World Mirroring Versus World Making: There's Gotta Be a Better Way

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There are many issues presented, touched on, and presupposed in the chapters in this volume—issues that have, in some cases, ancient historical roots and many variants and complexities. In searching for a framework within which I felt I could approach these chapters in some integrated way, I was forced back to these historical roots. This volume is a moment in a very long conversation (Melchert, 1991), and it cannot be understood outside of the context of that conversation. Consequently, I elaborate on the general historical issues, commenting on and criticizing them as well as their instances herein.

To some extent, I contextualize the *points* in the chapters with respect to the histories. Hence, not all chapters are addressed in the order in which they appear, and some points in some chapters are pulled out of their chapter context and dealt with in what I take to be their issue context.

The stakes in the debate around which this book was organized are adumbrated in the beginning in Gergen's chapter (chap. 2). Gergen issues a challenge not only to the major positions concerning epistemology that have dominated throughout Western history, but even more deeply to the dichotomies that he claims framed the entire historical debate. His proposal is to escape these dead-end frameworks—escape into a social constructionism that never permits those ancient epistemological incoherencies to arise in the first place.

Thus, the focus on educational theory and practice in this book forms the stage for examination of some of the widest encompassing assump-

tions, and most ramified framing assumptions, concerning the nature of knowledge and education alike. Therefore, I take the issues introduced here to be critical to the theory and practice of education. More broadly, I take the issues introduced here to be critical to the further development of both science and society. There is an important sense in which this book is a stage for playing out some of the deepest philosophical issues roiling the contemporary scene. The book is also a demonstration that these issues are not arcane and irrelevant—they bear directly on many of the formative assumptions and practices throughout culture and society, including society's ongoing re-creation and modification of itself through the education of its children.

I applaud Gergen's introduction of some of the most fundamental issues of epistemology and ontology into the center of this discussion. I also agree with Gergen concerning the massively social and language constitutedness of human beings (Bickhard, 1992a). However, I find serious problems with the positions he takes on those fundamental issues and, therefore, with many of the specifics of his positions concerning that social language constitutedness of human existence. So, I turn to the first of the encompassing perspectives.

MODELS OF REPRESENTATION

One overarching framework for the issues that Gergen introduces focuses on the nature of representation. I outline a specific diagnosis of the assumptions and problems involved here. In particular, I indicate some of the arguments for two claims: (a) the source of the major historical issues and battlegrounds of epistemology is the ubiquitous presupposition that representation is fundamentally constituted as some form of encoding, and (b) this encodingist position is incoherent. If these two points hold, all sides of these classical issues and battlegrounds are equally and radically impeached because the very issues that they debate, even prior to any particular positions taken in those debates, presuppose the encodingist incoherence.

Encodingism Critique

My purpose here is to outline and indicate only. More thorough presentations of my critique of encodingism must be found elsewhere (e.g., Bickhard, 1980, 1987, 1991a, 1992a, 1992d, 1993a; Bickhard & Richie, 1983; Bickhard & Terveen, in press; Campbell & Bickhard, 1986). Encodings are representational stand-ins. In Morse code, for example, "..." stands in for "S" and "- - -" stands in for "O." In turn, "S" and "O"

represent particular phonemic classes (or positions in a Saussurean system of differences, if you prefer), and the dots and dashes pick up these representational contents via their stand-in definitions. Such representational stand-ins can be of enormous usefulness: Dots and dashes can be sent over telegraph wires, whereas characters such as "S" and "O" cannot, and marvelous things can be done with bit codes in computers.

But some form of encodingism has, for millennia (Graeser, 1978), been taken as constituting the essence of all representation, not just as a stand-in form of representation. In this guise, encodings, although only occasionally by that explicit name, are assumed to provide the basic epistemic contact from mind to world in perception, and from other mind to mind in language. Encodings have been taken as stand-ins for that which is being represented, not just as stand-ins for other representations per se.

Skepticism

One classical problem to which this has given rise is that of skepticism. An epistemically grounding encoding is taken to represent that which it "stands in" for—to represent that which it is in correspondence with, and to represent by virtue of that correspondence (Bickhard, 1993a). But if we question how we can be assured that our representations are correct, encodingism cannot provide an answer. To check my presumed mental encoding of a desk to see if it is correct requires that I check my encoded representation that it is a desk against the reality that that encoding is supposed to represent. But, by assumption, my only epistemic access to that presumed external reality of a desk is my encoding of that desk. Consequently, any check of my desk encoding can be only via that same desk encoding: All such checks are viciously circular and provide no ground for assurance of correctness at all. Struggles with the problem of skepticism have driven philosophy for much of Western history (Burnyeat, 1983; Groarke, 1990; Popkin, 1979).

Idealism

One classic reaction to the unsolvability of skepticism is to conclude that the postulation of the external world, of the other end of those encoding correspondences, is simply superfluous. There is no world external to our representations of it: There are only our encodings, but nothing of which they are encodings. One version of this reaction is *solipsism*—the thesis that my world is my creation, or my dream, and there is nothing more. Solipsism is a version of idealism: The world is constituted by the representations of it, and there is no world outside of those representations. Idealism is broader than solipsism, in that the presumed epistemic locus for those

world-constituting representations can be the universe as a whole—Hegel—or society or language—for example, the later Heidegger, Gadamer, and Derrida, at least on some interpretations—rather than the individual mind. The caveat regarding varying interpretations of Heidegger, Gadamer, Derrida, and, even at times, the later Wittgenstein is that none has explicitly advocated a full social or linguistic idealism, a social solipsism, but many argue that they are committed to such a position by their own systems, regardless of their personal inclinations (see, e.g., Gier, 1981; Habermas, 1977; Norris, 1982, 1983). I am not concerned with an analysis of whether such commitments are logically forced (see, e.g., Dreyfus, 1991, for a decidedly nonidealistic discussion of Heidegger), but rather with the linguistic idealist interpretations of them, and beyond them, that have contributed to the contemporary current of social idealism.

Incoherence

Encodingism, however, which poses the skepticism–solipsism dichotomy, is logically incoherent. One perspective on this incoherence is that, although encodings are representational stand-ins, and although that stand-in relationship can be iterated—"X" stands in for "Y" and "Y" stands in for "Z"—such a chain of stand-ins cannot proceed forever. There must be some grounding level of representations in terms of which all higher level stand-ins obtain their own representational content. In "standing in" for another representation, an encoding borrows that other representation's representational *content*—its specification of what the representation is supposed to represent. Otherwise, we face an infinite regress of actual stand-in relationships—and still no way to provide any of the encodings in that infinite chain with any representational content.

On the other hand, if we suppose that that regress does halt, and we consider some purported grounding encoding at that basic level, say "X," and ask how it is specified what "X" is supposed to represent, there is no answer. "X" cannot be defined in terms of any other representations because it is by assumption a grounding representation, but "X" cannot provide its own representational content either—that yields merely "X" stands in for "X." Therefore, "X" cannot *have* any representational content, cannot *be* an encoding, and cannot *ground* any higher level stand-ins. But if none of the elements in such a system—"X" is clearly just a generic representative—can be given any representational content, then none is representational at all. Encodingism collapses on the viciously circular incoherence of its presupposition that it can provide its own representational contents.

Genuine stand-in encodings can be defined and can exist because we who use them already know both ends of the encoding correspondence

and the stand-in correspondence between them—both "..." and "S" *and* the Morse code relationship between them. It might appear that we can simply iterate this stand-in one more time at the grounding level, so that my representation of *desk*, for example, stands in for my desk. But my desk is per se not a representation at all, rather it is *to be represented*. The desk is not known except via my representation of it, unlike the prior or provided knowledge of "..." and "S." The stand-in relationship between my representation of my desk and the desk itself, then, is not a borrowing of representational content by the stand-in from what is stood in for (the desk does not have any representational content to be borrowed). Instead, that grounding stand-in relationship is the representational relationship itself—the relationship that was supposed to be explicated. Assuming that the grounding relationship can be just another stand-in relationship, then, is an equivocation on two senses of stand-in: stand-in as substitute for and stand-in as representation of.

Emergence Impossible

A second difficulty of encodingism is that this basic incoherence makes it impossible for representational contents to come into being—encodings cannot be given the representational contents that would make them encodings in the first place, so long as the resources for doing so are restricted to encodingism. A standard assumption that constitutes a partial recognition of this impossibility of emergence, or at least a presupposition of it, is that of a substance metaphysics for representation—a metaphysics in which the basic substances are presumed to combine and disperse, as with the Greek's earth, air, fire, and water, but in which those substances themselves are unchanging. Usually, an atomic element version is postulated for representation (unlike the Greek continuous substances of earth, air, etc.), in which the presumed grounding encoding elements are taken as the atomic encodings (encodings of basic features, or basic facts, perhaps)—the atomic encodings out of which all other representations are constructed, and in terms of which all other representations are defined (Bickhard, 1991a, 1993a).

Empiricism and Rationalism

The basic atoms in such a metaphysics do not emerge and do not come into being. They persist unchanged and unchangeable, but are capable of motion and combination; complex representations are viewed as (well-formed) combinations of atomic representations. In this view, because atomic representations cannot come into being, they must already

have been existing somewhere, and simply moved into the realm under consideration—representations must of necessity come from somewhere.

When considering human beings, there are only two possible sources from which representation can come: the *outside* or the *inside*—the environment, yielding classical and contemporary empiricist epistemologies, or the mind or genes, yielding classical and contemporary rationalism (Dancy, 1985; Mackie, 1985; Moser, 1987). These are the two positions that Gergen discusses under his terms *exogenous* (empiricism) and *endogenous* (rationalism). Note that both of these positions arise only because of the encodingist atomic-substance consequence that representations must come from somewhere—that representations cannot be emergently created (Bickhard, 1993a, in preparation). One well-known contemporary version of such presuppositions is Fodor's *innatism* (Bickhard, 1991a).

