The Problem of Transfer, and the Sociocultural Critique of Schooling

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It is often suggested that transfer is central to our system of education. Yet transfer has proven hard to define, difficult to investigate, and perplexingly controversial. This article compares 1 of the earliest critiques of transfer—Dewey’s (1916)—with 1 of the most recent—Lave’s (1988)—to explore how the debate over transfer is linked to competing views of the goals and aims of schooling. It is proposed that if sociocultural theory is to make good on its critique of schooling, it must be extended in 2 respects: in its ontology of the person, and its conception of the society in which we live. A preliminary sketch is provided of each of these extensions, to develop the sociocultural suggestion that learning and schooling both involve transformation of the person. The debate over transfer rests on but obscures divergent views of the goals and aims of schooling. Both critique of schooling and calls for school reform presuppose conceptions of the kind of person we want children to be, and the kind of society we wish to foster.

Transfer—“the carry-over or generalization of learned responses from one type of situation to another” (from Webster’s New Collegiate Dictionary)—has long preoccupied, and sorely perplexed, educational researchers and theorists. Consider, for example, that when the editors of Review of Research in Education (RRE) chose to focus the 1999 volume on “past and future issues our profession should be addressing at this time” of transition to the new millennium...
(Iran-Nejad & Pearson, 1999a, p. ix), the first of the three broad issues they selected was transfer. The editors cited Lagemann's (1997) claim that one of the "powerful insights" of the early twentieth century was "the discovery that teaching had to be geared toward encouraging a transfer of learning if insights derived from studying one subject were to be recognized and applied within another field" (cited in Iran-Nejad & Pearson, 1999b, p. xi). And the authors of one of the papers solicited to address this issue concurred "A belief in transfer lies at the heart of our educational system" (Bransford & Schwartz, 1999, p. 61).

And yet, at least since the early twentieth century, the very concept of transfer has proved slippery, and has come under attack. The author of another of the RRE articles, Beach (1999), summarized the debate among Thorndike, Judd, and Dewey in the first decades of the century: "they strongly differed in their opinions about what transfer was and how it could be supported through schooling" (p. 104); each found transfer somewhere different—Thorndike in similarity "in the structuring of tasks," Judd in "gestalt-like mental generalizations derived from structuring of the environment," whereas Dewey disagreed with both of them and rejected the utility of the concept. Both the difficulties of defining transfer and the attack on it continue to the present day; the three RRE articles on transfer proposed respectively its "rethinking" (Bransford & Schwartz, 1999), its "transformation" (Dyson, 1999), and the taking of a step "beyond transfer" (Beach, 1999).

If transfer is so central to our system of schooling, why has it remained so controversial? Why have efforts to investigate the phenomenon of transfer and elucidate its conceptual basis proved so problematic? Another example of this can be found in the way transfer has become a contested domain in disagreements between constructivist and situated accounts of cognition, a debate I turn to shortly. In this article I propose that one reason for the problems and controversy is that the debate ostensibly over transfer is also, tacitly, about competing views of the goals and aims of schooling. The issue of transfer rests on and obscures divergent conceptions of schooling. Axiological, even political, matters get misinterpreted as purely technical issues, but the differences in values cannot be resolved by technical debate.

My aim is, by comparing one of the earliest critiques of transfer with one of the most recent, to explore the contribution of sociocultural theory to the debate over transfer and to show how this debate connects to a critique of schooling. I argue that if we are to make good on this critique, as I believe we should, then sociocultural theory needs to be extended in two respects: We need to articulate both its ontology of the person and its conception of the society in which we live.

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Empirical and Conceptual Claims About Transfer

Dewey, in his 1916 book Democracy and Education, characterized the notion of transfer as follows:

According to the orthodox theory of formal discipline, a pupil in studying his spelling lesson acquires, besides ability to spell those particular words, an increase of power of observation, attention, and recollection which may be employed whenever these powers are needed. (p. 64)

Dewey (1916) was highly skeptical of this "orthodoxy," however. He continued,

As a matter of fact, the more [the pupil] confines himself to noticing and fixing the forms of words, irrespective of connection with other things (such as the meaning of words, the context in which they are habitually used, the derivation and classification of the verbal form, etc.) the less likely he is to acquire an ability which can be used for anything except the mere noting of verbal [and] visual forms. (pp. 64–65; emphasis in original)

In other words, Dewey's opinion was that in the absence of meaning and context, what is learned is "[i]n the ordinary phraseology, not transferable" (p. 65). On the other hand,

the wider the context—that is to say, the more varied the stimuli and responses coordinated—the more the ability acquired is available for the effective performance of other acts; not, strictly speaking, because there is any "transfer," but because the wide range of factors employed in the specific act is equivalent to a broad range of activities, to a flexible, instead of a narrow and rigid, coordination. (p. 65)

Dewey (1916) was evidently making two kinds of claim. First was an empirical claim (a "matter of fact") that a student who learns decontextualized skills in a narrow range of tasks is in poor shape to deal with other kinds of task. The second was a conceptual claim: that when more meaningful and contextual tasks are employed, what then happens is still not accurately understood as transfer, but as something else. Dewey was arguing against the "orthodox theory" of education (which he traced back to John Locke) that the mind possesses general "powers" or "faculties"—such as those of perceiving, recalling, willing, and thinking—and that education is a matter of exercising these faculties in a disciplined way, independent of subject matter. This conception of "mind as muscle" (cf. Beach, 1999) is misguided, Dewey insisted, and these faculties are myths.2

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2Dewey's views developed and changed over time, of course. In this article I cannot speak to these changes.
What does happen when a student is given tasks that require grasp of meaning and context, then? Dewey’s (1916) conceptual point was that when something general is learned it is the result not of transfer, but of becoming skilled in activities that are “broad in scope.” Consider the difference, he suggested, between weight-training and playing a sport. Lifting weights will build strength and endurance, but it doesn’t make one expert in any specific sport. (One presumes that bodybuilding was not a competitive activity in Dewey’s time.) Weight-training is rigidly specialized training; it will increase vigor and strength, but a sport such as tennis or yachting, Dewey insisted, calls for flexibility, elasticity, and reaction to novel and emergent circumstances. This is more accurately called “general” training, but even so, playing a sport is not direct training of the skills that develop; they are an indirect outcome of learning to play the game. In the same way, teaching spelling with attention to context, derivation and classification of verbal forms, and so on, is more “general” education, “broad and flexible” (p. 67).

