6

Competing Paradigms in Qualitative Research

EGON G. GUBA
YVONNA S. LINCOLN

IN this chapter we analyze four paradigms that currently are competing, or have until recently competed, for acceptance as the paradigm of choice in informing and guiding inquiry, especially qualitative inquiry: positivism, postpositivism, critical theory and related ideological positions, and constructivism. We acknowledge at once our own commitment to constructivism (which we earlier called "naturalistic inquiry"; Lincoln & Guba, 1985); the reader may wish to take that fact into account in judging the appropriateness and usefulness of our analysis.

Although the title of this volume, *Handbook of Qualitative Research,* implies that the term *qualitative* is an umbrella term superior to the term *paradigm* (and, indeed, that usage is not uncommon), it is our position that it is a term that ought to be reserved for a description of types of methods. From our perspective, both qualitative and quantitative methods may be used appropriately with any research paradigm. Questions of method are secondary to questions of paradigm, which we define as the basic belief system or worldview that guides the investigator, not only in choices of method but in ontologically and epistemologically fundamental ways.

It is certainly the case that interest in alternative paradigms has been stimulated by a growing dissatisfaction with the patent overemphasis on quantitative methods. But as efforts were made to build a case for a renewed interest in qualitative approaches, it became clear that the metaphysical assumptions undergirding the conventional paradigm (the "received view") must be seriously questioned. Thus the emphasis of this chapter is on paradigms, their assumptions, and the implications of those assumptions for a variety of research issues, not on the relative utility of qualitative versus quantitative methods. Nevertheless, as discussions of paradigms/methods over the past decade have often begun with a consideration of problems associated with overquantification, we will also begin there, shifting only later to our predominant interest.

The Quantitative/Qualitative Distinction

Historically, there has been a heavy emphasis on quantification in science. Mathematics is often termed the "queen of sciences," and those sciences, such as physics and chemistry, that lend themselves especially well to quantification are generally known as "hard." Less quantifiable arenas, such as biology (although that is rapidly changing) and particularly the social sciences, are

AUTHORS' NOTE: We are grateful to Henry Giroux and Robert Stake for their very helpful critiques of an earlier draft of this chapter.

referred to as "soft," less with pejorative intent than to signal their (putative) imprecision and lack of dependability. Scientific maturity is commonly believed to emerge as the degree of quantification found within a given field increases.

That this is the case is hardly surprising. The "received view" of science (positivism, transformed over the course of this century into postpositivism; see below) focuses on efforts to verify (positivism) or falsify (postpositivism) a priori hypotheses, most usefully stated as mathematical (quantitative) propositions or propositions that can be easily converted into precise mathematical formulas expressing functional relationships. Formulaic precision has enormous utility when the aim of science is the prediction and control of natural phenomena. Further, there is already available a powerful array of statistical and mathematical models. Finally, there exists a widespread conviction that only quantitative data are ultimately valid, or of high quality (Sechrest, 1992).

John Stuart Mill (1843/1906) is said to have been the first to urge social scientists to emulate their older, "harder" cousins, promising that if his advice were followed, rapid maturation of these fields, as well as their emancipation from the philosophical and theological strictures that limited them, would follow. Social scientists took this counsel to heart (probably to a degree that would greatly surprise Mill if he were alive today) for other reasons as well. They were the "new kids on the block"; if quantification could lead to the fulfillment of Mill's promise, status and political leverage would accrue that would enormously profit the new practitioners. Imitation might thus lead both to greater acceptance and to more valid knowledge.

Critiques of the Received View

In recent years, however, strong counterpressures against quantification have emerged. Two critiques, one internal to the conventional paradigm (that is, in terms of those metaphysical assumptions that define the nature of positivist inquiry) and one external to it (that is, in terms of those assumptions defining alternative paradigms), have been mounted that seem not only to warrant a reconsideration of the utility of qualitative data but to question the very assumptions on which the putative superiority of quantification has been based.

Internal (Intraparadigm) Critiques

A variety of implicit problems have surfaced to challenge conventional wisdom; several of these are described below.

Context stripping. Precise quantitative approaches that focus on selected subsets of variables necessarily "strip" from consideration, through appropriate controls or randomization, other variables that exist in the context that might, if allowed to exert their effects, greatly alter findings. Further, such exclusionary designs, while increasing the theoretical rigor of a study, detract from its *relevance,* that is, its applicability or generalizability, because their outcomes can be properly applied only in other similarly truncated or contextually stripped situations (another laboratory, for example). Qualitative data, it is argued, can redress that imbalance by providing contextual information.

Exclusion of meaning and purpose. Human behavior, unlike that of physical objects, cannot be understood without reference to the meanings and purposes attached by human actors to their activities. Qualitative data, it is asserted, can provide rich insight into human behavior.

Disjunction of grand theories with local contexts: The etic/emic dilemma. The etic (outsider) theory brought to bear on an inquiry by an investigator (or the hypotheses proposed to be tested) may have little or no meaning within the emic (insider) view of studied individuals, groups, societies, or cultures. Qualitative data, it is affirmed, are useful for uncovering emic views; theories, to be valid, should be qualitatively grounded (Glaser & Strauss, 1967; Strauss & Corbin, 1990). Such grounding is particularly crucial in view of the mounting criticism of social science as failing to provide adequate accounts of nonmainstream lives (the "other") or to provide the material for a criticism of our own Western culture (Marcus & Fischer, 1986).

Inapplicability of general data to individual cases. This problem is sometimes described as the nomothetic/idiographic disjunction. Generalizations, although perhaps statistically meaningful, have no applicability in the individual case (the fact, say, that 80% of individuals presenting given symptoms have lung cancer is at best incomplete evidence that a particular patient presenting with such symptoms has lung cancer). Qualitative data, it is held, can help to avoid such ambiguities.