Regarding such innatism, the impossibility of emergence of encoding representations is a logical impossibility, and thus is impossible for evolution as much as for learning and development. The typical "out" of contemporary innatists, then—of pushing all issues of origin off into evolution—cannot work (Piattelli-Palmarini, 1980). The classic Chomskyan argument for innatism is "the poverty of the stimulus" argument: The stimulus inputs for language learning are impoverished, and could not yield knowledge of language, therefore language knowledge must be, at its core, innate. Again, we see the assumption that knowledge, representation, must come from somewhere—if not from the environment, then from the genes. This is a false assumption, and Chomsky's argument is invalid.

I agree with Gergen that the dichotomy between empiricism and rationalism is ill-conceived. In fact, I point out that both positions make the same underlying error—that fundamental representations must come from somewhere because they cannot come into being. That error, in turn, presupposes that representations are encodings.

From a wider perspective, however, representations, presumably did not exist at the big bang origin of the universe, yet they do exist now. They must have come into existence at some point. But if representations can emergently come into existence at any point in cosmological history, then the encodingist consequence that they cannot come into existence must be wrong, and therefore encodingism must be wrong. If representations can come into existence, then both the empiricist and the rationalist assumptions that knowledge must come from somewhere must be invalid.

Evolutionary Epistemology

Evolution provides a contrary example in which we attribute knowledge to the gene pool of a species, but have little inclination to posit that that knowledge came from anywhere else. It was constructed, emergently, in

the variation and selection constructivism of evolutionary processes and tried out against the world of the species. It did not come in from the environment, nor up from some infinite innate past. Generalizing this. point to a general approach to epistemology (no small task) yields an evolutionary epistemology (Campbell, 1974).

I have argued that encodingist assumptions concerning the nature of representation underlie the skepticism–idealism dilemma and the empiri-cist–rationalist dichotomy. Because encodingism is incoherent, neither of these oppositions is well founded or coherently motivated. Furthermore, evolutionary epistemology provides at least a glimmer of an approach that might escape the entire array of encodingist impasses. These points provide the initial framework for my comments.

DISCUSSIONS OF THE CHAPTERS

Gergen

Gergen (chap. 2) is well aware of the issues of empiricism and rationalism—it is this apparent dilemma that he claims to transcend—and he is aware of the issues of skepticism and solipsism. He treats skepticism by asking how we can know the world, and in arguing that classical approaches have not provided an answer to this question. He points out that solipsism is a danger encountered in attempting to escape dualism by moving to a monistic interiorism. Solipsism results from rejecting or ignoring the other side, the external world side, of the dualistic epistemic pair of subject-object.

Gergen's move to a position that allegedly avoids these ancient problems is a move to language:

> In my view, social constructionism represents a radical break with both the exogenic and endogenic orientations to knowledge, and thereby suggests a substantially altered agenda both in terms of scholarly inquiry and educational practice. In its radical form, social constructionism does not commence with the external world as its fundamental concern (as in the exogenic case), nor with the individual mind (as endogenists would have it), but with language.

He claims that,

> Surely the work of historians of science (e.g., Kuhn and Feyerabend) and sociologists of knowledge (e.g., Latour, Knorr-Cetina, and Barnes) have helped to underscore the importance of historical and social context in determining what becomes accepted as valid knowledge. The works of

literary theorists (e.g., Derrida and DeMan), semioticians (e.g., Barthes, Eco), and rhetoricians (e.g., Simons, McClosky) have demonstrated the extent to which knowledge claims gain their force neither from observation nor rationality, but from literary technique.

More radically, "Thus, the meaning of words and actions is not derived by comparing them against the subjectivity of their authors, but against the governing conventions of the communities in which we reside." Even more so,

there is nothing about the nature of the world that demands, requires, or necessitates any particular linguistic representation. In principle, then, we are free to use whatever configuration of sounds and markings we please on any particular occasion. In principle, this is no more a table before me than it is Gouda cheese or a griffin. In practice, of course, we are not free. By virtue of negotiated agreements widely shared within the culture, we agree to speak of it—dully perhaps—as a desk. To put the conclusion more bluntly, all that we take to be the case—our propositional representations of everything from physics to psychology, geography to government—gain their legitimacy not by virtue of their capacities to map or picture the world, but through processes of social interchange.

Idealism. I claim that Gergen's remarks reveal a social, or linguistic, idealism. There are, in fact, subtle caveats, hedges, that might be sufficient to keep them from forcing an idealist position. For example, to contend that our claims gain their *social* legitimacy "through processes of social inter-change" is almost a truism, even if a sometimes overlooked one. Similarly, that the world does not force any particular "configuration of sounds and markings" is an easily acceptable point, resulting from, among other things, the conventionality of language and the multiplicity of questions and interests that can be brought to the world. That historical and social context and literary technique play important roles in determining the force and acceptance of knowledge claims is also of interest and importance, but it does not explicitly claim that such facets of the social process are exhaustive of all warrant for knowledge claims. Nevertheless, idealism is shown in such claims as, "In principle, this is no more a table before me than it is Gouda cheese or a griffin." Of course, whether that brute object in front of Gergen is called *table* is fully a matter of social and historical context, rhetorical technique, and so on. But that is a very uninteresting claim, and not the one Gergen makes. His conflation of what something is called with what something is, or with whether that something exists at all, is typical of contemporary social constructionist social idealists.

To put the point differently: In what way, on Gergen's account, could that table *be* a Gouda cheese—setting aside issues of the outcomes of negotiations concerning how we speak of it? It is not clear that this ques-

tion, with its caveat, is coherent from within Gergen's framework. If it is not coherent, that is further testament to his idealism; if this question is coherent, he owes an answer.

Gergen's social idealism is perhaps most straightforwardly revealed in the sentence, "Yet to sustain this position [von Glasersfeld's notion of *adaptivity*] requires two admissions. First, that there is a real world that is separate from one's experiences of it, thus reasserting the dualist assumption." Insofar as Gergen claims to escape this dualism, then by his own logic he is committed to the position that there is no "real world that is separate from one's experiences of it."

In any case, my hypothesis is that Gergen's system does constitute a social idealism. Certainly he makes no attempt to show that it does not, nor how he could possibly avoid social idealism given the rest of his positions (and he is well aware of the issue). However, there is a certain unclarity in Gergen's statements, such as the implicit hedges mentioned earlier, that could provide a technical slipperiness with regard to whether he has explicitly made a logical commitment to idealism.

I am concerned with the position of social idealism in a larger sense, and with what I take to be the errors and dangers in that position. I am also concerned that Gergen certainly *sounds like* he is advocating a social idealism—and will be taken so by others. So I take him as being responsible for advocating a social idealist position unless and until he repudiates that position and shows how his explicit positions can avoid being committed to it.

I claim, then, that Gergen is proposing a social idealism, and I proceed on the basis of that claim. If he feels that my claim is in error, it would be helpful if he would show how he thinks his system can possibly avoid a social idealism. On the other hand, if he is in fact making such a commitment, it would be appreciated if he would acknowledge it and argue directly for it.

A History of Social Idealism.   There is a history to positions of social idealism that might be worth condensing. Kant argued that the mind could not be blank and passive—that it must be epistemically contributory in order for knowledge to be possible. The concepts or frameworks for understanding must be provided by the mind; they cannot derive from the understood themselves. In a progression from Kant through Hegel, Dilthey, and Heidegger, to Gadamer, Derrida, and other contemporary philosophers, the move has been made from the position that mind provides the resources for understanding the world to the position that those basic frameworks and concepts are provided by language.

Furthermore, developing Dilthey and German philosophical anthropology of the 19th century, Heidegger argued that the nature of human

existence, the ontology of human Being, is hermeneutic, or interpretive. That is, because interpretation is intrinsically linguistic, the ontology of human nature is linguistic (Bubner, 1981; Schnädelbach, 1984). But if human beings are intrinsically and exhaustively linguistic in their ontology, they cannot step outside of that social and historical context of language to judge it against some external world. We find, "That which can be understood is language," and "Man's relation to the world is absolutely and fundamentally linguistic in nature" (Gadamer, 1975, p. 432); "we start from the linguistic nature of understanding . . ." (Gadamer, 1975, p. 433). "All thinking is confined to language, as a limit as well as a possibility" (Gadamer, 1976, p. 127)—a full social idealism.

Social Solipsism. Unfortunately, such a position is a solipsism at a social-linguistic level. It is a solipsism with the epistemic locus at the social-linguistic-cultural-historical level, instead of the individual level. *All* of the basic epistemological issues recur at that level with respect to everything outside of that linguistic context: How does society know anything about the world? What sorts of warrants can it have for its knowledge claims? And so on.

A socially located idealistic epistemic avoids such questions only in the manner that solipsism does: either by ignoring them, or by denying that there is any world "outside" about which such questions can be asked. A social idealism still posits an epistemic locus—it's just a social locus instead of an individual locus. Contrary to Gergen's claims, that shift does nothing to avoid the classical epistemic questions. At best, it simply shifts their locus. At that new locus, that social locus, the classical skepticism–idealism dilemma recurs. The contemporary fad of making the idealistic choice at the social level of epistemic locus is still caught within the same framework as the millennial debate has always been.

Furthermore, the social idealistic version of solipsism is in even worse logical shape than classical individualistic solipsism. It must not only address epistemic questions concerning the world outside of society, but it must also address epistemic questions concerning its own interior (Bickhard, 1993b). For example, how do individual human beings participate in the social processes of which social constructionists are so enamored? How do people know what's going on and what's being said? How do they know, how do they learn, the "conventions of the communities in which we reside"? Or, if the allusion to individuals is repugnant, how does one subcommunity or culture "know" anything about any other subcommunity or culture? How do prelinguistic infants come to be linguistic entities? How do they learn or develop to be so? What happens to their biological nature when they become socially constituted entities? Are rocks and pollution and the galaxy and mathematics and birth and death all just social

construction, with no further reality? The only avoidance of these sorts of questions for the social idealist is a move to a full monism at the idealistic level, such as in Hegel's absolute knowledge, in which there are no epistemic differentiations within the ontology of the epistemic locus— everything is all One, so no such epistemic questions arise about the relationships among the parts. Contemporary social constructionists do not advocate such a monism, but they do not address any of the questions internal to their position either. They simply ignore those questions.