“In the literal sense,” Dewey (1916) insisted, “any transfer is miraculous and impossible” (p. 67). Education that seeks to train general powers by exercising them in narrow, repetitive tasks, and expecting transfer to new situations, will fail. All that will be learned in activities that are narrow, repetitive, and predictable are narrow, specialized skills. But activities that are broad in scope will foster “initiative, inventiveness, and readaptability,” and it is these “qualities which depend upon the broad and consecutive interaction of specific activities with one another” (p. 68), this flexibility, which will show up in new situations.

We foster such flexibility, Dewey further proposed, to the extent that education “takes account of social relationships” (p. 67). Human activities with social breadth require a wider range of responses, and the qualities that render someone “an effective competent member of the group” (pp. 66–67). This, rather than “the training of narrow specialized modes of skill” (p. 68), is, in Dewey’s opinion, what schools in a democratic society should be about. Such a society is more interested in “deliberate and systematic education” that both sustains and extends “greater individualization on one hand, and a broader community of interest on the other” (p. 87) and so prepares its members for change and mobility.

When what looks like transfer occurs, this is the result not of exercising innate mental faculties but of a “formation of mind” (Dewey, 1916, p. 69) that follows from designing education with reference to its social context. That’s to say, the intellectual qualities that Dewey wrote of are not based in innate faculties, but are social formations of the educational process. Even so, they are the results of education, not its deliberate aims. I return to this conception of schooling later.

Getting Empirical and Conceptual Claims Confused

Dewey’s (1916) argument is not without its obscurities, but its central point is clear: that intellectual skills are not innate properties of mind, its “faculties,” but are emergent, as is mind itself; both are important but indirect results of education. Certainly we learn from Dewey that one “problem of transfer” is that different kinds of claim can be made about it: both empirical and conceptual claims. And, if Dewey is correct, a second problem of transfer is that its conception has typically been built on a dubious notion of mental powers or faculties—of “mind” as “muscle.” This brings a third problem of transfer to light; it is often associated with a conception of schooling as the narrow training of specialized skills, on the assumption that this is a discipline in which the putative general faculties of mind can be fostered. A consequence of this (a fourth problem of transfer) is that so narrow a conception makes it more difficult for us to recognize that “the conception of education as a social process and function has no definite meaning until we define the kind of society we have in mind” (Dewey, 1916, p. 97).

As if this were not confusing enough, a fifth problem of transfer is that the empirical and conceptual claims can be muddled. This is apparent in the recent exchange of views in the journal Educational Researcher between Greeno (1997) and Anderson, Reder, and Simon (1996). Anderson et al. contested the claim they attributed to sociocultural or situated researchers that transfer does not occur (the “second claim of situated cognition”: “knowledge does not transfer between tasks”). Specifically, Anderson et al. cited the work of Lave (1988).

Greeno (1997) responded that they had misinterpreted Lave’s point as an empirical one when in actuality it was a conceptual one. Greeno restated Lave’s argument: the important issue is “how the question of generality and transfer should be formulated, not whether ‘transfer’ occurs” (p. 12)—in other words, a conceptual, not empirical, issue. The lesson here seems to be that, as Beer (1999) warned, in work on transfer we are in “danger of losing analytic power by confounding our conceptual tools with the phenomenon we are trying to understand” (p. 112).

Lave’s Sociocultural Critique of Transfer

The empirical claims about transfer surely can’t be resolved, or even well framed, until we get clear about the conceptual claims. I intend to leave these empirical claims to one side (after noting the sixth “problem of transfer”: that it has not been found empirically as often as many people have expected) and explore the conceptual issue more closely by looking in some detail at Lave’s work, not only because

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9Of course one can attempt to sidestep this problem by trying to define transfer in operational, that’s to say empirical, terms. For example, “One says there is transfer when the progress obtained in the course of learning a certain form of activity involves an improvement in the performance of a different, more or less related, activity” (Segall, Dasen, Berry, & Poortinga, 1990, p. 197). But this merely shifts the locus of the problem, for judgments of “progress” and “learning” and “more or less related” would themselves have to be stripped of their conceptual components for this operationalization to succeed.
this was the topic of the debate between Greeno (1997) and Anderson et al. (1996), but also to consider in detail a sociocultural approach to the issue of transfer. Let’s go back to Lave’s original and thoughtful analysis of learning and the question of transfer in her 1988 book Cognition in Practice. There, one of her central claims was that “The inadequacies of ‘learning transfer’ ... have theoretical roots” (Lave, 1988, p. 71), and a central aim was to trace and critique these roots to articulate a more adequate understanding of cognition and of learning.

Chief among these theoretical roots, in Lave’s (1988) diagnosis, is a “functionalist” conception of knowledge as “tools” for thinking, “appropriated” into the tool kit of mind, transported from one situation to another, and applied to new tasks. The tools are assumed to be independent of the situations in which they are used, unchanged as they are taken from one task to the next. Such tools may be seen as either special purpose or general purpose, but in either case the tool metaphor is a misleading and misguided one, Lave argued. One might consider this a “bionic” version of the mind as muscle conception; education offers not a more exercised and stronger mind, but a bigger and better equipped tool chest.

