," quoted in Wiggershaus (1994, p. 184). The issue remained current in political terms 40 years later, when Margaret Thatcher famously asserted that society did not exist. This echoed Jeremy Bentham's (1970, p. 12) antirealist remark: "the community is a fictitious body, composed of the individual persons who are considered as constituting as it were its members. The interest of the community then is, what?—the sum of the interests of the several members who compose it." Sociology recurrently faces the challenge of establishing the reality of all manner of collective or emergent phenomena in a culture where the reality of individuals is seen as basic (though in fact, the idea of individual may be just as much a social construction).

[33]Biologists influenced by the success of evolutionary theory were among the first to embrace realist positions; Spencer broke with Mill in this regard. There is irony to this, however, since popular support for science has depended largely on assumption that scientific truth could be defended on empiricist grounds. A gap developed between actual scientific practice and popular and secondary school accounts of science as discovery and empirical confirmation. This has been one source of basic confusions in popular understanding of science, for example, in arguments over evolutionary theory in which "creationists" contend that because evolutionary theory is not true on classical empiricist grounds (or the older sort of positivism) it is merely one speculation among many.

[34]Whether use of genetic markers will animate an effort to restore race to the status "real type" is unclear. Certainly, they seem to suggest this in nonscientific imagination. Arguably, though, they suggest to genetic researchers even less validity to the racial typification both because of the massive genetic commonality of human beings and because of the lines of genetic difference that do not follow plausibly racial lines. Even if "race" is genetically further deconstructed rather than rehabilitated, the idea of explaining human variation by genetics suggests something of how a notion of real types might be persuasive.

assert the value of their simplifying assumptions about human decision processes against those who would argue that this is not how human beings actually think or act.[35]

At the same time, instrumentalism has its heirs. These include pragmatism, Wittgensteinian analysis of theory as a language game, and most poststructuralism. A good deal of work in logic and the philosophy of science has started from a sort of partial or soft instrumentalism, the recognition that there can be no such thing as a direct match between theory and empirical reality. Even strong empiricists acknowledge that all empirical observations are mediated by language.[36] One can work to make language as precise as possible, whether one is a realist or an instrumentalist. One also can see dependence on language as a limit to strict empiricism, as revealing the embeddedness of science in culture (including scientific culture).[37]

The underlying question is something like does science offer us mirrors of nature or only more or less persuasive arguments as to how things work?[38] The first argument amounts to an affirmation of a correspondence theory of truth, precisely what the 19th-century positivists wanted, but now suspect among philosophers and critical analysts of science. Note, however, the problematic implications of the second alternative. If scientific theories are arguments, does this mean that we should judge them by their effectiveness as rhetoric? Or is there a way to judge them by their purchase on "reality?" Note also that the second argument is ironically more strongly "realist" in that it seeks to explain observed reality by theory.

The disputes between realists and instrumentalists have given way to a more general crisis in epistemology. Classical empiricist approaches sought to secure the truth claims of complex theories by building them out of empirically confirmed (or at least confirmable) propositions. This "foundationalism" perpetuates something of the theory of ideas insofar as it suggests that each scientific finding may be independently verified and on this basis become well-founded knowledge. The typical rhetoric of foundationalism is one of accumulating truths and discarding falsehoods. This reveals its roots in inductivist empiricism. It sets up a falsely high standard of perfect knowledge, however, making it relatively easy to attack. Attempts to defend foundational truth have become ever narrower, more abstract, and more distant from actual scientific practice, while challenges too often fall into cynicism in their rejection of all notions of empirical truth.

"Coherentism" offers a corrective, suggesting that the statements in a theory are interdependent and should be judged not just in the separate match between each and external reality but by how well they fit together. This builds on rationalism and idealism. It does not, however, explain how a theory is to be tested against empirical evidence. As Wilfred Sellars (1963, p. 128) phrases the dilemma:

[35]See, for example, the prominence of claims to realism in the arguments of Kiser and Hechter (1998), responding to Somers (1998) who herself claims the realist mantle, albeit with the qualifier "relational realist," which suggests a nod to coherentist rather than foundationalist criteria for judging truth claims. See also my discussion of both and of the nondecisive character of appeals to realism in Calhoun (1998).

