

Incommensurability, Interpretation, and Educational Research

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Questions about the nature of education are inextricably linked to questions about the nature of knowledge. For this reason, the apparent collapse of a monolithic, “grand narrative” view of knowledge opens the entire project of education to analysis in cultural, historical, and political terms.¹ By providing opportunities to better understand the complex forces surrounding schooling, learning, and knowing, this postmodern turn has surely had positive consequences. Nevertheless, postmodernism has also contributed to widespread confusion about, and skepticism toward, the possibility of knowledge. I hope here to contribute to the effort to channel this confusion toward further inquiry and deeper understanding, rather than allowing it to close off dialogue and settle into a sort of dogmatic skepticism.

Numerous challenges to traditional ideas about knowledge preceded contemporary postmodernism. Thomas Kuhn’s thesis of incommensurability, for instance, claims that radical shifts in the scientific understanding of reality reflect revolutionary transitions between “paradigms” that bring about entirely new understandings of the world, irreconcilable with earlier dominant views. “Nevertheless,” he wrote, “paradigm changes do cause scientists to see the world of their research-engagement differently. In so far as their only recourse to that world is through what they see and do, we may want to say that after a revolution scientists are responding to a different world.”² This thesis has had a powerful impact on educational research, policy, and practice. And, while Kuhn’s work has its own antecedents (in American pragmatism, for example), in its wake the concept of knowledge has never recovered its former stature. This essay offers an analysis of incommensurability as an epistemological concept in order to suggest a more general approach to debates about knowledge and to consider some implications of this approach for educational research.

INCOMMENSURABILITY AND PHILOSOPHY OF MIND

Kuhn’s account of incommensurability is notable for challenging the privileged status of scientific knowledge itself. But the relativism embedded in incommensurability has a long history,³ and similar theses had already been advanced in other fields, most notably anthropology.⁴ In philosophy, the works of W.V.O. Quine, Wilfrid Sellars, and Ludwig Wittgenstein laid the conceptual groundwork for Kuhn’s thesis. Quine famously undermined the “two dogmas of empiricism” that seemed to provide the justification for foundationalist epistemology. First, by demonstrating that no sharp dichotomy could be drawn between analytic statements — those true by virtue of their meanings alone, and synthetic statements — those that depend on empirical “matters of fact” for their truth value, Quine established the necessary link between all knowledge claims and actual lived experience. His critique of the second dogma asserted the idea that “our statements about the external world face the tribunal of sense experience not individually but only as a corporate

body” and introduced the idea of “conceptual schemes,” networks of related concepts that only make sense when understood holistically.⁵ Pursuing the same line of thought, Sellars confronted “The Myth of the Given,” which presumes that a person’s experience of reality can in some sense stand independent of the network of concepts that organize and give meaning to that experience. Instead, he argued, that network (or “conceptual scheme”) must be *presupposed* in the individual’s awareness of sensory experiences.⁶ Superficially, this analysis merely reinforces Quine’s blurring of the analytic/synthetic dualism. It pushes further, though, by locating the emergence of thought in the process of intersubjectively acquiring conceptual resources through language and coordinated activity. This emphasis on the way conventional, socially mediated concepts structure experience parallels the cultural or linguistic boundedness of perception evident in various incommensurability theses.

Wittgenstein enriched our understanding of the process with the philosophical notions of “language games,” “following a rule,” and “forms of life” that have played an important role in situating reflections about language, meaning, and knowledge in social contexts. The idea that reason-giving is a property of language that must eventually give way to either accepted practice (that is, convention) or nonlinguistic interaction, is at least one conclusion we can draw from such observations such as, “If I have exhausted the justifications [for following the rule] I have reached bedrock, and my spade is turned. Then I am inclined to say: ‘This is simply what I do’.”⁷ Interpretations of Wittgenstein’s thought are varied and contentious, but his arguments for the inextricable link between linguistic ability and cooperative social practice are compelling.

