Instrumentalizing the Truth of Practice[1]

Katie Vann[2] and Geoffrey C. Bowker[3]

Knowledge of the knowledge of labor for sale

To speak of the commercialization of epistemology is to speak of the commodification of knowledge about knowledge. To speak of the construction of knowledge about knowledge is to invoke the convergence of interests around the object that this 'knowledge about' constructs. [4] The configuration of interests makes this object, and the object so made holds the interests together. In this way, to speak of the commercialization of epistemology is to invoke a configuration of instrumentalizations of the object posited through epistemological endeavors.

Not that the meaning of the object has to be the same for the interests that it holds together. Its meaning must be malleable enough to be incorporated into the different shapes of different lives, but be robust enough to provide fodder for its incorporation.

This practical ambivalence of objects created as knowledge gives life to the political economy of academic research: it is difficult to survive in the ivory castle making knowledge that few recognize or are interested in, though it is possible to survive even if others use the object differently. Thus, to speak of the commercialization of any knowledge is to speak of the mapping of a commercial logic onto an

[2] Katie Vann is a Postdoctoral Fellow at the Laboratory of Comparative Human Cognition and Lecturer in the Department of Communication. University of California - San Diego, CA. Her Dissertation is *The Duplicity of Practice* (2001). University of California - San Diego, CA. kvann@weber.ucsd.edu.
[3] Geoffrey C. Bowker is a Professor of Communication. Department of Communication. University of California – San Diego, CA His most recent book, with Susan Leigh Star, is *Sorting Things Out: Classification and it's Consequences* (1999). Cambridge, MA: MIT Press. bowker@ucsd.edu.
[4] Isabelle Stengers suggests that the 'truth' of scientific findings is predicated upon a relationship of forces that are organized around it. 'An interested scientist will ask the question: can I incorporate this "thing" into my research? Can I refer to the results of this type of measurement…In other words, can I be situated by this proposition, can it place itself between my work and that of the one who proposes it?' (Stengers 1997, p. 83) Latour (1988) deals with this issue when he discusses Pasteur's mobilization of forces around microbes. Microbes become 'real' scientific objects through the various interests (commercial and otherwise) that converge on them.

already complicated political economic process at work among interest formations. Commercialization of knowledge follows the footpath of its many instrumentalizations.

We want to consider the commercialization of a particular knowledge about knowledge. Specifically, we want to trace a particular configuration of interests that appear to have been built around a concept of 'practice'.[5] 'Practice', often associated with Marx's term 'praxis', has become an increasingly regular invocation within the social and historical sciences since the 1960s, marking an analytical turn away from structural functionalist approaches.[6] A concept of practice was developed in particular ways through the efforts of social scientists working in educational research and research on work, to develop a theory of learning and knowledge production. Jean Lave's seminal *Cognition in Practice* accomplished important work along these lines.

We want to mark a movement of this orientation into a management-consulting domain, where it has been commercialized. Today, the locution 'communities of practice' is often invoked as a term for the kinds of social learning formations to which Lave called attention. A key moment of the trajectory we mark is a book by Etienne Wenger, a colleague and previous co-author of Lave. (Lave and Wenger 1991) Wenger's *Communities of Practice* (1998) popularized a concept of practice in the managerial domain, a process whose contours are suggested in a blurb for his book.

> The idea that an organization is a constellation of 'communities of practice' is a genuine breakthrough, and that overused word 'breakthrough' is merited. It is an idea that has profound implications for what it takes to run a successful organization in our frenetic, chaotic times. In this book, Etienne Wenger lays the groundwork for the kind of thinking that will be necessary for any surviving organization in the 21st century. Wenger and the IRL are redefining the cutting edge. And they are right! Pay attention! Please! (blurb by Tom Peters, author of Circle of Innovation – Wenger, 1998)

In the trajectory we mark, a particular knowledge about knowledge has become robust enough to be instrumentalized differently. In Lave's work it is instrumentalized as part of a critique of normative psychological testing at use in formal educational assessment. More recently, the locution 'practice' has traveled into organizational management consulting communities, and has been transformed into an acronym – 'CoP's' – to refer to social formations that are either recognized as such by managers or intentionally created in organizations in hopes that benefits may be garnered from the learning and knowledge production processes that communities of practice are said to instantiate.[7] One service that commercializes an interest in communities of practice frames the matter thus:

---

[5] Although 'epistemology' is typically construed as a speculative, philosophical enterprise, in this article we will be treating it as a science. This move is principled for reasons discussed in the next section.
[6] See Ortner 1994 for a history of this movement; see Bonnell and Hunt 1999 for more recent developments in this field.
[7] Intentionally created social formations, CoP's have emerged in companies such as Intel, Dow Chemical, National Semiconductor, Xerox, British Petroleum, IBM, and Monsanto. Consulting firms specializing in this approach often facilitate their development. E-commerce platforms have been constructed with a view to enabling CoPs, and web discussion groups from which one can acquire research results pertaining to communities of practice formations can be joined for fees ranging from $8K to $12K.

