

1 The practice of learning

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The problem with “context”

This book grew out of the work of a two-part conference in which the participants came together to consider what we initially

Seth Chaikin and I initiated this project, but we discussed it with Steinar Kvale very early on and he has been our colleague and advisor on the project ever since. Roger Säljö was exceptionally kind and efficacious in organizing the second meeting of the conference and arranging to fund it through his department at Linköping University, Sweden. The Spencer Foundation generously provided travel support for conference participants. William Schonfeld, dean of the School of Social Sciences at the University of California, Irvine, funded the first meeting. This is just one example of his steady support over the years, for which I am grateful. At UCI, Norma Mendoza did a wonderful job of organizing the whole enterprise. Together, she and Kathy Girvin created the warm ambience that made it a matter of course that fellowship and intellectual openness would prevail.

In the spirit in which all of the authors have written their chapters with the help of “editorial boards” consisting of three other conference participants, Steinar Kvale has read many versions of this introduction, and provided the encouragement without which I might never have finished it. Ole Dreier, Paul Duguid, Martin Packer, Carol Stack, Lucy Suchman, Randall Trigg, and Etienne Wenger have generously given it critical readings. I am grateful also to participants in the 1991 summer course, sponsored by the Qualitative Research Center of Aarhus University under the direction of Steinar Kvale, at Mols Laboratoriet for their thoughtful reading and suggestions for revisions. Thanks are in order to each of them. A special acknowledgment to our editor, Julia Hough, is also in order: her kindness, patience, and insightful encouragement have contributed greatly to the fruition of the project. Much of the value I have derived from the project has come from collaborating with Seth Chaikin. In order to make sure that our introductory and concluding chapters give two separate commentaries on the book, we have not read or commented on drafts of each other’s chapters. This explains why the introduction does not discuss Seth’s closing chapter, and vice versa. The process of writing the introduction is the only part of the conference and the book that has not benefited directly from Seth’s deep knowledge and his long, critical view of the historically situated practice of social science research.

called "the context problem." All of us were involved in research on socially situated activity. We were concerned about conventional limitations on various approaches to the study of activity. In particular, we wished to explore questions about the "socially constituted world" – the context of socially situated activity – that our work often seemed merely to take for granted.

I had tried in previous research to understand how math activity in grocery stores involved being "in" the "store," walking up and down "aisles," looking at "shelves" full of cans, bottles, packages and jars of food, and other commodities. My analyses were about shoppers' activities, sometimes together, and about the relations between these activities and the distracting material, historically constituted, subjectively selective character of space–time relations and their meaning. Both Seth Chaiklin and I knew that other people conceived of the problem in quite different terms. We decided to hold a collective inquiry into these old, but still perplexing questions (e.g., Bartlett, 1958; Goffman, 1964; Barker, 1963, 1968; Birdwhistell, 1970; and more recently Dannefer, 1991; Haraway, 1988; Rommetveit, 1987, 1988; Hanks, 1990a, 1990b; Goodwin & Duranti, 1992). The time seemed appropriate for such a project, given that theoretical approaches to the study of situated activity, and hence to its situations, had fairly recently become surprisingly diverse and increasingly informed by rich empirical research. The traditions behind the work in this book include activity theory, critical psychology, Barker's ecological psychology, cognitive anthropology, and ethnomethodological perspectives. The contributors include psychologists, sociologists, and anthropologists from Sweden, Denmark, Finland, France, Switzerland, and the United States.

We met first without prepared papers in hand, in order to establish the grounds for a broad discussion of our quite different approaches to the study of situated activity. We assembled again several months later to discuss papers drafted in the interim. We then worked for two years more to develop the papers in ways that reflect the impact of these interchanges on our research.

Why would a diverse group of students of the human condition participate over months, and even years, to try to understand each other's perspective? Seth Chaiklin and I initially proposed the following rationale: Theories of situated everyday practice insist that per-

sons acting and the social world of activity cannot be separated (cf. Minick, 1985). This creates a dilemma: Research on everyday practice typically focuses on the activities of persons acting, although there is agreement that such phenomena cannot be analyzed in isolation from the socially material world of that activity. But less attention has been given to the difficult task of conceptualizing *relations* between persons acting and the social world. Nor has there been sufficient attention to rethinking the "social world of activity" in relational terms. Together, these constitute the problem of context.

The participants in the conference agreed to this set of priorities, with the obvious proviso that relational concepts of the social world should not be explored in isolation from conceptions of persons acting and interacting and their activities. That proviso gradually took on a more central meaning and, as a result, our conception of the common task crystallized into a double focus – on context and, to our surprise, learning. A focus on one provided occasions on which to consider the other. If context is viewed as a social world constituted in relation with persons acting, both context and activity seem inescapably flexible and changing. And thus characterized, changing participation and understanding in practice – the problem of learning – cannot help but become central as well.

It is difficult, when looking closely at everyday activity as the authors in this volume have done, to avoid the conclusion that learning is ubiquitous in ongoing activity, though often unrecognized as such. Situated activity always involves changes in knowledge and action (as Keller & Keller, this volume, argue) and "changes in knowledge and action" are central to what we mean by "learning." It is not the case that the world consists of newcomers who drop unaccompanied into unpeopled problem spaces. People in activity are skillful at, and are more often than not engaged in, helping each other to participate in changing ways in a changing world. So in describing and analyzing people's involvement in practical action in the world, even those authors whose work generally would be least identified with educational foci (e.g., Suchman & Trigg or Keller & Keller, both this volume) are in effect analyzing peoples' engagement in *learning*. We have come to the conclusion, as McDermott suggests (see also Lave & Wenger, 1991) that there is no such thing as

"learning" sui generis, but only changing participation in the culturally designed settings of everyday life. Or, to put it the other way around, participation in everyday life may be thought of as a process of changing understanding in practice, that is, as learning.

Learning became one focus of our work, even where unintended, partly because of our concern with everyday activity as social and historical process and with the improvisational, future-creating character of mundane practice; partly, also, because those of us whose research has touched on educational questions have come to insist on denaturalizing the social processes that unfold within educational institutions by turning them into analytic objects. So whether the researchers here have approached the problem of context through its temporal dimension, as activity (or practice), or whether they have looked at institutions of learning as contexts, learning has become a central issue.