Quine’s later work elaborated some of Wittgenstein’s aphoristic insights in more systematic terms. The practice of following rules within a language game, for example, is spelled out in Quine’s argument that “reference *is* nonsense except relative to a coordinate system [emphasis in original]”. The idea here is that any statement (or belief, disposition, etc...) about reality relies on a background set of related beliefs and concepts. This background is taken for granted; elements of it can be made explicit and formulated as statements themselves, but only against a further background that remains unanalyzed. We can continue to explore our presuppositions, but “in the end we end the regress of coordinate systems by something like pointing.”⁸

Quine employs the image of a “web of belief” to explore the structure of this background conceptual scheme. He imagines that each individual maintains a network of interconnected beliefs with some located more centrally (metaphorically speaking) and others occupying the periphery where they impinge directly on experience. Any individual belief within the system is fallible and may be discarded to accommodate new experience or the coherence of the remaining beliefs. All that distinguishes more or less centrally located beliefs is the relative willingness of the individual to part with each: a person who sees a flying pig out of the corner of his eye is likely to discount the experience as a mistake (assuming flying pigs do not fit into his existing scheme) because it is easiest to discard an isolated experience

located near the periphery of the web. However, if the experience is particularly powerful he may attempt to reconstruct a larger segment of the web to accommodate it, perhaps by suspecting a prank, a promotion, or a Pink Floyd concert that might explain the presence of a mechanical flying pig. Ultimately, it is conceivable for the person to feel so compelled by the experience that he reorganizes his whole belief system to make room for rare but very real flying pigs. The key point is that each belief is sensible only within the system and the system itself is supported only by the interwoven connections within it.⁹

The concept of incommensurability emerges when we consider the implications of these ideas for the practice of communication among speakers of unfamiliar languages. In the effort to understand a completely alien language, Quine argues, an individual faces an insurmountable “indeterminacy of translation.” Because conceptual schemes carry meaning holistically (rather than each sentence having a one-to-one correspondence with some element of empirical reality), translation of one language into another can only occur holistically. In this situation, it is inevitable that multiple possible ways of translating the new language will be available with no way of determining which is correct.¹⁰ This account of cross-cultural interaction has significantly influenced the postmodern turn as manifested in American philosophy.¹¹ Furthermore, anyone making a serious effort to articulate a view of knowledge in contemporary philosophy has had to come to grips with the insights described above, and the course of philosophy launched by these thinkers has raised an entirely new set of fundamental questions. Incommensurability is central among the new constellation of issues.

INCOMMENSURABILITY AND INTERSUBJECTIVITY

Postmodernists like Richard Rorty perceive incommensurability in the apparently unbridgeable gulf between conceptual schemes held by various cultural or linguistic groups.¹² This perspective spells the end of philosophy as a useful undertaking and understands science, for instance, to be a form of life neither reducible to nor privileged over any other. On this view, arguments about truth, knowledge, and related concepts are pointless or, at best, boil down to offering a description that is appealing to the most people. Critics see in Rorty’s view an untenable antirealism and consider its patent absurdity to be evidence for the need to recover foundational knowledge. John Searle, for example, argues that the arbitrary nature of conceptual schemes does not make them false and defends science as a proven method of offering probable accurate accounts of external reality.¹³ He, like Rorty, accepts the incommensurability thesis, but argues that “[i]t is consistent with ER [external realism] to claim the thesis of conceptual relativism... that different and even incommensurable vocabularies can be constructed for describing different aspects of reality for different purposes.”¹⁴ For realists like Searle, culturally embedded conceptual schemes must nevertheless (1) presuppose an external reality and, therefore, (2) correspond more or less accurately to it.

I take the positions held by Rorty and Searle to be broadly representative, in key respects, of two general orientations toward incommensurability prominent in contemporary thought. While incommensurability has shifted the ground of talk

about knowledge and destabilized it somewhat (eliminating “certainty” from nearly everyone’s vocabulary, for instance), old dualisms and disagreements have, to a large extent, been restructured in the new context. In what follows, I want to suggest a way of thinking about this issue that undermines these dichotomies, old and new, and that is more consistent with the original turn toward concepts, culture, and language originally instigated (in philosophy) by Quine, Wittgenstein, and Sellars. This effort involves distinguishing a key insight and a fundamental flaw in each of the positions represented by Searle and Rorty.