This functionalist conception of knowledge at work behind the scenes in research on the transfer of learning is, Lave (1988) proposed, merely one version of a much more extensive misconceptualization of knowing and thinking as requiring abstraction and decontextualization. More adequate knowledge—educated, scientific—is in this account detached from space and time, from specific contexts, from concrete experience. (The link between this and the toolkit conception is in a nutshell that, thus detached, knowledge becomes a transportable, transferable, tool.) An epistemology is at work here, Lave continued, that presumes a distinction and division between scientific and everyday thinking and assigns priority to the former. The exemplary person, the goal of learning, of education, in this epistemology, is the rational, professional scientist and problem solver. (See van Oers, 1998, for a related criticism of the equation of development with decontextualization.)

Like Dewey (1916), Lave (1988) traced the conception of transfer to an underlying view of mind, of knowledge, and of thinking. And, like Dewey, she looked beyond this to see a theory of society. Functionalism, whether it is in psychology, sociology, or anthropology, offers an account of society as “a set of macrostructures already in place, a fait accompli to be internalized by individuals born into it. Consensus—shared norms, values and culture more generally—is the foundation of social order” (Lave, 1988, p. 7). In functionalist social theory, society and mind are taken to be “self-perpetuating, closed, input/output systems” (p. 191), “seamless wholes” composed of parts in functional relation.

Unknowingly and so unquestioningly guided by assumptions such as these, cognitivist researchers typically study transfer, Lave (1988) pointed out, by setting up a “matching game” with their participants where problems are imposed rather than encountered, and where a standard of ideal correct understanding is the criterion for adequacy of performance. This is just like what happens in school, Lave added—and the significance of this connection is something I explore shortly.

Lave’s (1988) own research showed that qualitatively different practices of mathematics, for example, can be found in different settings (p. 63; cf. Nunes, 1999, for a review of this and related work). Furthermore, a person’s performance on school tasks is often worse than their performance on a street task. This has led Lave to propose that math, among other kinds of knowledge, is not just a mental activity, not simply a tool for thinking that becomes part of the tool kit of the mind. Relations among persons, activities, and contexts are always involved in an activity like mathematics, and must be examined if we are to understand performance of math in different settings—that is, what’s typically taken to indicate the presence, or absence, of transfer.

In fact, Lave’s (1988) view is not so much that performance is different in different settings, for that would imply an enduring underlying competence, but rather that qualitatively different arithmetical activities are at work here; different and distinct “language games,” to use Wittgenstein’s (1953) term. And if these different activities are indeed incommensurate, how could there be transfer among them? “Math practice” or “math competence” is not a skill carried by the learner from one task to the next—it doesn’t take one single, general form. There are “qualitatively different practices of arithmetic in different settings” (p. 63). Indeed, professional mathematicians are currently worrying about the plurality of their mathematics (cf. Ernest, 1993; Rotman, 1993). It seems there are multiple language games even within academic mathematics. With this view of cognition and learning, the theoretical concept of transfer fades out of the picture. Here Lave was developing a line of analysis that can also be found in the work of the Laboratory of Comparative Human Cognition (LCHC). LCHC (1983) offered an account in which “transfer is arranged by the social and cultural environment,” a “shift of focus [that] does not so much solve the transfer problem as it dissolves it” (p. 341, emphasis removed).

In this kind of view of learning and its ostensible transfer, many factors of a task other than its formal mathematical properties will determine the problem it actually poses to the person who encounters it. When a person shows similar performance in different settings or tasks we must look beyond the expertise of the individual to seek an explanation. Indeed, whether two settings are “the same” or “different” is not an objective matter or a natural occurrence, but the product, Lave insisted, of a “constitutive system of social order” (p. 123). The similarity or difference of tasks or situations is the result of both activity by the problem solver and the influence of a larger social and political context—the consequence of transfor-
motions of "structuring resources." One implication of this is that attempts to bring "real-world" problems into the school classroom will founder on the fact that the tasks cannot remain the same. Because the social relations and cultural resources of the classroom are inevitably different from those in the real world, the tasks are always transformed.

Instead of seeing the learner as an enduring, unchanging mind that carries cognitive tools from one material setting to another, Lave (1988) proposed that we should think instead of learners as motivated, concerned "jpf" ("just-plain-fool"), always in social relations and practical activities, in a social world designed to regularly reproduce familiar circumstances. Similarity of tasks and settings, and the routine character of everyday life (the layout of supermarkets, the arrangements of a school classroom), are neither natural facts about the world, nor trivial events; they are social accomplishments that facilitate our successful action.

**TWO REMAINING QUESTIONS**

In sum, Lave (1988) examined the concept of transfer and its associated experimental paradigm to expose conceptions of mind, of knowledge, and of society, and the normative evaluation of types of knowledge. By seeking to flatten or even invert the traditional hierarchy of scientific and everyday knowledge, of formal and informal learning, she offers a conception of cognition as practical and situated in social context. Such "distributed" cognition "takes form differently in different situations" (Lave, 1988, p. 1). This is a powerful reconceptualization of cognition and learning, one that avoids appeal to the "miracle" of transfer and defines new research programs significantly different from artificial transfer experimentation.

But some questions remain. The first is this. Lave's (1988) proposal is that people act in situationally specific ways. If, as Lave put it, "cognition" is seamlessly distributed across persons, activity and setting" (p. 171), does anything remain personal? Given the "specificity" and "discontinuity" of cognitive activity, what becomes of the person? If the appropriate unit of analysis is the (hyphenated) "person-acting," socially constituted and entailed, "quite different from a 'person'" (p. 180), has the person vanished entirely?