In the next section a brief description of the chapters provides an opportunity to show how they developed around the issues of context and learning. Next I shall explore at greater length issues concerning the character of learning as situated activity, especially its heterogeneity – the various scopes of social processes (of learning) simultaneously enacted in everyday settings, and their open-ended character. The point is to show how the meaning of "learning" in the research discussed in these chapters differs in significant ways from conventional views of learning. But what, given unconventional conceptions of learning, becomes of the concept of context? The fourth section lays out the views of "context" that assume changing understanding and situated practices to be part and parcel of the lived social world. The discussion of context suggests a problem, however: Conventional theories of learning and schooling appeal to the decontextualized character of some knowledge and forms of knowledge transmission, whereas in a theory of situated activity "decontextualized learning activity" is a contradiction in terms. These two very different ways of conceiving of learning are hardly compatible. Nonetheless, a belief that the world is divided into contextualized and decontextualized phenomena is not merely an academic speculation that can be discarded when found theoretically inadequate or incomplete. This dualistic view of the world has a lively presence in our everyday lives. This dilemma motivates two developments in the

book: On the one hand, these chapters reflect a growing sense of responsibility for historical explanation of central theoretical traditions; it is not accidental that conventional theory here is treated as part of the activity we are studying, rather than as a contrastive object to be discarded (cf. Chalkin's concluding chapter). On the other hand, much of the analysis in the book is focused on the mechanisms by which decontextualization practices are generated in situated ways in everyday life.

Craftwork learning and social production

Traditionally, learning researchers have studied learning as if it were a process contained in the mind of the learner and have ignored the lived-in world. This disjuncture, which ratifies a dichotomy of mind and body, sidetracks or derails the question of how to construct a theory that *encompasses* mind and lived-in world. It is not enough to say that some designated cognitive theory of learning could be *amended* by adding a theory of "situation," for this raises crucial questions about the compatibility of particular theories (cf. Soviet psychologists' discussion of the "match" between psychologies and sociologies in the 1920s: Davydov & Radzhikovskii, 1985, p. 49). Nor is it sufficient to pursue a principled account of situated activity armed only with a theory of cognition and good intentions. Without a theoretical conception of the social world one cannot analyze activity in situ. A more promising alternative lies in treating relations among person, activity, and situation, as they are *given* in social practice, itself viewed as a single encompassing theoretical entity. It is possible to detect such a trend in most if not all of the research traditions represented in this collection – these chapters are working toward a more inclusive, intensive development of the socially situated character of activity in theoretically consistent terms.

Theories of situated activity do not separate action, thought, feeling, and value and their collective, cultural-historical forms of located, interested, conflictual, meaningful activity. Traditional cognitive theory is "distanced from experience" and divides the learning mind from the world. This "release" from the narrow confines of body and immediate experience is rejected on varied grounds in the chapters collected here in favor of more complex relations between

person and world. The idea of learning as cognitive acquisition – whether of facts, knowledge, problem-solving strategies, or metacognitive skills – seems to dissolve when learning is conceived of as the construction of present versions of past experience for several persons acting together (Kvale, 1977; Cole, Hood, & McDermott, 1978; Hutchins, this volume). And when scientific practice is viewed as just another everyday practice (Latour & Woolgar, 1979; Latour, 1987; Suchman, 1987; Lave, 1988), it is clear that theories of “situated activity” provide different perspectives on “learning” and its “contexts.”

Participants in the conference agreed, on the whole, on four premises concerning knowledge and learning in practice.

1. Knowledge always undergoes construction and transformation in use.
2. Learning is an integral aspect of activity in and with the world at all times. That learning occurs is not problematic.
3. What is learned is always complexly problematic.
4. Acquisition of knowledge is not a simple matter of taking in knowledge; rather, things assumed to be natural categories, such as “bodies of knowledge,” “learners,” and “cultural transmission,” require reconceptualization as cultural, social products.

David Pear argues that to explore the meaning of “knowledge” you must begin with what is not knowledge (1972); the present book has taken up this strategy as well. The first chapters are about work, which is not usually conceptualized as learning. A number of other chapters are about failure to learn, which is usually assumed to be something other than learning. If learning is taken to be an aspect of everyday practice, however, such distinctions dissolve.

Several themes that emerge in Part II of the book, “Learning craftwork,” help to reformulate the meaning of learning. These chapters are concerned with what we have dubbed *craftwork*. They are about adults engaged in culturally, socially, historically defined forms of ordinary, productive activity. “Learning craftwork” includes Hutchins’s study of the careers and work practices of navigators on a U.S. Navy helicopter transport ship. Engeström presents his research on changing medical practice in public clinics in Finland, and Dreier discusses his research on therapist–client relations. The work of

artificial intelligence practitioners, viewed as craft practice, is the focus of Suchman and Trigg’s chapter, while the craft of blacksmithing is the topic of Keller and Keller’s. Fuhrer examines the uncommon hazards of unfamiliar activity for newcomers to a career placement center who are trying to track down information about jobs in an unfamiliar setting. The settings for these studies lie outside conventional educational institutions, and away from the usual research populations of children and other academic novices; they focus on prosaic everyday practices.

It should be said that the conceptions of craftwork in most of the chapters bear little resemblance to the small-scale problem-solving tasks typical of cognitive learning research: Forging a cooking utensil, or taking part in the work of a national university examination committee are substantial, meaningful forms of activity. In all cases the work described takes on meaning from its broader interconnections with(in) other activity systems.

Authors in Part II of the book have (re)conceptualized what might be meant by learning-in-practice. They address the question, “if people learn in activity in the seamless way suggested by investigations of situated activity, how does this come about?” They begin by shifting from terms such as *learning* (given its traditionally narrow connotations) to concepts more akin to *understanding* and *participation in ongoing activity*. *Understanding* is assumed to be a partial and open-ended process while at the same time there is structure (variously conceived) to activity in the world. Thus, the indeterminacy and open-endedness of understanding are not viewed as infinite or random. Finally, authors argue that knowledge and learning will be found distributed throughout the complex structure of persons-acting-in-setting. They cannot be pinned down to the head of the individual or to assigned tasks or to external tools or to the environment, but lie instead in the relations among them.