[36]Quine (1992), for example, remains thoroughly empiricist even while recognizing that access to observable objects is more than a matter of sensation, and indeed that the role of language is a matter not merely of "observation terms" but of "observation sentences."

[37]The social sciences face more often the added challenge of what Gallie (1967) called "essentially contested concepts." These are scientific terms that are also inescapably terms in ordinary language, any definition of which has potentially prejudicial implications for practical projects. Any clear operationalization of such a concept—like "nation" or "democracy"—will usually grasp only aspects of the more complex whole which is embedded in actual social life and struggles.

[38]The language in which I have posed the question is that of Richard Rorty (1980). Rorty challenges the search for certain knowledge (which animated empiricists and idealists alike) by suggesting that we ought to think of certainty "as a matter of victory in argument rather than of relation to an object known." While Rorty's own views move toward rhetoric and literature, rejection of the "mirror of nature" argument is much more widespread and not limited to those who embrace relativism as openly (or, to his critics, as cynically) as Rorty. Popperian falsificationism and much analytic philosophy also reject the pure correspondence theory of truth.

> One seems forced to choose between the picture of an elephant which rests on a tortoise (What supports the tortoise?) and the picture of a great Hegelian serpent of knowledge with its tail in its mouth (Where does it begin?). Neither will do.[39]

A simple pragmatic appeal to theory's usefulness does not really help, since it begs the question of usefulness for what.[40] A stronger pragmatist argument follows Peirce's suggestion that what counts as truth at any one time is based on acceptance by the community of scientists. This is less arbitrary than it might seem. Scientists apply rational–critical argumentation and norms of publicness to judge the quality and applicability of observations as well as the coherence of theories. The success of predictions and practical applications can be taken into account alongside inductions. Versions of the Peircean view inform theories as otherwise different as those of Habermas (who conceptualizes science as a special kind of public sphere) and Quine (who approaches science as a specialized speech community).

Partly because it has been posed in extreme terms (opposing perfect truth to perfectly arbitrary statements) the realist–instrumentalist controversy has significantly impeded the integration of critique into the scientific project. Taking unobservable theoretical entities and processes seriously has indeed proved indispensable to science. This is no longer controversial. But the positivist project of perfect truth is. So too is the notion of a continuous accumulation of truths rather than recurrent discontinuous recasting of knowledge.[41] That knowledge—and perforce theory—is incomplete, biased, and implicated in struggles for power does not, however, render it entirely arbitrary.[42] The project of critique assumes the reality of knowledge as well as its imperfection, and also the potential for epistemic gain. It is thus at odds with accusations (more common in the literary versions of "theory" than the sociological) that claims to knowledge are *merely* rhetoric.

THE UNITY OF SCIENCE,
OR DO CULTURE AND AGENCY MATTER?

Critical theory engages knowledge as a product of human action. Like all such products, it is shaped by history and social conditions as well as current choices and perspectives. It is embedded in specific ways of understanding the world—from cultures to ideologies to theories—that enable us to grasp what is going on but do so always in partial and biased ways. This may involve "distortion" but there is no way to contrast this to perfect, undistorted,

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[39]I have been pointed to the Sellers passage by Haack (1993). Haack herself makes a valiant effort to trace a middle ground and at the same time to restore some confidence that epistemology might, if suitably reconstructed, make valuable critical contributions again.

[40]The "usefulness" of theories (including their capacity to generate acceptance as "true") varies with shifts in practical projects and objects of attention. This need not imply a relativist reduction of truth to taste or power, but it will help to explain why advances in knowledge are not simply and impartially cumulative. Actual historical developments in knowledge are less matters of rejections of the false in favor of the true than of "epistemic gain" offered by one complex package of arguments compared to another. See Gadamer (1975), Taylor (1985, 1989), and discussion in relation to critical social theory in Calhoun (1995, Chapter 2).

[41]This is an aspect of Kuhn's (1970) notion of scientific revolution, though it is less controversial than his stronger claim that because paradigmatic systems of knowledge are incommensurable there can be no way to assess their greater or lesser truth value. Comparing theories, in other words, is radically different from comparing propositions within theoretical frameworks.

