Knowledge as Action, Organization as Theory:

Reflections on Organizational Knowledge

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If you desire to see, learn how to act
Reality = community

Heinz von Foerster (1984)

Government officials in the UK recently conducted an inspection of the teaching methods and aims of Summerhill, an independent school well known for its libertarian philosophy. In their report, the inspectors charged the school with lack of discipline and clear structures, and were categorical that Summerhill's *modus operandi* leaves its students inadequately prepared for the rigors of life after school. Reacting to the report, several supporters of Summerhill claimed the reverse. The school's libertarian philosophy, they said, gives students what conventional schools fail to give: freedom to explore themselves and find out what they are good at.

This episode (and several others like it) is interesting because the same set of activities (teaching and school management) is assessed so differently by two different observers. What differentiates the observers is that they use different assessment criteria, derived from different domains of action. The inspectors do exactly what they are supposed to do: ensure that schools broadly conform to a set of criteria defined by the government. Summerhill supporters, on the contrary, subscribe to an

unconventional pedagogical philosophy and, predictably, they want their school to do things differently from mainstream schools.

If we ask the question "What is Summerhill's competence?" or "What is Summerhill's organizational knowledge?" it is not clear that there can be a single answer. In fact, this may be the wrong question to ask, since it misleads us into searching for a definitive answer beginning with "knowledge is…," as if knowledge were some *thing* out there to be grasped and described (Reyes & Zarama, 1998: 21; Cook & Yanow, 1996). What is forgotten in such a mode of thinking is that knowledge pre-supposes a subject or, in the language of second-order cybernetics, an observer. Knowledge is of *someone* about *something*. For the government inspectors, Summerhill has a confusing curriculum, knows very little about pedagogy, and is ignorant about school management. The reverse is the case in the view of those supporting Summerhill.

What is more realistic to say is that knowledge is an assessment of an entity's pattern of actions, made by an observer situated in a particular domain of action, drawing on a particular set of criteria. Knowledge, in other words, cannot be defined *in abstracto*, but is a particular observer's assessment, derived from applying particular criteria to a set of particular actions. As Reyes and Zarama (1998: 21) aptly remark, knowledge is an ascription, not a description; an assessment, not an assertion.

Notice that such a definition of knowledge not only applies when an observer passes a judgment on someone else (such as a teacher of a student), but also when an observer passes a judgment on themselves. How do I know whether I can ride a bicycle? Because, looking back at the relevant activity, I see that I have been effective in riding a bicycle. How does a company know what it "knows"? Or, as Mintzberg (1994: 276) asks, "How can we know that a strength is a strength without acting in a specific situation to find out?" Finding out what an entity knows is not a cerebral exercise, a purely cognitive act, but primarily an empirical question to be settled in the context of action (Cook & Yanow, 1996: 431). The observer making the assessment must specify the relevant evidence (or be open to new experiences) and the criteria for evaluation in order to arrive at a conclusion. Organizational knowledge is observer dependent and action based. As such, it cannot be given an objective description in the way that a bank statement provides us with an objective description of our last month's transactions (Lakoff, 1995; Tsoukas, 1997).

Knowledge is the outcome of the process of knowing, that is, the process of someone drawing distinctions (Maturana & Varela, 1988). When we draw a distinction, we split the world into "this" and "that;"

through language we constantly bring forth and ascribe significance to certain aspects of the world (including, of course, our own behavior) (Schutz, 1970; Taylor, 1985; Winograd & Flores, 1987). In von Foerster's (1984: 48) formulation, cognitive processes are never-ending recursive processes of computation. Cognition consists in computing descriptions of descriptions, namely, in recursively operating on, transforming, modifying symbolic representations. In doing so, cognizing subjects rearrange and reorder what they know, thus creating new distinctions and, therefore, new knowledge (Bell, 1999: lxiv; Dewey, 1934).

Observers generate distinctions, but they do so within a "form of life" (Wittgenstein, 1958), a "practice" (MacIntyre, 1985), a "consensual domain" (Maturana & Varela, 1988), a language-mediated domain of sustained interactions. For example, the meaning of notions such as "shame," "trust," "work," "loyalty," is inextricably bound up with the life of a subject of experience; they are what Taylor (1985: 54) calls "subject-referring properties." Language is constitutive of subject-referring properties and, by implication, of the forms of life from which those properties derive their meaning. Different vocabularies constitute differently carved-up semantic spaces, within which particular distinctions are located. For example, having an experience, such as "shame," involves seeing that certain descriptions apply—our language marks certain qualitative distinctions concerning what is shameful (and by implication what is dignified) and how we ought to respond to it. This accounts for the fact that in different cultures there are different things to be ashamed about. Knowing how to act within a domain of action is to make competent use of the distinctions constituting that domain (Reyes & Zarama, 1998: 24; McDermott, 1999: 106; Cook & Yanow, 1996).