Exclusion of the discovery dimension in inquiry. Conventional emphasis on the verification of specific, a priori hypotheses glosses over the source of those hypotheses, usually arrived at by what is commonly termed the discovery process. In the received view only empirical inquiry deserves to be called "science." Quantitative normative methodology is thus privileged over the insights of creative and divergent thinkers. The call for qualitative inputs is expected to redress this imbalance.

External (Extraparadigm) Critiques

The intraparadigm problems noted above offer a weighty challenge to conventional methodology, but could be eliminated, or at least ameliorated, by greater use of qualitative data. Many critics of the received view are content to stop at that point; hence many of the calls for more qualitative inputs have been limited to this methods-level accommodation. But an even weightier challenge has been mounted by critics who have proposed *alternative paradigms* that involve not only qualification of approaches but fundamental adjustments in the basic assumptions that guide inquiry altogether. Their rejection of the received view can be justified on a number of grounds (Bernstein, 1988; Guba, 1990; Hesse, 1980; Lincoln & Guba, 1985; Reason & Rowan, 1981), but chief among them are the following.[1]

The theory-ladenness of facts. Conventional approaches to research involving the verification or falsification of hypotheses assume the independence of theoretical and observational languages. If an inquiry is to be objective, hypotheses must be stated in ways that are independent of the way in which the facts needed to test them are collected. But it now seems established beyond objection that theories and facts are quite *interdependent*—that is, that facts are facts only within some theoretical framework. Thus a fundamental assumption of the received view is exposed as dubious. If hypotheses and observations are not independent, "facts" can be viewed only through a theoretical "window" and objectivity is undermined.

The underdetermination of theory. This problem is also known as the problem of induction. Not only are facts determined by the theory window through which one looks for them, but different theory windows might be equally well supported by the same set of "facts." Although it may be possible, given a coherent theory, to derive by deduction what facts ought to exist, it is never possible, given a coherent set of facts, to arrive by *induction* at a single, ineluctable theory. Indeed, it is this difficulty that led philosophers such as Popper (1968) to reject the notion of theory *verification* in favor of the notion of theory *falsification.* Whereas a million white swans can never establish, with complete confidence, the proposition that all swans are white, one black swan can completely falsify it. The historical position of science that it can, by its methods, ultimately converge on the "real" truth is thus brought sharply into question.

The value-ladenness of facts. Just as theories and facts are not independent, neither are values and facts. Indeed, it can be argued that theories are themselves value statements. Thus putative "facts" are viewed not only through a theory window but through a value window as well. The value-free posture of the received view is compromised.

G

The interactive nature of the inquirer-inquired into dyad. The received view of science pictures the inquirer as standing behind a one-way mirror, viewing natural phenomena as they happen and recording them objectively. The inquirer (when using proper methodology) does not influence the phenomena or vice versa. But evidence such as the Heisenberg uncertainty principle and the Bohr complementarity principle have shattered that ideal in the hard sciences (Lincoln & Guba, 1985); even greater skepticism must exist for the social sciences. Indeed, the notion that findings are created through the interaction of inquirer and phenomenon (which, in the social sciences, is usually people) is often a more plausible description of the inquiry process than is the notion that findings are discovered through objective observation "as they *really* are, and as they *really* work."

The intraparadigm critiques, although exposing many inherent problems in the received view and, indeed, proposing some useful responses to them, are nevertheless of much less interest—or weight—than the extraparadigm critiques, which raise problems of such consequence that the received view is being widely questioned. Several alternative paradigms have been proposed, some of which rest on quite unconventional assumptions. It is useful, therefore, to inquire about the nature of paradigms and what it is that distinguishes one inquiry paradigm from another.

The Nature of Paradigms

Paradigms as Basic Belief Systems
Based on Ontological, Epistemological,
and Methodological Assumptions

A paradigm may be viewed as a set of *basic beliefs* (or metaphysics) that deals with ultimates or first principles. It represents a *worldview* that defines, for its holder, the nature of the "world," the individual's place in it, and the range of possible relationships to that world and its parts, as, for example, cosmologies and theologies do.[2] The beliefs are basic in the sense that they must be accepted simply on faith (however well argued); there is no way to establish their ultimate truthfulness. If there were, the philosophical debates reflected in these pages would have been resolved millennia ago.

G

Inquiry paradigms define for *inquirers* what it is they are about, and what falls within and outside the limits of legitimate inquiry. The basic beliefs that define inquiry paradigms can be summarized by the responses given by proponents of any given paradigm to three fundamental questions, which are interconnected in such a way that the answer given to any one question, taken in any order, constrains how the others may be answered. We have selected an order that we believe reflects a logical (if not necessary) primacy:

1. *The ontological question.* What is the form and nature of reality and, therefore, what is there that can be known about it? For example, if a "real" world is assumed, then what can be known about it is "how things really are" and "how things really work." Then only those questions that relate to matters of "real" existence and "real" action are admissible; other questions, such as those concerning matters of aesthetic or moral significance, fall outside the realm of legitimate scientific inquiry.
2. *The epistemological question.* What is the nature of the relationship between the knower or would-be knower and what can be known? The answer that can be given to this question is constrained by the answer already given to the ontological question; that is, not just *any* relationship can now be postulated. So if, for example, a "real" reality is assumed, then the posture of the knower must be one of objective detachment or value freedom in order to be able to discover "how things really are" and "how things really work." (Conversely, assumption of an objectivist posture implies the existence of a "real" world to be objective about.)
3. *The methodological question.* How can the inquirer (would-be knower) go about finding out whatever he or she believes can be known? Again, the answer that can be given to this question is constrained by answers already given to the first two questions; that is, not just *any* methodology is appropriate. For example, a "real" reality pursued by an "objective" inquirer mandates control of possible confounding factors, whether the methods are qualitative (say, observational) or quantitative (say, analysis of covariance). (Conversely, selection of a manipulative methodology—the experiment, say—implies the ability to be objective and a real world to be objective about.) The methodological question cannot be reduced to a question of methods; methods must be fitted to a predetermined methodology.