[42]As Pierre Bourdieu (1998, p. 26) has written: "In the order of thought, there is, as Nietzsche pointed out, no immaculate conception; but nor is there any original sin—and the discovery that someone who has discovered the truth had an interest in doing so in no way diminishes his discovery. Those who like to believe in the miracle of 'pure' thought must bring themselves to accept that the love of truth or virtue, like any other kind of disposition, necessarily owes something to the conditions in which it was formed, in other words a social position and trajectory."

knowledge. The contrast can only be to other ways of constructing knowledge that grant better purchase is some determinate context (specific project, social field, or cultural orientation). Critical theory thus insists on a middle path between positivism's exaggerated hopes and relativism's exaggerated disappointments.

Following Jeremy Bentham, John Stuart Mill sought to make ethics an "exact science," to reform law and social institutions on the basis of economic, psychological, and sociological science and to direct human conduct in the same way that nature can be controlled through knowledge of its causal laws. "If we knew the person thoroughly," Mill (1843/1986, p. 122) wrote, "and knew all the inducements which are acting upon him, we could foretell his conduct with as much certainty as we can predict any physical event." This basic orientation shaped the "positivist" side in later arguments: the idea that the kind of knowledge we can have of human action and its products is no different in principle from that we can have of the physical world and biological nature.

An important goal of positivism has been to achieve a unity of science in which human life would be understood not only with the precision of physical explanation but as part of the same underlying causal theory. That is, one set of basic theoretical laws should be formulated to account for physics, biology, culture, and social relations. This project challenged traditional humanism in a basic way and indeed helped to produce the division of the humanities from the natural sciences. Philosophers might join the positivist project, redefining their field as a labor of clarification in support of science. When they resisted this, it was commonly, and crucially, in the name of human action. This insistence on the basic and irreducible importance of *action* to the nature of humanity, and thus also to its difference from the rest of nature, led positivists to accuse these philosophers of being metaphysicians or even theologians. Indeed, theology contributed importantly to the understanding of the idea of creative action. So did literature, history, and even versions of linguistics, fields to which nonpositivist philosophy was joined in the notion of the humanities. These disciplines all rejected the notions that problems of meaning could be effectively sidestepped by recourse to external causal explanation and that cultural and historical differences were epiphenomenal to some invariant reality.

The result was a quarrel most famously located in late 19th and early 20th century Germany as the *methodenstreit*. Sociology seems fated to repeat this struggle over and again, usually in a confused way and without much explicit recourse to history. If there is any content associated with the classical "struggle over method" in the minds of most sociologists it is the opposition of "nomothetic" to "idiographic" approaches. Science seeks universal laws, this vague disciplinary memory suggests, while history seeks to account for particular events. A variety of possibilities, however, are obscured by the opposition between idiographic and nomothetic knowledge. Consider, for example, analogies. These are an important form of connection between accounts, generalization of a sort, that fits neither of the allegedly alternative approaches. Indeed, Stinchecombe (1978) has argued that analogies are the basic form of successful reasoning across cases in historical sociology, rather than covering law theories as such.

The opposition of generalizing and particularizing disciplines does not in itself clarify the motivations for the *methodenstreit*. This was a struggle, not simply a convenient division of labor because it turned on commitment to sharply opposed positions about human action. The positivist vision requires that the human production of meaning be epiphenomenal rather than a basic aspect of making the world. It reduces action to behavior (and thus in principle external explanation).[43] The alternative is to see the creative potential of human action as basic not

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[43]See the classic account and critical analysis by Taylor (1967). Of course, positivist accounts need not reduce action to

merely to human experience but to reality. To understand human beings as actors requires interpretation, recognition that people are themselves interpreting the world and investing it with meaning as they act in it, and thus understanding them in cultural contexts. Cultural contexts, like actors and actions, are necessarily plural. This is why there is an element of particularity, or specification, to the kind of knowledge pursued by the humanities insofar as they take creative action seriously. The link to "particularity" expresses the fact that the human participation in creation of the world produces difference: cultural, historical, personal. It is not simply a matter of events, or detail, or situation within narrative rather than covering law explanation.