New economic growth continues to be centered on the ability to leverage corporate knowledge. Although nearly every company practices some form of knowledge management, very few are able to fully leverage knowledge to drive bottom line results. Much of this failure stems from the inability to identify preexisting knowledge communities...Best Practices, LCC's knowledge exchange 'Knowledge Alliances: Driving Sales, Service, and Innovation Through Communities of Practice' will identify the practices used at leading companies... Through the insights shared in this study, our firm can help your company successfully realize the full value of its knowledge communities. (Best Practices, LLC)

In pointing to this trajectory, we mean to explore how a concept of practice is re-instrumentalized and reconfigured as a commercial object with specific uses. We trace one strand in a much larger configuration of interests and inquire how practice is instrumentalized in a particular academic formation, how it is there constructed as an object of knowledge, and how it is re-instrumentalized as a commercial object. Each mode of instrumentalization reflects imperatives of the two communities in their respective, particular historical moments. It appears that as we move between the two social formations, 'practice' is configured first as an instrument of a de-reifying critical theory, and then as an instrument of economic value creation. We consider this configuration of interested relations and how knowledge about knowledge is transformed as it moves between the two. The commercialized object with which we are concerned is a concept of the knowledge of labor. To know about the knowledge of labor is to know something about the creation of value creating labor. This knowledge comes to have value for those who control labor, and it is this value to which the commercial process is mapped.

Practice as the object of a scientific epistemology

To enter the case more deeply, we juxtapose two descriptions of organizational design, articulated roughly 30 years apart, in which we see two very different pictures of knowledge to be utilized by managerial communities. Compare:

An organization can be pictured as a three-layered cake. In the bottom layer, we have the basic work processes – in the case of a manufacturing organization, the processes that produce raw materials, manufacture the physical product, warehouse it, and ship it. In the middle layer, we have the programmed decision-making processes, the processes that govern the day-to-day operation of the manufacturing and distribution system. In the top layer, we have the non-programmed decision-making processes, the processes that are required to design and redesign the entire system, to provide it with its basic goals and objectives, and to monitor its performance. (Simon 1960, p. 40)

with

We know that the most valuable knowledge often resides where we are least able to see or control it: on the front lines, at the periphery, with the renegades. Companies that embrace the emergent can tap the logic of knowledge work and the spirit of community. Those that don't will be left behind. (Brown and Gray 1995, p. 6)

These two pictures– one of work organization as fixed hierarchy, the other of work organization as fluid emergence - rest on very different epistemological commitments. Knowledge *happens* differently and is forged by different kinds of people in each scenario. The crucial difference seems to turn on their respective ideas about the relation between knowledge as a kind of action on one hand, and pre-given structure on the other. The first proposes a structure – like a cake – composed of levels. The levels are differentiated by how structure in the form of a program can determine decision-making at each. The text notes that programmed knowledge occurs in routine, repetitive decisions, and organizations develop specific processes for handling them. Non-programmed knowledge occurs in one-shot, ill-structured novel policy decisions. These are handled by general problem-solving processes. (Simon 1960) The difference is to be reflected in the hierarchical structures of the organization.

The image here is that the form that knowledge takes can be pre-specified. The content of some decision-making is traceable to knowledge in the form of a pre-given program, whereas other decision-making is ill-structured and must occur in the shot of the moment. The structure of the cake relies on the ability to distinguish between where and by whom structured and ill-structured problem-solving will be carried out. And distinguishing this relies on an epistemological commitment: structure in the form of a decision-making program (rules) can, in pre-specifiable cases, determine the content of decision-making. These pre-specifiable cases constitute the bottom layers of the cake. Like a stage of puppets following the movements of their strings, the lower levels of the cake are where structure does its work: rules are made and followed. Something above, a program, is in control.

The second picture, of work as fluid emergence, by contrast invokes the image of organization as a caldron of knowledges bubbling up all over the place. There is no pre-given program determining where it might turn up next. Thus, Brown and Gray suggest that 'the real genius of organizations is the informal, impromptu, often inspired ways that real people solve real problems in ways that formal processes can't anticipate. When you're competing on knowledge, the name of the game is improvisation, not standardization'. (Brown and Gray 1995, p. 2-3) The creation of knowledge – *real* knowledge– does not follow formal, pre-given standards of action. It is inspired *in spite of them and the hierarchies they imply.* A renegade real is out there busting at the seams: it is out of control.

The scenarios contrasted here espouse two very different commitments about the relationship between pre-given structure and knowledge-bearing action. The picture of work organization as fluid emergence has proliferated in management theory discourse over the past five years, and provides a resource for the sales pitch of consulting firms considered to be innovative in their outlook.

It seems to us that the intelligibility of the transition relies upon important changes on the epistemological scene that have emerged in American academia since the 1960s.[8] Jean Lave's *Cognition in Practice* carried out important work along these lines. An anthropologist concerned with questions of

---

[8] We will not give an adequate treatment of these changes here. We note only that they involve a broad renunciation of functional models of society. The renunciation finds leverage variously through notions alternative to 'structure', such as 'subjectivity', 'culture' and 'practice.'

learning and education, Lave was working in response to then extant functionalist paradigms in psychology and educational assessment. In her account, functionalism regards society

> as a set of macrostructures 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)

Lave's efforts to counter functionalism were informed by her readings of Giddens and Bourdieu, of whom she provided the following quotes:

> we have to avoid any account of socialization which presumes either that the subject is determined by the social object (the individual simply as 'moulded' by society); or, by contrast, which takes subjectivity for granted as an inherent characteristic of human beings, not in need of explication. Giddens, 1979; quoted in Lave 1988, p. 15)

> We shall escape from the ritual either/or choice between objectivism and subjectivism…only if we are prepared to inquire into the mode of production and functioning of the practical mastery which makes possible both an objectively intelligible practice and also an objectively enchanted experience of that practice. (Bourdieu1977; quoted in Lave 1988, p. 16)

These texts were important points of departure for Lave. They pointed toward a theory of 'practice' somewhere between structuralist and phenomenological accounts.[9] 'They are critical of functional (and also phenomenological) problematics' and are

> concerned with dialectical synthesis, and assume the partially determined, partially determining character of human agency…Their work recommends the study of social practice in spatial and temporal context. For the synthetic character of these theories makes it difficult to argue for the separation of cognition and the social world… (Lave 1988, p. 16)

The task for Lave then was to articulate a synthetic theory of learning as practice.

