Work and Knowledge

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INTRODUCTION

It is widely believed that knowledge work is a relatively new phenomenon and that it constitutes the main form of activity in post-industrial organizations. While the term remains undefined, *knowledge work* is taken to refer to the knowledge that individuals apply in performing role-related business activities in "knowledge-intensive" organizations. In this scheme of things, the conventional wisdom holds that the subjective knowledge of individual social actors is applied to "objectified" organizational knowledge (i.e., data held in various paper and electronic repositories) as the raw material of the production process. Thus, knowledge is considered to be both an input to, and an output of, business processes: It also is argued to underpin the process by which knowledge inputs are transformed to outputs.

Cooley (1975) was one of the first to employ the term "knowledge worker," however, his conception encompasses both white and blue-collar workers, professionals, and craftspeople alike. This is to be contrasted with Drucker's (1999) perspective on knowledge work, which focuses primarily on the upper echelons of management. This article echoes Cooley's perspective in many respects, however, it seeks to strengthen, extend, and apply it in a contemporary context. The following section provides the rationale and context for this article's thesis by illustrating the socially distributed and collective nature of knowledge. It also helps illustrate certain deficiencies in the conventional understanding of this important topic; these are then addressed in the third section's exploration of the social construction of knowledge. The third section also deconstructs commonly held beliefs on knowledge by examining its relationship to data and information. The fourth section then presents this article's main contribution by presenting a conceptual model and taxonomy of knowledge in organizational contexts. It is hoped that this will help researchers and practitioners better understand the relationship between knowledge and work going forward.

In sum, the article's motivation is to eliminate the misunderstandings that surround the concept of knowledge work and to propose an understanding of the phenomenon that is more in tune with the "reality" of organizational life. The article's marriage of philosophy (Aristotle, 1945; Gadamer, 1975; Heidegger, 1976) and institutional theory (e.g., Berger & Luckmann,1967, from sociology, and Nordhaug, 1994, from economics) acts to "inform" researchers who seek to understand the know-how, -why, and -what of social action in organizational settings. For practitioners, it highlights areas where experiential and skill-based knowledge are of value in organizations and illustrates for them the relative importance of task- and firm-specific knowledge.

BACKGROUND: EVERYBODY KNOWS BUT ONLY COLLECTIVELY

Aristotle argues that no one individual can know or possess all of the available knowledge, rather, knowledge is dispersed among individuals in society (Aristotle, 1945; Hayek, 1945; Berger & Luckmann, 1967). However, Grant (1996) maintains that knowledge creation is an individual activity, and that the extant emphasis on "organizational knowledge" is misplaced—he argues that organizational knowledge does not exist as a distinct phenomenon (see Stata, 1989; Taylor, 1993; Pfeffer, 1994). Therefore, what Hayek says about society also may be applied to organizations, viz knowledge of and about an organization and its activities will be dispersed among organizational actors and the "communities-of-practice" which they constitute (cf. Tsoukas, 1996). The problem facing social groupings such as organizations, societies, and cultures is therefore "a problem of the utilization of knowledge not given to anyone in its totality" (Hayek, 1945, p. 450). A portion of this dispersed knowledge may, and particularly in more formal institutions will, be codified as information in documents, manuals, books of operating procedures, and so forth, which may be paper-based, electronic, or both (Bruner, 1990; Davenport & Prusak, 1998). Berger and Luckmann (1967) consider this as pretheoretical recipe knowledge and, as such, it forms an operational backdrop for organizations by supplying

institutionally appropriate rules of conduct, by placing boundaries on acceptable actions and by defining and enumerating activities to be performed by social actors (see Taylor, 1993; Tsoukas, 1996). Therefore, it acts as both a controlling and predictive mechanism for such conduct.