These three questions serve as the major foci around which we will analyze each of the four paradigms to be considered.

Paradigms as Human Constructions

We have already noted that paradigms, as sets of basic beliefs, are not open to proof in any conventional sense; there is no way to elevate one over another on the basis of ultimate, foundational criteria. (We should note, however, that that state of affairs does not doom us to a radical relativist posture; see Guba, 1992.) In our opinion, any given paradigm represents simply the most informed and sophisticated view that its proponents have been able to devise, given the way they have chosen to respond to the three defining questions. And, we argue, the sets of answers given are in *all* cases *human constructions*; that is, they are all inventions of the human mind and hence subject to human error. No construction is or can be incontrovertibly right; advocates of any particular construction must rely on *persuasiveness* and *utility* rather than *proof* in arguing their position.

What is true of paradigms is true of our analyses as well. Everything that we shall say subsequently is *also* a human construction: ours. The reader cannot be compelled to accept our analyses, or our arguments, on the basis of incontestable logic or indisputable evidence; we can only hope to be persuasive and to demonstrate the utility of our position for, say, the public policy arena (Guba & Lincoln, 1989; House, 1977). We do ask the reader to suspend his or her disbelief until our argument is complete and can be judged as a whole.

The Basic Beliefs of Received and Alternative Inquiry Paradigms

We begin our analysis with descriptions of the responses that we believe proponents of each paradigm would make to the three questions outlined above. These responses (as constructed by us) are displayed in Table 6.1, which consists of three rows corresponding to the ontological, epistemological, and methodological questions, and four columns corresponding to the four paradigms to be discussed. The term *positivism* denotes the "received view" that has dominated the formal discourse in the physical and social sciences for some 400 years, whereas *postpositivism* repre-

TABLE 6.1 Basic Beliefs (Metaphysics) of Alternative Inquiry Paradigms

Item	*Positivism*	*Postpositivism*	*Critical Theory et al.*	*Constructivism*
Ontology	naive realism—"real" reality but apprehendable	critical realism—"real" reality but only imperfectly and probabilistically apprehendable	historical realism—virtual reality shaped by social, political, cultural, economic, ethnic, and gender values; crystallized over time	relativism—local and specific constructed realities
Epistemology	dualist/objectivist; findings true	modified dualist/objectivist; critical tradition/community; findings probably true	transactional/subjectivist; value-mediated findings	transactional/subjectivist; created findings
Methodology	experimental/manipulative; verification of hypotheses; chiefly quantitative methods	modified experimental/manipulative; critical multiplism; falsification of hypotheses; may include qualitative methods	dialogic/dialectical	hermeneutical/dialectical

sents efforts of the past few decades to respond in a limited way (that is, while remaining within essentially the same set of basic beliefs) to the most problematic criticisms of positivism. The term *critical theory* is (for us) a blanket term denoting a set of several alternative paradigms, including additionally (but not limited to) neo-Marxism, feminism, materialism, and participatory inquiry. Indeed, critical theory may itself usefully be divided into three substrands: poststructuralism, postmodernism, and a blending of these two. Whatever their differences, the common breakaway assumption of all these variants is that of the value-determined nature of inquiry—an epistemological difference. Our grouping of these positions into a single category is a judgment call; we will not try to do justice to the individual points of view. The term *constructivism* denotes an alternative paradigm whose breakaway assumption is the move from ontological realism to ontological relativism. These positions will become clear in the subsequent exposition.

Two important caveats need to be mentioned. First, although we are inclined to believe that the paradigms we are about to describe can have meaning even in the realm of the physical sciences, we will not defend that belief here. Accordingly, our subsequent comments should be understood to be limited to the *social sciences* only. Second, we note that except for positivism, the paradigms discussed are all still in formative stages; no final agreements have been reached even among their proponents about their definitions, meanings, or implications. Thus our discussion should be considered tentative and subject to further revision and reformulation.

We will first look down the columns of Table 6.1 to illustrate the positions of each paradigm with respect to the three questions, following with a look across rows to compare and contrast the positions of the paradigms.[3] Limitations of space make it impossible for us to develop our assertions in any depth. The reader will be able to find other evidence, pro and con, in other chapters of this volume, particularly in Chapters 7-11.

Intraparadigm Analyses (Columns of Table 6.1)

Column 1: Positivism

Ontology: realism (commonly called "naive realism"). An apprehendable reality is assumed to exist, driven by immutable natural laws and mechanisms. Knowledge of the "way things are" is conventionally summarized in the form of time- and context-free generalizations, some of which take the form of cause-effect laws. Research can, in principle, converge on the "true" state of affairs. The basic posture of the paradigm is argued to be both reductionist and deterministic (Hesse, 1980).

Epistemology: Dualist and objectivist. The investigator and the investigated "object" are assumed to be independent entities, and the investigator to be capable of studying the object without influencing it or being influenced by it. When influence in either direction (threats to validity) is recognized, or even suspected, various strategies are followed to reduce or eliminate it. Inquiry takes place as through a one-way mirror. Values and biases are prevented from influencing outcomes, so long as the prescribed procedures are rigorously followed. Replicable findings are, in fact, "true."

Methodology: Experimental and manipulative. Questions and/or hypotheses are stated in propositional form and subjected to empirical test to verify them; possible confounding conditions must be carefully controlled (manipulated) to prevent outcomes from being improperly influenced.