A variety of possibilities are obscured by the opposition between idiographic and nomothetic knowledge. Consider, for example, analogies. These are an important form of connection between accounts, generalization of a sort, that fits neither of the allegedly alternative approaches. Stinchecombe (1978) indeed has argued that analogies are the basic form of successful reasoning across cases in historical sociology, rather than covering law theories as such.

The original opposition reflected among other things the interest of Dilthey and other participants in the *methodenstreit* in defining the proper pursuit of the field of history. History, it could be said, was less concerned with generalization than particularization. But even here, history is not solely the history of events but also (as Braudel would later put it) of mentalities and structures. The point was not the virtue of particularity as such (however much historians might tend to prefer particular details in their accounts) and certainly not a refusal of all generalizations. Rather, the points were specificity and difference. Historical analysis required the specification of context, limit, and location, both in space and time. It required the recognition and interpretation of different ways of seeing the world (cultures, knowledges), and it required attention to contingency and action. If history is an account of how the world came to be as it is, then it must acknowledge that the world could have been otherwise.

The social sciences straddle the division between the humanities and the natural sciences. This is not simply a matter of conflicting views about social life that could in principle be resolved by empirical research. Where social scientists stand certainly affects the substantive claims they make, whether they think that the profit motive is natural, for example, or historically and culturally specific. But the issue cannot be kept external. The struggle over methods is not only about technique but about the nature of knowledge itself.[44]

> Whereas the natural and the cultural or hermeneutic sciences are capable of living in a mutually indifferent, albeit more hostile than peaceful, coexistence, the social sciences must bear the tension of divergent approaches under one roof, for in them the very practice of research compels reflection on the relationship between analytic and hermeneutic research methodologies. (Habermas, 1967, p. 3)

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psychological learning theory; they can reduce it to purely strategic models in which it is the product of interest, context, and cognitive capacity. Intentionality is tricky; some are prepared to accept that it is characteristic of action, though it has proved hard to find a neurophysical process that might account for it. What they cannot allow is that action is fundamentally creative. Perhaps the most emphatic statement of the centrality of creativity to action was made by Hannah Arendt (1965). Hans Joas (1997) recently has pointed out the extent to which even social theory focused on action has failed to do justice to the idea of creativity.

[44]The issue is, in other words, "methodological" in a strong sense. In everyday usage, methodology often refers simply to technical knowledge; the methodologist in a team project is one especially skilled in the application of a technique or possibly one who develops that technique further. But knowledge of method should go beyond this to enable fully informed choice of method. This implies grasping the internal relationship between method and the creation of knowledge. This in turn involves questions about the nature and specific forms of knowledge.

Every objective research method poses challenges of interpretation. At the same time, interpretative research gains its significance as social science by interpreting social life in a way that transcends the individual researcher's personal relation to it.[45]

Within the social sciences, thus, struggle over methods is endemic. It is closely bound to theory and it demands reflexivity. That is, it demands continuous critical consideration about the relationship between the approach to knowledge and the knowledge produced. It is possible, however, to embrace both sides of the division, that is, to learn from both objectifying methods and interpretation. This the founders of the Frankfurt School did, and it remains important to critical theory.[46] Indeed, this is a distinction of critical social theory from some postmodern or poststructuralist or other theories that may claim the label of critical theory. Many of these reject scientific knowledge (or at least its legitimate purchase on human affairs) much as positivism rejects culture and creative action. This, however, is incapacitating for a critical social theory. To refuse the project of disciplining theory by empirical research is to refuse theory a truly practical engagement with the world.

Partly in response to these concerns (though not in a Frankfurt School trajectory), Pierre Bourdieu has pursued simultaneously the objectification of both subjectivist and objectivist perspectives in social science. The polarities of the *methodenstreit* each reflect "scholastic" points of view and also the distinctive sense of honor inculcated in those who succeed in the world of universities and academic disciplines.