Searle accepts Quine’s insistence on a background behind which our articulation of beliefs and reasons can never move, that goes ‘all the way down’ to the ‘bedrock’ on which Wittgenstein’s spade was turned. For Searle, though, this background must be *external reality*, defined by its complete independence from human action or conceptualization. To deny its existence makes an absurdity out of the whole discussion of concepts and knowledge. Quine and Wittgenstein demonstrate that human thought relies on presuppositions about “what is.” But in their accounts, “what is” always amounts to something like “what it is that I do” or “the way we do things here.” That is to say, there is nothing obviously *external* about the presuppositions that facilitate thought and language. Instead, it is experience and interaction with others, the recognition of mutual responses to a shared environment and the ability to coordinate those responses through which these processes emerge. This account necessarily involves a presumption of reality that extends beyond the self. Yet the independence of that reality cannot be such that its nature could be said to endure in the absence of human thought and action. In fact, it does not make sense to talk about the nature of reality outside of the conceptual schemes with which we make sense of it.

The problem is evident when we consider what it would mean to compare rival schemes for their adequacy or degree of correspondence to reality. Such a comparison could only occur from a standpoint outside of the two schemes, yet this is precisely what everyone agrees cannot be accomplished. The fact that standards of adequacy only emerge from within conceptual schemes is not just a problem when it comes to comparisons. Such internal standards cannot provide any reason for believing that one’s own perspective corresponds to reality in any way. A version of Quine’s indeterminacy thesis applies here: no criterion or standpoint is available from which to privilege the emphasis or rules of the scientific enterprise (or any other conceptual scheme).

These reflections seem to push us back toward Rorty’s skepticism. He agrees with Searle’s account of the background and he is right to emphasize that “we shall never escape from language or from metaphor — never see either God or the Intrinsic Nature of Reality face to face.”¹⁵ But missing from this picture so far is a focus on intersubjectivity across linguistic and cultural divides. Searle’s insight, and Rorty’s blind spot, is that the presumption of shared experience is present in all communicative encounters, not just among those who can already claim a degree of “solidarity.”¹⁶ What an individual engaged in interaction has to work with is behavior on the part of an “other” that is recognizably intentional, plus the

presupposition that the phenomena she experiences (via her own scheme) are also being experienced by the other. Nothing in this description entails shared conceptual content. The essential requirement is the capacity for interpretation on the part of the interlocutors.

The hermeneutic tradition takes interpretation to be the central feature of knowledge acquisition. Charles Taylor's description of the method of interpretation incorporates many of the considerations I have raised.¹⁷ Beginning with individuals' embeddedness in their own cultural perspectives, he describes the process by which views grow and change through contact with diverse perspectives:

The sober and rational discourse which tries to understand other cultures has to become aware of itself as one among many possibilities in order properly to understand the others. But...the exigencies of understanding the other may require us to relativize features of our own self-understanding that we cherish.¹⁸

Hans-Georg Gadamer's powerful image of a "fusion of horizons" captures the dynamic and interactive nature of this process. In his account of hermeneutics as a universal and ongoing activity, Gadamer emphasizes the vital role of interpretation in just the way I have been trying to suggest.¹⁹

Intrigued as I am by this version of hermeneutics, it is not clear that it takes incommensurability seriously enough. Doing so must involve the recognition that sometimes reconciliation is not possible. Taylor aims for "a wider understanding which can engage the other undistortively" in the hopes of achieving a "common mind."²⁰ That this is not always possible leads Rorty to abandon such attempts at mediation in favor of persuasion within conceptual schemes ("solidarity"). Taylor and the hermeneutic approach generally seem to lack recourse to considerations that would protect them from having to acknowledge that dialogue might sometimes fail, with rival schemes left to simply struggle for supremacy.

The way to address this dilemma is through close attention to the relationship between individuals and conceptual schemes. Following in Quine's footsteps, Donald Davidson argues that a "third dogma" of empiricism persists in the very distinction between conceptual scheme and empirical content.²¹ Combining Sellars's critique against givenness unmediated by concepts with the idea of meaning holism — the collective rather than one-to-one mapping of concepts onto experience — Davidson illustrates that concepts are intimately linked, not simply to each other, but also to the activity of communication and interaction carried on by individuals. Thus, interpretation is not just important, it is the central locus in which meanings emerge. Indeed, the whole point of conceptual apparatus is to facilitate the capacity of individuals to successfully communicate. The mistake made too often is to take conceptual schemes to be fixed entities that frame the limits of understanding. They do frame those limits, but only partially. And more to the point, there is nothing fixed about them.