Practice seems to have interested Lave as a window through which to view a deeply political issue. She articulated a relationship between functionalism as a particular social-theoretic position, on one hand, and, on another, a 'web of relations' between internalism as a theory of learning and institutionalized systems of formal education.

> Functional theory permeates rationales, explanations, and the organization of schooling in American society, and imbues much of anthropological, educational, and psychological theory with its particular logic…In particular, it is enacted in schools by their claim to treat all children alike…and its view that unequal ranking is an epiphenomenon of differential

---

[9] She wrote: 'Practice theory, which treats macrostructural systems as fundamental, and focuses on relations between structure and action, is thus not to be confused with a phenomenological view, which treats social systems as (only) epiphenomena of intersubjectively constituted experience. That both focus analysis on the details of everyday practice should not obscure the essential differences between them.' (Lave 1988, p. 193, n7)

merit (...) the functionalist position contains a theory of learning: in particular, that children can be taught general cognitive skills (e.g., reading, writing, mathematics, logic, critical thinking) if these 'skills' are disembedded from the routine contexts of their use...Schooling reflects these ideas at a broad organizational level, as it separates children from the contexts of their own and their families' daily lives. At a more specific level, classroom tests put the principle to work: they serve as a measure of individual, 'out of context' success... (Lave 1988, p. 8-9)

By contrast, Lave was after a practice theory of learning that would accord legitimacy to different knowledges in addition to those that would be prescribed by such normative functionalist models. Such an approach would have political implications. It would reveal the extent to which meritocratic social relations are predicated on particular normative commitments that are embedded in the apparatus of scientific psychological testing being utilized as a formalized means of assessing students' performances. Experimental tasks were derived from normative models that foster a 'static, objectified conceptualization of processes of reasoning, a transformation that occurs between their initial formulation and their incorporation into experimental procedures'. (Lave 1988, p. 37). Such an approach to formal education is guided by the normative orientation of the experiments: 'so long as evaluation of subjects' performances is the goal, and it is to be achieved by comparison to an ideal view of correct understanding, then the experimenter must determine what will constitute correct problem solutions...The task then becomes to get the subject to match the experimenter's expectations'. (Lave 1988, p. 37)

Here Lave was calling attention to reificatory tendencies of the normative experimental models. The internalist tradition is associated with the reification process due to its reliance on pre-given, normative models of cognitive skills, the decontextualization of action from its everyday forms for the purposes of testing, and the reduction of social processes to internal mental states thought to precede the testing situations. Practice thus emerges as an approach that attempts to show that the ascription of internal mental states to experimental subjects relies on the constructions of the scientist, and that human life has a social texture which the functionalist/internalist methodologies are incapable of seeing. 'Practice' emerges as an instrument of a de-reifying, critical social theory crafted to problematize the prominence of normative functional models as formal educational assessment techniques. It is de-reifying precisely in how it distances itself from the normative impositions of 'structure' as found in the functionalist framework, through an appeal to a living process that such impositions would have obscured.

But there is more at stake here than an appeal to a politics of knowledge about learning. Creating a concept of practice to do this critical political work would require a characteristically scientific move. For it is not just that the functionalist paradigm undergirds meritocratic educational relations with ethically repugnant social consequences; that it fosters competitive relationships among children that they will come to expect in their future as wage earners; that it supports stratified social relations of relative human value and access to social wealth; or even that it configures very particular aspirations and elevates them to the status of universal necessities. Meritocracy fostered by the use of a functionalist apparatus is problematized in virtue of the fact that it rests upon an epistemologically

flawed science. In its place is erected a non-reifying science of practice, a contextual science with an alternative object of investigation and an alternative technique.

Tough work, given a division of intellectual labor – specifically that between Psychology and Anthropology – as institutionalized in the production relations of the academy. Lave saw such a division of labor as one which effectively

> legislates away major questions about social diversity, inequality, conflict, complementarity, cooperation and differences of power and knowledge, and the means by which they are socially produced, reproduced and transformed in laboratory, school, and other everyday settings. (Lave 1988, p. 10)

To debunk both the academic division of labor and the normative testing apparatus which it supports, a theory of learning as practice had to establish that culture and social organization matter to psychological life in ways different from those suggested by internalist models. That is, functionalism/internalism has an account of the 'social'. But as a component of learning, this social is a *content* – a *fait accompli* to be internalized. Here, psychological assessment is concerned with whether this internalizeable content is seen to be coming back out of the subject through performance on tasks. Assessment wants to know what a masterful puppet the subject is. Such a science needs no anthropological comprehension of puppets, because *they are all the same* except in the degree to which they reproduce the movement of the strings, the program, the *fait accompli* to be internalized.

But if learning is seen as a *creative process* that is different from internalization, and if culture and social organization are seen as fundamental to this process, then the study of learning cannot proceed on the basis of the academic division of labor between psychology and anthropology.

> If everyday experience is the major means by which culture impinges on individuals, and vice-versa, then functionalist and social practice theories imply different answers to questions about *what* cognitive activity is the appropriate object of analysis. In traditional cognitive experiments subjects' performance on laboratory tasks are compared to a normative model, to an ideally meritocratic performance. In practice, theory attention shifts to everyday activity, which becomes both the measure of the experimenter's ability to design generalizable experiments, and the source of explanations for varieties of performance in those experiments…This motivates…a different set of problems and questions than the study of virtuoso performance and peoples' failures to produce such performances. (Lave 1988, p. 15)

It seems here that the inadequacy of the internalism/formal education web is framed as an effect of the incorrectness – the 'ecological invalidity' - of a science of assessment that is predicated on functionalist logic. Indeed, at stake here is a question of what it is that a good science of knowledge making *studies* and *how* its investigation will be carried out. Working against the politics of functionalism works hand in hand with building an alternative scientific object and an alternative scientific technique. For example, Lave does a lot of work along these lines in her critique of a study of mathematical reasoning among grocery shoppers, from which a practice approach would be distanced.