Ignore the World. How can such questions be simply ignored? There is a history here, too. The enlightenment rejected medieval metaphysics, framed by Thomistic renderings of Aristotle, for many good reasons. Among them were: (a) the elitist epistemologies that claimed that only the initiated could understand the truth; (b) the support that such epistemological elitism provided to medieval social oppression; (c) the correspondence teleological model of meaning and truth, in which the world is designed by God, and every particle and person has its place in correspondence with its position in God's plan; and (d) the enormous support that this position too provided to medieval social oppression. In particular, the only way to live a meaningful life was to live out one's position in God's plan, even if that position was one of a serf—a rather strong social conservatism. Only the elite could interpret the teleological divine purposes arcanely hidden in the world's affairs, so authority is to be simply accepted—socially, politically, and epistemically.

The enlightenment's rejection of such positions yielded an intoxicating sense of freedom. (a) Freedom from authority, both socially and politically: God's imprimatur had been removed. (b) Freedom from authority epistemically: Metaphysics was rejected in favor of "positive" knowledge, knowledge that anyone could check for themselves—an epistemic anti-elitism that yielded positivism. (c) Freedom from predetermination of one's own meaningful life: God's plan, in which each life already had its place, was rejected. Persons could determine for themselves what was meaning-ful and fulfilling, just as they could determine for themselves what was true or not true.

Freedom Versus Belonging. A powerful consequence—an unintended consequence—of this last point, however, was a sense of radical alienation of human life. Human beings are concerned with issues of meaning, and their own meaning in particular, but, according to this view, human life exists in a world of billiard balls moving according to inexorable laws—efficient causality, one of the few pieces of Aristotelian metaphysics that was retained—that are incapable of caring at all about any such issues of meaning. That is, the freedom had been obtained at the cost of a sense of alienation from, of not belonging to, the world.

One move to overcome this dilemma between freedom and belonging was a shift to a noncorrespondence notion of *meaning*—to an expressive conception of meaning as in art or music. If some sense could be found in which human life was expressive of something outside of itself, and thereby "belong" to that something, perhaps that could be a source of belonging. In general, this move did not succeed: Any such expressivity, if accepted, simply constrained meaningful life in virtually classical ways and extinguished freedom.

Hegel was the last major thinker to attempt to resolve this dilemma, and he did so with his own version of life as expressive (Taylor, 1975). Kierkegaard demolished any claims that Hegel's system could capture the realities of human existence, and Kierkegaard thereby introduced concerns with the nature of human existence—*existentialism*—deeply into philosophy. A critical aspect of this move for my purposes is that Hegel was the last major philosopher to attempt an integrated account of human life and meaning in the natural world—the cosmos. Kierkegaard, and the existentialist tradition in general, has basically accepted the alienation of human life in the world—the diremption of human nature from the world. Existentialists have generally attempted to elevate such alienations into being sources of meaning, as in the courage to face the intrinsic absurdity of life in the universe, including the absurdity of any such courage mattering a whit to the universe at large.

There are two connections between this historical story and my current concerns. The first is the diremption of human life from the world. It is this historical tradition, I conjecture, that has permitted social constructionism to ignore ontological and epistemic questions about the world outside of and prior to society. Social constructionism has inherited from existentialism a tradition of treating human life and meaning as intrinsically encapsulated and alienated, divorced from the cosmos.

The second connection is the tension between freedom and belonging, as values and as conditions. This tension has not been resolved within Western culture, and persists today in sometimes virulent forms. The belongingness side of this dilemma played a central role in the ideology of Nazism. The Jonestown massacre is a more recent aberration of desperate belongingness. The dilemma shows up in several of the chapters in this book. Clearly the issues of freedom from authority versus the belongingness to authority, or freedom from the group versus belongingness to the group, play themselves out in the classroom at least as much as anywhere else.

Ideological Critique.   Gergen also introduces a form of criticism called *ideological critique*:

The traditional views of knowledge are allied to a particular ideological stance, namely that of self-contained or possessive individualism (Sampson, 1978). To view knowledge as the possession of single minds is consistent with other propositions holding individuals to be the possessors of their own motives, emotions, or fundamental essences. Within this tradition, people are invited to see themselves as the center of their actions—the arbiters of the true and the good. As it is argued, such beliefs not only favor a narcissistic or "me-first" disposition toward life, but cast others (along with the physical environment) into a secondary or instrumental role. Persons and environments are viewed primarily in terms of what they can do for oneself. Further, because of the sense of fundamental isolation ("me alone") bred by this orientation, human relationships are viewed as artificial contrivances virtually set against the natural state of independence. Most importantly, as the peoples of the globe become increasingly interdependent, and as they gain the capabilities for mutual annihilation (either through arms or pollution), the ideology of self-contained individualism poses a major threat to human well-being. We are not then speaking of an abstract and arcane property of the academy, but of a system of beliefs that the world's peoples can ill afford to maintain.

I have several comments on this passage. First, such concerns with arms and pollution seem curiously inconsistent with holding that there is no "real world that is separate from one's experiences of it." The second is a brief historical comment on why such a critique might be considered to be relevant. For example, it might be countered that the dangers of traditional views of knowledge that are mentioned are real enough, but that those are the dangers of the truth (i.e., it might simply be countered that traditional views of knowledge are correct nevertheless). Why would Gergen's ideological critique be taken as impugning the "traditional views of knowledge"?

In an idealism, especially a monism such as Hegel's, it is not at first clear how any critique of anything could proceed—on what grounds could it be based, because there is nothing outside of the idealist whole? Hegel introduced the notion of *immanent critique* as a solution to this problem. Immanent critique is not an externally grounded critique, but a critique of internal contradictions in a whole, even an idealistic whole. Such immanent critique of internal contradictions, Hegel claimed, could drive development of the whole via his familiar thesis–antithesis–synthesis version of dialectic. Such critique provided thesis–antithesis contradictions.

Such contradictions internal to a whole are not limited within classical domain boundaries (e.g., of knowledge or belief). Ideology is just as much a part of the "whole" as anything else. So an ideological critique of a theory of knowledge makes perfectly good sense in this view. Even the Enlightenment rejection of Aristotelian metaphysics exemplified a version, pre-Hegelian, of ideological critique.

My third comment on Gergen's critique is that his particular critique criticizes the individual freedom side of the classical dilemma in favor of the communitarian belongingness side. To recognize that this is not necessarily a desirable emphasis, recall that this is the side that gave rise to "freedom as expression of the socio-culture"—Nazism, and, in fact, Heidegger's own Nazism. An exclusive emphasis on communitarianism inevitably squashes freedom. Gergen gives no balance at all to his emphasis on communitarianism, even though communitarianism is extremely far from an inherently innocent and laudable ideological position. Not only has Gergen not transcended the classical dilemma of skepticism and idealism, but he has not transcended the dilemma of freedom and belongingness either.

A 20th-Century Irony

There is an irony in the 20th-century history of these themes. Much of the century has been characterized by a deep rift between Anglo-American and continental approaches to philosophy. On the Anglo-American side, logical positivism flourished, with a disdain for continental philosophy as being mired in meaningless metaphysics. On the continental side, concern with metaphysics, and particularly with the metaphysics of the human condition and human nature, proceeded with an equal disdain for the trivialities of the minute, merely technical problems of the logical positivists. The mutual disdain has abated on both sides, and there is now a more fruitful dialogue underway. Nevertheless, these two positions did and still do dominate the scene.

The irony in all this is both positions are founded on essentially the same assumptions concerning the encodingist nature of representation, and are results of essentially the same moves into language. Logical positivism resulted from attempting to account for logic, mathematics, and language from within a positivist framework. Continental social idealism resulted from taking human ontology as being essentially hermeneutic and constituted in language. The logical positivist tradition spawned investigations of the nature of the world via investigations of language because the world must be such that language could and does correspond to it (as in Wittgenstein's *Tractatus*). The social idealist tradition spawned investigations of the nature of the world via investigations of language because the world *is* language. Language was central to both positions, and the encodingist assumptions concerning representations—and language because it was and is considered to be fundamentally representational by both positions—were common to both positions. The only fundamental difference was that logical positivism construed the world as being there, and representations as *mirroring* that world via the encoding correspondences with it; whereas continental social idealism rejected the world end of the

correspondences and construed the language as constituting the world, *making* the world. In other words, the difference is fundamentally that of the skepticism–idealism split—the split that holds only because of the common underlying encodingist assumptions about representation. Social idealism, social constructionism, is just the idealistic flip side of logical positivism, and vice versa—and, for the most part, similarly for the freedom–communitarian dichotomy.

The mutual antipathy between the positions, then, was ironic because of the massive and pervasively shared assumptions and shared history between them, and the rather narrow divergences within that common framework that distinguished them. Despite the thaw in the relations and the ensuing dialogue, these are still the major positions, and that framework is still the encompassing framework for the discussion. Gergen's voice in that discussion is on the idealistic, communitarian side of the discussion—it does not transcend it.

Epistemologically, then, what recent history faces us with, and what forms a major theme in this volume, is a rivalry between classic encodingism—the epistemology of world mirroring—and social idealist encodingism—the epistemology of world making. In both cases, the mirroring and the making, respectively, are supposed to be fundamentally in terms of language. There's gotta be a better way.

von Glasersfeld

Von Glasersfeld (chap. 1) speaks from a tradition moving forward from Vico and Kant through Hegel, Peirce, Baldwin, and Piaget. Crucial aspects of this tradition include a recognition of the necessity of a contributory mind, rather than a blank mind, and of those contributions being necessarily active and constructive, rather than passive. In fact, von Glasersfeld's position is known as "radical constructivism."