Column 2: Postpositivism

Ontology: Critical realism. Reality is assumed to exist but to be only imperfectly apprehendable because of basically flawed human intellectual mechanisms and the fundamentally intractable nature of phenomena. The ontology is labeled as critical realism (Cook & Campbell, 1979) because of the posture of proponents that claims about reality must be subjected to the widest possible critical examination to facilitate apprehending reality as closely as possible (but never perfectly).

Epistemology: Modified dualist/objectivist. Dualism is largely abandoned as not possible to maintain, but objectivity remains a "regulatory ideal"; special emphasis is placed on external "guardians" of objectivity such as critical traditions (Do the findings "fit" with preexisting knowledge?) and the critical community (such as editors, referees, and professional peers). Replicated findings are *probably* true (but always subject to falsification).

Methodology: Modified experimental/manipulative. Emphasis is placed on "critical multiplism" (a refurbished version of triangulation) as a way of falsifying (rather than verifying) hypotheses. The methodology aims to redress some of the problems noted above (intraparadigm critiques) by doing inquiry in more natural settings, collecting more situational information, and reintroducing discovery as an element in inquiry, and, in the social sciences particularly, soliciting emic viewpoints to assist in determining the meanings and purposes that people ascribe to their actions, as well as to contribute to "grounded theory" (Glaser & Strauss, 1967; Strauss & Corbin, 1990). All these aims are accomplished largely through the increased utilization of qualitative techniques.

Column 3: Critical Theory and Related Ideological Positions

Ontology: Historical realism. A reality is assumed to be apprehendable that was once plastic, but that was, over time, shaped by a congeries of social, political, cultural, economic, ethnic, and gender factors, and then crystallized (reified) into a series of structures that are now (inappropriately) taken as "real," that is, natural and immutable. For all practical purposes the structures *are* "real," a virtual or historical reality.

Epistemology: Transactional and subjectivist. The investigator and the investigated object are assumed to be interactively linked, with the values of the investigator (and of situated "others") inevitably influencing the inquiry. Findings are therefore *value mediated.* Note that this posture effectively challenges the traditional distinction between ontology and epistemology; what can be known is inextricably intertwined with the interaction between a *particular* investigator and a *particular* object or group. The dashed line separating the ontological and epistemological rows of Table 6.1 is intended to reflect this fusion.

Methodology: Dialogic and dialectical. The transactional nature of inquiry requires a dialogue between the investigator and the subjects of the inquiry; that dialogue must be dialectical in nature to transform ignorance and misapprehensions (accepting historically mediated structures as immutable) into more informed consciousness (seeing how the structures might be changed and comprehending the actions required to effect change), or, as Giroux (1988) puts it, "as transformative intellectuals, . . . to uncover and excavate those forms of historical and subjugated knowledges that point to experiences of suffering, conflict, and collective struggle; . . . to link the notion of historical understanding to elements of critique and hope" (p. 213). Transformational inquirers demonstrate "transformational leadership" (Burns, 1978).

(For more discussion of critical theory, see the contributions in this volume by Olesen, Chapter 9; Stanfield, Chapter 10; and Kincheloe & McLaren, Chapter 8.)

Column 4: Constructivism

Ontology: Relativist. Realities are apprehendable in the form of multiple, intangible mental constructions, socially and experientially based, local and specific in nature (although elements are often shared among many individuals and even across cultures), and dependent for their form and content on the individual persons or groups holding the constructions. Constructions are not more or less "true," in any absolute sense, but simply more or less informed and/or sophisticated. Constructions are alterable, as are their associated "realities." This position should be distinguished from both nominalism and idealism (see Reese, 1980, for an explication of these several ideas).

Epistemology: Transactional and subjectivist. The investigator and the object of investigation are assumed to be interactively linked so that the "findings" are *literally created* as the investigation proceeds. The conventional distinction between ontology and epistemology disappears, as in the case of critical theory. Again, the dashed line of Table 6.1 reflects this fact.

Methodology: Hermeneutical and dialectical. The variable and personal (intramental) nature of social constructions suggests that individual constructions can be elicited and refined only through interaction *between and among* investigator and respondents. These varying constructions are interpreted using conventional hermeneutical techniques, and are compared and contrasted through a dialectical interchange. The final aim is to distill a consensus construction that is more informed and sophisticated than any of the predecessor constructions (including, of course, the etic construction of the investigator).

(For more about constructivism, see also Schwandt, Chapter 7, this volume.)

Cross-Paradigm Analyses (Rows of Table 6.1)

Having noted briefly the positions that proponents of each paradigm might take with respect to the three paradigm-defining questions, it is useful to look across rows to compare and contrast those positions among the several paradigms.

Ontology

Moving from left to right across Table 6.1, we note the move from

1. positivism's position of naive realism, assuming an objective external reality upon which inquiry can converge; to
2. postpositivism's critical realism, which still assumes an objective reality but grants that it can be apprehended only imperfectly and probabilistically; to
3. critical theory's historical realism, which assumes an apprehendable reality consisting of historically situated structures that are, in the absence of insight, as limiting and confining as if they were real; to
4. constructivism's relativism, which assumes multiple, apprehendable, and sometimes conflicting social realities that are the products of human intellects, but that may change as their constructors become more informed and sophisticated.

It is the ontological position that most differentiates constructivism from the other three paradigms.

Epistemology

We note the move from

1. positivism's dualist, objectivist assumption that enables the investigator to determine "how things really are" and "how things really work"; to
2. postpositivism's modified dualist/objectivist assumption that it is possible to approximate (but never fully know) reality; to
3. critical theory's transactional/subjectivist assumption that knowledge is value mediated and hence value dependent; to
4. constructivism's somewhat similar but broader transactional/subjectivist assumption that sees knowledge as created in interaction among investigator and respondents.