Davidson illustrates that the indeterminacy of translation operates for individuals within "shared frameworks" just as it does between unfamiliar schemes. Davidson wants to direct our attention to "language" as a practice carried out in specific contexts between actual people, rather than to "languages" as abstract, fixed

systems of words and grammar rules.²² This is not to say that people do not make use of concepts in the course of social interaction, or that those concepts are not embedded in complex webs. But it is just as accurate to say that conceptual schemes are “embodied” in individual minds, that they are unique to individuals, and that they are constantly undergoing transformation. That is, we must pay attention to the process by which individuals interpret and transform worldviews, paradigms, languages, or other manifestations of conceptual frameworks, even as we consider how those frameworks influence individual perception and action.

A striking consequence of this line of thought is that it undermines the concept of incommensurability itself. Once we have escaped from the notion of fixed conceptual frameworks existing outside of human communication and social practice, the idea that those frameworks might be incompatible in fundamental ways loses its force. Reflections along the lines I have been advancing have occurred in several contexts.²³ My aim here has been to bring these considerations to bear on the concept of incommensurability in a narrow epistemological sense. Given the close connection between incommensurability and knowledge, it seems appropriate to consider how an interpretive approach can shed light on the way knowledge is understood and acquired within the field of education. I next explore how these reflections take shape in the context of educational research.

INCOMMENSURABILITY, INTERPRETATION, AND EDUCATIONAL RESEARCH

Research in education serves various purposes, including informal guidance in decision making for individual teachers, assessments of learning outcomes and processes, evaluation, and policy analysis. The challenges to foundationalist views of knowledge raised by the issues surrounding the incommensurability thesis suggest a central role for qualitative research in our discussion. It is in this realm that the social, linguistic, and conceptual issues we have been exploring are given serious consideration. The qualitative research context is also where the tensions and contradictions of postmodernity are most acutely felt.²⁴

Interestingly, the various perspectives represented in the field tend to mirror the responses to incommensurability identified previously. D.C. Phillips, for example, seeks a recovery of objectivity even in the absence of foundational knowledge. His position, which follows in the footsteps of Karl Popper, is thus fallibilist and couched in terms of probability and continuous progress toward objective truth. Phillips’s model depends on a common-sense recognition of external reality, traditional standards of scientific method (such as validity and falsification), and what he calls a critical tradition.²⁵ What he describes sounds strikingly similar to the image presented by Searle and it suffers from the same difficulties. First and foremost, Phillips’s model of inquiry only accounts for standards of judgment *within* a conceptual framework. For this reason his “critical realism” does not address the incommensurability question at all. Furthermore, the same limitations that prevent comparison with rival schemes (to which Searle’s view is susceptible) also undermine the claim of advancing knowledge even within a given framework. The reason is that by acknowledging the inability to step outside of a conceptual scheme, and then neglecting possibilities for communication across difference, Phillips’s version

of qualitative inquiry has no reference from which to assert any relation to shared experience (except, again, for those already within the framework, who need no persuading).

Still, Phillips's critical realism retains at an important insight that is neglected by at least one of his critics. The constructivist research program advanced by Egon Guba and Yvonne Lincoln, like Rorty's conclusions about knowledge, gives up the presupposition that shared experience frames interactions between individuals.²⁶ In fact, it is this account of ontological relativity (which may or may not parallel Quine's idea of the same name) that these researchers point to as the primary feature distinguishing constructivism from rival "paradigms."²⁷ They also acknowledge that the lack of meaningful criteria of research quality is the greatest weakness of the constructivist approach. In fact, this difficulty is inherent to Lincoln and Guba's perspective, if my analysis so far is accurate. Any orientation that accepts incommensurability can at best develop a set of criteria agreed on by members of a given research community. For an orientation that understands knowledge to be constructed through interaction though, it is difficult to see how such bounded standards could emerge in a nontrivial way or have meaning outside the community. Richard Rorty can accommodate this dilemma by falling back on his ethnocentrism and acknowledging that "we must, in practice, privilege our own group, even though there can be no noncircular justification for doing so."²⁸ But for researchers who seek credibility in a larger community, this limitation is devastating.