> Those who are immersed, in some cases from birth, in scholastic universes resulting from a long process of autonomization are led to forget the exceptional historical and social conditions that make possible a view of the world and of cultural products that is characterized by self-evidence and naturalness. (Bourdieu, 2000, p. 25)

On the one hand there is an exaltation of the individual-as-knower. There is a tendency to idealize the scientist as a distinctive sort of subject, remarkably rational as the artist is held to be aesthetically gifted, and thereby to protect the scientific field from external examination (and indeed internal reflexivity). On the other hand, the ideology of objective facts implies that these are absolute and neutral; they may explain but never need to be explained. Yet there are objective limits to objectivism. Not least, there is no escaping the work of constructing the object, and the responsibility that this entails (Bourdieu, 1988, p. 6).[47] Both depend on what Bourdieu calls the 'autonomization' of the intellectual field, its special historical construction as a quasi-independent realm of the pursuit of (and struggle over) knowledge. The very defenses of this field against outsiders also function as defenses against explanations of either subjectivist or objectivist knowledge as products of historical and social circumstances. Yet, explanations are possible both in terms of the collective history that produces the categories of our thought and the individual histories by which they are inculcated in us (Bourdieu, 2000, p. 9). As the latter clause suggests, the objectification of objective knowledge reveals that it is produced by subjects just as subjective interpretations are shaped by objective conditions.[48]

[45]Hence the joke about what the native said to the postmodernist anthropologist: enough about you, let's talk about me.

[46]Frankfurt School critical theory is often seen as mainly a philosophical project, but this is misleading. The Institute of Social Research was founded precisely to combine empirical inquiries and theoretical development—not least because of the concern Max Horkheimer shared with his colleagues (including their financial backer Felix Weil) that an adequate and practically significant critical analysis of the growing European crisis depended on this.

[47]The enduring debates that pose individual and structure as alternatives (rather than pursuing a relational analysis) reflect these polarities in the scholastic field as well as contrasting substantive perspectives. As Bourdieu (1990, p. 190) writes, "it is easier to treat social facts as things or as people than as relations."

[48]Bourdieu's point applies not only to the pursuit of knowledge but to social life more generally. "The source of historical action, that of the artist, the scientist or the member of government just as much as that of the worker or the

Reflexive inquiry into the nature and conditions of the production of knowledge is not an attack on knowledge but a way of improving it.[49]

Among the most basic of the conditions of knowledge is its constitution in language. Mill (1843/1986) himself began his *System of Logic* with an analysis of language. It remained to later philosophers, however, to develop the conclusion that there is no access to knowledge except through language. Though neither analytic philosophy nor logical positivism is usually considered part of critical theory; in fact, both are based in large part on critique (in the Kantian sense) of how language works to structure knowledge.[50] Linguistic analysis in this sense was closely akin to logic, and with Frege, Russell, and other pioneers it focused on substituting logically clear verbal expressions for misleading or ambiguous ones. Wittgenstein later described this approach to language as a sort of therapy for thought.

However, Wittgenstein also pushed linguistic analysis well beyond this purely clarifying role. His critiques of the solipsism of traditional philosophy, for example, challenged the logical positivists' approach to knowledge as based on a pure relation between knower and experience. Carnap, notably, had argued that all empirical knowledge must be built up out of elementary records or recognitions of experience (what he called "protocol statements"). This notion retains force (without explicit theorization) in much everyday sociological positivism. Complex statements are held to have truth value because they are composed of more basic statements that lead back to "actual data." These data are a secure foundation because they refer to the experience of a researcher directly observing (via sensory relationship) "reality." Wittgenstein does not challenge the existence of such reality (or say much of anything about it), but he challenges the verifiability of any fact recorded in such a way.[51] The problem stems from the implicit individualism of the traditional (including Carnapian) account of observation and cognition (itself embedded in the dualism associated with Descartes). The reliance on direct sensory experience suggests that external reality causes mental states in the observer, hence data. But how does the observer "show" these mental states to others, and thus provide for verification? Indeed, how does she or he identify them as any particular sort of mental states. The answer is generally through language. But, Wittgenstein argued, the language must be social, not private. It is a useful tool for communication because it is shared and it is a skill

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petty civil servant, is not an active subject confronting society as if society were an object constituted externally. This source resides neither in consciousness nor in things but in the relation between two states of the social, that is, between the history objectified in things, in the form of institutions, and the history incarnated in bodies, in the form of that system of enduring dispositions which I call habitus" (Bourdieu, 1990, p. 190).