It seems to me that Lave's (1988) work, like sociocultural work more broadly, is reaching for an understanding of the person, of the human being, that is quite different from that of cognitive psychology. But the picture is not entirely clear. One extreme reading of this new understanding—how some cognitivists seem to read it, with alarm—would be that the person is epiphenomenal, only apparently existing, actually just the froth on waves of practical social activity. This would indeed be a radical decentering of our sense of who we are. Is Lave suggesting what Foucault (1973) famously proposed, in The Order of Things, that "man is only a recent invention, a figure not yet two centuries old, a new wrinkle in our knowledge, and that he will disappear again as soon as that knowledge has discovered a new form" (p. xxiii)? And again,

man is an invention of recent date. And one perhaps nearing its end.... If those arrangements [that made this invention possible] were to disappear as they appeared... one can certainly wager that man would be erased, like a face drawn in sand at the edge of the sea. (p. 387)

Is the sociocultural perspective this "new form" of knowledge in which man disappears, an unneeded epiphenomenon? Or can we still say that a person does in some way endure from setting to setting; that when learning occurs something changes in the person qua person, not only in the person's participation as member of a specific community of practice? Perhaps Lave doesn't take as extreme a position as Foucault, but doesn't the sociocultural conception of cognition risk dissolving the person into whatever community of practice, whatever language game, they happen to be a member of? Lave does acknowledge that her "attempt to make explicit some of the issues in a consistent theory of the person acting overreaches the limits of the empirical research and is thus necessarily both sketchy and speculative" (1988, p. 180). I want here to extend the sketch and continue the speculation, for I believe sociocultural work is onto something very interesting here.

So my first question is, how do we think and theorize systematically about the person within a sociocultural framework that emphasizes situational specificity and the distributed character of cognition?

And the second question follows from the connections that both Lave (1988) and Dewey (1916) observed between transfer and schooling. The question is this: If schools don't provide either general or specific "cognitive tools," what do they do? Lave pointed out (and the quotations earlier in this article suggest that many would agree with her) that transfer is "assumed to be the central mechanism" for schooling. If transfer is misconceived, what does go on in school? If the concept of transfer rests on false dualist (Dewey) or functionalist (Lave) preconceptions about mind and knowledge, what does that say about schooling? If the effectiveness of schooling, and of other kinds of learning, is not to be measured by assessments of transfer, how is it to be judged?

(Let me note in passing that we have unearthed here several more "problems of transfer": the [seventh] problem that schooling has arguably been based on misconceptions, and the [eighth] problem that we can't, if Dewey [1916] and Lave [1988] are correct, use transfer either to assess the outcomes of schooling, or to understand how schooling works.)

The answers to these two questions—"what becomes of the person?" and "what do schools do?"—are closely linked. I propose that schools engage in the practical and political matters of transforming the kind of person a child becomes (which means that "what becomes of the person?" is not just a theoretical but a practical
and political question). Only once we grant this can we grasp the full import of Dewey’s assertion that “the conception of education as a social process and function has no definite meaning until we define the kind of society we have in mind” (p. 97).

And only then can we consider under what circumstances, if any, schools should produce students who can “transfer” in the way measured by cognitive science. To simply assume that schools graduate problem solvers is to ignore—or worse, to hide, by taking one position as natural and consequently indubitable—the question of the proper relation between schools and the larger social order, a relation that is complex, contested, and changing. Schools do not simply prepare “problem solvers” of a particular kind, they help transform children into the workers and citizens who will reproduce our society, or who will transform it.

To try to provide answers to the two questions I have posed, we (meaning sociocultural researchers) need to try to better conceptualize both the person and the larger society in which learning and schooling occur. But I get ahead of myself: let’s consider how these two questions have been taken up so far.

First Question: What Becomes of the Person?

When Lave and Wenger (1991) insisted on “a very explicit focus on the person, but as person-in-the-world, as member of a sociocultural community” (p. 52), they glossed over the complication that social world and sociocultural community are not in fact equivalent. We never leave the social world, but we do move from one community of practice to another. If we grant Lave and Wenger’s central claim that when a learner, an apprentice, is transformed, a wider process is both the locus and the precondition of that transformation, and that the larger community is reproduced (and perhaps transformed) by and through that transformation of the apprentice, we are still left with the question of what endures when a person makes such a move.

A variety of answers to this question have been offered by researchers who are, broadly speaking, sociocultural. I briefly consider just three here: those of Hanks (1991, 1996), Greeno (1997; Greeno and the Middle School Mathematics Through Applications Project group, 1998), and Lave and Wenger (1991) themselves.

In his introduction to Lave and Wenger’s 1991 book, Situated Learning, the linguist Bill Hanks took up this question. How, he asked, shall we describe “the detachability of ... skills from the participatory contexts in which they were acquired” (p. 19)? Hanks proposed that what is “portable” when a person moves from one community of practice to another is “modes of acting and problem solving, not a system of rules and representations” (p. 20). In, for example, an employee’s rise through the corporate hierarchy (Hanks’ example), what is taken along are “portable interactive skills,” an ability to “coparticipate” that provides “the matrix for learning.” Not “schemas,” but “how to actually do practices”: a “prerelative grasp of complex situations...the ability to improvise” (p. 20). And this might rest in turn on the “preparedness and flexibility of the learner” (p. 21).

Hanks (1991) later employed similar notions in a much more elaborate description of the “coherence” and “regularities” of “communicative practice” that avoided resorting to formalist, rule-bound notions such as “the closed system of a grammar” (Hanks, 1996, pp. 11–12). The terms of Hanks’ formulation sound a little like Dewey’s (1916) suggestion that “initiative, inventiveness, and readaptability” are qualities that, once fostered, show up in different settings. These, Dewey said, are what good schooling should provide—flexibility, elasticity, reaction to novel and emergent circumstances. But I think that there is a significant difference for, after all, is “portability” the right way of framing this question? It still hews close to the tool metaphor, and it begs the question of who is doing the porting. Nonetheless, Hanks’ efforts show I think, the broad relevance of this first question. Important issues of developmental continuity and change are involved.