Capon and Kuhn began with a Piagetian model of formal operational approaches to ratio comparison. There is no evidence that the lived-in world directly influenced their choice of research topic, in fact it appears the other way around: given a determination to study proportional reasoning, they asked themselves, 'where would you find ratio comparisons in a mundane situation?' Unit price comparisons in the supermarket had this form, and met the ideals of formal operational arithmetic and good consumer behavior at the same time… It did not lead Capon and Kuhn to observational research inside a supermarket, nor did the location of their experiment outside a supermarket lead them to investigate how grocery shopping activity might have shaped arithmetic. (Lave 1988, 114)

Lave differentiated her study: 'It began with an ethnographic question, "what sort of math occurs in grocery shopping?" It led to observation in the supermarket and the singling out of best-buy problems because they looked rather like "real math" (a point at which normative conceptions of mathematical knowledge shaped the construction of this experiment)'. (Lave 1988, p. 114) Here, to understand learning is not just to understand a process different from the internalization of structure: it is also to understand learning by using a particular knowledge-creating method.

To call into question the credibility of the web of relations supported by functionalist logic, Lave appeals to a particular truth that the functionalist methodology is unequipped to see. The internalist theory hinges on a reifying methodology that conceals the reality of human learning as a social phenomenon. The inadequacy of the internalist methodology is constructed here through an appeal to a *lived mode* of human experience to which the internalist methodology is ill-equipped to gain access. In its place, an anthropological/ethnographic science is proposed. Appealing to an ethnographic reality becomes a means to debunk the internalist science, and this reality is accordingly a means of political critique. To study practice is to study a *lived-in* world. It is to see a reality that the normative model will have missed. It is an ethnographic seeing that does not impose normative reifications, and that, as such, sees a kind of pre-reified, knowledge-bearing subject. This is to engage a particular politics. Educational assessment predicated on a contextual science with a new object would constitute a web with an alternative politics. But it is also to build a scientific object. The 'object' of this science is 'practice' and works as an instrument of political critique.

In this way, an epistemology of practice entails a set of claims about how people learn and how knowledge is shared among social actors. According legitimacy for this description, however, the articulation of the theory contrasts its own epistemic foundations as scientific methodology with that of another. In this sense, practice epistemology depends crucially on the legitimation of a repudiation of internalist methodological commitments. This means that the development of the practice theory of knowledge entails two epistemic moments, or an epistemological othering at two levels. At the first level, a distinction is articulated between an internalist theory of knowledge and a practice theory of knowledge. At the second level, an internalist scientific methodology is distinguished from one deemed appropriate for a science of practice. Here, it is an epistemological commitment about what is real and a concomitant theory about what a science of the real consists of.

This double epistemological movement is later taken up by Lave and Wenger, where the critique of functionalism continues.

> Conventional explanations view learning as a process by which a learner internalizes knowledge, whether 'discovered,' 'transmitted' from others, or 'experienced in interaction' with others. This focus on internalization does not just leave the nature of the learner, of the world, and of their relations unexplored; it can only reflect far-reaching assumptions concerning these issues...learning as internalization is too easily construed as an unproblematic process of absorbing the given, as a matter of transmission and assimilation. (Lave and Wenger 1991, p. 47)

What interests us here is how it is not necessarily Lave's or Lave and Wenger's political position on meritocratic social relations that attends the spread of the science they build. Rather, what spreads is the science as such. This invites us to think about the ways in which 'practice' as a scientific object is maintained across different communities where it is instrumentalized differently. Even though the instrumentalizations of the object differ, each acquires power precisely through its appeal to the credibility of the science that posits the object - practice - that it instrumentalizes. Publication strategies employed for this book emphasize its uniqueness and relative credibility as a mode of science.

> In this volume, Lave and Wenger undertake a radical and important rethinking and reformulation of our conception of learning. By placing emphasis on the whole person, and by viewing agent, activity, and world as mutually constitutive, they give us the opportunity to escape from the tyranny of the assumption that learning is the reception of factual knowledge or information. The authors argue that most accounts of learning have ignored its quintessentially social character. (back blurb - Lave and Wenger 1991)

The pitch focuses on differentiating the science of practice from a tyrannical conventional assumption. We are not told exactly what the assumption is. Nor are we told of the politics of the social relations that the assumption upholds. We are told that this obscure and incredible assumption is 'ours' and that the theory developed in the book we hold is an important correction of it. And the corrective science we find inside the book is supported by appeal to an ethnographic seeing.

> Ethnographic studies of apprenticeship emphasize the indivisible character of learning and work practices. This, in turn, *helps to make obvious* the social nature of learning and knowing. (Lave and Wenger 1991, p. 61- our emphasis)

Re-instrumentalizing the truth of practice

A repudiation of conventional understandings of learning is carried into the Wenger text. It moves with a concept of practice across communities, where an expanded configuration of interests is identified.