As Spender (1989) has shown, on entering a particular industry, managers learn a particular "industry recipe," that is, a set of distinctions tied to a particular field of experience. The distinctions pertain to a number of issues, ranging from how markets are segmented to the kind of employees suited to an industry or the technology used. To be a competent member of an industry is to make competent use of its key distinctions—and this needs to be learnt on the job.

As individuals increase and refine their capacity for making distinctions (something that happens with practice), they increase their capacity for knowing. Knowledge is what is retained as a result of this process (McDermott, 1999: 106). Consider, for example, the case of an operator at a call center of a mobile telecommunications company (Tsoukas & Vladimirou, 2000). A particular customer complained that he did not have

the caller identification service, whereby a caller's phone number appears on the receiver's mobile phone display, although he had paid for it. This could have been due to a technical problem, an error on the part of the company in having failed to activate that service, or the fact that certain callers did not wish to have their number appear on other people's mobile phone displays. An experienced operator knew that the first two possibilities were not very common and that she should focus on the third. Indeed, as ethnographic studies show (Orr, 1996; Hutchins, 1995), this is what experienced practitioners do: they see through a problem, shortcut formally known procedures of reasoning involving a set of crude distinctions, in order to make more refined distinctions (Schon, 1983).

To know is to act. The process of making distinctions, of recursively computing descriptions of descriptions, involves a historically constituted cognizing entity actively engaging with the world and selecting, carving up, bringing forward, highlighting certain aspects of the world. At the level of the individual, as Polanyi (1975) perceptively noted, knowing is acting in the sense that, in order to know something, the individual acts to integrate a set of particulars of which they are subsidiarily aware. To make sense of our experience, we necessarily rely on some parts of it subsidiarily in order to attend to our main objective focally. We comprehend something as a whole (focally) by tacitly integrating certain particulars, which are known by the actor subsidiarily. Knowing has a from–to structure: the particulars bear on the focus *to* which I attend *from* them. Thus, knowing always has three elements: subsidiary particulars, a focal target, and, crucially, a person who links the two.

Polanyi's (1975: 36) classic example is the man probing a cavity with his stick. The focus of his attention is at the far end of the stick, while attending subsidiarily to the feeling of holding the stick in his hand. On this view, knowledge is inevitably and irreducibly personal, since it involves personal participation (action) in its generation. In Polanyi's (1975: 38) words, "the relation of a subsidiary to a focus is formed by the act of a person who integrates one to another."

Polanyi's view of individual knowledge-as-action can be extended to apply at the collectivity level (Tsoukas, 1998: 58–9). The stories and artifacts that practitioners share in a community constitute a certain type of knowledge (we may call it "heuristic knowledge," Collins, 1990) that has been historically generated in response to remarkable events (such as contingencies, breakdowns, failures, and successes). Individual practitioners subsidiarily draw on such collective knowledge (heuristic knowledge) while tackling a particular problem. They are focally aware of a

problem by tacitly integrating the heuristic–knowledge subsidiaries (involving stories about similar problems in the past) with the focal problem. Narratively organized experiences (both personal and vicarious) provide practitioners with the subsidiary particulars, which bear on the focal activity *to* which practitioners are attending *from* (Tsoukas, 1998). In his ethnographic study of photocopier repair technicians, Orr (1996) has shown how the stories shared by the community of technicians constitute an important part of its collective memory on which technicians individually draw in the course of their repair activities.

ORGANIZATION AS THEORY

If knowledge is irreducibly personal, how could it ever be organizational? In a weak sense, knowledge is organizational simply by its being generated, developed, and transmitted within the context of organizations. That is obvious and deserves no elaboration. In a strong sense, however, knowledge becomes organizational when members of an organization draw distinctions in the course of their work, by taking into account not only the situatedness of their actions but also the generalizations provided to them by the organization, in the form of generic rules.

Let me explain. A distinguishing feature of organization is the generation of recurring behaviors by means of institutionalized roles that are explicitly defined. For an activity to be said to be organized, it implies that types of behavior in types of situations are connected to types of actors (Berger & Luckmann, 1966: 22; Scott, 1995). An organized activity provides actors with a given set of cognitive categories and a typology of action options (Kreiner, 1999; Scott, 1995; Weick, 1979). Such a typology consists of rules of action, typified responses to typified expectations (Berger & Luckmann, 1966: 70–73). Rules are prescriptive statements guiding behavior in organizations and take the form of propositional statements, namely, "If *X*, then *Y*, in circumstances *Z*."

On this view, organizing implies generalizing: the subsumption of heterogeneous particulars under generic categories. In that sense, formal organization involves abstraction, typification (Kreiner, 1999: 14). Since in a formal organization the behavior of its members is guided by a set of propositional statements, it follows that an organization may be seen as a theory—a particular set of concepts (or cognitive categories) and the propositions expressing the relationship between concepts. Organization-as-theory enables organizational members to "take a finding and generalize from any context to another context" (Bell, 1999: lxiii).