Paradoxically, learning craftwork may appear easy in the chapters in Part II, whereas in Part III it often seems nearly impossible to learn in settings dedicated to education. But appearances are deceptive: Studies in the second half of the book suggest that it is as easy to learn to fail in school as it is to learn to navigate a ship. On the other hand, the studies in Part II show that what people are learning to do is difficult, complex work. The learning is not a separate

process, nor an end in itself. If it seems effortless, it is because in some sense it is invisible.

If learning-in-practice is ubiquitous, what are we to make of educational institutions, formal methods of learning and teaching, and of failure to learn? Part III of the book, "Learning as social production," explores different approaches to the analysis of institutionalized education, to learning identities *as a process*, to learning identities *as products*, to teaching, and to participants' beliefs about knowledge and the everyday world. These chapters focus on how institutional arrangements (such as schools) generate "learners," "learning," and "things to be learned" – in practice. They analyze the processes by which these products of situated activity are socially produced.

Part III focuses on Western cultural institutionalized arrangements for learning and failing to learn. Success and failure at learning are viewed, not as attributes of individuals, but as specialized social and institutional arrangements. There is a strong emphasis on the problematic and differentiated character of what gets learned (e.g., Säljö & Wynndham; Kvale); it depends on the subjective and intersubjective interpretation of the how and why of ongoing activity. National examination systems, placement processes for children nominated for special education, and learning disabilities are analyzed respectively by Kvale, Mehan, and McDermott as what might be called rituals of legitimization or degradation and exclusion. (Latour's analysis of the centralization of control achieved through the mathematicalization of science offers a complementary analysis of institutional arrangements for knowledge and legitimacy [1986].) Likewise, Levine focuses on the social organization of mild mental retardation, arguing that it is the product of a cultural process of ritualized exclusion of some in the name of a normality that, once turned into a goal, becomes unobtainable (Levine & Langness, 1983). Levine, Säljö, and Wynndham, and Minick trace the changing meanings of tasks for learners and teachers alike, and build a rich picture of the situated character of knowing, doing, and learning identities for all those involved.

These chapters provide evidence of the *sociocultural* production of failure to learn (Kvale; Levine; McDermott; Mehan; Minick; Säljö & Wynndham). They are about how people learn identities and identify the situated meaning of what is to be learned, and the specific shaping of people's identities as learners. Thus, Levine in-

sists on the sociocultural construction of retardation within the family in terms compatible with Mehan's analysis of a school system's construction of educationally handicapped children. He shows how parents restrict the experience of developmentally delayed children and are silent to them about the general and extended meanings of everyday activities, a theme that resonates through other chapters as well. Kvale argues that university comprehensive examinations are, from one perspective, tests of students, measuring what they have learned or failed to learn. At the same time, the national system is the means by which representatives of academic disciplines, acting in examination committees, establish what will constitute legitimate academic knowledge, and what lies outside its boundaries. Students who fail (and perhaps the most successful as well) are the sacrificial lambs whose fates give material form to legitimate knowledge. Further evidence that school accomplishments (including failure) are situated and collective is to be found in demonstrations that a child's "handicap" may be reformulated when it turns out to be incompatible with class scheduling requirements (Mehan, Hertweck, & Meihls, 1986), and in McDermott's argument that learning disabilities acquire the child, rather than the other way around. McDermott argues that people are so knowledgeably experienced in detecting, diagnosing, highlighting, and otherwise contributing to the generation of such identities that the society produces its quota of nonactors, or flawed actors, as they participate in the everyday world. As for identifying the meaning of things-to-be-learned, understanders' "conceptions," Säljö and Wynndham (also Säljö, 1982) demonstrate the different meanings students assign to a single task when the task is embedded in different situational frameworks. Minick explores early attempts of primary-school teachers to induct children into a distinctive form of school discourse. These authors provide evidence that tasks are viewed differently, and responded to differently, with characteristic variations in success and failure, when things to be learned are situated differently.

Relations with theory past: Some paradoxes and silences of cognitive theory

Silences and paradoxes are generated in any theoretical problematic: questions that cannot be asked and issues for which no

principled resolution is possible. At least four such issues trouble traditional cognitive theory. They concern those conventional divisions alluded to earlier, between learning and what is not (supposed to be) learning. Resolutions to these difficulties have been anticipated in the four premises concerning knowledge and learning in practice mentioned earlier. The problems include, first, an assumed division between learning and other kinds of activity. Second, both the invention and reinvention of knowledge are difficult problems for cognitive theory if learning is viewed as a matter of acquiring existing knowledge. Third, cognitive theory assumes universal processes of learning and the homogeneous character of knowledge and of learners (save in quantity or capacity). This makes it difficult to account for the richly varied participants and projects in any situation of learning. Finally, there is a problem of reconceptualizing the meaning of erroneous, mistaken understanding in a heterogeneous world.

First, how is "learning" to be distinguished from human activity as such? Within cognitive theories it has been assumed that learning and development are distinctive processes, not to be confused with the more general category of human activity. This involves two theoretical claims that are in question here: One is that actors' relations with knowledge-in-activity are static and do not change except when subject to special periods of "learning" or "development." The other is that institutional arrangements for inculcating knowledge *are* the necessary, special circumstances for learning, separate from everyday practices such as those described in Part II. The difference may be at heart a very deep epistemological one, between a view of knowledge as a collection of real entities, located in heads, and of learning as a process of internalizing them, versus a view of knowing and learning as engagement in changing processes of human activity. In the latter case "knowledge" becomes a complex and problematic concept, whereas in the former it is "learning" that is problematic.

A second, related issue concerns the narrow focus of learning theories on the transmission of existing knowledge, while remaining silent about the invention of new knowledge in practice. Engeström argues that this is a central lacuna in contemporary learning theory (1987). Certainly, any simple assumption that *transmission* or *transfer* or *internalization* are apt descriptors for the circulation of knowledge in society faces the difficulty that they imply *uniformity* of knowledge.