Greeno (1997), in his reply to Anderson et al., although not denying the empirical reality of so-called transfer (he asserted that learning can have “general consequences” for behavior), suggested that cognitivists typically perform “a factoring between knowledge and tasks” (p. 11) that is misleading and conceptually misguided. Greeno described this factoring in terms similar to Lave’s: Cognitivists have typically viewed knowledge as though it were some kind of structure or substance whose possession or lack thereof we can attribute to a knower. Greeno proposed that the focus should instead be on “knowing,” conceived of as a pattern of participation in interactions within a system. The result of such a change in focus is, Greeno wrote, that it becomes apparent that “generality of knowing” is more accurate phrase than “transfer of knowledge” (p. 7). Although knowledge can seem like some kind of thing, knowing is an activity. Only when we assume that we’re dealing with something thing-like in learning does the issue arise of whether or not it “transfers.” In other words, Greeno sought to reframe the conception of transfer by emphasizing the way learning can foster a way of acting that can show up in different situations.

This proposal led Greeno (1997) and his colleagues to articulate a “situative perspective” in which “learning and development are viewed as progress along trajectories of participation and growth of identity ... [and] students develop patterns of participation that contribute to their identities as learners” (Greeno and the Middle School Mathematics Through Applications Project group, 1998, p. 9).
Lave and Wenger (1991) suggested that we should think of learning “as the historical production, transcription, and change of persons” (pp. 51, 52). And Lave (1992) describes learning again as “a process of coming to be, of forging identities in activity in the world... grounded in a social ontology that conceives of the person as an acting being, engaged in activity in the world.”

There is an important difference in this last answer, I would suggest. It takes us beyond consideration of epistemology into the terrain of ontology. Claims that learning involves changes in what (or how) someone knows become also, or instead, claims that learning involves changes in who someone is, changes in the person’s being. There is an indication here that sociocultural theory involves not just a new view of knowledge and knowing but a new conception of what it is to be human. This ontology is, however, by no means fully spelled out. And perhaps for this reason it has largely escaped the attention of many commentators on situated accounts of learning (or simply baffled them; Anderson et al. [1996] responded, “we really do not know what Greeno means by a student’s ‘identity as learner’” [p. 19]). But, ambiguity and uncertainty notwithstanding, this aspect to sociocultural theory is, I think, very exciting.

An Ontology Struggling to Emerge

In a recent article, Goicoechea and I took a shot at articulating the “hidden ontology” we see struggling to emerge in the sociocultural perspective on learning, and sketched how it plays out in school. Our is an effort to develop this ontological answer to the question, “what becomes of the person?” (Packer & Goicoechea, 2000).

Goicoechea and I see a nondualist ontology at work in sociocultural work, one that leads to a much richer conception of learning than transfer research has typically assumed. As we describe this ontology, coming to know is part of a larger process of coming to be a particular kind of person. This transformation is not only a matter of becoming a participant in and member of a community of practice, because there are costs to membership. We articulate six central tropes to this ontology:

1. The person is constructed.
2. In a social context.
3. Formed through practical activity.
4. Formed in relationships of recognition and desire.
5. That can split the person.
6. Motivating the search for identity.

Every community splits, divides, and alienates its members, so that they must struggle for identity, striving to become self-same. The costs of participation must be figured into any equation of learning; Indeed, the very capacity for what we typically call “cognition” is the result of a splitting, a division of mind from body and from world, and of appearance from reality.

The struggle for identity shows in the attitude a participant adopts within a community and its practices. It might seem that attitude is something rather superficial and trivial, but we think otherwise. Dewey (1916) asserted that good schooling should foster “attitudes” that show up in different settings, and he meant something rich by this, for he considered that “character and mind are attitudes of participative response in social affairs” (pp. 316–317). Attitude is an embodied grasp of who one is—one’s rights, one’s obligations, one’s possibilities—in short, an identity. In this account, what becomes of the person, what endures from one setting to another, includes both the splitting (cf. Debold, in press) and the attitude adopted to overcome it.

This probably sounds very abstract. In a moment I will concretize these suggestions about the sociocultural ontology of the person by illustrating how they get played out in schooling. But before I can do this I must turn to the second question: What do schools do?

Second Question: What Do Schools Do?

Lave and Wenger (1991) insisted that the theory of learning that they termed "LPP"—"legitimate peripheral participation"—is not an "analytical viewpoint" or an "educational form... a pedagogical strategy, or a teaching technique" (p. 40). It does not have "prescriptive value" (p. 50) as something to be implemented or operationalized. It's simply a way of looking at all kinds and occasions of learning, including what takes place in schools.

And yet at the same time Lave and (1991) Wenger acknowledged that their characterizations of schooling were "contrastive, even oppositional." For example, "the organization of schooling as an educational form is [wrongly] predicated on claims that knowledge can be decontextualized" (Lave & Wenger, 1990, p. 40), and "pervasive claims concerning the effectiveness of schooling... stand in contradiction with the situated perspective we have adopted" (p. 40). They noted that schools commodify learning and that testing in schools establishes the exchange value of knowledge; here, the motivation of learning has become "acting on the person-to-be-changed" instead of "increasing participation" (p. 112). Learning is "distorted" as a result.

