# Objectivity, Quest for

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## Glossary

**deduction** The process of logically deriving a conclusion that necessarily follows from a given set of premises; the conclusion must be true if the premises are true.
**empiricism** The view that all knowledge is based on or derived from sensory experience.
**epistemological anarchism** The position, associated with Paul Feyerabend, that refuses to acknowledge both the existence of a universal scientific method and the legitimacy of distinguishing between science and nonscientific worldviews on the basis of the former's supposed epistemological superiority.
**epistemology** A branch of philosophy dealing with the nature of knowledge, what and how it is possible to know.
**hypothesis** Any proposition that is advanced for testing or appraisal as a generalization about a phenomenon.
**incommensurability** The radical incompatibility that exists between different paradigms. Different paradigms will have divergent views of fundamental features of reality. Hence, Kuhn claims that adherents of different paradigms are, in some sense, living in different worlds.
**induction** The method by which a general statement, suggesting a regular association between two or more variables, is derived from a series of empirical observations.
**interpretation (*Verstehen*)** A perspective or method that emphasizes the understanding of intentional human conduct.
**ontology** A branch of philosophy dealing with the nature of existence or reality.
**paradigm** According to Kuhn, a framework "made up of the general theoretical assumptions and laws and the techniques for their application that members of a particular scientific community adopt" that "sets the standards for legitimate work within the science it governs. It co-ordinates and directs the puzzle-solving activity of the scientists that work within it."
**positivism** The doctrine formulated by Comte that asserts that true knowledge about society is scientific knowledge—it is knowledge that describes and explains the coexistence and succession of observable social phenomena.
**realism** The ontological assertion that the objects in the world have an existence independent of our conception of them.

This article reviews the attempts to establish social science as an objective form of inquiry and the various challenges with which such objectivism has been met. It begins by outlining the ways in which the natural sciences were established as supposedly objective forms of inquiry, and how 19th century positivist social thinkers borrowed these epistemological and methodological prescriptions so as to place social inquiry on an equally objective footing. It then reviews a number of challenges to this quest for objectivity, including critiques of objectivism emanating from within the philosophy of science and criticisms of social scientific positivism associated variously with interpretive social science, feminism, and postmodernism. The article concludes by outlining the counterresponse to such critiques and the attempts to reassert the possibility of objectivity in some degree, especially in realist contributions to the philosophy of social science.

## Introduction

Objectivity is the quality of any account that represents the external world as it is, independent of our subjective conceptions of it. The foundations of social inquiry are bound up with the search for such objective knowledge of the social world. This search is apparent in the philosophical and methodological programs of the social scientific pioneers of the 19th century. By treating the social world as analogous to the natural world and by following (or adapting) the methodology of natural scientific

inquiry, these pioneers hoped to place social scientific knowledge on a par with that of other established sciences such as physics and biology. These methodological foundations (usually identified with positivism) continue to exert influence across the social sciences. However, the quest for objectivity has been challenged on a number of fronts from the late 19th century to the 21st. Interpretive social scientists, philosophers and sociologists of natural and social science, feminists, and postmodernists have all assaulted conventional accounts of scientific certitude and its applicability to the social world. More recently, against the supposed relativizing implications of this assault, those favoring a realist philosophy and methodology of social science have sought to reclaim in some form the possibility of objective social scientific knowledge. The dispute between objectivists and anti-objectivists remains unresolved and continues to manifest itself in the wide variety of research paradigms favored by practitioners across the disciplines.

## Science and Objectivity

The quest for objectivity in the social sciences is based on the philosophical and methodological warrants given for scientific knowledge as a whole. The groundwork supporting the objectivity of science was developed by natural philosophers such as Francis Bacon. Rejecting rationalist deduction and metaphysical speculation, the modern philosophers of science favored the painstaking collection of empirical data, via observational and experimental methods, and the inductive generalization from these observations and experiments so as to arrive at generally applicable lawlike statements that covered all instances of a similar kind. The possibility of generating objective knowledge in this way was predicated on three basic assumptions:

1. That the universe is ordered and regular, such that the properties of bodies and substances, and the relations of cause and effect that pertain between them, are constant and not subject to random or arbitrary variation.
2. That it is possible neutrally to observe and record the bare facts of experience, such that all normal observers (those in possession of typical human sensory abilities and cognitive faculties) would agree on the phenomenon that has been observed.
3. That by observing the regularities and patterns presented across such observational instances it is possible to generalize to other like instances, including future occurrences. This permits us to formulate general lawlike statements of the kind, "If an acid is added to an alkaline, salt is produced" or "A moving body will continue in a straight line in uniform motion unless it is acted upon by some other force."