[49]Critics recurrently point out that theories ostensibly based purely on facts or on the combination of logic and empirical evidence always also depend on more or less arbitrary assumptions, reflect biases inherent in language and the construction of concepts, and are shaped by interpretations that are necessary to the constitution of any facts. Such criticisms are sometimes answered by assertions that assumptions can be controlled if they are made clear, that biases can be minimized by careful methods, and that interpretation can be checked by measures of reliability. Even more persuasively, many refuse to cede the terrain of argument to such critical questions. "Show me a model that works better," they suggest and they will consider changing their views. While this is an evasion of critical questions that are both legitimate and important, it is not an argument without force. Critical theorists need to respond by participating in the development of better empirical accounts.

[50]Wittgenstein's (1922/1981) *Tractatus*, for example, was "a critique of language designed to reveal the essential structure of the thought which is expressed in language and to discover, through that structure, the limits of thought" (Pears & Kenny, 1994, p. 257).

[51]Positivists and other empiricists have a long tradition of posing arguments against the red herrings of imagined idealists and relativists. They confuse arguments about how we grasp reality or communicate our understanding of reality for arguments that in some sense it does not exist or have material force for us. Thus Berkeley's "immaterialism" is not refuted by kicking a hard object. Neither do advocates of critical science studies who hold that gravity is a concept generally maintain that they would not fall to earth if they leapt from windows.

acquired in social interaction. The use of language involves a practical orientation to action that never reduces to following rules. Thus, the relationship to experience is less direct than initially claimed. Wittgenstein identifies other problems as well, including the tendencies to treat the observer as a disembodied cognitive ego and to treat sensations as objects (rather than responses to objects).

Wittgenstein's inquiries here suggest some of the reasons why critical theory (along with pragmatism and other approaches) has generally challenged "philosophy of the subject."[52] Though this was one of the starting points for modern science, it is also a problem. In its place, and more generally in place of the sharp dualism of internal and external, theorists have developed approaches to intersubjectivity: the mutual interdependence of human subjects as social beings. Empirical data thus involve internal states (experience) that are organized and judged by intersubjective criteria (language and scientific understandings formulated in language).

Wittgenstein's later work here suggests not only a philosophical clarification in regard to science, accordingly, but the importance of anthropological and sociological investigation into culture and the construction of meaning. From the embeddedness of claims to factual knowledge in language, we proceed to the similar embeddedness of all human existence in culture. This is a conclusion also traceable back to the starting point of the "humanistic" side to the *methodenstreit*, the insistence on the creative power of human action. It poses a variety of problems for the project of cross-cultural knowledge, including but not limited to positivist programs pursuing universal truths independent of culture. Following Wittgenstein's approach to languages as "wholes," Winch (1958) argued that translation of notions like "rationality" across cultures may be impossible.[53] This would challenge the very idea of a social science. However, Wittgenstein's notion of language games suggests a different and more promising approach. If we see language in pragmatic terms (and allowing for metapragmatic analysis that does not presume neutral metalanguage), we can see that translation is a poor metaphor for the way cross-cultural understanding actually arises. It develops out of mutual engagement in tasks of practical understanding and action. These encourage change in participants as well as in language and culture and underwrite new possibilities for communication.[54] The positivist idea of a neutral metalanguage into which all empirical observations might be translated may be chimerical, but this does not mean that knowledge—of varying generality— cannot be produced or communicated. One of the tasks of critical theory is to analyze the implications of shifting social foundations, scientific standpoints, and cultural contexts for this knowledge.