> if we believe that productive people in organizations are the diligent implementers of organizational processes and that the key to organizational performance is therefore the definition of increasingly more efficient and detailed processes by which people's actions are prescribed, then it makes sense to engineer and re-engineer these processes

in abstract ways and then roll them out for implementation. But if we believe that people in organizations contribute to organizational goals by participating inventively in practices that can never be fully captured by institutional processes, then we will minimize prescription, suspecting that too much of it discourages the very inventiveness that makes practices effective. We will have to make sure that our organizations are contexts within which the communities that develop these practices may prosper. We will have to value the work of community building and make sure that participants have access to the resources necessary to learn what they need to learn in order to take actions and make decisions that fully engage their own knowledgeability (…) A social theory of learning is therefore not exclusively an academic enterprise. While its perspective can indeed inform our academic investigations, it is also relevant to our daily actions, our policies, and the technical, organizational, and educational systems we design. A new conceptual framework for thinking about learning is thus of value not only to theorists but to all of us…(Wenger 1998, p. 10-11)

This provokes the extension of an interest formation. It simultaneously retains a sense of the kind of de-reifying celebration of ingenuity that we saw in Lave, but it begins to re-frame practice as a kind of asset. The subject of practice is not a puppet and, *as such* it is worth promoting. The epistemic orientation proposed here is relevant to academic investigation and it is relevant to the design of organizations. The value of knowledge about practice can spread.

The practical ambivalence of practice as the object of a scientific epistemology can be illustrated if we consider two narrativizations of Julian Orr's *Talking About Machines.* Orr pursued the notion of practice in his ethnographic study of technical workers, and contended that conventional studies of work rely too heavily on definitions of work that are supplied by managers and business administrators.   In such definitions, 'work' is defined as work for which workers are paid, as is determined by managerial conceptions of those activities deemed necessary for production. Orr argued that the epistemic credibility of such definitions is arguable at best. More likely, they give a skewed perception of work and do not include all the activities that are 'really essential to production'. By contrast, Orr identified the activities that are really essential to production with a kind of really real that he had witnessed in the ethnographic present:

The work done by the technicians I studied is often very different from the methods specified by their management in the machine documentation. There is clearly a disparity between the tasks that they are told to accomplish and the means that are said to be adequate to the task. The technicians choose to give accomplishing the task priority over use of the prescribed means, and so they resolve problems in the field any way they can, apparently believing that management really wants accomplishment more than strict observation of the prescriptions for work. (Orr 1996, p. 149)

Stephen Barley[10] wrote the Foreword to Orr's book and emphasized its rich ethnographic description of 'what people do and how they do it'.   Here, a politics de-reification reminiscent of Lave's work is engaged.

---

[10](an organizational scientist and the editor of the ILR Press series on Technology and Work at the time Orr's book was published)

> Orr documents and develops the important and counterintuitive notion that technical knowledge is best viewed as a socially distributed resource that is diffused and stored primarily through an oral culture (…) [he] puts the flesh of everyday life on Lave and Wenger's idea of a community of practice, an idea that promises to contribute significantly to both occupational and organization studies because it enables us to talk about occupational dynamics in situations that lack the institutional supports that sociologists normally attribute to recognizable occupations (…)We learn from this book that technicians' work is not what their managers believe it to be (…)This is because Orr shows us the dignity, the intelligence, the skill, and the dedication that photocopier technicians bring to their work. He rescues what they do and who they are from an invisibility by showing us a piece of their world… (Orr 1996, p. xiii-xiv)

Orr's study became a key player in the narrativization of the communities of practice trope for the managerial community. It was discussed in the article by Brown and Gray for *Fast Company* magazine - written to boost work at Xerox PARC for the business community. There, different aspects of Orr's study of the photocopy technicians are emphasized.

> The story begins in the 1980s. We were looking for ways to boost the productivity of the Xerox field service staff. Before deciding how to proceed, we launched a study. An anthropologist from the Xerox Palo Alto Research Center (PARC), a member of the work-practices team, traveled with a group of tech reps to observe how they actually did their jobs -- not how they described what they did, or what their managers assumed they did. That research challenged the way Xerox thought about the nature of work, the role of the individual, and the relationship between the individual and the company. It was the first shot in a revolution. (Brown and Gray 1995, p. 1)

Brown and Gray emphasize the existence and importance of 'real work', drawing on such phrases as: 'observe how they actually did their jobs – not how they described what they did, or what their managers assumed they did'. Looking closely affords a glimpse at how *real* people solve *real* problems. A special, revolutionary science is at work here; it sees a real beneath assumptions and descriptions. Practice, this real, is some real that is different from workers' own self-understandings *and* from *managers'* understandings of them.

It seems to us that there is an important transposition of the epistemological 'other' of the theory of practice that we saw in Lave. The normative expectations of the functionalist assessment techniques are transposed into the organizational formalizations of work that are predicated on managerial conceptions. There is a real known by a science of practice and there is a non-real posited in the formalizations informing organizational structure. A management consultant working in this vein quotes Brown in a moment in which the science of the real – versus some unreal kind of knowledge - is celebrated:

> corporations must provide support that corresponds to the real needs of the communities of practice…This approach draws attention away from abstract knowledge and cranial processes and situates it in the practices and communities in which knowledge takes on significance. (Brown, quoted in Community Intelligence Labs consulting services, on line- hereafter 'COIL')

The reference to abstract knowledge and cranial processes seems to be situated here as a repudiation of internalist epistemology whose dubiousness is thrown into relief by an appeal to a 'real'. Far more than just two different theories about how knowledge happens in the world, the pictures of organizational knowledge as fixed hierarchy and fluid emergence hinge *on two very different kinds of science*. Unlike de-contextualizing laboratory experiments, or process flows drawn in top floor managerial boardrooms, there is a science of the real that busts at the seams. This science is available to inform organizational design, and it is for sale.