What Phillips shares with Guba and Lincoln is an acceptance of the incommensurability thesis. They differ only in whether they believe that knowledge arrived at within their respective frameworks maps onto external reality. In a sense, their mistake is shared. By starting with the dualism of scheme and content, both views confuse the ideas of shared reality and external reality (to use Searle's terms). An approach that does not make this starting assumption is capable of understanding reality as a context in which all are embedded, but likewise one in which each occupies a distinct position and therefore whose interaction with the context is framed uniquely. Thus, it is simultaneously wrong to assume that a conceptual scheme can be fully shared among members of a group or community, and to assert that individual participants in diverse forms of life might be wholly incapable of achieving some kind of mutual understanding. The view I am advancing places the communicative effort toward such understanding at center stage.

Kenneth Howe gives an outline of such an approach under the broad label of "interpretivism." In an important article that echoes Quine,²⁹ Howe demonstrates that the line of thought I have been pursuing here undermines a sharp distinction between facts and values that has traditionally been taken for granted in educational research. In the language I have been employing, this result is a consequence of the destruction of the analytic/synthetic distinction, and it means that "[v]alue judgments are built into the vocabulary social research employs and the purpose it serves."³⁰ Another way to put this is that interpretation is built into the very framework of any educational research, and this view is what Howe means by "interpretivism."³¹

In the present context, interpretation has a slightly narrower application. Howe distinguishes between “postmodernist” and “transformationist” perspectives on interpretivism. A critical difference between these views arises regarding epistemology, where postmodernists embrace skepticism toward metanarratives that they see as undermining all knowledge claims. I have attached this view to Rorty and constructivist educational researchers. Transformationists likewise question foundationalist approaches to epistemology, but do not see this as a wholesale renunciation of principles of rationality and knowledge claims. Instead, transformationists work to uncover and escape obstacles in the way of achieving understanding through communication.³² The present essay can be read as an effort to spell out this view in greater detail.

I do not think it necessary to argue for a single approach to interpretivism. However, a compelling version is available in the critical methodology of Phil Carspecken. He describes the shift toward his pragmatic approach, away from each of the other accounts I have described, as a move away from an image of a single observer capturing external reality toward a holistic scene of active participation occurring entirely within the sphere of experience.³³ This imagery parallels the shift away from scheme/content dualism, and captures nicely the interpretivist perspective I have been attempting to articulate, especially in its careful attention to the concrete settings (“scenes”) in which communication and interpretation occur.

In the realm of philosophy, the interpretivist response to incommensurability signals a recovery of classical pragmatism’s attempt to integrate epistemological, social, and moral issues by locating them in the actual practices of individuals rather than in abstract conceptual realms.³⁴ In the wake of postmodern challenges to traditional accounts of knowledge, interpretivism seems especially well-equipped to take seriously both the contingency of the human condition and the need to make sense of knowledge and related concepts. I hope that these reflections on incommensurability suggest how that endeavor might be pursued.

1. Jean-François Lyotard, *The Postmodern Condition: A Report on Knowledge* (Minneapolis: University of Minnesota Press, 1984).

2. Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago: University of Chicago Press, 1996), 111.

3. Gianbattista Vico, *The First New Science*, ed. Leon Pompa (Cambridge: Cambridge University Press, 2002).

4. Benjamin Whorf, *Language, Thought, and Reality: Selected Writings* (Cambridge: Technology Press of Massachusetts Institute of Technology, 1956).

5. W.V.O. Quine, “Two Dogmas of Empiricism,” in *From a Logical Point of View*, 2d rev. ed. (Cambridge: Harvard University Press, 1980), 41.

6. Wilfrid Sellars, *Empiricism and the Philosophy of Mind* (Cambridge: Harvard University Press, 1997).

7. Ludwig Wittgenstein, *Philosophical Investigations*, trans. G.E.M. Anscombe (Oxford: Blackwell Press, 2001), 72e.

8. W.V.O. Quine, “Ontological Relativity,” in *Ontological Relativity and Other Essays* (New York: Columbia University Press, 1969), 48–49.