And earlier Lave (1988, p. 35) described how school problems are "constructed 'off-stage'" just like tasks in transfer experiments, and how the practical origins of both lie in the evaluation of student performance by comparison with a standardized ideal (p. 37). There are, it seems, good communities of practice and bad ones, and school is one example of the latter.
My point is not to challenge these evaluations and diagnoses, for I think they have validity, but rather to ask how they arise. How do we get from a new conceptualization of learning to a critique of schooling? From a description to an evaluation; from an is to an ought? The source of these evaluations is to be found in Lave's (1988) criticism of the functionalist epistemology that she sees underlying both transfer experimentation and formal schooling. As I noted, Lave saw this epistemology resting on a functionalist social theory in which society is assumed to be orderly and essentially constant, and culture is “naturalized” (p. 92). Lave wrote that functionalism “treats processes of socialization (including learning in school) as passive” (p. 8), and that it is “more ideology than theory” (p. 192).

The implication of this description is that functionalism, by treating society as orderly and unchanging, delegitimates any call for social transformation and improvement. It is the political stance implicit in functionalist epistemology that Lave (1988) found objectionable, surely, especially when she saw it at work in schools. But in Cognition in Practice Lave didn’t quite come out and say this, and an unintended consequence of this reticence, I believe, is that she didn’t make a clear distinction between what schools do do, and what they could and should do. The criticism of schooling here sounded ahistorical, almost essentialist.

Is it fair to accuse functionalism of having, or implying, a political stance? These are my words, not Lave’s, and perhaps they are a little clumsy. Functionalist social theory has taken a wide variety of forms, and these have been targets of a range of criticism (e.g., Giddens, 1977; Habermas, 1989/1981). But there does seem to be a central problem to functionalist theory. It is one elaborated and emphasized by Habermas (1989/1981, pp. 199ff): the failure of the functionalism of Parsons and others to “grasp the pathologies that emerge in the modern age” (1989/1981, p. 292). In brief, functionalism equates reason with technical, means-ends, instrumental rationality, and it equates progress unequivocally with rationalization and abstraction. The consequence is that functionalism is a theory “purified of all social pathologies” (p. 299). It cannot grasp the paradoxes of modernization, the “conspicuous aporias of modernity—the crisis phenomena that characterized the growth pattern of capitalist modernization” (p. 293). In particular, it cannot grasp the “loss of meaning” and the “loss of freedom” that modernization has given rise to. It cannot grasp the central conflicts and contradictions of modern society.

An explicit critique of functionalism, then, would note its tendency to reduce normative questions to technical issues, and its failure to appreciate the paradoxical consequences of development, both societal and individual. We can hear echoes of the former in the way “the problem of transfer” has become technical (When does it happen? How can we foster it?), rather than normative (Ought we to foster transfer?). We hear echoes of the latter in the common presumption that schools are a place of harmony between societal needs (e.g., for trained workers) and personal development (e.g., fostering “higher order” thinking).

Lave and Wenger (1991), then, started by offering a description of schooling but moved quickly to its criticism. Their negative evaluation stemmed from a diagnosis that schooling in some way presumes functionalism, and that this is an inadequate conception of society. I suggested, following Habermas, that this inadequacy is that functionalism does not recognize the costs that come from modernization, from development, only the benefits. But if not a functionalist conception of society, then what? Sociocultural theory, it seems to me, has the opportunity, even the obligation, to articulate a more nuanced account of society and social change. An account that grants, for example, that modernization typically introduces a process of social abstraction, to pick just one of its aspects, which not only mystifies itself as decontextualization, but also has sociological and psychological costs (cf. Berman, 1982).

Dewey (1916), too, was evidently very unhappy with the state of public schooling in his time. He was equally outspoken about what schooling could achieve. He was aware of the complex linkages between schooling and the larger society, and also of the peculiar inequities and dynamic, change-oriented character of U.S. society. Indeed, he viewed schooling as definable only by reference to a vision of how society should be. As he put it, “Since education is a social process, and there are many kinds of society, a criterion for educational criticism and construction implies a particular social ideal” (Dewey, 1916, p. 99). More particularly,

To say that education is a social function, securing direction and development in the immature through their participation in the life of the group to which they belong, is to say in effect that education will vary with the quality of life that prevails in a group. Particularly is it true that a society which not only changes but which has the ideal of such change as will improve it, will have different standards and methods of education from one which aims simply at the perpetuation of its own customs. (p. 81)

Dewey (1916) noted that to the extent that our society is a melange of differing communities it will make little sense, either practically or ethically, to try to prepare

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6The word *aporia* derives from the Greek *aporia*, meaning lacking a path, passage, or way. Modernity, in Habermas’ analysis, has caused us all to lose our way, both collectively and individually. Functionalism fails to grasp this because of its “conceptual harmonizing of the rationalization of the lifeworld with the increasing complexity of the social system” (Habermas, 1981/1989, p. 292). That’s to say, the modernization (increasing complexity) of a society’s political and economic systems is assumed, a pri-
children for membership of only one. On the contrary, what he judged necessary in complex modern society was the ability to participate in many different groups and communities, to counteract the centrifugal forces of the claims of these many different groups, and also to give people "an opportunity to escape from the limitations of the social group in which [they were] born" (p. 20). And he considered his society to be one that had formulated the "idea of education as a freeing of individual capacity in a progressive growth directed to social aims" (p. 98).

Dewey was also well aware of economic and political deformations of schooling. In the midst of the World War I he posed a question that remains worth asking today:

Is it possible for an educational system to be conducted by a national state and yet the full social ends of the educative process not be restricted, constrained, and corrupted? Internally, the question has to face the tendencies, due to present economic conditions, which split society into classes some of which are made merely tools for the higher culture of others. Externally, the question is concerned with the reconciliation of national loyalty, of patriotism, with superior devotion to the things which unite men in common ends, irrespective of national political boundaries. (1916, pp. 97–98)

Dewey's (1916) notions that schools should counteract centrifugal forces, or that they should free individual capacity, are certainly not the only possible answers to the question of what schools should do, and they may well not be the best ones, but my point is that such notions arose from Dewey's understanding of the relation between schooling and the larger social order, and that we need to continue to be mindful of this relation to recognize the plural and contested functions that schooling serves. To do this requires that we have something of an articulated understanding of what that larger social order is, as well as a vision of what it could be. Sociocultural theory, by and large, has not explicitly addressed the issue of how communities of practice relate to the economic and political systems of the state or nation. It has not sought to explicitly "define the kind of society we have in mind" (p. 97) when prescriptions are made about learning and schooling. But a critique of schooling requires exactly this.