This aspect of the development of the practice theory of knowledge has important consequences for the particular way in which the new epistemology is instrumentalized within the managerial community. The theory of knowledge currently becoming the primary axis of the commercial offerings of these firms implicitly relies on the repudiation of *the kind of science on which internalist accounts of knowledge were based.* And the angling of the ethnographic science toward work is an important moment of the commercialization of the concept of practice, because in this context the object of ethnographic seeing begins to take on an identity as a workplace organizational reality that exists apart from the process by which it is queried, and it becomes a kind of ready-made object in the world that has no genetic relation to the sorts of organizational structures that the normative science that Lave debunked would have framed as the *fait accompli* to be internalized. In other words, 'practice' becomes an already-there thing in the world that is *created by the subjects of practice and not by the organizational structures that posit the subjects of practice as objects of organizational knowledge.* In this sense, in the re-narrativization of 'practice' by managers selling their knowledge of it, the science of the real is taken up but the politics of de-reification is not. It seems to us that this is to forget a crucial aspect of the work that the concept of 'practice' did for Lave: to bring into view the power of an apparatus of seeing to constitute the object which it comes to comprehend. But it is also the case that in building a science Lave posits an 'object' – 'practice' - which is amenable to becoming a ready-made thing in the world that exists as such *apart* from the process by which it is known. This amenability is part of what it takes to be the object of a 'science'.

Practice as hybrid: a dilemmatic object of management

As practice' is re-instrumentalized, the organizational structures built through abstractive management techniques become the analog to the normative preconceptions of the experimental scientists in Lave's story. Knowledge bearing practices in organizations are thus framed as a kind of autonomous force whose genetic relation to organizational structure is obscured. In its form as practice, knowledge does not follow the programs of conventional organizational abstractions; rather, it becomes a kind of natural force. As one consultant states:

> CoP is a phrase coined by researchers who studied the ways in which people naturally work and play together. In essence, communities of practice are groups of people who share similar goals and interests. In pursuit of these goals and interests, they employ

common practices, work with the same tools and express themselves in a common language. Through such common activity, they come to hold similar beliefs and value systems. (from Collaborative Visualization Project – quoted in COIL)

Here, practice seems to have been naturalized, not predicated upon the artifacts of abstractive managerial techniques.[11] It seems to take on a kind of power and autonomy *in spite of* management. An article in *Datamation* hi-lights the naturalness and autonomy of practice. The article is called 'Harvesting your workers' knowledge', and states that 'communities of practice form and share on the basis of pull by individual members, not a centralized push of information'. (Manville and Foot 1996, p. 80). A *Fortune Magazine* article suggests that communities of practice 'emerge of their own accord' and described them as being 'responsible to themselves. No one owns them. There's no boss…People join because they have something to learn and to contribute. The work they do is the joint and several property of the group – *costa nostra*, "our thing" '. (Stewart 1996, p. 173) In Brown and Gray's narrativization of Orr's study, they described a technology that was introduced to the technical reps to facilitate their interactions as a 'free flowing knowledge democracy, much like the natural, informal collaborations among tech reps'.[12] (Brown and Gray 1995, p. 2)

What concerns us about the movement of 'practice' into the workplace is how the object of an ethnographic science becomes a 'real' that is then counterpoised against the abstractions of a conventional management science. In this movement, the subject of practice becomes not just a particular, legitimate knowledge-bearing being, but also, *as such*, the new target for a non-conventional management science. It is the knowledge of a kind of pre-reified ethnographic object.

Here, the services sold invoke the power of a realist, de-reifying science; but then the de-reification aspect is held in reserve and at the same time superceded by a focus on the value implications of the reality that a *flawed* science of knowledge would have obscured. An instrumentally ambiguous object, practice has value for many communities, and in the hands of a management consultant, the value is decidedly commercial.

> A Community of Practice is formed with an intention to add value by directly collaborating, using one another and outside resources, to learn and teach each other (…) The purpose of a CoP is to develop a body of actionable knowledge; to learn and contribute through sharing information on challenges and best practices in four broad management areas that lead to customer delight(…) Competitive advantage comes to the companies best able to act on the knowledge forged in Communities of Practice. These companies recognize that they live in a rich and dynamic environment of

---

[11] This positioning of practice as nature is interesting if considered from the standpoint of Marx's discussion of the social category of abstract labor. He suggests that abstract labor power is a social category whose form of appearance is the generalization of historically particular concrete labors as transhistorical substance (Postone 1993). The recoding of particular knowledge bearing practices as natural resonates as a mode of such hypostatization. It seems to us that an analysis of commercialization process needs to elucidate the social process through which apparently transhistorically valid categories are historically specific, and to elucidate how such historically specific categories come to be seen as ontologically grounded, or historically non-specific. Recoding particular concrete labors of communities of practice as nature might be seen as a crucial moment in its generalization as abstract labor power.
[12] This was the 'Eureka' system: 'an electronic "knowledge refinery" that organizes and categorizes a database of tips generated by the field staff. Technically, Eureka is a relational database of hypertext documents. In practice, it's an electronic version of war stories told around the coffee pot – with the added benefits of an institutional memory, expert validation, and a search engine.' (Brown and Gray 1995, p. 2)

opportunities. For them, competitive advantage stems principally from collaborative, coevolving relationships with a network of other contributors and stakeholders.
(Global Gateways consulting services, on line)

A putative science of the real crafted to debunk the functionalist framework is transformed into a means through which to act on practice as the locus of economic value creation. This knowledge then is invoked as a sales pitch by managers who deal in CoPs. We see this kind of work exemplified in narrativizations of Wenger's book for the management community. For example, a book blurb crafted to sell Wenger's (1998) release states:

The terms of debate about 'knowledge management' and 'learning organization' are slowly, and finally, turning from issue of information and technology to those of human capabilities – and the sources of motivation, creativity, and problem-solving skills that create real value in the new economy. Wenger is light years ahead in understanding these sources, and the critical importance of informal communities and 'social learning' in fostering them. This book is an elegant, subtle treatise that will redefine all managerial conversations in this arena, and reward anyone wrestling with the design and leadership of future organizations. (book blurb by Phillip Brook Manville, Partner, McKinsey and Co. – Wenger 1998)

The impetus is to locate locally constructed knowledges as loci of economic value. A concept of practice is re-inscribed with a market rhetoric in which the leveraging of social actors' knowledge-bearing practices for the purposes of industrial competitiveness emerges as the key imperative.