In short, objectivity is assured by (1) the regular and ordered character of the natural world, (2) the availability of that world for unbiased and communally available observation, and (3) the reliability of inductive inferences that extrapolate from a finite set of observational instances to anticipate further instances of a like kind.

## Social Science and Objectivity: The Positivist Orthodoxy

The pioneering social scientists of the 19th century, such as Comte and Durkheim, drew on the empiricist accounts of science developed by the likes of Bacon, Locke, Hume, and the Enlightenment *philosophes* such as Diderot. August Comte (1798–1857) coined the terms positivist philosophy and social physics (as well as sociology) to postulate a science of society that would be methodologically grounded in the accumulation of empirical evidence alone. Hence, the viability of studying the social world in the manner of the natural scientists was predicated not only on the supposed objectivity of scientific method, but also on the claim that the social world was in principle of the same kind (or logical type) as the natural world. Just as the natural world was seen as regular, ordered, and governed by lawful causal relations and interconnections, so was the social. Human behavior was scientifically explicable by reference to mechanisms of cause and effect of which behavior was the outcome. Detailed observation of the occurrence of social phenomena would permit the formulation of explanatory accounts that identified their causes. Social phenomena were in principle observationally available in the same way as their natural counterparts. Thus Emile Durkheim (1858–1917) claimed that social science ought to concern itself solely with the scientific study of social facts. For Durkheim, society comprised things that existed outside of, and independently from, individuals and their beliefs about the world and thus could be studied objectively by the social scientific observer. Hence, for example, social phenomena such as crime and suicide could be identified and classified by externally manifest signs that distinguished them from other social phenomena. The appearance of these phenomena was explicable by reference to other social facts or phenomena that could be established as their causes.

The extrapolation from the natural to the social world was further supported by analogies drawn from biology and the life sciences. Just as living organisms were seen as coherent systems comprising functionally interdependent elements that acted on one another in a regular way, so the social world was conceived as a unified system in which different functions were assigned to its elements. The influence of evolutionary thinking was also notable,

with thinkers from Saint-Simon, Condorcet, and Comte to Spencer and Durkheim arguing that objective evolutionary processes were responsible for social change.

The 19th century positivists' search for objectivity in social inquiry was reiterated and refined in the early 20th century by the philosophers of the Vienna Circle (such as Carnap, Neurath, and Hempel). Their doctrines are generally identified under the label logical positivism. The objectivity of scientific knowledge (natural or social) was to be assured by the application of what they called the verification principle. Only statements that could be verified by sense experience could be considered true. Any statements not of this kind were deemed to be literally meaningless. In this view, social science comprises a set of logically interrelated propositions, each of which is grounded in basic facts derived from sense data alone. The view of the logical positivists (along with revisions such as Popper's falsificationism) contributed to the consolidation of the standard view of social scientific methodology, a view dominant in the middle decades of the 20th century (especially in Anglo-American contexts). The methodological prescription of achieving objective social knowledge was grounded in a logical empiricism that took physics as its ideal model and aspired to reproduce its rigor and reliability.

The positivists' affinity with the natural sciences is evinced in their methods of inquiry. As with the natural sciences, the collection of discrete observational data is emphasized so as to permit generalizations and to establish correlations and causal connections (although the tendency is to eschew the natural scientists' use of experiments, given the near impossibility of artificially recreating social life in a laboratory setting; instead observation and comparison are favored). Equally, a premium is placed on assigning numerical values to social phenomena, permitting quantitative analysis via the use of statistical methods. The apparent association between variables, numerically rendered, thus enables causal hypotheses to be formulated and tested. The use of random sampling permits researchers to make inferential generalizations from that sample to a larger population. In this way, covering laws can be discovered, laws that could account for the appearance of particular social phenomena by relating them to their causal antecedents. In its most systematic application, such an approach yields a mathematical social science, drawing on approaches such as game theory and probabilistic modeling.