It is their epistemological positions that most differentiate critical theory and constructivism from the other two paradigms.

Methodology

We note the move from

1. positivism's experimental/manipulative methodology that focuses on verification of hypotheses; to
2. postpositivism's modified experimental/manipulative methodology invested in critical multiplism focusing on falsification of hypotheses; to

TABLE 6.2 Paradigm Positions on Selected Practical Issues

Issue	*Positivism*	*Postpositivism*	*Critical Theory et al.*	*Constructivism*
Inquiry aim	explanation: prediction and control		critique and transformation; restitution and emancipation	understanding; reconstruction
Nature of knowledge	verified hypotheses established as facts or laws	nonfalsified hypotheses that are probable facts or laws	structural/historical insights	individual reconstructions coalescing around consensus
Knowledge accumulation	accretion—"building clocks" adding to "edifice of knowledge"; generalizations and cause-effect linkages		historical revisionism; generalization by similarity	more informed and sophisticated reconstructions; vicarious experience
Goodness or quality criteria	conventional benchmarks of "rigor": internal and external validity, reliability, and objectivity		historical situatedness; erosion of ignorance action stimulus	trustworthiness and authenticity and misapprehensions;
Values	excluded—influence denied		included—formative	
Ethics	extrinsic; tilt toward deception		intrinsic; moral tilt toward revelation	intrinsic; process tilt toward revelation; special problems
Voice	"disinterested scientist" as informer of decision makers, policy makers, and change agents		"transformative intellectual" as advocate and activist	"passionate participant" as facilitator of multi-voice reconstruction
Training	technical and quantitative; substantive theories	technical; quantitative and qualitative; substantive theories	resocialization; qualitative and quantitative; history; values of altruism and empowerment	
Accommodation	commensurable		incommensurable	
Hegemony	in control of publication, funding, promotion, and tenure		seeking recognition and input	

3. critical theory's *dialogic/dialectical* methodology aimed at the reconstruction of previously held constructions; to
4. constructivism's hermeneutic/dialectic methodology aimed at the reconstruction of previously held constructions.

Implications of Each Paradigm's Position on Selected Practical Issues (Rows of Table 6.2)

Differences in paradigm assumptions cannot be dismissed as mere "philosophical" differences; implicitly or explicitly, these positions have important consequences for the practical conduct of inquiry, as well as for the interpretation of findings and policy choices. We have elected to discuss these consequences for ten salient issues.

The entries in Table 6.2, which consists of four columns corresponding to the four paradigms and ten rows corresponding to the ten issues, summarize our interpretation of the major implications. The reader will note that the first four issues (inquiry aim, nature of knowledge, knowledge accumulation, and quality criteria) are among those deemed especially important by positivists and postpositivists; they are therefore the issues on which alternative paradigms are most frequently attacked. The fifth and sixth (values and ethics) are issues taken seriously by all paradigms, although conventional and emergent responses are quite different. Finally, the last four issues (voice, training, accommodation, and hegemony) are those deemed especially important by alternative proponents; they represent areas on which the received view is considered particularly vulnerable. The entries in the table are based only in part on public positions, given that not all issues have been addressed by all paradigms' proponents. In some cases, therefore, we have supplied entries that we believe follow logically from the basic metaphysical (ontological, epistemological, and methodological) postures of the paradigms. To take one example, the issue of voice is rarely addressed directly by positivists or postpositivists, but we believe the entry "disinterested scientist" is one that would be given by those proponents were they to be challenged on this matter.

An immediately apparent difference between Table 6.1 and Table 6.2 is that whereas in the former case it was possible to make a distinct entry for every cell, in the case of Table 6.2 there is considerable overlap within rows, particularly for the positivist and postpositivist columns. Indeed, even for those issues in which the entries in those two columns are different, the differences appear to be minor. In contrast, one may note the major differences found between these two paradigms and the critical theory and constructivist paradigms, which tend also to differ among themselves.

We have formulated the issues as questions, which follow.

Row 1: What is the aim or purpose of inquiry?

Positivism and postpositivism. For both these paradigms the aim of inquiry is *explanation* (von Wright, 1971), ultimately enabling the *prediction and control* of phenomena, whether physical or human. As Hesse (1980) has suggested, the ultimate criterion for progress in these paradigms is that the capability of "scientists" to predict and control should improve over time. The reductionism and determinism implied by this position should be noted. The inquirer is cast in the role of "expert," a situation that seems to award special, perhaps even unmerited, privilege to the investigator.

Critical theory. The aim of inquiry is the *critique and transformation* of the social, political, cultural, economic, ethnic, and gender structures that constrain and exploit humankind, by engagement in confrontation, even conflict. The criterion for progress is that over time, restitution and emancipation should occur and persist. Advocacy and activism are key concepts. The inquirer is cast in the role of instigator and facilitator, implying that the inquirer understands a priori what transformations are needed. But we should note that some of the more radical stances in the criticalist camp hold that judgment about needed transformations should be reserved to those whose lives are most affected by transformations: the inquiry participants themselves (Lincoln, in press).

Constructivism. The aim of inquiry is *understanding and reconstruction* of the constructions that people (including the inquirer) initially hold, aiming toward consensus but still open to new interpretations as information and sophistication improve. The criterion for progress is that over time, everyone formulates more informed and sophisticated constructions and becomes more aware of the content and meaning of competing constructions. Advocacy and activism are also key concepts is this view. The inquirer is cast in the role of participant and facilitator in this process, a position that some critics have faulted on the grounds that it expands the inquirer's role beyond reasonable expectations of expertise and competence (Carr & Kemmis, 1986).

Row 2: What is the nature of knowledge?

Positivism. Knowledge consists of verified hypotheses that can be accepted as facts or laws.

Postpositivism. Knowledge consists of nonfalsified hypotheses that can be regarded as probable facts or laws.