Within a view of the mind as epistemologically contributory, there is the possibility of it being passively contributory or actively, constructively contributory. Passivity is precluded by the incoherence of encodingism—encoding correspondences cannot be simply impressed into a passive mind—and by representation being emergent in action systems because the organization of active–interactive systems cannot be passively impressed into the mind. Epistemic passivity is impossible, then, which leaves constructivism. Within a constructivism, there are also two possibilities: a variation and selection constructivism, and an internally self-organizing constructivism.

Internally Self-Organizing Constructivism. Piaget represents primarily a version of the internally self-organizing view of constructivism. The self-organizing constructions of the mind involve an intrinsic tendency

for the mathematical completion of algebraic structures and, thus, of the intrinsic emergence of mathematical necessity. Such an emergence of necessity is truly an emergence—it neither comes in from the environment nor up from the genes. As Piaget claims, it is genuinely a "third way" outside of empiricism and rationalism.

Piaget's "third way" also focused on what has been a classical battleground between empiricism and rationalism: mathematical and logical necessity. Necessity has played a central role simply because it has never been plausible that knowledge of necessity was a strictly empirical knowledge: No matter how many times it has been experienced that two pebbles plus two pebbles makes four pebbles, that does not make it necessary. The problem here is not the certitude or lack thereof of the knowledge of necessity: It is the nature and possible origin of the very *notion* of necessity—the notion that makes sense out of the claim that the number of planets, although in fact nine, is not necessarily nine, but three times three is not only in fact nine, it is *necessarily* nine. For Piaget, that knowledge emerged in the necessities of algebraically closed mental structures (Bickhard, 1988a; see Piaget, 1987, for later developments in Piaget's model of necessity).

Piaget's major metaphor here is the intrinsic unfolding of embryology. In fact, he argued explicitly against the variation and selection version of constructivism—his is an embryological rather than an evolutionary constructivism (Bickhard, 1988a). *Embryology* is strictly a metaphor for Piaget however: His "third way" rejects preformationist innatism just as strongly as it rejects empiricism. Piaget's model is embryological in the sense that the tendency to generate algebraically closed structures, and thus necessary properties, is an intrinsic and inherent tendency of development that is largely independent of much of the particulars of action and experience. Piaget has room for something like variation and selection constructivism in his model—for example, it can be discerned in his notions of *assimilation* and *accommodation*—but he considered it to be a logically inadequate form of construction (Bickhard, 1988a).

Ultimately, Piaget's attempted solution does not work, despite deep advances and insights (Bickhard, 1988a, 1988b; Bickhard & Campbell, 1989). To mention just one central problem—even if it is granted that mathematically closed algebraic structures possess various mathematical properties necessarily, and that there are mental "structures" that instance such properties necessarily—it does not follow that the individual possessing or constituted by such structures would know anything about those properties of his or her "structures" at all, and therefore not about their necessity either.

Essentially, although Piaget does escape the empiricism–rationalism dilemma with regard to the origins of knowledge, he ends up with an

essentially Aristotelian model of the nature of knowledge, although with the Aristotelian forms elevated to a realm of potentiality of action. What is represented is forms of potentiality for action in the world, and what represents is the same forms—of potential actions in that world. In Piaget's case, however, the forms are algebraic forms of potential transformations, operations, and coordinations (Chapman, 1988; see especially the discussions of concepts and universals), both in the world and in the mind. The representation is still by correspondence of the forms, even though, for Piaget, the emergences in the world and in the mind that are correspondent to those in the world are both intrinsic and do not have to come from anywhere (Chapman, 1988). Such a model still falls to the incoherence arguments.

Variation and Selection Constructivism. The alternative version of constructivism is a variation and selection constructivism, an evolutionary epistemology. An embryological epistemology does not require any feedback concerning its constructions. An evolutionary epistemology does, but only, in the limit, a minimal information feedback—error or lack of error. An evolutionary epistemology, again in the logical limit, requires that constructions be initially blind to correct or incorrect forms of construction. Much of our knowledge is in fact heuristic, and therefore not blind, but this knowledge must be accounted for as well. Ultimately, knowledge cannot logically require prior knowledge for its origin without falling into an infinite regress or circularity identical to the encodingism requirement of already having representation in order to get representation (Bickhard, 1988a, 1991b, 1991c, 1992a; Campbell & Bickhard, 1986). In Piaget's later works, he gave increasing acknowledgment and importance to feedback (e.g., Piaget, 1985), yet continued to argue against variation and selection (e.g., Piattelli-Palmarini, 1980).

Adaptivity and Viability. von Glasersfeld's radical constructivism construes *knowing* as an adaptive activity. Issues of truth are replaced by issues of viability. This is most definitely an evolutionary epistemology, and von Glasersfeld extracts from Piaget those aspects and parts that are closest to and most consistent with such an evolutionary perspective. Radical constructivism focuses on emergent construction, under selection constraints of viability, and repudiates correspondence notions of meaning and truth—constructions must viably "fit" within the potentialities and impossibilities of the world, not correspond to them. Yet, in the concern with viability, radical constructivism does not lose contact with a world "separate from one's experiences of it."

That contact with a world is constituted in selections—in experiences of lack of fit. Experience is temporally structured in anticipations, and

violations of anticipation (i.e., surprises) constitute experiences that cannot be explicated within the anticipatory intentional organization of experience per se. That is, surprises arise within experience, but cannot be accounted for strictly within experience. A monistic epistemology cannot experience surprises. Surprises constitute contact with a world that is logically separate from one's experiences of it.

On the other hand, however much surprises may provide the grounds for lack of fit, they provide no instruction on what that fit is with (or not with). They provide no grounds for anything akin to a correspondence notion of truth; they provide nothing with which to be in correspondence. Notions of the reality that is contacted in surprises are necessarily constructed and fallibilistic.

In all of these respects, radical constructivism is much closer to escaping the classic epistemological traps than is linguistic idealism. Radical constructivism does not directly fall into either empiricism or rationalism because of its emergent constructivism, and it does not commit to the dilemma of either being vulnerable to skepticism and the encoding incoherence or falling into an idealism because of its noncorrespondence epistemic contact with the cosmos of viability and consequent feedback of error.

Representation. Nevertheless, there are some questions to be raised. von Glasersfeld does not develop any model of representation. Piaget does, but it does not escape all of the basic problems. von Glasersfeld could argue against representation altogether, in favor of a purely pragmatic view in which possible action and possible success and failure are the only aspects. However, phenomena of representation are simply too ubiquitous to be simply dismissed in that manner, no matter how deficient our theoretical and philosophical models of them might be. Rejection of correspondence models does not suffice to reject representation per se. A rejection of representation per se would have to somehow account for all phenomena that we currently construe as representation or intentional in a manner or manners that are arguably, in some sense, not representational. I suppose that is conceivable, but it is not plausible.

von Glasersfeld does not propose a model of representation, but, ultimately, a radical constructivism must account for representational phenomena. Otherwise, among other problems, it risks a default implicit reliance on encodingism. Within an encodingist framework, there is not even the possibility of error and, thus, of the feedback of error on which viability and radical constructivism depend. The circularity argument of skepticism is precisely an argument against the possibility of discovering error.

No model can be held to doing everything all at once, and radical constructivism has already achieved the superlative accomplishment of

avoiding empiricism–rationalism and correspondence–idealism in what has been proposed thus far. Nevertheless, the absence of an account of representation is an incompleteness, and constitutes an important lacuna because the radical constructivist approach could potentially fall to internal inconsistency or incoherence, depending on the answer to the representational question. Encodingism is often not explicit, but is instead often deeply buried in implicit presuppositions that, superficially, may not look anything like encodingism at all. Witness the reliance of idealism on the encodingist presuppositions of the empiricism–rationalism and correspondence–idealism dichotomies: Rejection of correspondence yields idealism only if there are no other possibilities, and there are no other possibilities only from within an encodingism. Such presuppositional dangers, among other things, make encodingism extremely difficult to avoid. The representational lacuna in radical constructivism is a dangerous one. (For some proposals in this direction, see Bickhard, 1992a, 1992d, 1993a; Bickhard & Campbell, 1989.)

Functional Scaffolding. There is an important possibility that follows from a variation and selection constructivism, which cannot follow from an idealism: the possibility of functional scaffolding (Bickhard, 1992b). Functional scaffolding is a generalization of the standard notion of scaffolding in developmental literature, in which scaffolding results in the "internalization" of constructions or organizations within the Vygotskian "zone of proximal development" (Vygotsky, 1978; Wertsch, 1985b, Wertsch & Stone, 1985). Functional scaffolding is a potentiality that arises from the variation and selection constructive nature of epistemology. It is a suspension or a blocking of selection pressures in the service of furthering development.

The central realization is that variation and selection constructions can, in general, not succeed in constructions that are too complex, too "big," or too "far away" from what is already known. Constructions must generally be "small." Consequently, if a task facing a child would require massive construction beyond the child's current knowledge and abilities, that task is not likely to be accomplished—the selection pressures of that task are not likely to be satisfied.

Development, then, must proceed via trajectories of successful constructions, in which the points of success—the points of stability against selection pressures—are relatively close together. Therefore, tasks and domains of tasks that do not afford such intermediate points of possible success are difficult or impossible to master.

Enter functional scaffolding: If some of the selection pressures can be bracketed or blocked, perhaps by an adult, such an alleviation of selection pressures, even if temporary, may permit constructively close construc-

tions to succeed—to be stable relative to the reduced selection pressures. If such "scaffolded" points of successful construction are sufficient to support a trajectory of constructions toward a resultant knowledge and skill that does not require such scaffolding—that is successful, and therefore stable, relative to the full original selection pressures—then such scaffolding can nurture development and learning that otherwise could not occur, or could only occur with difficulty and rarely. Examples of such scaffolding would include: (a) providing organization or coordination, (b) breaking down into simpler problems, (c) moving to ideal cases, (d) using analogies and metaphors, (e) using only temporarily available resources, and so on.