## The Challenge from Interpretive Social Science

The interpretive challenge to objectivism in social science dates from the 19th century. It emerged primarily in Germany, drawing on the traditions of hermeneutics (the theory and method of textual interpretation, originally concerned with Biblical exegesis) and the *Geisteswissenschaften* ("sciences of spirit"; as opposed to "sciences of nature," *Naturwissenschaften*). The interpretive tradition contests the supposed homology between the natural and social worlds. It claims that the social is distinctive because human action (unlike the behavior of objects in the natural world) issues from motivations, these motivations themselves being constituted in accordance with the meanings or interpretations that conscious human subjects give to the world and their own experiences. Consequently, human conduct cannot be subjected to any explanatory model that sees it as the mechanical effect of causal forces that act on individuals or groups. Nor can humans be treated in behavioral terms like nonhuman animals, attributing human conduct to a stimulus-response mechanism. Humans are instead viewed as agents who attach meanings to the world they encounter and who consequently choose to act in ways that are consonant with those meanings.

The translation of this viewpoint into social scientific methodology is associated primarily with the economic historian and sociologist Max Weber (1864–1920). Weber argued for the methodological centrality of *Verstehen* ("understanding" or "interpretation") in social science. Any valid account of social phenomena (i.e., Why it is that individuals or groups act or behave as they do) has to take into account the meaningful and motivated character of those actions. It is not enough to observe patterns in outward behavior and to link these to other factors, events, or conditions so as to derive a cause-effect type hypothesis. Rather, investigation must give centrality to understanding the meanings that actors themselves attach to their experiences, circumstances and activities. Thus, in his most celebrated study, *The Protestant Ethic and the Spirit of Capitalism*, Weber opposed those accounts that sought to explain the emergence of modern capitalism by sole reference to objective factors, such as the organization of productive forces, the development of new techniques and technologies, demographic changes, the relations of supply and demand, and so on. Instead, he sought to uncover the interpretive frameworks or structures of meaning that disposed certain sociocultural groups to radically reform their economic behavior, thereby setting in motion the process of extensive capital accumulation.

However, beyond a general recognition of the meaningful character of human action, interpretive social scientists have been divided about the extent to which this commitment can be reconciled with the striving for objectivity. Some, following Weber's cue, insist that it is possible for the social scientist to render an objective account of actors' subjective meanings; a systematic method of interpretive inquiry makes this goal achievable, at

least in principle. Moreover, actors' motives or reasons can be treated as the causes of their actions, thus permitting the investigator to identify the causal antecedents of particular forms of action. Finally, the supposedly ordered character of human behavior permits the social scientist to make lawlike generalizations (or statements of tendency) from interpretively apprehended data.

However, other interpretive positions have cast greater doubt on the possibility of achieving objective social scientific knowledge. The sociology developed by the symbolic interactionists in the early decades of the 20th century, for example, stressed the symbolically constructed character of actors' worlds, including objects, other people, and individuals' own self-awareness. As such, reality is always and inevitably a variable construct, and this construct is not a fixed formation but continually in the process of production and transformation through interaction and communication with others. Meanings, motivations and actions are thus (1) inextricably intertwined, (2) continually in the process of production, and (3) specific to particular people in particular social-interactional contexts. This carries a number of significant implications. First, social phenomena cannot be conceived as social facts existing independently of subjective conceptions of them; rather, what comes to count as part of a particular class of phenomena (say, crime or deviance) is the contingent outcome of actors' definitions. Second, given the context-specificity of understanding and actions, it is deemed problematic to generalize interpretive accounts across different contexts and interactional engagements. Hence, deriving covering laws (of the kind "When confronted with situation X, individuals will tend to act in manner Y") is likely to lead to inappropriate and distorting explanations. Third, given that symbolic mediation is deemed a universal and fundamental feature of social life, the social scientist him- or herself cannot be exempted from its implications. In other words, the investigator cannot offer a *stricto sensu* objective account of others' subjective understandings, but only a (socially and contextually embedded) interpretation of others' interpretations. Hence, there is no Archimedean point of epistemic neutrality, independent of subjective conceptions, from which the scientist can view the social world. The last point has been captured by Anthony Giddens in terms of the double hermeneutic of social science—just as lay actors produce their world and act on it through their interpretations, so social scientists themselves re-interpret this already interpretively generated domain.