At the same time, though, it is crucial to recognize that culture is not merely a means of understanding the physical or even the psychological worlds. It also is constitutive of human reality. The very persons who are observers and knowers and actors exist only as participants in cultural relations. This does not mean that they exist in bounded, internally uniform cultures, since the cultural worlds people inhabit are frequently polyglot, heterogeneous, and shifting. Neither does it mean that persons are passively determined products of culture, fully explicable by it. On the contrary, human beings create culture. But in this as in the making of history generally, people are shaped by great determinations and usually make small changes. Indeed, for the most part, people's participation in the making of culture reproduces it, even when they sometimes make great changes in themselves or their circumstances. Nonetheless,

[52]See the opening chapter of Habermas (1987) for a clear account.
[53]See discussion from various vantage points in Wilson (1970).
[54]I have discussed this idea further in Calhoun (1995, Chapter 2).

there are important senses in which the human world is historical precisely because it is the result of human action. It is a world that human beings have made, though not under conditions of their own choosing. At least part of this making moreover involves creation by means of imagination. A whole host of particular practices and relationships exist because human beings were able to imagine them. More basically, though, the very categories through which we give the world form are products of social imagination. Is the world organized into nation-states? Are corporations real? Does a contract bind parties? Is this piece of paper or digital encoding money? As US Supreme Court Justice Marshall wrote in 1819, "a corporation is an artificial being, invisible, intangible, and existing only in contemplation of the law."[55] Many of the realities with which social scientists are appropriately concerned cannot be found in an elemental sensory experience. We need to ask not just of their status as objects of scientific attention, whether realist or instrumentalist, for example, but of their status as material forces in the world. Insisting on the historical creation of the world as *this* sort of world, critical theory reveals that it could be otherwise and seeks to locate the possible and likely directions for change.

CONCLUSION

At this point it would be good to turn from relatively abstract philosophical discussion to more concrete examples of critical theory at work in substantive sociological analysis. Alas, space will not permit this. We must rest content with consideration of the common denominators to a critical theoretical orientation rather than specific theories.

In one sense, this is appropriate. Development of the critical dimension to sociological theory has been impeded by the notion that critical theory is limited to the specific arguments of the Frankfurt School. It is important to see critique in a broader light. In particular, we should recognize that the critique of the conditions and limits of knowledge is important to all science. More specific to the social sciences are the points made by Marx in the passage cited at the beginning of the chapter. To recognize that social life is historical, made by human action, and informed by differences of culture is basic to a critique of false necessity. To recognize conversely that human action is neither unconditioned nor unconstrained is basic to a critique of both voluntarism and the raising of expressive individualism to the status of theory that underwrites relativism.

In a sense, this chapter has remained focused on epistemological or metatheoretical preliminaries. A more substantively sociological critical theory would address the ways in which specific social and cultural formations shape knowledge. It would consider, following the Frankfurt School, how capitalism encourages reification and objectification, instrumental reason, and ideologies that mystify exploitation. It would ask what contradictions may inform struggle and possible directions of change within any social formation. In the essay I discussed in the first section, Max Horkheimer (1937/1972, p. 227) sketched such a theory:

> The critical theory of society is, in its totality, the unfolding of a single existential judgment. To put it in broad terms, the theory says that the basic form of the historically given commodity economy on which modern history rests contains in itself the internal and external tensions of the modern era; it generates these tensions over and over again in an increasingly heightened form; and after a period of progress, development of human powers, and emancipation for the individual, after an enormous extension of human control over nature, it finally hinders further development and drives humanity into a new barbarism.

[55]*Dartmouth v Woodward* 4 Wheat 518 (1819).

I think there is a good deal to this basically Marxist theory, but it is a mistake to present it as *the* critical theory of society. This, like the idea of totality Horkheimer invokes, closes off critical theory where it should be open.[56]

This chapter has presented a more general notion of critical theory and argued that this is appropriately developed alongside and in partnership with empirical explanatory projects, not opposed to them. Indeed, all sociological theory needs (1) to engage in continuous critical examination of the foundations—both intellectual and institutional—on which sociological knowledge rests. At the same time, but distinctly, it needs (2) to approach existing social reality critically, seeing the limits of generalizing from concrete phenomena that are instances of historically conditioned human possibility, not simply universal or unchanging. Finally, it needs (3) to be attentive to the ways in which sociology itself participates in the making of the world, the creation of particular social and even sometimes material conditions in social relationships shaped by sociological knowledge and ways of understanding.

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[56]See Jay (1985) on the theme of totality as it has informed generations of marxist thought. While the Frankfurt School's engagement with Hegel enabled them to expand the critical potential of marxist theory by comparison to their more positivistic marxist predecessors and contemporaries, it encouraged them to see determinate necessity to the social logics they identified.

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