A number of these moves can be made by the learner or thinker—a self-scaffolding. Blocking selection pressures, such as in breaking problems down into subproblems or moving to idealized cases, does not necessarily require already having knowledge of what will ultimately succeed. Classical scaffolding notions do involve such a requirement: They are constituted by the provision of knowledge, organization, or coordination that is otherwise not present—they involve supplementation with parts or aspects of the ultimately correct construction (which can then be internalized). Self-scaffolding is incoherent within standard views of scaffolding: One cannot provide to oneself the knowledge that one does not already have (Bickhard, 1992b).

Such a notion has obvious relevance to education. In fact, it shows up in several of the chapters in this volume. Functional scaffolding also has a number of additional interesting complexities and importances (Bickhard, 1992b). I introduce it now for two reasons: (a) It follows rather naturally from the viability constructivism of von Glasersfeld, and (b) it is impossible to define from within a social idealism—there are no external sources of error, no surprises, and no external sources of selection pressures, thus no coherence in the notion of blocking or suspending such selection pressures. Functional scaffolding, then, is a conceptual resource that necessarily requires a variation and selection constructivism as a context.

Shotter

Endorses Social Constructionism. Shotter (chap. 3) endorses much of Gergen's social constructionism. However, he also supports the possibility of contacts and resistances that might surprise us in activity—a possible source of selection within a variation and selection constructivism—and suggests that argument and criticism may be at least as important as consensus and collaboration. Both of these positions are contrary to Gergen's, but the possibility of surprise, in particular, commits Shotter to nonidealism: Surprise is not possible for an epistemic monism.

A Critique of Radical Constructivism. Shotter also offers some of his own criticisms of radical constructivism: "Nothing in radical constructivism leads us to consider the practical (knowing-how) skills to do with 'occupying different discursive positions' as being of any importance." If this means that von Glasersfeld does not focus on such issues, then it is true, but it is also true that social constructionism does not focus on how the organism has any epistemic relation to its language community or to its physical environment. The proper question here is, so what? If this means that von Glasersfeld's model cannot, in principle, handle such issues, then an argument at least is needed.

There is also a suggestion that radical constructivism cannot acknowledge any nonphysical origins of error, but why can't social realities provide as much "points of contact of experiential failure" as physical realities? For that matter, why can't error be experienced with respect to logic and mathematics?

Embryology. Shotter attributes an embryological metaphor to constructivism. As mentioned previously, this is relatively correct regarding Piaget, but not regarding von Glasersfeld: Piaget argues against variation and selection constructivism. Even for Piaget, however, embryology is *only* a metaphor: Piaget's "third way" between empiricism and rationalism is not merely a disguised innatism of embryology.

The Imputation of Consciousness. Shotter also critiques von Glasersfeld's model of the imputation of consciousness. I have no defense of this model. I agree that it is inadequate, but I do not see that it necessarily follows from his constructivism. It is an attempted addition to that constructivism. Hence, if it falls, the constructivism is not damaged. Shotter acknowledges that this is a separate theory.

"These are [argumentative or rhetorical] skills the radical constructivist approach ignores, and thus it suggests no ways in which they may be taught." Again, a simple absence of some topic may simply be a matter of incompleteness or difference in emphasis. Social constructivism ignores the physical and biological world, and, in this case, it is not so clear that the oversight can possibly be made good.

Defending Gergen and von Glasersfeld. Shotter makes one charge against both von Glasersfeld and Gergen:

> Both authors are in the thrall of what I shall call "the way of theory." That is, both exhibit in their writing the desire to survey a whole set of (essentially historical) events retrospectively and reflectively . . . with an overarching aim of bringing them all under an adequate conceptual scheme. Their project is to find a place for them all within a framework, thus creating a

stable, coherent, and intelligible unitary order among them that can be intellectually grasped by individual readers of their texts.

Such a project is supposed to manifest a dream of seeing into the hidden inner workings, so as to be a seer, or predictor, of important sequences of events—a dream passed down by the Enlightenment. It is a dream impossible to fulfill.

Here I wish to defend both Gergen and von Glasersfeld. Shotter attributes to each of them a presumption of the possibility of, and a desire for, an ultimate culmination of their respective constructivisms—a cessation of further construction, with each of them respectively on top. This desire for an "end of history" or "end of philosophy"—with the desirer ending up on top—is one that is common enough. It is even possible that both Gergen and von Glasersfeld share in it. But I find nothing in either the rhetoric nor the logic of either position that suggests or commits to that. In fact, the very possibility of any such ending would seem to contradict the fallibilism of von Glasersfeld's epistemology. (However, Shotter has already overlooked that fallibilism in endorsing the view that radical constructivist constructions would be deterministically fixed by experiential failures.) In the conclusion of the revised version of his chapter, Gergen explicitly disavows such a position, and it would also be a contradiction to the historically contextualized "all is rhetoric" position that he develops.

Inconsistencies.   There are some apparent inconsistencies in Shotter's presentation: "In our social lives together, there is no already-made meaningful order to be found; *we* are the ones who (within certain constraints, not of our own choosing) construct between ourselves connections between things that make sense to us." What constraints? Would not such constraints constitute an already extant order? Perhaps not (yet) a meaningful order, but real in its consequences nevertheless? Either our constructions are free, or they are not; Shotter cannot have it both ways.

Shotter poses to Gergen: "I suggest that such [linguistic] artifacts are best seen as being like tools—as 'means' for our use in the making of meanings." This also raises several interesting questions. What is the *us* to which *they*, the artifacts, are known here? Toward what ends do we use these tools? Is it possible that such tool usages might fail? Aren't we getting close to being in von Glasersfeld's backyard here?

According to Shotter, von Glasersfeld "claims that it is our experiential worlds that represent what we call our *realities*." This is certainly not the way I read von Glasersfeld. According to radical constructivism, we construct our representations; because Shotter has our experiential worlds constituting those representations, this would have us constructing our experiential worlds. This is not what von Glasersfeld was proposing.

Consensus Versus Struggle. Shotter claims that, "To represent this lived, temporal, disorderly process, in which many possibilities are considered but few are chosen, as an already orderly and coherent process is to hide from ourselves the character of the social negotiations (and struggles) productive of its order." He contrasts his responsive–argumentative approach, in this respect, to Gergen's referential–logical approach.

As a matter of what must be taken into account about social process, I fully agree with Shotter here: Social reality construction is not only consensus and smoothly flowing dialogue between dialogic positions, but it also involves trials and failures and withdrawals, negotiations and conflicts, power and authority, resource competition—both physical and social resources—and so on. To ignore this is to fundamentally misconstrue social process and social reality.

As a matter of theory, however, I find this position to be seriously problematic given what Shotter has endorsed of Gergen's position. In particular, what is there within a linguistic idealism to be engaged in conflict? Differing social realities? Differing sociocultural traditions? But how do they have any epistemological access to each other? How could it make sense to have two (or more) idealisms communicating with each other? What about conflict between two individuals? The epistemological questions emerge again. What about conflict between preverbal infants and adults? How is it even possible for infants to have any ontology other than that of a social construction? The epistemological questions emerge yet again, and they emerge with a vengeance with regard to the infant's epistemology.

My point is that the processes that Shotter justifiably points to as being left out of Gergen's position cannot be accommodated within Gergen's idealistic ontology, which Shotter seems to have endorsed. Shotter expresses several caveats regarding any differences with Gergen, but does not explicitly disavow the social idealism of social constructionism, nor show how to avoid it.

Shotter's endorsement of the possibility of surprise is consistent with, and necessary to, his more conflictual model of social constructive process. But to be surprised within any epistemic unit, there must be something epistemically not part of the unit. This position of Shotter's is also, and similarly, not consistent with social idealism.

Gergen on von Glasersfeld

The tension between surprise and idealism that is manifested in Shotter's positions returns us to the issues of epistemological dualism, which frame much of Gergen's discussions. It is this classical dualism that provides classical accounts of surprise, and it is this classical dualism that Gergen charges against von Glasersfeld and claims to transcend himself.

According to Gergen:

> The focal difference [between social constructionism and radical construc-
> tivism] in the present context is the alliance of radical constructivism with
> the dualistic formulations traditional to Western epistemology, and the
> constructionist attempt to break with this tradition. Radical constructivism
> is, in present terms, an endogenic theory: The primary emphasis is on the
> mental processes of individuals and the way in which they construct
> knowledge of the world from within.

For Gergen, clearly, this counts as a criticism.

But Gergen's own social idealism does not escape the traditional di-
chotomies. In fact, it is simply a choice from within the classical corre-
spondence–idealism dichotomy. Still further, it cannot solve the epistemic
problems inherent in the relationship between the social epistemic locus
and the rest of the world. Instead, it denies them by moving to an idealism,
and it does not address the epistemic problems inherent in the internal
relations within that alleged social locus. Gergen's charge that radical
constructivism does not escape classical dichotomies, then, constitutes a
serious irony.

An Empirical Irony. There is still another irony here. Social idealisms
tend to belittle considerations of empirical data, of empirical constraint,
as being allied with empiricism—especially of the logical positivism
variety, of which social idealism is merely an idealist flip side.

In the first place, this is merely a bad pun: a conflation between em-
pirical constraints and empiricism. The integration of empirical con-
straints within an epistemology that avoids the classical problems is a
nontrivial task, but it takes only a second of reflection to note that
empirical constraints and empiricist epistemology are not the same thing.

However, the real irony is that, although most empirical results are
belittled, ridiculed, and dismissed—at least when it is rhetorically
convenient to do so—the entire argument for a social idealism rests
directly on its own set of empirical claims. In particular, it rests on the
empirical claims concerning the historical failure of classical epistemolo-
gies to solve their internal problems, such as that of skepticism (e.g.,
Gergen, chap. 2, this volume, 1985a). The social idealist case evaporates
without these historical claims: It gains whatever credence it might appear
to have only from being the alternative that purportedly avoids these
classical, and classically unsolved, problems. Without the background of
millennia of unsolved epistemological problems, social idealism becomes
merely a wildly implausible, noisily contentious irruption of bad rhetoric.