At the most extreme end in the interpretive continuum, the linguistically, culturally, and symbolically constructed character of the social world has been claimed to necessitate a relativist conception of social science. Thus, for example, in 1958 Peter Winch, drawing on Wittgenstein's notion of language games as forms of life, argues that the "truths" pertaining to social phenomena are relative or specific to the order of social practices within which they are embedded. Hence, the aspiration to generalize across local contexts is based on a fundamental misapprehension about the contextual relativity of any given phenomena. Moreover, there is no way of epistemically privileging any one account of reality over any other, including that of the social scientist. The kinds of criteria habitually mobilized by scientists to warrant their claims (evidence, proof, rationality, logical inference, and so on) have no special status, being specific to the practices of inquiry (or form of life) in which they feature.

## The Challenge from Philosophy of Science

The possibility of objectivity in the social sciences has also come under challenge as a result of developments in the philosophy of science. The philosophy of science in the 20th century was marked by an increasing skepticism about the picture of epistemically neutral inquiry propounded by objectivist accounts. A number of claims were raised, each of which impacted on the equation of science with objectively valid and universal knowledge. Their effect on the philosophy and methodology of social science has been particularly marked.

First, there was a renewed interest in the skeptical aspects of Humean epistemology, especially in relation to causation. Conventional accounts of scientific method invoked the objective status of relations of cause and effect—these were presented as ontologically prior to and independent of human perceptions. In *An Inquiry Concerning Human Understanding*, Hume claimed that causal relations between events are subjective attributions made by observers. Instead of being real relations between things in the world, causal connections are impositions made by humans in order to organize their sense experiences in a coherent way. Causation, in short, is a way of organizing essentially unconnected sensations, something we learn to do from custom and habit. This being the case, it follows that the relations of different phenomena in causal chains (on which scientific explanation depends) are a contingent outcome of subjective cognitive activities—there is no essential or objective relation between things in the world that necessitates such a connection.

A second philosophical objection posed against objectivism is what is commonly referred to as the problem of induction. Unlike logico-deductive inferences (wherein a conclusion *necessarily* follows from given premises), inductive inferences are logically underwarranted because the validity of the conclusions can only ever be probabilistic in character. That is to say, inductive

inference is based on a generalization from a finite set of past observations, extending the observed pattern or relation to other future instances or instances occurring elsewhere. However, there is no *logical* reason why the same pattern or relation should hold in the future or in other places—it can only be a judgment of likelihood based on the fact that this pattern or relation was evident in the instances of a phenomenon already observed. This implies that the transition from a finite set of observations to lawlike generalizations (from "some to all" in Hume's words) cannot be warranted. Thus Karl Popper, for example, claimed that no observationally based generalization about the world can ever be verified as true.

A third, and even more troubling, objection to objectivism concerns the possibility of empirical observations that are free from any prior conceptions about the world on the part of the observer. The objection lodged by philosophers of science often passes under the label the theory-dependence of observation. It is pointed out that even apparently simple and uncontentious observational statements in fact depend on preexisting presuppositions about the world and mobilize already existing cognitive schema that are historically or culturally contingent. Put most simply, what we observe is crucially dependent on the assumptions and knowledge we already have about the world. Moreover, the activity of observation in scientific inquiry necessarily entails a process of selection—only certain phenomena are selected as noteworthy and relevant for the development of an explanatory hypothesis. The criteria for selection can only be derived from presuppositions on the part of the observer vis-à-vis what is likely to be relevant for formulating an explanation, and this notion of relevance is dependent on existing ideas about how the world works.

This point in particular led to the revision of the objectivist account of science. In the work of Thomas Kuhn (1922–1996), scientific practices and criteria of validity are depicted as relative to socially and historically specific paradigms or frameworks of theoretical assumptions. What counts as a legitimate scientific claim will always be determined on the basis of the shared presuppositions that have dominance in a scientific research community in a particular time and place. Because each of these paradigms or frameworks comprises self-contained and interdependent assumptions of a fundamental kind, they are in principle incommensurable with one another. That is to say, they are mutually exclusive standpoints on the world, and there is no standpoint external to such a paradigm from which their competing claims could be assessed or arbitrated.