They do not acknowledge the fundamental imprint of interested parties, multiple activities, and different goals and circumstances, on what constitutes "knowing" on a given occasion or across a multitude of interrelated events. These terms imply that humans engage first and foremost in the reproduction of given knowledge rather than in the production of knowledgeability as a flexible process of engagement with the world. Engeström's conceptualization of how people learn to do things that have not been done before elaborates the idea that zones of proximal development are collective, rather than individual, phenomena and that "the new" is a collective invention in the face of felt dilemmas and contradictions that impede ongoing activity and impel movement and change.

Further, part of what it means to engage in learning activity is extending what one knows beyond the immediate situation, rather than involuting one's understanding "metacognitively" by thinking about one's own cognitive processes. Critical psychologists of the Berlin school (e.g., Dreier, 1980, 1991; Holzkamp, 1983, 1987, 1991) insist on the importance of a distinction between experiencing or knowing the immediate circumstances ("interpretive thinking," "restricted action") and processes of thinking beyond and about the immediate situation in more general terms ("comprehensive thinking," "extended, generalized action"). Together, in a dialectical process by which each helps to generate the other, they produce new understanding (see Wenger, 1991).

Doing and knowing are inventive in another sense: They are open-ended processes of improvisation with the social, material, and experiential resources at hand. Keller and Keller's research illustrates this: The blacksmith's practices as he creates a skimming spoon draw on rich resources of experience, his own and that of other people, present and past. But his understanding of the skimmer also emerges in the forging process. He does not know what it will be until it is finished. At one point he spreads one section of the spoon handle for the second time but goes too far and, in evaluating the work, finds it necessary to reduce the width of the handle again. "It is as though he has to cross a boundary in order to discover the appropriate limits of the design" (Keller & Keller, this volume).

The work of researchers in artificial intelligence appears to have the same character. Suchman and Trigg (this volume) describe it as

"a skilled improvisation, organized in orderly ways that are designed to maintain a lively openness to the possibilities that the materials at hand present." And "analyses of situated action . . . point to the contingencies of practical action on which logic in use, including the production and use of scenarios and formalisms, inevitably and in every instance relies."

Fuhrer (this volume) emphasizes the varying emotional effects of the improvisational character of activity. These effects are perhaps most intensely felt by newcomers, but he equates newcomers' predicaments with those of learners in general. He insists that in addition to cognitive and environmental dimensions, there is an emotional dimension to all learning. He argues that "to some degree, all individual actions within everyday settings, especially those of newcomers, are somewhat discrepant from what is expected; the settings change continuously. Most emotions within social situations, such as embarrassment, audience anxiety, shyness, or shame, follow such discrepancies, just because these discrepancies produce visceral arousal. And it is the combination of that arousal with an ongoing evaluative cognition that produces the subjective experience of an emotion."

Given these considerations, Fuhrer raises the question of how people manage and coordinate "the various actions that arise from cognitive, social and environmental demands or goals." Old-timers as well as newcomers try to carry out the usual activities in given settings, but they are also trying to address many other goals, among which are impression management and "developing interpersonal relations to other setting inhabitants. . . . Thus the newcomers simultaneously pursue several goals and therefore they may simultaneously perform different actions."

The third issue, the assumed homogeneity of actors, goals, motives, and activity itself is challenged in many chapters, replaced with quite different assumptions that emphasize their heterogeneity. I believe this view is new to discussions of learning. It derives from an intent focus on the multiplicity of actors engaged in activity together, and on the interdependencies, conflicts, and relations of power so produced. These views are elaborated in this volume by several authors: Keller and Keller argue that "the goal of production is not monolithic but multifaceted . . . based on considerations aesthetic,

stylistic, functional, procedural, financial, and academic as well as conceptions of self and other, and material conditions of work." Dreier proposes that "different participants' interpretations are based on different contextual social positions with inherent differences in possibilities, interests, and perspectives on conflicts arising from different locations." Suchman and Trigg describe artificial intelligence research as a socially organized process of craftsmanship consisting of "the crafting together of a complex machinery made of heterogeneous materials, mobilized in the service of developing a theory of mind." And McDermott proposes that, "by institutional arrangements, we must consider everything from the most local level of the classroom to the more inclusive level of inequities throughout the political economy (preferably from both ends of the continuum at the same time)." These statements refer to a wide variety of relations, but each challenges research on knowing and learning that depends implicitly on a homogeneity of community, culture, participants, their motives, and the meaning of events.

The heterogeneous, multifocal character of situated activity implies that conflict is a ubiquitous aspect of human existence. This follows if we assume that people in the same situation, people who are helping to constitute "a situation" together, know different things and speak with different interests and experience from different social locations. Suddenly assumptions concerning the uniformity of opinion, knowledge, and belief become, on the one hand, matters of common historical tradition and complexly shared relations with larger societal forces (whatever these might mean – now an important question) and, on the other hand, matters of imposed conformity and symbolic violence. Analysis focused on conflictual practices of changing understanding in activity is not so likely to concentrate on the truth or error of some knowledge claim. It is more likely to explore disagreements over what is relevant; whether, and how much, something is worth knowing and doing; what to make of ambiguous circumstances; what is convenient for whom, what to do next when one does not know what to expect, and who cares most about what. There are always conflicts of power, so mislearning cannot be understood independently of someone imposing her or his view. There is, of course, and at the same time, much uniformity and agreement in

the world. The perspectives represented here differ about whether this is always, or only much of the time, a matter of one party imposing assent, subtly or otherwise, on others.