Critical theory. Knowledge consists of a series of structural/historical insights that will be transformed as time passes. Transformations occur when ignorance and misapprehensions give way to more informed insights by means of a dialectical interaction.

Constructivism. Knowledge consists of those constructions about which there is relative consensus (or at least some movement toward consensus) among those competent (and, in the case of more arcane material, trusted) to interpret the substance of the construction. Multiple "knowledges" can coexist when equally competent (or trusted) interpreters disagree, and/or depending on social, political, cultural, economic, ethnic, and gender factors that differentiate the interpreters. These constructions are subject to continuous revision, with changes most likely to occur when relatively different constructions are brought into juxtaposition in a dialectical context.

Row 3: How does knowledge accumulate?

Positivism and postpositivism. Knowledge accumulates by a process of accretion, with each fact (or probable fact) serving as a kind of building block that, when placed into its proper niche, adds to the growing "edifice of knowledge." When the facts take the form of generalizations or cause-effect linkages, they may be used most efficiently for prediction and control. Generalizations may then be made, with predictable confidence, to a population of settings.

Critical theory. Knowledge does not accumulate in an absolute sense; rather, it grows and changes through a dialectical process of historical revision that continuously erodes ignorance and misapprehensions and enlarges more informed insights. Generalization can occur when the mix of social, political, cultural, economic, ethnic, and gender circumstances and values is similar across settings.

Constructivism. Knowledge accumulates only in a relative sense through the formation of ever more informed and sophisticated constructions via the hermeneutical/dialectical process, as varying constructions are brought into juxtaposition. One important mechanism for transfer of knowledge from one setting to another is the provision of vicarious experience, often supplied by case study reports (see Stake, Chapter 14, this volume).

Row 4: What criteria are appropriate for judging the goodness or quality of an inquiry?

Positivism and postpositivism. The appropriate criteria are the conventional benchmarks of "rigor": internal validity (isomorphism of findings with reality), external validity (generalizability), reliability (in the sense of stability), and objectivity (distanced and neutral observer). These criteria depend on the realist ontological position; without the assumption, isomorphism of findings with reality can have no meaning, strict generalizability to a parent population is impossible, stability cannot be assessed for inquiry into a phenomenon if the phenomenon itself can change, and objectivity cannot be achieved because there is nothing from which one can be "distant."

Critical theory. The appropriate criteria are historical situatedness of the inquiry (i.e., that it takes account of the social, political, cultural, economic, ethnic, and gender antecedents of the studied situation), the extent to which the inquiry acts to erode ignorance and misapprehensions, and the extent to which it provides a stimulus to action, that is, to the transformation of the existing structure.

Constructivism. Two sets of criteria have been proposed: the *trustworthiness* criteria of credibility (paralleling internal validity), transferability (paralleling external validity), dependability (paralleling reliability), and confirmability (paralleling objectivity) (Guba, 1981; Lincoln & Guba, 1985); and the *authenticity* criteria of fairness, ontological authenticity (enlarges personal constructions), educative authenticity (leads to improved understanding of constructions of others), catalytic authenticity (stimulates to action), and tactical authenticity (empowers action) (Guba & Lincoln, 1989). The former set represents an early effort to resolve the quality issue for constructivism; although these criteria have been well received, their parallelism to positivist criteria makes them suspect. The latter set overlaps to some extent those of critical theory but goes beyond them, particularly the two of ontological authenticity and educative authenticity. The issue of quality criteria in constructivism is nevertheless not well resolved, and further critique is needed.

Row 5: What is the role of values in inquiry?

Positivism and postpositivism. In both these paradigms values are specifically excluded; indeed, the paradigm is claimed to be "value free" by virtue of its epistemological posture. Values are seen as confounding variables that cannot be allowed a role in a putatively objective inquiry (even when objectivity is, in the case of postpositivism, but a regulatory ideal).

Critical theory and constructivism. In both these paradigms values have pride of place; they are seen as ineluctable in shaping (in the case of constructivism, creating) inquiry outcomes. Furthermore, even if it were possible, excluding values would not be countenanced. To do so would be inimical to the interests of the powerless and of "at-risk" audiences, whose original (emic) constructions deserve equal consideration with those of other, more powerful audiences and of the inquirer (etic). Constructivism, which sees the inquirer as orchestrator and facilitator of the inquiry process, is more likely to stress this point than is critical theory, which tends to cast the inquirer in a more authoritative role.

Row 6: What is the place of ethics in inquiry?

Positivism and postpositivism. In both these paradigms ethics is an important consideration, and it is taken very seriously by inquirers, but it is *extrinsic* to the inquiry process itself. Hence ethical behavior is formally policed by *external* mechanisms, such as professional codes of conduct and human subjects committees. Further, the realist ontology undergirding these paradigms provides a tilt toward the use of deception, which, it is argued in certain cases, is warranted to determine how "things *really* are and work" or for the sake of some "higher social good" or some "clearer truth" (Bok, 1978, 1982; Diener & Crandall, 1978).

Critical theory. Ethics is more nearly *intrinsic* to this paradigm, as implied by the intent to erode ignorance and misapprehensions, and to take full account of values and historical situatedness in the inquiry process. Thus there is a moral tilt that the inquirer be revelatory (in the rigorous meaning of "fully informed consent") rather than deceptive. Of course, these considerations do not *prevent* unethical behavior, but they do provide some process barriers that make it more difficult.

Constructivism. Ethics is *intrinsic* to this paradigm also because of the inclusion of participant values in the inquiry (starting with respondents' existing constructions and working toward increased information and sophistication in their constructions as well as in the inquirer's construction). There is an incentive—a *process tilt*—for revelation; hiding the inquirer's intent is destructive of the aim of uncovering and improving constructions. In addition, the hermeneutical/dialectical methodology itself provides a strong but not infallible safeguard against deception. However, the close personal interactions required by the methodology may produce special and often sticky problems of confidentiality and anonymity, as well as other interpersonal difficulties (Guba & Lincoln, 1989).