The work of Paul Feyerabend (1924–1994) presents the most strenuous development of the relativistic implications in Kuhn's work (which Kuhn himself resisted). Feyerabend called his own position one of epistemological anarchism. He claimed that there is no method on the basis of which one paradigmatic structure can be privileged over another. Nor, Feyerabend argued, is it even possible to distinguish some privileged form of knowledge called science from other, supposedly lesser, forms of knowledge; that is, the very privileging of scientific paradigms over other nonscientific worldviews (such as common sense, ideology, magic, and superstition) cannot be sustained. What we call science is, for Feyerabend, just another way of knowing the world, and it has no intrinsic superiority to any other. This being the case, the quest for an objective social science that has a privileged view point on the social world would have to be abandoned.

## The Challenges from Feminism and Postmodernism

Quite apart from the impact of philosophy of science, aspirations for social scientific objectivity have also come under pressure from anti-objectivist positions developed within the social sciences themselves. We have already noted the critique developed within the interpretive tradition. More recently, strenuous lines of objection have emerged from feminist and postmodernist perspectives. Each has mobilized both epistemological and normative critiques of objectivist science.

Advocates of feminist epistemology have claimed that objectivist science is profoundly engendered with a masculinist or androcentric bias; dominant masculine experiences, perceptions, ideologies, and values are said to significantly structure the epistemological presuppositions and methodological procedures of mainstream science. Thus, for example, it is claimed that this view of science privileges cognition, rationality, and disinterestedness at the expense of the aesthetic, affective, and somatic dimensions of our experiences. Hence, objectivism mobilizes a distorted and incomplete conception of the knowing subject. Normatively, this view point has been criticized for its imbrication with patterns of male domination in society—the equation of rationality and emotional neutrality with masculinity (and irrationality and emotionality with femininity) amounts to an ideological maneuver that privileges male accounts of the world. This has led some feminist scholars (for example, Evelyn Fox Keller) to advocate the development of a feminist science, one that embodies the neglected epistemological virtues of empathy, holism, and intuitive understanding. In the social sciences, this had led feminists to call for a rejection of objectivist aspirations, disinterested observation, and quantification. Instead, there has emerged an advocacy of qualitative research predicated on interpretation, emotional engagement, and social participation on the part of the researcher. In its most radical form, this appeal to feminist epistemology has lead to the eschewal

of formal description and analysis, supplanting it with literary, poetic, and artistic experiments in narrating subjective social experience.

Postmodern thinkers have mobilized epistemological, sociological, and normative critiques to similarly repudiate objectivity, claiming it to be neither possible nor desirable. The philosophies of Kuhn, Winch, and Wittgenstein (among others) have been mobilized so as to press their supposedly relativist implications. Jean-Francois Lyotard viewed the equation of epistemological legitimacy with objectivity as the way in which modern science rhetorically legitimates its authority. By claiming that its criterion of epistemological legitimacy is universally valid, science has set itself up as the sole arbiter of what is to count as knowledge. Yet, Lyotard claimed, the appeal to totalizing, transcendent, and timeless conceptions of legitimacy is now received with incredulity. The loss of faith in such universal criteria exposes the underlying plurality and relativity of language games, each of which has its own internal standards of validity. Behind the rhetoric of objective science, lies the reality of multiple view points that are radically incompatible and cannot be subordinated to some context-independent criteria of legitimacy. The quest for objectivity has also been challenged on political and normative grounds. It is claimed that the search to establish generalizations and laws leads to the violation or suppression of differences and divergences that characterize social life. Zygmunt Bauman identified the objectivist standpoint with the aspiration for legislative prediction and control of society, and as such it stands against human freedom and the cultivation of distinctiveness. In place of the objectivity of science, social inquiry ought to orient itself to interpretive explication of the very plurality of standpoints and experiences that the social world comprises and should eschew the temptation to see its own interpretations as epistemologically superior.

## Resistance to the Anti-Objectivist Critique

Despite the many different cases made against the quest for objectivity, much of mainstream social science continues to operate (implicitly or explicitly) under the objectivist influence of the positivist legacy. A number of reasons can be identified for this:

1. The penetration of anti-objectivist critiques has been very uneven, varying in extent across disciplines and subdisciplines and across national and regional research traditions. Thus, for example, although Anglophone sociology has incorporated these positions to a considerable extent, the research paradigms in, say, mainstream economics and psychology retain a strong objectivist orientation.

2. Although the anti-objectivist arguments might be accepted in principle, it has been argued that the practical demands of social inquiry necessitate the retention of some methodological criteria by which to discriminate between more and less sound, partial, or distorted accounts.