I do not contest the accuracy of those historical claims. In fact, I argue them myself (e.g., Bickhard, 1987, 1992a, in preparation). However, on the one hand, it is internally inconsistent for a social idealism to rest its claims on any kind of empirical considerations. If all is merely social construction—if everything is constituted in conversation, if there is no "real world that is separate from one's experience of it"—then this historical story has no more warrant than any other story that anyone might invent, about anything, natural or supernatural, coherent or incoherent, sensible or crazy. All stories become merely matters of "literary technique"—become purely matters of technique, style, bedaz-zlement, and so on. After all, "knowledge claims gain their force neither from observation nor rationality but from literary technique." (As pointed out, there is a hedge in the sentence from which this quote is taken, but any significance that this hedge could have is vitiated by the overall idealism. Gergen provides no other grounds for warrant to fill in the hedge, and his idealism allows for no other grounds: "The extent to which knowledge claims gain their force neither from observation nor rationality but from literary technique" is not partial, but total.) On its own terms, then, the *knowledge claims* concerning the alleged failures of classical epistemology have no more warrant than that of literary technique.

On the other hand, it is also internally inconsistent for a social idealism to impugn other claims of empirical considerations while maintaining this historical one. If historical empirics are okay, why not that of physics, psychology, logic, or education? For that matter, what warrants claims concerning alleged experiments in education taking place, or having taken place, in other parts of the world, but fails to warrant the claims that others wish to bring against Gergen's position? Isn't it all just old fashioned empiricism in this view? In the end, this undefended offering of empirical claims when convenient, and belittling dismissal of empirical claims when it is not convenient, can be nothing more than rhetorical technique. Linguistic idealism ideologically rationalizes disingenuousness and incon-sistency as rhetorical techniques—after all, there is nothing more than rhetoric anyway.

Such an "anything goes" position—the lack of any external criteria—is fundamentally inconsistent with von Glasersfeld's position: The surprises and constraints, the errors, that are central to von Glasersfeld's construc-tivism do not exist, and cannot exist, in Gergen's view. Any such notions supposedly reintroduce classical dualisms. Gergen's critique of von Glasersfeld, then, is simply that von Glasersfeld does not share Gergen's idealism. However, at least radical constructivism does not commit an inconsistency every time it appeals to matters of history, logic, or contemporary fact.

Gergen on Education

Gergen claims to transcend the endogenic–exogenic dichotomy via his move to language. I argue that this move constitutes only a shift in epistemic locus, from the individual to society, that fails to transcend the classical dualism and its attendant epistemological issues. His move to language and society, in turn, frames his communitarian proposals concerning education. I have already pointed out that this communitarianism is also a selection from within classical dichotomies, not a transcendence of them—in this case, the dichotomy of individual freedom and belongingness. In Gergen's attempt to resolve some of the difficulties of these dichotomies from within those same dichotomies, one can expect to find in Gergen's proposals concerning education manifestations of the consequent tensions and impossibilities involved. In fact, one finds some deeply ironic manifestations. However, these manifestations are not specific to Gergen: Tensions involving communitarian values, children's epistemologies, and educational practice are evident in many positions throughout this book.

An Epistemological Irony. Gergen's notion of education, in which teachers are just resource aids and students educate themselves, presupposes that knowledge and relevance of knowledge are manifest and obvious to anyone. Teachers are only supposed to provide resources and model the construction of rhetorically effective presentations—the students simply absorb them.

First of all, there is a questionably cynical conception of knowledge presented here. Knowledge is just the ability to construct rhetorically effective presentations:

> "I know" when I speak in ways that enable you to treat me as if I know, and vice versa. We successfully generate dialogue because we are mutually accorded the status of knowledgeables across time.

> The ability to take a position of "knowing that" such and such is the case may often be important, and may be the subject of no little preparation. However, for the educator to emphasize the objectivity and rationality of one's utterances above all else is to disable the student. Well-executed content is not always critical to a dialogue, and, indeed, it may sometimes even be detrimental.

> From the constructionist standpoint, lecturers are primarily demonstrating their own skills in occupying discursive positions.

As is by now familiar, if we take all the hedges seriously, this could seem unexceptional. But Gergen provides no content to his own hedges—no

importance for anything other than rhetorically effective presentations. However, there is a consistency here: Within a social constructionist linguistic idealism, there is nothing other than rhetorical effectiveness.

The irony, however, arises from the conception of knowledge involved here as being manifest. The notion that knowledge is manifest, obvious once seen, easily learned if only we would expose them to it (instead of hiding it: "To face the issue more bluntly, the very processes necessary for the public production of authority, are hidden from student view. . . . Such removal is essential, of course, in sustaining the myth of authority as an individual possession"), is already a very familiar one. In fact, this is a pure Enlightenment notion. This is precisely the Enlightenment's manifest knowledge—positive knowledge. The irony is that this is the origin of the despised "positivism"—manifest to anyone who looks. Furthermore, there is not only the appeal to positive, manifest knowledge here, but also to the Enlightenment's, to positivism's, release from authority (e.g., from the authority of the educator).

There is nothing like educational scaffolding proposed in Gergen's story. There is no sequencing, no (ideally) course prerequisites, and none needed because knowledge is, purportedly, manifest. There is no direction or planning by educators. Instead, there is a diffusion of authority—no fixed agenda and no curricular agenda.

Contrast this with von Glasersfeld (and Spiro et al., chap. 6, this volume). The contrast could hardly be greater, both with respect to the space for the scaffolded organization of knowledge acquisition, because knowledge is mostly not manifest, and with respect to the space for educational authority, because educationally deliberate scaffolding requires some form and degree of prior knowledge and authority. Once again, it is not Gergen who has escaped from classical positions—in this case, positivism.

Communitarianism. Within these presuppositions, however, Gergen pursues his notions of communitarian approaches to education:

> To focus this inquiry more sharply, I propose that we extricate a single metaphor from the constructionist metatheory and employ this metaphor in evaluating a variety of educational practices. More specifically, it is the metaphor of the dialogue or conversation that seems most fruitfully applied in this case.

> The challenge for the educational process, then, is not that of storing facts, theories, and rational heuristics in individual minds. Rather—and here constructionism has much in common with the pragmatist tradition—it is to generate the kinds of contexts in which the value and meaning of the constituent dialogues may be most fully realized, conditions under which dialogues may be linked to the ongoing practical pursuits of persons,

communities, or nations. In effect, the constructionist would favor a substantial reduction in the canonized curriculum in which students are required to take courses either because they are prerequisites for other courses or necessary preparations for life.

In contrast, the constructionist would favor practices in which students work together with teachers to decide on practical issues that are important to them, and the kinds of activities that might allow significant engagement. For example, if students are concerned about ecology, racial tension, abortion, drugs, and so on, can they develop projects that will elucidate the issues, and can they communicate their insights and opinions effectively to others?

Structure in Learning? Concerning prerequisites, should students be permitted to take calculus before algebra? If not, on what grounds is this prerequisite reasonable or legitimate—or even just rhetorically effective—and others not? How is this to be determined?

Concerning the reduction in "canonized curriculum" in general, does knowledge have no internal structure, so that anything could be learned at any time regardless of background? This is truly a "knowledge as manifest" position. But, if not, then why should a purely student-directed, practical concern-focused approach be expected to rediscover the prerequisite and relevancy relationships inherent in the organization of knowledge—relevancy relationships that in some cases have required centuries of work to discover? Why remove the scaffolding inherent in curricular structuring? Gergen acknowledges no grounds for any such impositions. Again, he presupposes that knowledge, and knowledge relevancy, is manifest.

Gergen's discussion, with its focus on "practical pursuits," makes no mention of any considerations, of any motivations, such as curiosity or aesthetics. In this he is not alone: Such topics seem curiously absent from this entire book. Furthermore, he is being consistent in this respect: Curiosity and aesthetics are individual level considerations, not aspects of social dialogue per se. In my judgment, however, this lack of space for such considerations in the social constructionist perspective is just one additional indictment of the perspective.

For example:

To put it in other terms, why should education be preparatory to communal existence rather than a significant form of existence? When one is carrying out responsible practices in the world, books, mathematics, and experiments are not hurdles to be jumped under threat of punishment, nor are they building blocks for a good life to begin at some point in a hazy future. Rather, they serve as resources for ongoing dialogues and their associated

practices. . . . Or, for example, mathematics is no longer an odious medicine, swallowed by most students even when they cannot articulate the sickness for which it is said to be the cure. Rather, mathematical techniques may become the needed tools of understanding and expression—for determining the significant rise and fall in various phenomena, for assessing costs and benefits, for reading demographic charts, or for effectively communicating the results of one's studies to others.

There is an utter neglect of aesthetics and curiosity in this notion of mathematics. Mathematics becomes merely an odious, but sometimes rhetorically useful, tool. Further, if mathematics is so odious, and if all knowledge is just whatever society says it is, why don't we agitate or persuade society to simplify mathematics? Wouldn't our rhetoric be better directed in that way? Wouldn't our world be much simpler if pi (π) simply equaled the integer 3? Is that question absurd? How, within a social idealism, is it absurd? Gergen owes some answers to such prima facie reductios of his position, without reintroducing the abhorrent classical epistemologies.

Values? Concerning Gergen's notion of education as conversation, as dialogue, why not authoritarian dialogue? This is not to suggest such, but to point out that the values embedded in Gergen's proposals have nothing directly to do with social constructionism per se, although they are historically related in the Enlightenment's rejection of authority, both social and epistemological. What is worse about Nazi dialogue, or ancient Aztec dialogue, than Gergen dialogue? Again, there is no answer derivable from within social constructionism. (Even the notion of *derivation* is suspect.)