The fourth and final issue concerns "failure to learn." In mainstream theorizing about learning this is commonly assumed to result from the inability or refusal on the part of an individual to engage in something called "learning." The alternative view explored here earlier is that not-learning and "failure" identities are active normal social locations and processes. The latter generates further questions, however: If failure is a socially arranged identity, what is left to be said about the making of "errors"? Given that several of the authors provide novel construals of failure to learn, question the meaning of "consensus," and call attention to the deficiencies of claims that knowing unfolds without conflict and without engaging the interests of involved participants, does the term *error* still have meaning? The answer depends on whose socially positioned point of view is adopted, and on historically and socially situated conceptions of erroneous action and belief. Several of the chapters in this volume develop powerful ways of conceptualizing socially, historically situated nonlearning or mislearning. They discuss nonlearning activities that occur when embarrassment is too great or that result from anxiety, from the social delegitimation of learning or the learner, and from the retarding effects of denying learners access to connections between immediate appearances and broader, deeper social forces, or to concrete interrelations within and across situations (e.g., Fuhrer, Levine). Mehan explores the discoordination of voices in interactions between school psychologist, teacher, and parent, who speak in different "languages" – psychological, sociological, and historical – and between physicians and patients. Engeström locates unproductive encounters between patients and physicians in the mismatch among historically engendered discourses – thus, in practice, among the biomedical and psychosocial registers or voices the physician and patient use for communicating about medical issues.

Hutchins's analysis raises questions about the location of error-making in historical systems of activity and in relations among participants. He describes what it is possible for novice navigators to learn in practice in terms of task partitioning, instruments, lines of communication, and limitations and openness of access for observing

others, their interactions, and tools. He argues that these define the portion of the task environment that is available as a learning context to each task performer – this constitutes the performer's "horizon of observability." The density of error correction (which helps to make learning possible) depends on the contours of this horizon.

In sum, the assumptions proposed here amount to a preliminary account of what is meant by *situated learning*. Knowledgeability is routinely in a state of change rather than stasis, in the medium of socially, culturally, and historically ongoing systems of activity, involving people who are related in multiple and heterogeneous ways, whose social locations, interests, reasons, and subjective possibilities are different, and who improvise struggles in situated ways with each other over the value of particular definitions of the situation, in both immediate and comprehensive terms, and for whom the production of failure is as much a part of routine collective activity as the production of average, ordinary knowledgeability. These interrelated assumptions run deeply through the work presented here.

Context as situated activity

Common concerns – theories of person–activity–world and their intrinsic heterogeneity, and a commitment to the investigation of everyday practice in detail – by no means determine a single theoretical position on the question of "context." Roughly speaking, there are two major viewpoints represented here, built upon these commonalities but differing in their conception of the relations that constitute the contexts, or perhaps more precisely the contextualization, of activity. One argues that the central theoretical relation is historically constituted between persons engaged in socioculturally constructed activity and the world with which they are engaged. Activity theory is a representative of such theoretical traditions. The other focuses on the construction of the world in social interaction; this leads to the view that activity is its own context. Here the central theoretical relation is the intersubjective relation among coparticipants in social interaction. This derives from a tradition of phenomenological social theory. These two viewpoints do not exhaust the positions taken by authors here, but cover the majority.

Analysis of "context" in the activity theory perspective begins with

historically emerging contradictions that characterize all concrete social institutions and relations. Unlike some other traditions inspired by Marxist principles, activity theory emphasizes the non-determinate character of the effects of objective social structures. Differences in the social location of actors are inherent in political-economic structures, and elaborated in specific sociocultural practices. Differences of power, interests, and possibilities for action are ubiquitous. Any particular action is socially constituted, given meaning by its location in socially, historically generated systems of activity. Meaning is not created through individual intentions; it is mutually constituted in relations between activity systems and persons acting, and has a relational character. Context may be seen as the historically constituted concrete relations within and between situations. As Engeström (this volume) puts it: "Contexts are activity systems. An activity system integrates the subject, the object, and the instruments (material tools as well as signs and symbols) into a unified whole . . . [that includes relations of] production and communication, distribution, exchange, consumption." Dreier (this volume) argues that, "The situation stands in particular connections with the overall societal structure of possibilities, meanings, and actions that produce and reproduce the concrete social formation. . . . So the immediate 'internal' connections of the situation are also societally mediated in a concrete and particular way."

Activity theorists also take issue with assumptions that minute actions are the proper object of psychological study. This should not be surprising, given their insistence on the complex interrelations of activity systems and persons engaged in lived practice. In activity theory the term *operation* is most closely equivalent to the conventional meanings of *an action*. But whereas action is typically viewed as a direct, unmediated connection between person and environment, in an activity theory perspective there is always a more complicated relation that mediates between them. In particular, operations, the way in which the goals of actions are implemented or carried out under particular situated circumstances, have no intrinsic meaning of their own. Meaningful actions, entailing complex relations with(in) societal activity systems, give meaning to operations. All of this together constitutes the smallest possible meaningful unit of study in activity theory.

Minute actions are by no means the constitutive elements of "interaction" in social constructionist approaches either. This book contains rich descriptions of the unfortunate *effects* of beliefs that "meaningful activity" is composed, building-block fashion, out of operations (see Suchman and Trigg's description of the artificial intelligence researchers' approach to action, Mehan's description of the assumptions and procedures of school psychologists, and Levine's chapter and his research more generally on approaches to mental retardation).

Säljö and Wymdham offer a good example of relations among actions, operations, meaning, and systems of activity (though they might not use these terms). They describe how children's engagement in action (finding the correct postage for a letter from a postal table) is realized through different operations (e.g., calculating amounts of postage to several decimal places, determining which is the right-priced stamp) in different settings (math classes, social studies classes, and in the post office) in which the situated "sense" of the task differs. The meaning of the postal task cannot be defined independently from the activity within which the problem is posed, and the children's assumptions about what are the relevant premises for action.

The conception of "context" in the phenomenological perspective, in contrast with that typical of activity theories, begins with the premise that situations are constructed as people organize themselves to attend to and give meaning to figural concerns against the ground of ongoing social interaction. Silence, erasure, the construction of boundaries, and collusion are constitutive here (e.g., Latour & Woolgar, 1979, and, in this volume, Suchman & Trigg, McDermott, and Mehan). The figure-ground metaphor highlights the key relation of context and meaning – both determined by the relation and determining of it. McDermott argues that "context is not so much something into which someone is put, but an order of behavior of which one is a part" (see also McDermott, 1980). He draws on Birdwhistell's view of context:

I like to think of it as a rope. The fibers that make up the rope are discontinuous; when you twist them together, you don't make them continuous, you make the thread continuous. . . . The thread has no fibers in it, but, if you break up the thread, you can find the fibers again. So that, even though it may look in a thread as though each of those particles are going all through it, that isn't the case.