Row 7: What "voice" is mirrored in the inquirer's activities, especially those directed at change?

Positivism and postpositivism. The inquirer's voice is that of the "disinterested scientist" informing decision makers, policy makers, and change agents, who independently use this scientific information, at least in part, to form, explain, and justify actions, policies, and change proposals.

Critical theory. The inquirer's voice is that of the "transformative intellectual" (Giroux, 1988) who has expanded consciousness and so is in a position to confront ignorance and misapprehensions. Change is facilitated as individuals develop greater insight into the existing state of affairs (the nature and extent of their exploitation) and are stimulated to act on it.

Constructivism. The inquirer's voice is that of the "passionate participant" (Lincoln, 1991) actively engaged in facilitating the "multivoice" reconstruction of his or her own construction as well as those of all other participants. Change is facilitated as reconstructions are formed and individuals are stimulated to act on them.

Row 8: What are the implications of each paradigm for the training of novice inquirers?

Positivism. Novices are trained primarily in technical knowledge about measurement, design, and quantitative methods, with less but substantial emphasis on formal theories of the phenomena in their substantive specialties.

Postpositivism. Novices are trained in ways paralleling the positivist mode, but with the addition of qualitative methods, often for the purpose of ameliorating the problems noted in the opening paragraphs of this chapter.

Critical theory and constructivism. Novices must first be resocialized from their early and usually intense exposure to the received view of science. That resocialization cannot be accomplished without thorough schooling in the postures and techniques of positivism and postpositivism. Students must come to appreciate paradigm differences (summarized in Table 6.1) and, in that context, to master both qualitative and quantitative methods. The former are essential because of their role in carrying out the dialogic/dialectical or hermeneutical/dialectical methodologies; the latter because they can play a useful informational role in all paradigms. They must also be helped to understand the social, political, cultural, economic, ethnic, and gender history and structure that serve as the surround for their inquiries, and to incorporate the values of altruism and empowerment in their work.

Row 9: Are these paradigms necessarily in conflict? Is it possible to accommodate these several views within a single conceptual framework?

Positivism and postpositivism. Proponents of these two paradigms, given their foundational orientation, take the position that all paradigms can be accommodated—that is, that there exists, or will be found to exist, some common rational structure to which all questions of difference can be referred for resolution. The posture is reductionist and assumes the possibility of point-by-point comparisons (commensurability), an issue about which there continues to be a great deal of disagreement.

Critical theory and constructivism. Proponents of these two paradigms join in affirming the basic incommensurability of the paradigms (although they would agree that positivism and postpositivism are commensurable, and would probably agree that critical theory and constructivism are commensurable). The basic beliefs of the paradigms are believed to be essentially contradictory. For constructivists, either there is a "real" reality or there is not (although one might wish to resolve this problem differently in considering the physical versus the human realms), and thus constructivism and positivism/postpositivism cannot be logically accommodated anymore than, say, the ideas of flat versus round earth can be logically accommodated. For critical theorists and constructivists, inquiry is either value free or it is not; again, logical accommodation seems impossible. Realism and relativism, value freedom and value boundedness, cannot coexist in any internally consistent metaphysical system, which condition of consistency, it is stipulated, is essentially met by each of the candidate paradigms. Resolution of this dilemma will necessarily await the emergence of a metaparadigm that renders the older, accommodated paradigms not less true, but simply irrelevant.

Row 10: Which of the
paradigms exercises hegemony over
the others? That is,
which is predominantly influential?

Positivism and postpositivism. Proponents of positivism gained hegemony over the past several centuries as earlier Aristotelian and theological paradigms were abandoned. But the mantle of hegemony has in recent decades gradually fallen on the shoulders of the postpositivists, the "natural" heirs of positivism. Postpositivists (and indeed many residual positivists) tend to control publication outlets, funding sources, promotion and tenure mechanisms, dissertation committees, and other sources of power and influence. They were, at least until about 1980, the "in" group, and continue to represent the strongest voice in professional decision making.

Critical theory and constructivism. Proponents of critical theory and constructivism are still seeking recognition and avenues for input. Over the past decade, it has become more and more possible for them to achieve acceptance, as attested by increasing inclusion of relevant papers in journals and professional meetings, the development of new journal outlets, the growing acceptability of "qualitative" dissertations, the inclusion of "qualitative" guidelines by some funding agencies and programs, and the like. But in all likelihood, critical theory and constructivism will continue to play secondary, although important and progressively more influential, roles in the near future.

Conclusion

The metaphor of the "paradigm wars" described by Gage (1989) is undoubtedly overdrawn. Describing the discussions and altercations of the past decade or two as wars paints the matter as more confrontational than necessary. A resolution of paradigm differences can occur only when a new paradigm emerges that is more informed and sophisticated than any existing one. That is most likely to occur if and when proponents of these several points of view come together to discuss their differences, not to argue the sanctity of their views. Continuing dialogue among paradigm proponents of all stripes will afford the best avenue for moving toward a responsive and congenial relationship.

We hope that in this chapter we have illustrated the need for such a discussion by clearly delineating the differences that currently exist, and by showing that those differences have significant implications at the practical level. Paradigm issues are crucial; no inquirer, we maintain, ought to go about the business of inquiry without being clear about just what paradigm informs and guides his or her approach.