What this points out is that Gergen's positions constitute an importation of communitarian values on top of a classical, positivist epistemology, and an importation of values that do not acknowledge complicated technical knowledge or the difficulty of discovering the relevance of some sorts of knowledge to others. "Students should choose" is nice and can be argued for on multiple grounds, but as a paramount value it assumes that knowledge is manifest—that anyone can see it and have it. In fact, in this view, knowledge is obtained freely *de novo* and without constraint, as long as one's dialogue community accepts it as such. There is no explication of these assumptions, and certainly no defense of them. They are most certainly wrong in many cases. Gergen's examples are not of anything beyond marshallings of "facts" and arithmetic in the service of advocacies, and that is no accident. Gergen's assumptions of obviousness and accessibility, both of knowledge and of its relevance, are false for much complicated knowledge.

A Counterideological Critique. Gergen offers an ideological critique of classical dualisms as being allied with possessive individualism. I offer a countercritique to Gergen's positivism. Popper (1965) pointed out that, if knowledge is assumed to be manifest, then it becomes very difficult to explain error, especially when you have just shown them the error of their ways or positions. The conclusion is standardly reached, in this view, that error can only be deliberate—evil—because the truth is manifest. (If there is no truth at all, and no error either, then what is wrong with Nazism? Idealism readily yields relativism.) But such a view of error makes anyone who judges acceptability (i.e., everyone) into defenders against deliberate error—against evil. Error is evil, and evil is not merely wrong, but odious and heinous. This, in turn, yields virulent and vicious totalitarianism, as in the French Revolution. How does Gergen avoid this progression? He may not want any such thing, but he is espousing a position that has such consequences as very real dangers.

Gergen's positions concerning education are not really a model of learning, but of what really is and should be learned. Gergen has some intuitions about learning, however: Aside from the implicit positivism, his proposals amount to a sort of learning by doing. Prima facie reasonable, at least in part, but why that within his framework? For contrast, why not voodoo incantations invoking the community spirit? The point is that he leaves to his undeveloped presuppositions an essential part of his proposal—how does the learning of authority-granted behavior occur? For example, could it be that it occurs via radical constructivism?[1]

On a Conclusion. The conclusion of Gergen's chapter is simultaneously disingenuously inconsistent and, nevertheless, consistent with the rest of his position. It is disingenuous in that he claims that: "Thus, in the end, a certain rapprochement is invited: Constructionism welcomes the continued participation of all our traditions in the current challenges of education, champions its antagonists, and favors the development of still further modes of practice." This sounds nice, but it is a rather odd position regarding "antagonists" that (a) face such problems as, "How can we ascertain whether our subjectivities match the objective world when we can never confront the external world independent of our subjectivity? If we live in a world of private experience, on what grounds can we presume that indeed there is a second world outside of this one?"; (b) have such consequences as favoring "a narcissistic or 'me-first' disposition toward life, but [that] cast others (along with the physical

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[1]This is part of the question of the epistemological relationship between the individual and the social-linguistic reality. It does not suffice for Gergen to simply decline to address such questions. Either the questions must be shown to be ill-formed in some way, or they must be addressed. Gergen does neither.

environment) into a secondary or instrumental role"; and, much worse, (c) pose "a major threat to human well-being." Gergen's stories are not consistent.

On the other hand, Gergen also points out that, "From the construc-tionist standpoint, there is nothing about the theory that demands assent. Constructionism offers no 'first philosophy'—no ultimate justification for its voice above all others." This, too, is rather odd given the destruction and rejection of empiricism and rationalism, of correspondence notions of meaning or truth, and the proclamation of the linguistic ontology of human beings and knowledge. If all of that is not an attempt to demand assent—if, in fact, it would not demand assent if it were correct—then what is or was the point of it all? But if all is just rhetoric, then nothing can demand assent, even tentatively or fallibilistically. If all is rhetoric, then we are faced with a relativism of knowledge claims, whether it be in physics, mathematics, education, values and ethics, history, or whatever. If all is rhetoric, then this applies to social constructionism too, and it too is nothing but more rhetoric. In this respect, Gergen's position is consistent.

Steier

Steier's (chap. 5) root metaphor is that of *second-order cybernetics*, with its emphasis on reflexivity and the community of active observers. "Con-structionist research programs that take seriously issues of reflexivity necessarily become programs of collaborative learning."

Idealism Again? I agree with Steier's emphasis as a corrective, but as a full perspective there are problems. Second-order cybernetics arises from a recognition of the intrinsic, necessary omnipresence of an observer. Furthermore, there is the recognition that the cybernetics of cybernetics is fundamentally changed by its own self-pointing. What is not clear, however, is where in this perspective the errors that ground radical constructivism could arise. If there is nothing beyond the observer, or the community of observers, then what is there to observe and perhaps encounter surprises with? In other words, it is not clear how Steier avoids the problems of idealism.

We find, for example, "being grounded in our assumed shared preunderstandings embedded in the language of our community (gener-ated and jointly stipulated by interpersonal communication activities) marks our constructing processes as decidedly constitutively social (and is the core of e.g., Gergen's, 1985a, and Shotter's, 1984, programs of social constructionism)" and "objects can be seen as socially constructed by us and embedded in our activities." If objects are embedded in our activities

in such ways that they might resist our social constructions, we have a ground for constructivism; if not, we have idealist constructionism.

Maturana. For example, Maturana disavowed solipsism and idealism (Maturana & Varela, 1987), and yet has explicitly endorsed a linguistic idealism (Gordon Conference, 1986). The purported avoidance of it in the 1987 book is solely a construal from within the necessary observer perspective: An observer can make connections between a system and its environment because the observer is, by assumption, external to them both. If we inquire about observers themselves, however, the circularities that enamor second-order cyberneticists become vicious: If nothing *is* except insofar as an observer construes it that way, and if observers *are* only insofar as other observers construe them that way—in language, according to Maturana—we have a full idealism, despite the disavowals. As is pointed out (Maturana & Varela, 1987), this yields relativisms, among other things.

Idealism, Relativism, and Tolerance. Maturana seems to feel that the relativism to which such a position leads is conducive to a humility about knowledge claims, especially claims concerning ethics and politics—that is, recognition of relativism should yield tolerance and a lifting of oppression. Unfortunately, this is not so. Having no grounds for any sorts of knowledge claims, other than rhetoric, within an idealism does yield relativism. But *relativism*, as Rorty (1987) pointed out, simply means that we have no grounds for complaint when the torturers and the men in jackboots come kicking in our door—there is no implication from relativism to tolerance.

The stakes involved in this contemporary issue of idealism are quite serious. Furthermore, the idealist positions are conceptually malignant: They rest on legitimate and generally accurate renderings of the historical failures of classical epistemologies, and offer a sometimes heady feeling of transcendence of those failures. But the progressions from idealism to relativism, from linguistic idealism to rabid communitarianism, are intrinsically powerful and unavoidable once the premises are accepted. They remain unavoidable despite the good will and pacific intentions of some of the propounders of such idealisms.

Spiro et al.

Spiro et al. (chap. 6) propose and present examples of a hypertext architecture designed to aid the learning of complex domains. The aspect of this proposal that I focus on is that of such hypertext systems as scaffoldings of learning. In general, I applaud the power and the creativity

of the approach. I am currently studying differential geometry, and I wish I had one of these for that subject.

Content and Relevance. It is obvious that the Spiro et al. systems serve scaffolding functions. Among other things, they greatly reduce the search space that the learner must otherwise blindly explore. But what is scaffolded in such systems is not just the content knowledge of a domain, but, perhaps more important, the relevance of potential knowledge—knowledge that the learner does not as yet have. That certain issues, topics, facts, or whatever might be relevant is often of as much importance as the particular issues, topics, facts, and so on, per se. Such relationships of relevance are of even more than usual importance, and difficulty of mastering, in the ill-structured or complexly structured domains that Spiro discusses. What is most importantly learned in this view is not knowledge per se, but a sort of metaknowledge of how to construct relevant knowledge when it is needed. Furthermore, incorporating multiple experts, multiple authorities, or multiple sources in general helps scaffold reflection on the variability of constructions and purported answers.

Errorless Versus Errorful Learning. One additional point needs to be made about such a scaffolded notion of learning: It is not compatible with classical notions of learning as being optimally errorless. In classical passive-mind perspectives, tasks to be learned should be broken down into successive layers of subcomponents and subtasks and then taught from the bottom up. Ideally, the breaking down would be so refined that the learner would make no errors in moving up the hierarchy. Practically, of course, errors are expected, but ideally they are minimal. In a scaffolding view, however, errors are necessarily a part of optimal learning and developmental trajectories. The whole point of a scaffold is to block errors from having selection-pressure effects; intermediate constructions, then, will necessarily be errorful with respect to those currently blocked pressures. Furthermore, it is arguable that learning *what* constitutes error, and *how* it constitutes error, is at least as important as learning what constitutes the "right" answer (Bickhard, 1991b). In fact, I argue that it is only in terms of learning how a "right" answer succeeds in avoiding the various possible errors that one has gained any understanding of how and why a "right" answer is correct. That is, understanding, as opposed to rote passive learning, requires error learning. This is a vastly underemphasized aspect of education.

Wertsch and Toma

I applaud Wertsch and Toma's (chap. 10) presentation of the genetic method, of the importance of social situatedness and social constitutedness, and of the balance between universal and particular considera-

tions—most of what they have written. These are extremely important acknowledgments of and corrections to contemporary perspectives.

Mediation. However, I am concerned about two theoretical points. The first is the notion of *mediation*. Instrumental mediation, as with tools, is potentially quite complex and troublesome. More importantly, mediation, as with tools, used as a conceptual framework for representations, as in the Vygotskian conception of language, seems to presuppose an encoding notion of representation.

Put as questions: What is the relationship between the instrumental and the representational? How can the representational be accounted for? If representations and other phenomena can be emergently constructed, might not there be something more than just mediation going on?

Leont'ev's version does not suffice: "The process of internalization is not the transferal of an external activity to a preexisting, internal 'plane of consciousness': it is the process in which this internal plane is formed" (Leont'ev, 1981, p. 57, as cited in Wertsch, 1985b, p. 64). Internalization is "the process of gaining control over external sign forms" (Wertsch, 1985b, p. 65). This still presupposes representational sign forms.