Mehan points out that a social constructionist research tradition is concerned with

how the stable features of social institutions such as schooling, science, medicine, and the family are both generated in and revealed by the language of the institution's participants. . . . People's everyday practices are examined for the way in which they exhibit – indeed, generate – the social structures of the relevant domain. . . . Inferences about social structure are permissible only when the workings of the structure can be located in people's interaction.

The major difficulties of phenomenological and activity theory in the eyes of the other will be plain: Those who start with the view that social activity is its own context dispute claims that objective social structures exist other than in their social-interactional construction *in situ*. Activity theorists argue, on the other hand, that the concrete connectedness and meaning of activity cannot be accounted for by analysis of the immediate situation. Thus, Dreier points out a widely held assumption that the context of activity is the immediate surround of specific persons' actions – that the context of action is "the characteristics of immediate interaction and/or participating personalities." Much of his chapter is devoted to argument concerning how this view distorts not only therapeutic relationships but also the analyses typically carried out by social scientists who study therapeutic and other kinds of face-to-face relations, as it erases historical processes, both large and small (cf. Latour & Woolgar, 1979).

The chapters by Suchman and Trigg and by Mehan represent innovative responses from phenomenological researchers to criticisms of the self-contained, ahistorical character of much of that tradition. In fashioning a transitive analysis of social projects, they raise questions about the ground against which meaning in particular contexts is configured, a ground that goes beyond the immediate situation. This involves following projects across interrelated interactional events. (For Mehan the project is the school's decision-making process about where to assign particular students. Objects are the children who become objectified in the bureaucratic work of designating them "learning disabled.") For Suchman and Trigg, the artificial intelligence researchers' project is to find a solution to a theoretical problem in their field; the result is an emerging artificial

intelligence program.) Suchman and Trigg address the issue of how particular craftwork is both constrained by, and takes resources from, the intersection of several existing practices. They analyze connections among what they call the ancestral traditions of artificial intelligence as it organizes its projects around "scenarios" (short, programmatic, storylike proxies for the everyday-world problem the program is supposed to address), and the work of generating formalisms that can be turned into computer programs that will resolve the artificial intelligence problems that motivate the scenarios. "The scenario serves as a coordinating device for project activities distributed in time and space." The segment of work that they analyze "is located in a stream of activities whose concerns are both historically given and projected forward in time." At each step in their analysis they consider how the work in which the researchers are engaged both mediates and is mediated by past and future steps in realizing the project. Suchman has recently suggested that concern with historical mediation has become a point of convergence between activity theorists and phenomenological analysts: The latter are beginning to recognize that immediate situations include historical artifacts, practices, and routines, and that historical practices and artifacts provide resources, interactionally, to be garnered and employed on next occasions (personal communication).

I have sketched two views of the context of activity and tried to indicate some of their implications for conceptualizing action and the mediated interconnections that partially produce its meaning. Both theoretical viewpoints expand the horizons of conventional analysis of situated activity, especially in temporal, historical terms. Rather than contrast them in terms of the original unit of analysis proposed earlier – persons in activity in the social world – it now seems more appropriate to sum them up, respectively, as exploring how it is that people live in *history*, and how it is that people *live* in history. Activity theory reflects the former, and with it the importance of the partially given character of an objectively structured world. Phenomenological views emphasize the latter and with it the partially cogenerated character of a meaningful world.

This seems an odd, felicitous, but still preliminary outcome of our attempts to come to grips with the "context" of activity. The emphasis on the historical mediation of activity in context may provide a

clue as to how to proceed. The chapters stress the importance of interrelations among local practices; they give hints that local practices must inevitably take part in constituting each other, through their structural interconnections, their intertwined activities, their common participants, and more. The next step may be to reformulate the problem of context: Instead of asking, What is the constitutive relationship between persons acting and the contexts with which they act? the question becomes, What are the relationships between local practices that contextualize the ways people act together, both in and across contexts? The work represented here has succeeded in producing this new sense of the problem and, with it, an insistent and appealing recommendation to investigate those interconnections in a concentrated fashion.

Decontextualization as local practice

Usually, contextualized learning is not discussed alone, but as part of a duality of which decontextualized learning forms the other half. But the theories of context discussed in the previous section are intended to apply broadly to *all* social practice: They claim that there is no decontextualized social practice. Such a claim commits us to explaining what has often been taken to be "decontextualized knowledge" or "decontextualized learning" as contextualized social practices. This may not be a simple task: To discuss decontextualization it is first necessary to establish just what is meant, conventionally, by the term *context*. For there has as yet been no discussion of its most common dualistic conception, as a static, residual, surrounding "container" for social interaction. Given the formalist character of this view it should not be surprising that the head is often also conceived to be a container, in this case, for knowledge, while more general knowledge is the container of more particular knowledge, and language is an inert container for the transmission of meaning. Reminded by a flurry of defining gestures during the conference, Latour pointed out that when most people talk about context, they sketch in the air a shell about the size and shape of a pumpkin. Nor should this come as a surprise:

In all commonsense uses of the term, context refers to an empty slot, a container, into which other things are placed. It is the "con" that contains the "text," the bowl

that contains the soup. As such, it shapes the contours of its contents; it has its effects only at the borders of the phenomenon under analysis. . . . The soup does not shape the bowl, and the bowl most certainly does not alter the substance of the soup. Text and context, soup and bowl . . . can be analytically separated and studied on their own without doing violence to the complexity of the situation. A static sense of context delivers a stable world. (McDermott, this volume)

That this sense of context (and with it common senses of decontextualization) is deeply held and embodied should remind us that a formalist view of context is a key conception in conventional theories of action, thinking, knowing, and learning, with, significantly, deep roots much more generally in a Euro-American worldview.

The prevailing view of context furnishes the ground against which conventional views of decontextualization take on meaning. In fact, a detached view of context seems prerequisite for an analytic conception of decontextualization. In spite of its derivative character, however, we must not lose sight of the fact that decontextualization is the more salient and highly valued of this asymmetric, dualistic pair. Until quite recently it has been more significant in the prevailing lexicon than context, especially where knowledge and learning are at issue.