Notes

1. Many of the objections listed here were first enunciated by positivists themselves; indeed, we might argue that the postpositivist position represents an attempt to transform positivism in ways that take account of these same objections. The naive positivist position of the sixteenth through the nineteenth centuries is no longer held by anyone even casually acquainted with these problems. Although we would concede that the postpositivist position, as enunciated, for example, by Denis Phillips (1987, 1990a, 1990b), represents a considerable improvement over classic positivism, it fails to make a clean break. It represents a kind of "damage control" rather than a reformulation of basic principles. The notion that these problems required a paradigm shift was poorly recognized until the publication of Thomas Kuhn's landmark work, *The Structure of Scientific Revolutions* (1962, 1970), and even then proceeded but slowly. Nevertheless, the contributions of pre-Kuhnian critics should be recognized and applauded.

2. We are reminded by Robert Stake (personal communication, 1993) that the view of paradigms that we present here should not "exclude a belief that there are

worlds within
paradigms. Infir
3. It is unlik
would agree tha
he or she think
have either the
they do in philo
ever, that these
strokes, if not al

Bernstein, R. (1
ism. Philade
Bok, S. (1978). *L*
life. New Y
Bok, S. (1982).
and revela
Burns, J. (1978)
Carr, W., & Ke
Education,
don: Falme
Cook, T., & Can
tation: De
tings. Chic
Diener, E., & Cr
behavioral
cago Press
Gage, N. (1989)
math: A "h
ing since 1
Giroux, H. (198
lic life: C
Minneapoli
Glaser, B. G., &
grounded
search. Chi
Guba, E. G. (198
ness of nat
nication an
Guba, E. G. (Ed
bury Park,
Guba, E. G. (1
22, 17-24.
Guba, E. G., & L
evaluation.

worlds within worlds, unending, each with its own paradigms. Infinitesimals have their own cosmologies."

3. It is unlikely that a practitioner of any paradigm would agree that our summaries closely describe what he or she thinks or does. Workaday scientists rarely have either the time or the inclination to assess what they do in philosophical terms. We do contend, however, that these descriptions are apt as broad brush strokes, if not always at the individual level.

References

Bernstein, R. (1988). *Beyond objectivism and relativism.* Philadelphia: University of Pennsylvania Press.

Bok, S. (1978). *Lies: Moral choice in public and private life.* New York: Random House.

Bok, S. (1982). *Secrets: On the ethics of concealment and revelation.* New York: Pantheon.

Burns, J. (1978). *Leadership.* New York: Harper.

Carr, W., & Kemmis, S. (1986). *Becoming critical: Education, knowledge and action research.* London: Falmer.

Cook, T., & Campbell, D. T. (1979). *Quasi-experimentation: Design and analysis issues for field settings.* Chicago: Rand McNally.

Diener, E., & Crandall, R. (1978). *Ethics in social and behavioral research.* Chicago: University of Chicago Press.

Gage, N. (1989). The paradigm wars and their aftermath: A "historical" sketch of research and teaching since 1989. *Educational Research, 18,* 4-10.

Giroux, H. (1988). *Schooling and the struggle for public life: Critical pedagogy in the modern age.* Minneapolis: University of Minnesota Press.

Glaser, B. G., & Strauss, A. L. (1967). *The discovery of grounded theory: Strategies for qualitative research.* Chicago: Aldine.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Communication and Technology Journal, 29,* 75-92.

Guba, E. G. (Ed.). (1990). *The paradigm dialog.* Newbury Park, CA: Sage.

Guba, E. G. (1992). Relativism. *Curriculum Inquiry, 22,* 17-24.

Guba, E. G., & Lincoln, Y. S. (1989). *Fourth generation evaluation.* Newbury Park, CA: Sage.

Hesse, E. (1980). *Revolutions and reconstructions in the philosophy of science.* Bloomington: Indiana University Press.

House, E. (1977). *The logic of evaluative argument.* Los Angeles: University of California, Center for the Study of Evaluation.

Kuhn, T. S. (1962). *The structure of scientific revolutions.* Chicago: University of Chicago Press.

Kuhn, T. S. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago: University of Chicago Press.

Lincoln, Y. S. (1991). *The detached observer and the passionate participant: Discourses in inquiry and science.* Paper presented at the annual meeting of the American Educational Research Association, Chicago.

Lincoln, Y. S. (in press). I and thou: Method and voice in research with the silenced. In D. McLaughlin & W. Tierney (Eds.), *Naming silenced lives.* New York: Praeger.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry.* Beverly Hills, CA: Sage.

Marcus, G., & Fischer, M. (1986). *Anthropology as cultural critique: An experimental moment in the human sciences.* Chicago: University of Chicago Press.

Mill, J. S. (1906). *A system of logic.* London: Longmans Green. (Original work published 1843)

Phillips, D. C. (1987). *Philosophy, science, and social inquiry.* Oxford: Pergamon.

Phillips, D. C. (1990a). Postpositivistic science: Myths and realities. In E. G. Guba (Ed.), *The paradigm dialog* (pp. 31-45). Newbury Park, CA: Sage.

Phillips, D. C. (1990b). Subjectivity and objectivity: An objective inquiry. In E. Eisner & A. Peshkin (Eds.), *Qualitative inquiry in education* (pp. 19-37). New York: Teachers College Press.

Popper, K. (1968). *Conjectures and refutations.* New York: Harper & Row.

Reason, P., & Rowan, J. (1981). *Human inquiry.* New York: John Wiley.

Reese, W. (1980). *Dictionary of philosophy and religion.* Atlantic Highlands, NJ: Humanities Press.

Sechrest, L. (1992). Roots: Back to our first generations. *Evaluation Practice, 13,* 1-8.

Strauss, A. L., & Corbin, J. (1990). *Basics of qualitative research: Grounded theory procedures and techniques.* Newbury Park, CA: Sage.

von Wright, G. (1971). *Explanation and understanding.* London: Routledge & Kegan Paul.