New economic growth continues to be centered on the ability to leverage corporate knowledge. Although nearly every company practices some form of knowledge management, very few are able to fully leverage knowledge to drive bottom line results. Much of this failure stems from the inability to identify and leverage preexisting knowledge communities. (Best Practices LLC Knowledge Exchange, on line)

Grasping practice, grasping a real that is already there, thus emerges as a means toward an innovative managerial strategy. As practice travels from Lave through Wenger into the managerial community, the 'value' of locally constructed knowledges is tweaked. In Lave the impetus is to accord equal social legitimacy to forms of knowledge other than those that would be prescribed by the meritocratic normative experimental model. The real in Lave's practice, used to debunk functionalist meritocratic testing paradigms, now becomes a real that is the locus of economic value creation. The dignity, intelligence, skill, and dedication marked by Barley is precisely the object that the successful company must learn to exploit. In the process of re-inscribing practice and hooking it up with different imperatives, the real of a science of practice is reconfigured as labor in its form as nature.

However, there is clearly a movement in two directions of the practice to be instrumentalized for purposes of industrial competitiveness. On one hand, the take up of the practice epistemology in the new community effectively brackets out the extent to which in the initial 'discovery' of 'communities of practice' the latter were found to be flourishing precisely in response to organizational structures that already existed. At this level, practice is framed as a natural, autonomously emergent source.

Managerial communities are then set the challenge of 'nurturing' and 'harvesting' this natural source: it becomes a resource. At this level, it is possible to *provoke* the autonomously emergent source that is referred to. In his article for *Systems Thinker*, Wenger captured this dual movement poignantly:

> Just because communities of practice arise naturally does not mean that organizations can't do anything to influence their development. (Wenger 1997, p. 6)

The vacillation of practice, now natural, now created, presents a dilemma for the management of practice. It happens both in spite of and because of the 'abstracted' and imposed-from-above structuring of work. There is both an out-of-control abundance in nature and a need for this nature to be structured. The re-instrumentalization of the practice epistemology thus entails not only the construction of nature, but also enacts paternalistic relation to nature through which its artificiality and dependence is simultaneously maintained.

> Shadowy groups called communities of practice are where learning and growth happen. You can't control them--but they're easy to kill(...) If you can't manage communities of practice, managers can still help them...Fertilize the soil, but stay out of the garden. (Stewart 1996, p. 173=5)

In other words, practice is a real and natural force (and not an artificial human idealization), but it must grow *as nature cropped*.

The practice trajectory urges us to go beneath the formal representations of work that are often created by managers, accountants, and functionaries of the educational assessment regimes, to study that which busts at their seams. The latter often goes unnoticed in rationalistic descriptions that are constructed for purposes of long-term planning and accounting. These rationations are precisely those reifications that practice theory aims to expose *as such*, and from which the real of action is hoped to be rescued.[13] But interestingly, conventional bureaucratic divisions of labor were precisely the conditions under which 'practices' have always emerged, whether identified or not. For organizational structure – from the managerial abstraction to the stratification of expertise - is not just a pre-given, normative apparatus that sets expectations and mis-represents the contours of knowledge as practice (like in Lave's critique of functionalist psychological assessment.) It is also an aspect of the very lived social context that the knowledge creating subjects of practice inhabit. CoP's must already have been there in order for a practice theory to have any salience, notwithstanding the flawed, corrected science. But this also means that formalized managerial abstractions were there as well. In this way, the solutions that the CoP consultants aim to offer are in important respects a configuration of social conditions that already existed.

---

[13] Such unveiling is not new to labor sociology. Ken Kusterer made similar claims by recourse to a 'neo-phenomenological' study of work, and complicated notions of 'skill' that rested on such categorizing practices as those found in the department of labor. 'The problem with these labels,' wrote Kusterer, 'is that the use of the 'unskilled' label has led to a gross underestimation of the amount of working knowledge actually necessary in these jobs. There is no such thing as unskilled work. This term demeans the workers involved, and it misleads all who seek to understand the nature of their work.' (Kusterer 1978, p. 179. See also Roy 1959; Burawoy 1979).

Bruno Latour (Latour 1993) has written about the general process whereby we project a social fact onto nature, and then 'discover' that it is out there in the world, which justifies its adoption. In order for this shell game to work, the right hand cannot know what the left hand is doing – the act of projection needs to be kept separate from the act of discovery. For example, the theory of evolution as adumbrated by Darwin codes a set of social relations described, *inter alia*, by Malthus, but the principle of survival of the fittest is then read back into political discourse as an independently discovered fact about nature. Work in social studies of science is concerned to call attention to this generative, powerful shell game.