Thus, institutions are akin to "collective minds" (Weick & Roberts, 1993) whose cultures become a learned product of group experiences, particularly those of the organization's founders (Schein, 1985). Over time, the cognitive dispositions and dispersed knowledge of individual social actors, who actively participate in the dialogic process of institutional reality construction within the aforementioned unarticulated background of wider social and institutional contexts, come to populate this metaphorical "collective mind," which emerges as the unarticulated background of organizational experience. Hence, it is an individual's Heideggerian "fore-knowledge" of the type of actions required of him or her by other actors in the relevant "community-of-practice" and in the wider organization that shapes his or her ongoing actions and utterances (Heidegger, 1976); in turn, these actions once taken and linguistic expressions uttered influence the actions and cognitive dispositions of others (Lincoln & Guba, 1985). Thus, it is the existence of previously acquired knowledge of social convention, in the form of what may be described as a Gadamerian "effective-historical consciousness" (Gadamer, 1975), that guides the self-reinforcing, reciprocal "typification of habitualized" action and dialogue among social actors and which enables individuals to share knowledge relevant to their social grouping or organization (Berger & Luckmann, 1967; cf. Latour, 1993).

This shared corpus of social, communal, or organizational knowledge manifests itself in the form of relatively fixed repertoires of highly reproducible routines, recipes, reciprocal social action, and intersubjective cognitive arrangements (e.g., Nelson & Winter, 1982; Hannan & Freeman, 1984; Spender, 1989; Weick & Roberts, 1993). Alternatively put, an organization's "collective mind" is manifested in the actions and linguistic expressions/narratives of social actors as they commit to and engage in a network of communal and organizational activities (see Bruner, 1990; Law & Callon, 1992). This "collective mind" is, in as much as it represents a collective knowledge of the social groupings concerned, also sedimented in the products of these activities, in the "fused horizons of understanding" of participating actors (Gadamer, 1975), and also in a community's or organization's texts, electronic documents, and databases (Bruner, 1990; Hall, 1994; Boland & Tenkasi, 1995; Kusunoki, Nonaka, & Nagata, 1998). Therefore, it must be emphasized that an organization's "collective mind" is not the property of a single actor, neither is it contained in its entirety in the Gadamerian "horizons" (fused or otherwise) of all actors; rather, it is distributed among all participating actors as a knowledge of and about communal and/or organizational activities (Weick & Roberts, 1993).

The logical conclusion of this argument is that all work in organizations is "knowledge work," as knowledge about organizational activities is dispersed either within "communities-of-practice" or across them. The next section further elaborates on this and explores how knowledge is socially constructed; it also differentiates between practical wisdom or experiential knowledge and technical or skills-based knowledge. This helps put knowledge in context and points toward a more inclusive appreciation of knowledge work.

AN ONTOLOGICAL PERSPECTIVE ON THE SOCIAL CONSTRUCTION OF KNOWLEDGE

Boland (1987) gives an account of five misguided fantasies that surround the concept of information, viz that it is structured data, that an organization is information, and that information is power, is intelligence, or is perfectible. This observation could be extended to the concept of knowledge. For example, conventional wisdom dictates that knowledge is processed information and as such is capable of objective representation. In order to dispel such notions, the ontological basis of knowledge is explored. This fosters an understanding of how people come to know what they know and provides insights into the constitution of knowledge.

It is clear from Gadamer's (1975) hermeneutics that data, information, and knowledge are loosely coupled: Depending on the "worldview," "lived experience," and "tradition" of the recipient, the same data can yield different knowledge and understanding. Consider, for example, Heidegger's (1976) argument that Dasein's "'Being-in-the-world" is characterised by a "pre-understanding" or "fore-knowledge" of the nature of being and its constituent phenomenon. Consider also Heidegger's argument that Dasein, as the mode of being characteristic of all humans, always understands itself in terms of its existence and the possibilities it presents. Any "breakdown" in Dasein's understanding of phenomena results in the search for data that will enable phenomena to be interpreted in a new light and thereby repair the "breakdown" by developing an enhanced understanding. Thus, as Brown and Lightfoot (1998) argue, "knowledge occurs in the wake of the breakdown. It proceeds slowly, perhaps without clear direction" (p. 293).