It also implies that consciousness is the internal plane of control over external sign forms. Again, we need a model of how this occurs, not just with respect to instrumental perspectives on tool use, but with respect to understandings and usages of representations. This distinction seems fundamentally conflated in the Vygotskian framework.

Similarly, what sorts of processes could account for Lotman's (1988) dialogic generative function of language? How could these fit with a notion of tool mediation?

Internalization. My second theoretical concern is that *internalization* is a bad metaphor for variation and selection constructions. In my judgment, this is so for either the Piagetian or the Vygotskian version of internalization. What is outside? How does it come in—even if it is changed in doing so? More fundamentally, why does what comes to be inside ever have to be outside, in any form? This sounds like the classical assumption that representation and knowledge must come *from* somewhere.

Consider constructions under selection pressures: What satisfies the selection pressures is not an internalization of those pressures, but something that is successful in meeting them, satisfying them, accommodating to them, blocking them, and so on. There is no coherent way to get from "internalization" to variation and selection constructivism. I contend that this is a fatal problem for internalization-based frameworks.

Bauersfeld

Bauersfeld (chap. 9) wants to emphasize consideration of social situatedness and social processes in education, but the perils of such a needed corrective seem to appear in his account, too. According to Bauersfeld, there are "two theoretical views: reading or discovering realities (the realist position), versus constructing viable ways of interpreting in social interaction (the social constructivist position)."

Nonexhaustive Dichotomy. First, this is not an exhaustive dichotomy. Furthermore, problematics of this false dichotomy seem to manifest themselves in Bauersfeld's chapter. On the one hand, "we understand the development of mathematizing in the classroom as the interactive constitution of a social practice" and "Students arrive at what they know about mathematics mainly through participating in the social practice in the classroom, rather than through discovering external structures existing independent of the students." These would seem to construe mathematics and mathematical knowledge as strictly social in constitution, not just in origin.

On the other hand:

The selective force of social practice on the participants' constructing endeavors is open to an interpretative analysis in three ways:
1. In actual social interaction (from a short-term perspective), through the failure or rejection of the enacted construction. Under the "obligation" to answer a teacher's question, this can lead the participant to abandon, correct, or change the construct.
2. Also in actual social interaction, through a relevant person's (teacher or student) pointing at or placing emphasis on something. As another part of the regulation of classroom communication, this indicates a change of the actual focus of attention. It is what Maturana and Varela (1977, p. 30) called "the orienting function language," and can inspire participants to a redirecting of their actions and to related reconstructions.
3. From a long-term perspective and, more indirectly, through the absence of alternatives and the nonexistence of certain obstacles. What has not become reality in the subject's own experiencing has—if at all—very little chance of being created out of itself.

Furthermore, "rejected constructs as well as pointing at and changing the focus of attention can become challenges for the subject's reflection." Such a consideration of selection forces, rejections, obstacles, and so on— most especially obstacles that inhere or fail to inhere in the subject matter— is radically inconsistent with a pure social ontology for mathematics.

It is not possible to have both. Bauersfeld seems to want to have his social constitutive idealist cake, and yet eat it too. How does he make good on the notion of *obstacle* or *subject's reflection* within a social idealism? If not such an idealism, then why, in what sense, is mathematics nothing more than a social practice?

Konold

Konold (chap. 11) suggests: "There seem to be at least three epistemological realms in which contrasts between social and psychological entities are being made by these authors, and misunderstandings are bound to arise from conflating them. These realms . . . include: (a) objects of knowledge (b) sites of knowledge, and (c) mechanisms of knowledge, construction." I agree and add for consideration the relationships among them (i.e., the emergence relationships among the various sites of knowledge, and the involvement in those emergence relationships of the processes of knowledge construction).

A Problem for Social Idealism. Konold also introduces an interesting problem for Gergen's conversational approach to education:

> For example, in order to have classroom discussion in which students "negotiate" mathematical meanings, students must overcome various conventions that shape ordinary conversation in our culture, in which disagreements and potential conflict are shunned (Stubbs, 1983). Also, given that methods and objectives of conversation vary among cultural subgroups (e.g., between men and women; Leet-Pellegrini, 1980), different styles of discussion are likely to place certain students at a disadvantage.

On one level, this is a practical complication—students do not bring equal resources to the process that Gergen advocates. More deeply, however, it points out that individuals have to learn as individuals how to participate in whatever social processes they co-constitutively participate in. But for any such learning problem to exist, the individuals must exist prior to their learning the conversational skills involved. This is a practical educational version of the general point that Gergen's model cannot acknowledge prelinguistic infants—if all ontology is linguistic, then the notion of a nonlinguistic ontology, an infant, does not make sense. Here, social idealism cannot handle individual differences in hermeneutic competences and orientations. Gergen's model has no way to address such persons. By default, he leaves all such issues to be dealt with by the students, again presupposing knowledge and relevance as manifest. If it is not manifest, there has to be something more than just locations in dialogic space.

Confrey

Confrey's (chap. 12) primary issue arises from an exploration of an inherent incompatibility between Piaget and Vygotsky, and the consequences of that incompatibility for investigating the problematics of the development of the person. At a rough slogan level, Vygotsky is concerned with social internalization, whereas Piaget is focused on the coordination of actions. Language is one among many examples of the semiotic function for Piaget, whereas mastering language, and internalizing the socialities thereby encountered, is at the core of Vygotsky's model. The incompatibility is that, because language is inherently a part or aspect of Piaget's model of natural development, to insert that model into Vygotsky is to violate Vygotsky's core sociality, whereas to elevate language to the position it holds for Vygotsky is to violate the developmental process model of Piaget.

The problem that Confrey struggles with is that there are two notions of *person*, of agent, involved: an epistemic agent for Piaget and von Glasersfeld, and a social agent for Vygotsky. Neither position can integrate the other, and they cannot be simply hybridized. To simply attach either to the other is to violate at least one of the central notions of agent involved. For von Glasersfeld, the self and relationships with others emerge within and are based on the emergence of objects in general, whereas for Vygotsky the self emerges from self–other relationships. What is taken to be primary is reversed in these respects between the two approaches.

Framework for a Resolution? Confrey proposes two frameworks for a possible resolution of this conflict: Maturana's autopoesis and Kegan's specific notions concerning individuation and communion as a framework for the emergence of the self. At this point, I part with Confrey's account because I do not accept her primary framework. In particular, in my judgment, Maturana has fallen fully into the idealist position, and his framework does not seem to allow any possible way out. On the other hand, Kegan's position is a real one and deeply important in contemporary culture. It has a great deal of validity for self-development today.

But Kegan's framework is a modern rendering of the historical tension between freedom and belongingness that was introduced in the Enlightenment. It is a tension that remains unresolved today, and plays its own important role in each individual's development in modern Western society. It is highly questionable, however, as an intrinsic characteristic of human beings. It is not at all clear what its validity is beyond the bounds of the Western cultures that inherit this tension from the Enlightenment.

Epistemic Agents and Social Agents. In alliance with Confrey, I suggest that some distinctions between differing sorts of agents are necessary to begin to address these issues. In particular, not distinguishing the epistemic agent from the social agent makes any model of their developmental relationship impossible. Social constructionism subsumes the epistemic into the social: Vygotsky ignores the epistemic agent, and von Glasersfeld reduces the social agent to the epistemic agent.

Emergence. A central barrier preventing any such differentiation and integration is the absence of notions of emergence in contemporary theorizing. There is no emergence in logical positivism because the only ontology acknowledged is that of basic substances and facts in the world—emergence has the flavor of vitalism and other supernatural failures. With no emergence, there can be no emergence of a person. Instead, there is simply an epistemic agent who knows more and more, including more and more social facts as well as naturalistic facts. Such accumulation of pieces of knowledge does not yield emergence.

Similarly, there is no possibility of emergence in social constructionism. All ontology is reduced to language and social processes. Any purported emergence within such a framework would be either nugatory or would violate the idealism involved; any genuine emergence would be a source of genuine resistance, surprise, to the social processes—it would have some independence from the social ontology.

On How Learning Can Change the Epistemic Agent. As long as the epistemic agent merely accumulates pieces of knowledge, social development will not change the nature of that agent, but will only fill up the agent's storage banks. In the Piagetian and radical constructivist perspectives, however, epistemic agents do not merely accumulate pieces of knowledge. Knowledge is constituted as organizations of potential actions and interactions, and the epistemic agent is that overall organization.

This point is critical because it implies that learning and development are not merely accumulations in the storage bank. It implies that development is, or at least can be, a progression of changes in the agent. Change is the first requirement for any possibility of emergence. If those changes are such that some form of genuine emergence results, then we have the framework for accounting for developmental emergence.

Emergent Sociality. The basic logic of such developmental emergence would indicate that the social person will be emergent in the development of interactive knowledge of the social world. As the agent (e.g., the child) comes to function progressively more competently in the social realm, the agent becomes more and more of a social agent. But this introduces

problematics, among others, of the nature of such social realities—of r emergence and history in evolution.

he basic framework that I suggest is in three parts: (a) an epistemic nt in which knowledge is constituted as organizations of potential ractions, (b) an account of the emergent nature of social reality within biological and psychological world, and (c) a model of how and why ividuals come to learn sociality so fully, thus becoming social beings 1 participatively co-constituting the same social reality. This is not the ace to fill out this framework (see Bickhard, 1980, 1987, 1992a, 1992b,)2c, 1992d). However, I suggest it as an approach to integrating the ncerns of epistemics and sociality.

Integrating the Epistemic and the Social. The problem of the integra-on of the epistemic agent and the social agent is a central facet of the ganizing theme of this book: it is the agent-focused perspective on the orld-mirroring versus the world-making dilemma. Certainly the prob-em is critical to understanding and improving the educational process as o no other. In this perspective, too—this agent-focused perspective on the vorld-mirroring, world-making dilemma—there's gotta be a better way.