Schooling As Changing the Person

The nondualist ontology I have sketched offers a way of understanding what happens in school. In the traditional classroom, children become "students," an abstract social position (Dreeben, 1968) that is defined by the community of practice as an impersonal way of relating to the "teacher" (cf. Packer & Greco-Brooks, 1999). Several splits are involved: binary divisions of mind from body, reason from emotion, and thought from action (Martin, 1993). The classroom is a new community of practice in which student and teacher are controlled by apparently objective constraints, and in which they engage with abstractions: entities understood in terms of apparently independent, decontextualized properties. These abstractions cannot exist in their own right, however. They must be continually reproduced in the practices of the community, in part in the way school demands that "good students" become skilled in use of the symbolic media of reading, writing, and arithmetic. These representational systems can foster a range of different modes of engagement, (Scribner, 1968/1971), but in the traditional classroom they are generally used to produce a mediated, objectifying attitude to what has previously been grasped with immediacy (Serpell & Hatano, 1997).

Recognition is provided to children through an "axis of achievement" (Parsons, 1959) that rewards achievement—motivation. Evaluating student work is the institutionalized way the teacher gratifies the children's desire for connection and recognition, not meeting these needs directly but transmuting them. Put very crudely and incompletely, living as an abstraction prepares children to be citizens in a modern abstract society; sorting them along the axis of achievement awards the "badges of ability" (Sennett & Cobb, 1972) that legitimate the economic structure of society. Thrown into the classroom community, children can adopt an attitude of opposition (cf. Willis, 1977/1981) or of alignment. This attitude is actively chosen within the field of possibilities defined by the classroom community of practice (cf. Packer, in press).

This quick sketch is intended to illustrate how a richer theory of the person, as ontologically transformed in sites of learning, can help us grasp how schools work, how "mind" is formed. But what goes on inside the classroom is not the whole story. I've not yet made good on my promise to situate the community of practice of the classroom within economic and political institutions and processes.

An opportunity to begin to do this came when I conducted fieldwork in a small, working-class school district adjacent to a General Motors (GM) assembly plant slated for closing (Packer, 2001, in press). GM was struggling with the transition from Fordist to post-Fordist production, and the impact on the community was dire. The governor, keen to lure industry by offering a better educated workforce, implemented a "quality reform" package (statewide testing, accountability, charter schools, etc.). At the same time the National Science Foundation awarded funds

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Dreeben (1968) recognized these positions but explained them in terms of socialization into roles. The task is the opposite: to explain how a child becomes able to live an abstraction, a role, in concrete behavior.

3Parsons recognized this axis (indeed, he named it) and described it perceptively. But he also wrote approvingly of its social function, while I wish to call this into question.

I appreciate that I'm wading here into deep waters in which there swirl a vast literature and conflicting claims. There seems general agreement that (a) schools are about becoming literate, that (b) literacy can change the child's mode of understanding, but that (c) school apparently does not change a child's mode of understanding. Clearly there's something wrong with this picture. I'm betting that the conception of schooling as fostering ontological change will help resolve this contradiction.
for “systemic reform” as part of its State Systemic Initiative (alignment of teacher education, curriculum, assessment, etc.).

I was forced to compare local reform efforts with these larger scale state and federal school reform initiatives. They embodied competing, even incommensurable, conceptions of what schools should do. The local reformers appreciated that learning is embedded in the relationships and culture of the classroom. They sought to transform that culture, and redefine the relationship of “student” and “teacher.” The larger initiatives failed to grasp this relational and cultural character of teaching and learning, but their impersonal rationalities nonetheless had powerful unanticipated consequences, erupting into the local, everyday practices of the classroom and disrupting them. The systemic reforms treated school as a delivery system whose components required alignment for more equitable delivery of higher level instruction. The quality reforms treated school as a production process whose efficiency needed improving, to better serve the needs of business and industry. The governor’s focus on standardized testing to measure student achievement and school quality cut to the heart of the relationship between students and teacher, as it altered the terms of recognition. Testing caught the classroom in the web of a “network-like ontology” (Latour, 1997) extending far beyond the local community, so that the kind of person a child became was now determined by distal sites of power.

Understanding all this required consideration of the dynamic character—the “creative destruction” (Schumpeter, 1955, 1951)—and the class relations of a capitalist economy. It required attention to the financial devices (property taxes, grants, vouchers, etc.) with which local, state, and federal agencies seek to influence schools. And it required attention to the fact that in a society of conflicting and competing interests and values, such as ours, schools will be contested territory—groups will struggle to influence the institution which cultivates children and shape it to their particular ends. Public schools in the United States have played the role of assimilating immigrants, of sorting children on the basis of “natural ability,” of fostering adjustment, and now they are being pressured to deliver “higher order thinking skills.”

These struggles reflect the fact that the question “what should schools do?” has no fixed, final answer. And they reflect the contradictions, paradoxes, and aporias of a capitalist democracy. Calls for school reform cannot be fully understood, I suggest, without attention to the enduring inequalities of our society, and its turbulence. Schooling itself must be reconceptualized as a praxis wherein children are transformed, in the face of multiple, often contradictory, political, and economic demands.