9. W.V.O. Quine and J.S. Ullian, *The Web of Belief* (New York: McGraw-Hill, 1978).
10. W.V.O. Quine, "Epistemology Naturalized," in *Ontological Relativity and Other Essays*.
11. Richard Rorty, *Philosophy and the Mirror of Nature* (Princeton: Princeton University Press, 1979).
12. Richard Rorty, *Contingency, Irony, and Solidarity* (Cambridge: Cambridge University Press, 1989), 3–7.
13. John Searle, *Mind, Language, and Society* (New York: Basic Books, 1998).
14. John Searle, *The Construction of Social Reality* (New York: Free Press, 1995), 155.
15. Richard Rorty, *Truth and Progress* (Cambridge: Cambridge University Press, 1998), 80.
16. Richard Rorty, *Objectivity, Relativism, and Truth* (Cambridge: Cambridge University Press, 1991).
17. Charles Taylor, *Philosophical Arguments* (Cambridge: Harvard University Press, 1995).
18. *Ibid.*, 149.
19. Hans-Georg Gadamer, *Truth and Method*, 2d. rev. ed., trans. Joel Weinsheimer and Donald G. Marshall (New York: Continuum, 2003).
20. Taylor, *Philosophical Arguments*, 151.
21. Donald Davidson, "On the Very Idea of a Conceptual Scheme," in *Inquiries into Truth and Interpretation* (Oxford: Clarendon Press, 2001).
22. Donald Davidson, "A Nice Derangement of Epitaphs," in *Philosophical Grounds of Rationality: Intentions, Categories, Ends*, ed. R.E. Grandy and R. Warner (Oxford: Clarendon Press, 1986).
23. Akhil Gupta and James Ferguson, "Beyond 'Culture': Space, Identity, and the Politics of Difference," *Cultural Anthropology* 7, no. 1 (1992): 6–23; Paul Willis, *Learning to Labor: How Working Class Kids Get Working Class Jobs* (New York: Columbia University Press, 1981); and Anthony Giddens, *Modernity and Self-identity: Self and Society in the Late Modern Age* (Stanford: Stanford University Press, 1991).
24. Norman K. Denzin and Yvonne S. Lincoln, "Introduction: Entering the Field of Qualitative Research," in *The Landscape of Qualitative Research: Theories and Issues*, ed. Denzin and Lincoln (London: Sage Publications, 1998).
25. D.C. Phillips, "Subjectivity and Objectivity: An Objective Inquiry," in *Qualitative Inquiry in Education: The Continuing Debate*, ed. Elliot Eisner and Alan Peshkin (New York: Teachers College Press, 1990).
26. Egon G. Guba, "Subjectivity and Objectivity," in *Qualitative Inquiry in Education*.
27. Egon G. Guba and Yvonne S. Lincoln, "Competing Paradigms in Qualitative Research," in *The Landscape of Qualitative Research*, ed. Denzin and Lincoln.
28. Rorty, *Objectivity, Relativism, and Truth*, 29.
29. Kenneth R. Howe, "Two Dogmas of Educational Research," *Educational Researcher* 14, no. 8 (1985): 10–18.
30. *Ibid.*, 12. I also agree with Howe's important critique of rigid divisions between quantitative and qualitative research — a discussion I consider consistent with, but not essential to, the argument of this essay.
31. Kenneth R. Howe, "The Interpretive Turn and the New Debate in Education," *Educational Researcher* 27, no. 8 (1998): 13–20.
32. *Ibid.*, 14, 16.
33. Phil Francis Carspecken, *Four Scenes for Posing the Question of Meaning* (New York: Peter Lang, 1999), 21. Carspecken's critique applies also to the constructivist approach, which still requires the subjective observer though it "suppresses" the external reality side.
34. Robert Brandom, "Pragmatism, Phenomenolism, and Truth Talk," *Midwest Studies in Philosophy* 12, ed. Peter A. French, Theodore E. Uehling, Jr., and Howard K. Wettstein (Minneapolis: University of Minnesota Press, 1988), 75–93.