The commercialized science of the real sees a hybrid that is predicated upon historically specific industrial social relations. It is marked in Wenger's 1998 text, although it is in some respects obscured. Indeed, there are two subtly different notions of practice at work in this text. For example, consider this description:

> The contrast detailed here is one between organizational design and lived practice. From this perspective, there are two views of an organization… (1) the designed organization, which I will often call the 'institution' to distinguish it from the organization as lived in practice (2) the practice (or, more accurately, the constellation of practices), which gives life to the organization and is often a response to the designed organization. (Wenger 1998, p. 241)

Then consider this one:

> practice is always social practice. Such a concept of practice includes both the explicit and the tacit. It includes what is said and what is left unsaid; what is represented and what is assumed. It includes the language, tools, documents, images, symbols, well-defined roles, specified criteria, codified procedures, regulations, and contracts that various practices make explicit for a variety of purposes. But it also includes all the implicit relations, tacit conventions, subtle cues, untold rules of thumb, recognizable intuitions, specific perceptions, well-tuned sensitivities, embodied understandings, underlying assumptions, and shared worldviews. Most of these may never be articulated, yet they are unmistakable signs of membership in communities of practice and are crucial to the success of their enterprises. (Wenger 1998, p. 47)

'Real work' and 'the designed organization' are distinguished, but then there is also a clear sense here that practice is an emergent relationship between the two: they are both quite 'real'.

Consultants working in the name of communities of practice mark this in their recommendations that managers should 'enable people to do what they are already doing'. This reflects a contradictory movement at work in the re-instrumentalization of the theory of practice that is underwritten by the realist epistemology: that the recommendations depend upon the logic of a set of social conditions that already exist. In other words, although new management regimes attempt to create communities of practice, they will always have already been there under conditions predicated upon traditional managerial practices. Managerial instrumentalization of the concept of practice is tricky business because its practical implications look very much like business as usual, but also because the balance

between nature and culture in the real named by 'practice' keeps tipping to the other side from which you look at it. The trick of good management has been precisely to publicly deny the CoP and to erect a formal model of tasks, which *sub rosa* permits the CoP to flourish. The science of practice enables something familiar.

> Look closely at the inner workings of any company and you'll discover gaps between official work process – the 'ideal' flows of tasks and procedures – and the real-world practices behind how things actually get done. These gaps are not problems that need fixing; they're opportunities that deserve leveraging. (Brown and Gray 1995, p. 2)

And formal, hierarchical relations of authority are not, moreover, framed simply as part of this leveraging act; they are framed as being *supportive* of informal knowledge production practices as well.

> Most communities of practice exist whether or not the organization recognizes them (…) Certainly, in order to legitimize the community as a place for sharing and creating knowledge, recognized experts need to be involved in some way, even if they don't do much of the work. (Wenger 1997, p. 6)

When Wenger and others put practice on the market, the critical intent may be to undermine familiar social relations of power. But it appears the reverse: the CoP concept appears instead to be engaged in an intensification of the previously existent logic of organization. Because in spite of the recognition of the multiplicity of knowledges and their values, formal organizational structures of authority, skill, and valuation (meritocracy?) are not debunked. They seem to persist in the work of making and banking on hybrids. To sell knowledge of this practice is to offer something like the cake, and eating it too.

References
Best Practices, LCC Website (http://www.best-in-class.com/research/communities/)

Bonnell, V. and Hunt, L. (Eds.) (1999) *Beyond the Cultural Turn*. University of California Press.

Bourdieu, P. (1977) *Outline of a Theory of Practice*. Cambridge University Press.

Brown, J.S. and Gray, E. S. (1995) 'The People are the Company'. *Fast Company,* on line access at http://www.fastcompany.com/online/01/people.html.

Burawoy, M. (1979) *Manufacturing Consent: changes in the labor process under monopoly capitalism.* University of Chicago Press.

COIL Website (http://www.co-i-l.com/coil/index.shtml)

Giddens, A. (1979) *Central Problems in Social Theory: action, structure and contradiction in social analysis.* Berkeley: University of California Press.

Global Gateways Website (http://global-gateways.com/communit.htm)

Kusterer, K. (1978) *Know how on the Job: the important working knowledge of "unskilled" workers.* Boulder Co: Westview Press.

Latour, B. (1988) *The Pasteurization of France*. Trans. Alan Sheridan and John Law. Cambridge, Mass.: Harvard University Press.

Latour, B. (1993) *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.

Lave, J. 1988. *Cognition in Practice*. Mind, mathematics and culture in everyday life. Cambridge University Press.

Lave, J. and Wenger, E. (1991) *Situated Learning*: *Legitimate Peripheral Participation*. Cambridge University Press.

Manville, B. and Foote, N. (1996) 'Harvesting your workers knowledge'. *Datamation* July*.*

Orr, J. (1996) *Talking about Machines*: An Ethnography of a Modern Job. Ithaca, NY: Cornell University Press.

Ortner, S. (1994) 'Theory in Anthropology Since the '60s.' In Dirks, N., Eley, G., and Ortner, S. (Eds.) *Culture, Power, History: a reader in contemporary social theory.* Princeton, N.J.: Princeton University Press.

Postone, M. (1993) *Time, Labor, and Social Domination. A Reinterpretation of Marx's Critical Theory.* Cambridge University Press.

Roy, D. (1959) ' "Banana Time" Job Satisfaction and Informal Interaction'. *Human Organization*, vol. 18, pp. 158-168.

Simon, H. 1960) *The new science of management decision.* Harper and Row.

Stengers, I. (1997) *Power and invention: situating science*. (Paul Bains, trans.) University of Minnesota Press.

Strategic Initiatives, Inc. Website. (http://www.strategicinitiatives.com/index.html)

Stewart, T. (1996) 'The Invisible Key to Success'. *Fortune Magazine.* August, 5.

Wenger, E. (1998) *Communities of Practice. Learning, Meaning, and Identity*. Cambridge University Press.

Wenger, E. (1997) 'Communities of Practice: Learning as a Social System'. *Systems Thinker*, on line access at http://www.co-i-l.com/coil/knowledge-garden/cop/lss.shtml.