CONCLUSIONS

I traced the argument, forged by both Lave (1988) and Dewey (1916), that conceptions of transfer rest on mistaken assumptions about mind, about knowledge, about society, and about what it is to be human. For both Dewey and Lave, criticism of transfer led to critique of schooling. I suggested that Lave’s criticism of schooling followed from her diagnosis of the linkages between transfer, functionalist epistemology, and functionalist social theory. I have not tried to articulate Dewey’s position beyond pointing out his awareness of several features of the society of his time, but clearly he too saw links between learning understood as transfer, the design of schools, and their societal context.

In seeking to foster transfer (and measure it), schools perpetuate not only a misleading decontextualized and dualist conception of knowledge but also a narrow and simplistic conception of society—as natural, unitary, and smoothly functioning, as somehow maintaining itself independent of human agency, and as unproblematically furthering the interests of all its members equally.

I think that the argument can also be cogently made that to the extent that researchers find, empirically, students who demonstrate transfer from one task to another, those researchers have succeeded only in finding the kind of person who has accepted their definition of two situations as the same. Transfer—as defined by cognitive science—occurs when a student, a learner, goes along with the researchers’ definition of two situations as equivalent. And this occurs when all of them are ignoring considerations other than the abstract “problem-space” of a task, when they are applying a narrow, technical rationality, neglecting any communicative or emancipatory concerns (cf. Habermas, 1971). Such an attitude, Lave (1988) and Dewey (1916) would, I think, agree with me, serves only to perpetuate the status quo.

I raised two questions, and offered the beginnings of an answer to each of them. What becomes of the person in learning? The sociocultural perspective suggests that learning involves change not just in what someone knows, or the way they know, but in who they are. And if learning is a matter of ontological change, then surely this is the way we must think of schooling too. The answer to the question, “What do schools do?” must be, in broad terms, that school changes the kind of person a child becomes, though different schools, of course, will change children in different ways. Isn’t this why Dewey wrote of the “formation of mind” in school? And this is how Dewey could go further, to make prescriptions about the kind of person that should be fostered by schools in a society such as ours.

These considerations have led me to propose that sociocultural conceptions of learning should be developed in two complementary directions. The conception of what it is to be human (that’s to say, the ontology of the person) and the conception of the larger social order both currently remain at best largely implicit in sociocultural theory. A benefit of these developments would be provision of the grounding for a thoroughly sociocultural reconceptualizing of schooling. We need to better understand the paradoxes, pathologies, aporias, and crises that schooling operates within, and can itself give rise to. The extension of sociocultural theory into an ontology of the person and beyond the local community of practice into po-
political and economic structures and processes, with a grasp of the complexity and contradictions of modern society and a recognition that we are not addressing purely technical matters, may lead to a deeper sense of responsibility for what we are dealing with in schools and raise the level of debate on school reform. Functionalism isn't adequate here; we need to attend to the way our society's bureaucratic and economic systems are penetrating the classroom community of practice and seeking to rationalize it. And, in contrast, to the way many educators understand the relational and cultural character of teaching and learning.

But I also believe that the question of what schools should do is best decided in a political process of extensive debate. A sociocultural account of school as changing who children are can foster such a debate, but it shouldn't dictate its outcome. My own opinion is that what schools should do is neither prepare children for one specific community (as Dewey [1916] pointed out) nor make them rational, detached problem-solvers (as Lave [1988] pointed out). What's required if children are to become adults who can negotiate the rapids of modern society is the fostering of a different attitude, one of appreciation of the complex, dynamic character of society, one of understanding that there will be conflicting interests and different perspectives in any situation, perspectives that must be recognized and understood before the situation can be transformed, people's differences reconciled, and the problem "solved."

Sociocultural work should not become sidetracked into a simple rejection of schooling, for it can offer a way of grasping the character of school and its role in contemporary society that enables reformers to undertake, if we wish, what Dewey (1916) considered the crucial task: the design of forms of schooling that can "gradually modify the larger and more recalcitrant features of adult society" (p. 317). That is, I think, a noble goal: Not "transfer" but "transformation." Not people who simply react to situations that others—experts, researchers—have defined as "the same," but people who can respond with creativity and initiative to new situations, new circumstances, and find fresh solutions to stale, familiar problems. The capacity for this type of response amounts to being a different kind of person. The fundamental problem of transfer is neither the empirical one (does it occur?) nor the conceptual one (how to theorize it?). It is an ethical one.

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10A difficulty here is that the term "flexibility, along with creativity and initiative, has been hijacked by those who argue that schools should prepare workers for the complex workplace of postfordism. I don't think this is what Dewey had in mind!

A version of this article was presented at the 1998 AERA annual meetings in San Diego, in the symposium "If Not Transfer, Then What?"

REFERENCES


The following typographical errors occur on pages 378–379. The terms mechanical and organic were reversed accidentally. The changes are noted in italics:

The division of labor is, of course, one the most venerable concepts in the social sciences. Economists like Adam Smith and Karl Marx both recognized that divisions of labor made work processes more efficient, but held very different views about the effects of these divisions on the well-being of society and the individual. Emile Durkheim addressed the topic in The Division of Labor in Society (published in France in 1893) asking questions about the origins and functions of the division of labor in modern society. For Durkheim, there were two basic types of solidarity to be found across societies. In some societies solidarity is based on societally enforced similarities between persons, which Durkheim called mechanical solidarity. In other more highly evolved societies, organic solidarity is achieved not by enforced similarities but by complementary differences between people within and across various social units (e.g., professions). Unambiguously, Durkheim asserted the moral superiority of societies based in organic solidarity. In making these distinctions, one of Durkheim’s central concerns was “the connection between the individual personality and social solidarity” (Durkheim, 1997/1993: xxx), and he believed that, as societies evolved from mechanical to organic solidarity, increasingly complex and autonomous individual personalities would develop in parallel.