3. It has been argued that anti-objectivist accounts of the relativizing kind are logically self-defeating and hence epistemologically vacuous. That is to say, any claim of the kind "all knowledge is relative" inevitably encompasses itself within that claim; hence, the relativist claim can offer no epistemological warrant for its own validity because by logical implication it is itself nonobjective.

4. There have been serious and ongoing philosophical attempts to refute the relativist critique of science. For example, W. V. Quine's (1908–2001) defense of observational language, in a manner conducive to empiricist accounts of science, has been very influential. Others, such as Hilary Putnam (1926–) and Richard Rorty (1931–) have sought to validate a general scientific method on pragmatic grounds (drawing on the philosophical position developed a century or so earlier by C. S. Peirce, William James, and others). For pragmatists, the truth of a belief is distinguished by its leading to a successful action, by the demonstration of its practical efficacy. From this viewpoint, the conventional procedures of scientific inquiry are validated not by some transcendental epistemological warrant but by the fact that they generate robust knowledge that works, that is, that furnishes consistent explanations and predictions about the behavior of the phenomena in question. Hence, for Rorty, it is "better for us to believe" the truths generated by tried-and-tested scientific methods precisely because such truths "are successful in helping us do what we want to do."

## Reclaiming Objectivity: The Realist Response

The most significant recent intervention in the debate about objectivity in the social sciences has been that adapted from scientific realism, often passing under the label critical realism. Realists reject the presuppositions of both empiricism (on which the positivist orthodoxy draws) and the relativizing consequences of radical anti-objectivism. Empiricists who follow Hume maintain that any objective characteristics possessed by the external world remain in principle unknowable from the standpoint of a knower, who is limited to his or her subjective sense perceptions of it. Nevertheless, they argue that knowledge generated from the careful attendance to observationally acquired sense data can be judged robust if

it is consistent with what we observe of the world and hence enables us to understand it. Antipositivists go much further and insist that not only are the objective properties attributed to things in the world a matter of cognitive construction, but that such constructions are contextually (socially, historically, and politically) specific, and in principle no epistemological discrimination can be made between different constructions of reality.

In contrast, realists such as Roy Bhaskar start from the claim that the external world is characterized by ontological structures, properties, and mechanisms that are objective in character—they are not produced by our subjective conceptions of them. Hence, relations of cause and effect, for example, are mind-independent features of the real world. Things that exist in the world have their own natures and causal powers. To this proposition is added the further claim that in perception we mentally apprehend qualities and objects that are part of that objectively existing world. Hence, the objects of our sense-making activity are not sense perceptions, sense data or phenomena, but real and independently existing features of things themselves. The ontology of the social world is no different from that of the natural world in this respect—real effects occur as the result of real causes. Thus, for example, our reasons for acting can be treated as the causes of our behavior, the latter being an effect of the former. Similarly, social structures are real features of the social world that will have effects quite independently of whether we recognize them or not.

However, critical realists, as the name implies, are not naïve in the sense that our knowledge claims are held to *necessarily* uncover the real structure of social reality. It is quite possible for our particular descriptions of the social world to misapprehend its real features or to be incomplete by having failed to identify all the relevant mechanisms and causes that produce a particular effect or behavior. Nevertheless, because real social structures, objects, and processes are deemed to exist in and of themselves, the production of an adequate account of them becomes possible through scientific investigation that is (1) methodologically refined and (2) open-ended, so as to leave space for the continual correction, revision, and elaboration of our explanatory hypotheses. As Bhaskar put it in 1978, "Things exist and act independently of our descriptions, but we can only know them under particular descriptions. ... Science ... is the systematic attempt to express in thought the structures and ways of acting of things that exist and act independently of thought."

This position thus attempts to incorporate (1) the view that social reality is an independent order with objective properties and causes and (2) an acknowledgement of the epistemological caution and revisability that scientific attempts to uncover that reality ought to adopt. In such a formulation, the quest for objectivity in social science is reaffirmed, albeit with a modesty that takes cognizance of the objections that have been lodged against a crudely objectivist conception of social inquiry. Nevertheless, practitioners remain profoundly divided over what an objective social scientific view point might entail, whether or not such a stance is in principle possible, and whether or not it is in fact desirable to aspire to such a goal.

## See Also the Following Articles

Chapin, Francis Stuart • Deduction and Induction

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