For example, the operators of the call center mentioned above have been instructed to issue standardized responses to standardized queries: if this type of problem appears, this type of solution is normally appropriate. From a purely organizational point of view, the contextual specificity surrounding every particular call (a specificity that callers tend to expand on in their calls) is removed through the application of generic organizational rules.

Rules, however, exist for the sake of achieving specific goals. The generalizations selected and enforced are selected from among numerous other possibilities. To have as a rule, for example, that "no caller should wait for more than one minute before their call is answered" is not self-evident. It has been selected by the firm in order to increase its customer responsiveness, hoping that, ultimately, it will contribute to attracting more customers, thus leading to higher market share, and so on. In other words, a rule's factual predicate ("If *X*…") is a generalization selected because it is thought to be causally relevant to a justification—some goal to be achieved or some evil to be avoided (Schauer, 1991: 27). A justification (or, to be more precise, a set of logically ordered justifications) determines which generalization will constitute a rule's factual predicate. This is an important point, since it highlights the fact that rules exist for the sake of some higher-order preferences, which may have been explicitly formulated in the past, but which, in the course of time, tend to become part of an activity's background and, thus, have probably faded.

Moreover, rules do not apply themselves; members of a community of practice, within specific contexts, apply them (Gadamer, 1980; Tsoukas, 1996; Wittgenstein, 1958) Members of a community must share an interpretation of what a rule means before they apply it. As Barnes (1995: 202) remarks:

> nothing in the rule itself fixes its application in a given case, … there is no "fact of the matter" concerning the proper application of a rule, … what a rule is actually taken to imply is a matter to be decided, when it is decided, by contingent social processes.

Since rules codify particular previous examples, an individual following a rule needs to learn to act in proper analogy with those examples. To follow a rule, therefore, is to extend an analogy.

Notice that, on this Wittgesteinian view of rules, the proper application of a rule is not just an individual accomplishment but a collective one, since it is fundamentally predicated on collectively shared meanings.

If formal organization is a set of propositional statements, then those statements must be put into action by organizational members, who "must be constituted as a *collective* able to sustain a shared sense of what rules imply and hence an agreement in their practice when they follow rules" (Barnes, 1995: 204, emphasis added). The justifications underlying rules need to be elaborated and their meaning agreed by the organizational collective. Organizational tasks are thus accomplished by the extent to which individuals are able to secure a shared sense of what rules mean (or by agreeing, reinforcing, and sustaining a set of justifications) in the course of their work. This suggests the notion of the organization as a densely connected network of communication through which shared understandings are achieved.

CONCLUSIONS

We may now stand back and review the whole argument. Formal organizations are three things at once: contexts within which individual action takes place; sets of rules in the form of propositional statements; and historical communities. Knowledge is what remains when individuals draw distinctions in the course of their work, based on an appreciation of context and/or the application of theory.

From the above, it should be clear that organizational knowledge is three things at once. First, it is personal knowledge. As members of organizations, individuals draw distinctions in the course of their work; select what they take to be the relevant aspects of both the context within which their actions take place and the tradition within which they are embedded; decide how strong is the analogy between current and past instances. Secondly, organizational knowledge is propositional. Propositional statements explicitly articulating the tasks of an organization guide individual action. And thirdly, organizational knowledge is collective (or cultural). It consists of the shared understandings of a community as they have evolved over the course of time, thanks to which concerted action is rendered possible (Collins, 1990: 109).

If the above is accepted, it follows that the management of organizational knowledge is broader than the development of ever more sophisticated propositional statements (what is often referred to as "codified" or "canonical" knowledge) and their management through digital information systems, as some seem to suggest (Gates, 1999). That is the easy part. More painstaking is the refinement of individual perceptual skills through systematic organization-wide reflection on past experiences

(Weick's [1979, 1995] sensemaking), as well as the continuous effort to sustain a shared sense of what organizational rules mean in practice. Since knowledge does not apply itself but is applied by people, it is perhaps worth stressing that it is still people and organizations that need management (Kreiner, 1999: 1, 26), rather than some hypostatized body of "knowledge" existing in the Platonic realm of "pure forms."

At the same time, what makes the knowledge economy distinct, and what, therefore, differentiates management today from management in the past, is that managing people and organizations needs to be done from the perspective of building and refining knowledge assets. It is now widely realized what sophisticated theorists and practitioners have known all along: when companies hire people to work they do not just hire pairs of hands, or even brains, but whole human beings whose knowledge and expertise, properly used and constantly developed in the organizational context, can make a difference to how resources are deployed. That means that the key to achieving effective coordinated action does not so much depend on those "higher up" collecting more and more information about what is going on in the organization (which has, traditionally, been the panoptical managerial ideal), as on those "lower down" finding ever more sophisticated ways of interrelating their actions. The challenge for theorists is to explore how this happens and what the role of individual and organizational knowledge is in such a process.

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