To decontextualize knowledge is to formalize it (to contain it, pour it into forms) at a more inclusive level. To formalize is to contain more forms. It follows that abstraction from and generalization across "contexts" are mechanisms that are supposed to produce decontextualized (valuable, general) knowledge. Along with this way of talking about decontextualization go several other claims. First, that movement toward powerful (abstract, general) knowledge is movement away from engagement in the world, so that distance "frees" knowers from the particularities of time, place, and ongoing activity. Second, that language contains and can express literal meaning (Minick, this volume, discussing Rommetveit). Rommetveit (1988) reminds us of "the intuitive appeal of prevailing pretheoretical notions such as, for instance (Goffman, 1976, p. 303), 'the common sense notion . . . that the word *in isolation* will have a general basic, or most down-to-earth meaning.' Such presuppositions seem to form part of the myth of literal meaning in our highly literate societies." A third assumption accompanying claims for the possibility (and power) of decontextualization is that we live in an objective, monistic world. Minick elaborates this point:

Just as the myth of literal meaning posits a language that has meaning independent of local concerns, interests, and perspectives – independent of the formation of “temporary mutual commitments to shared perspectives” – the myth of the “monistic real world” posits a world that can be described and comprehended in isolation from such local concerns, perspectives, and commitments.

Once the separate, inert, objective character of the world is assumed, along with the neutral, disinterested character of knowledge (because it brackets out local concerns), it is entirely consistent to think of institutions in the same terms. From this, assumptions are derived about the privileged character of schools and of therapeutic encounters as sites where knowledge is produced, where learning takes place, but where what is learned is independent of, and not affected by, the circumstances in which it is produced. Further, it is assumed that what is learned is of a general nature and powerful because it is *not* embedded in the particularities of specific practices. These assumptions are brought into question simultaneously once learning is conceived as situated practice.

McDermott, Minick, and other authors would surely agree that the pair of terms, context and decontextualization, has been borrowed unreflectively from the culture more generally, rather than derived analytically or theoretically. Also, according to the authors in this book, the dualistic division and categorization of experience that privileges “decontextualization” does not offer an adequate explanation of thought or action. Nonetheless, this pervasive perspective leads a robust existence *in practice*, in the contemporary world. Euro-American culture instantiates it, and in many ways is predicated upon it. Beliefs, institutions, and a great deal of action operate in its name. A theoretical account of (de)contextualization as situated practice should account for how such formalist views of the world are sustained in practice. Accordingly, authors here have raised the question, How are conventional conceptions of context and decontextualization, and the myth of an objective, disinterested, asocial world, *made* part of our social practices, in situated ways? And how do conventions (beliefs and practices) that enact contextual dualism shape other social practices? I have come to see these questions and ethnographic explorations of this issue as among the most novel and interesting contributions of the book.

Minick provides an example of a situated practice that inculcates

belief in a monistic world and in literal meaning. Teachers’ use of what he calls “representational speech” reflects the belief that complete, explicit, unambiguous representation in language should be sufficient to convey meaning. This is, of course, one way to subscribe to the myth of literal meaning. It has a crucial corollary: that if complete representation of meaning in language is possible, then the student, the receiver of explicit communication, need attend to nothing except its “literal” meaning. Minick argues that “the introduction of representational forms of speech to primary-school children is . . . a study of their introduction to social and mental activities that take place in this ‘mythical’ monistic real world.”

Minick uncovers situated, cultural political mechanisms that produce “decontextualized” representational interactions. One of these is the switching from commonsense interpretations to representational directives: He describes a grade-school teacher leading children through a lesson, saying “Did I say raise your hand when you finished or did I say put your pencil down?” when the original sense of her instructions had been “Let me know when you’re done.” There is conflict between situational sense and representational directives: this creates uncertainty for children and anxiety about what is the right thing to do; it creates grounds for blame from the teacher, and dependency of children on the teacher because only the teacher can resolve the ambiguity-through-decontextualization she has created along with conflict between situational and “desituated” meaning.

There are numerous ways, then, in which the specific social practices involved in interactions around literal meaning are means by which teachers maintain control of classrooms and move pupils through activities in an efficient and mechanical fashion. (These practices themselves are, of course, situated in other relations that make control of children and their activities a customary, even required, aspect of teachers’ everyday lives.) One of the ironies of this is that the very act of attempting to turn language into the only site of meaning creates at one and the same time ambiguities of meaning and a basis for controlling learners. It reduces what is being communicated to operations (in activity theory terms), with predictable results. There is a second irony as well: It was emphasized earlier that improvisation, ambiguity, and openness are essential aspects of activity.

Teachers' attempts to disambiguate directives to children are no exception. Attempts to decontextualize – to achieve self-contained precision and thereby both generality and literalness of meaning – create ambiguity in the process of stripping away meaning. Thus, teachers' decontextualizing practices have (unintended) effects, which change practices and shivel the meaning of learning for all concerned.

Representational speech is not, of course, limited to the classroom. Mehan focuses on this and other mechanisms for turning myth into reality in practice. "When technical language is used and embedded in the institutional trappings of the formal proceedings of a meeting, the grounds for negotiating meaning are removed from under the conversation." Under such circumstances, institutionally grounded representations predominate (e.g., psychiatrists' representations prevail over patients' and, as Kvale demonstrates, examination committees' prevail over students'). The effect of technical language (its technologism is not accidental) is to bracket and delegitimize the situated understanding of other participants, including parents and teachers. Further, this particular "universalizing language, as invoked in settings such as meetings to decide on the classroom placements of children with learning difficulties," decontextualizes the (absent) child by reducing her or him (beforehand and elsewhere) to a collection of discrete variables. Mehan argues that this technical, psychological, scientific language is a common source of power and authority in many contemporary settings. Patterns of removal and alignment across socially constructed boundaries (classroom, testing the child, discussing the child's placement) are material aspects of decontextualization processes.

Although there are many other ways of demonstrating the absurdity of claims that educative institutions such as school and therapeutic relations are privileged "noncontexts" for context-free learning, the examples here of the specific, situated practices of decontextualization are surely among the most dramatic. Further, they offer clues as to lines of historical work within which to locate future analyses of the situated practices of craftwork and the nature of learning identity formation described throughout the book.

There are yet other mechanisms for giving material existence to the myth of monistic realism: Dreier describes two such processes, one of them "desubjectification".

Reasons for action are constitutive of human agency, but clients' subjective rationality only appears from an external perspective – the therapist's interpretation. . . . The therapist couches the subjective rationality of his own actions from the external perspective of his client's needs (purporting to have no needs or interests of his own). The consequence is the desubjectification of therapist-client relations.

He goes on to describe processes of "deinstitutionalization," which also help to privilege therapy as "the building of an anywhere and nowhere." As Suchman and Trigg describe them, the careers of artificial intelligence researchers follow a path of decontextualization (and recontextualization) through increasingly specialized communities – positioned mediations that distance the everyday practice of artificial intelligence research from some of its claimed constituencies, and insulate it into closer connections with others. "In the course of their work, researchers selectively reproduce, make relevant, extend, and transform problems and solutions given by their *membership in progressively more specialized technical communities*, each with its own assumptions, commitments, and identifying technologies" (emphasis mine). This work, Dreier's, and that of other authors here as well offer clues as to the relations between specialization and professionalization and specific social practices of decontextualization.

The authors here take situated activity to be far more complex and contentful than formal notions of context could contain. They locate learning throughout the relations of persons in activity in the world. From this point of view decontextualization and appeals to it are active, interested denials of contextual interconnections (i.e., they are processes of erasure, collusion, and domination). Most broadly, decontextualization is a key process in the production of the culture of monistic realism, the historically located societal formation in which, as Mehan observes, there is consensus around psychological, technological, and institutional means for objectifying persons and legitimizing "generalization."

Conclusion

As the conference drew to a close, we tried to sum up our common endeavor. Three guidelines emerged for organizing the introduction to this book. The conference participants preferred not to emphasize learning because the traditionally narrow genre of re-

search conjured up by the term might get in the way of readers' interest in our work. They hoped I would convey the spirit of the commitment we forged in the time we spent together to the value of the *differences* among our theoretical positions. These differences offer multiple possibilities for interrogating social experience and this is a central intention of the book. And we all hoped to produce chapters reflecting movement forward, motivated as little as possible by opposition to other views, which surely has driven us too much in the past. We intended to produce positive accounts of our changing understanding of how to investigate social practice.

I have not complied very well with any of these guidelines, and each one deserves comment. First, I have indeed given singular attention to questions of learning. The chapters clearly warrant it: They provide the most positive possible answer to fears that learning is a desiccated topic. The authors have produced fascinating analyses of learning as situated practice. In doing so they have opened out the scope of studies of learning, erasing old barriers between learning and participation in ongoing social practice, and locating failure to learn squarely in the latter.

Second, there is a remarkable variety of theoretical positions represented in the book. I initially intended to recount these differences more thoroughly, but found myself drawn to other issues instead, and have tried to demonstrate that a coherent account of understanding in social practice is to be found among the diverse analyses of these chapters. Together they demonstrate that learning and not learning, contextualization and decontextualization, are socially situated and socially produced. To the extent that my argument for coherence is convincing, however, it obscures our intention to focus on the significance of the disjunctions among our positions. The book would repay reading in two ways: for its strong common argument and for the resources of diversity it offers as well.

Finally, we have been trying to explore new approaches without minding ourselves in the burdens of defending the value of doing so, and we have tried to go beyond mere critique of dominant theories. There are reasons to question the feasibility of this goal. If our relations with currently dominant theoretical positions are difficult to escape, the problem may be one of rethinking *how* to struggle with such hegemonic theoretical practices. It seems useful to stop treating

mainstream theoretical positions simply as unmediated alternatives to our own practice and start looking at them as historical manifestations of the sociocultural formation in which we are participants, and to which we have concrete connections of various kinds (cf. Chaikin, 1992; Kvale, 1992).

There are not many precedents for doing this. Prevailing theory concerning learning, thinking, and knowing is for the most part ahistorical and acontextual in its understanding of itself. Further, so little has been done to denaturalize and historicize its analytic categories and questions that the assumptions and concepts of mainstream theories (though not the jargon) are difficult to distinguish from folk beliefs and practices. This should serve notice that the everyday, situated practices that the authors here set out to describe may be significantly intertwined with the theory we are trying to transcend. We are left with the task of historical analysis and explanation of how rationalist, individualist, empiricist conceptions of learning, knowing, and the social world are kept alive and well in the culture at large.

This book does not offer such an analysis of Euro-American culture. Some of the studies analyze detailed aspects of specific changing social practices. Others assume that what they have to say about Euro-American culture is incidental, a means through which to explore conceptions of socially situated activity. In neither case do I detect a keen sense that the crucial "move" in these projects is to lay bets on what constitutes the most important cultural underpinnings of the world in which we live, so as to study those in particular.

In the previous section, however, I argued that these studies examine sociocultural processes of participation, production, myth and sense making, inculcation, and (de)legitimation, in situated processes that *are* central to Euro-American practices and worldview. Furthermore, I argued that the central cultural significance of the understanding practices that have been analyzed in these chapters is not accidental. The question is, How did authors in the book come to investigate processual mechanisms by which mainstream, hegemonic, theoretical practices help to constitute the societywide underpinnings of belief and action about thought, knowing, learning, and the world? It may be that the answer lies in our inability to escape from

"saying no" to older theoretical practices: Existing theoretical perspectives contribute in a serious way to the sustenance of the existing social formation; to take them on, to turn mainstream theories into objects of analysis and critique, while accounting for their crucial role in organizing and justifying numerous Euro-American social practices, is to take on the culture more broadly. In short, there may be advantages as well as drawbacks to our unsuccessful struggles to stop grappling with old paradigms.

This suggests a program for the developing practice of studying situated activity and learning. It might begin with a conception of learning as an aspect of culturally, historically situated activity. It would focus on the content of and the ways people participate in changing social practices singled out for study *because* they appear to lie at the heart of the production and reproduction – and transformation and change – of the sociocultural order. The present work furnishes strong beginnings for such a project.

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Part II

Learning craftwork