

**The Tacit Knowledge Landscape**

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Dreyfus and Dreyfus (1996) observe that some professionals never become real experts in their field in spite of having enough training and experience (p.36). Why is this so? They also say that “more subtle and refined discrimination ability is what distinguishes the expert” from a person who is not (p.42). What is this ability? Nonaka and Takeuchi (1995) take the same path of questioning but also suggest a way forward. Their claim is that Dreyfus and Dreyfus’ “subtle and refined discrimination ability” (in their parlance, the tacit) can be made explicit (p.11). They emphasize that the creation of knowledge in the workplace is what sets the successful (i.e. expert) company apart by giving it a competitive advantage. Either corporately or individually, unlike Dreyfus and Dreyfus, they believe that tacit knowledge can be intentionally made explicit. Is this true?

The general aim of this paper is to look for an answer this question. Its superficial claim is that Nonaka and Takeuchi are correct but with a proviso. That proviso is that their claim must be correct, along with several others that must be correct. To that end, this paper’s job is to explore this proviso, not to defend Nonaka and Takeuchi or any other position regarding tacit knowledge. It will explore this proviso by showing that the concept of ‘tacit knowledge’ has become a profuse, hence, confused landscape - of competing terminology, of competing concepts, and of competing interests. Dreyfus and Dreyfus as well as Nonaka and Takeuchi are among many who have contributed to this confusion and have suggested ways out of this confusion. They are among many authors who use a variety of nearly synonymous words that imply the same phenomenon as ‘tacit’ does. At the same time, they are also among the many who present a variety of phenomena that are described as ‘tacit’. This landscape, therefore, is doubly profuse and doubly confused.

So, in order to navigate this landscape, the structure of the following commentary will proceed in the following order: First, since tacit knowledge and/or tacit understanding can be demonstrated adequately by the phenomenon of expertise, the first section will describe expertise briefly yet enough to indicate the breadth in the tacit landscape. Second, a short history of Polanyi's (1958) term 'tacit' will be presented. Ryle (1946) will serve as the starting point for this line of argument since he initiates the discussion about knowledge being of two types. However, since Polanyi coined the term 'tacit' and defined it originally, it will be advantageous to compare others' conceptions with his. In this way, this second section will add several concepts to the tacit landscape that show the depth of the landscape, that is, the concepts that show the type of problems encountered in it, namely that of contradiction and problems of ontology. Third, a brief interlude regarding explicit knowledge will demonstrate that the tacit landscape also has a general context of profusion as well, that befuddlement and conceptual muddying are happening on that front too. Fourth, returning to the discussion of the tacit, a case will be made that implies the widespread obfuscation on the part of authors wherein the assumption that tacit knowledge can be converted to profitable business advantage has given rise to a 'knowledge management' industry, a term which itself has been refashioned to mean simple data storage and retrieval, a sad end, indeed, to a once elegant term.

## **Expertise**

Dreyfus and Dreyfus describe five stages of development on the way to expertise. They describe this development as one where "theory and practice intertwine in a mutually supportive bootstrapping process" (p.30). A back-and-forth procedure that builds a body of knowledge and,

at the same time, becomes so familiar that it is forgotten. It becomes a kind of hermeneutic into oblivion. According to Dreyfus and Dreyfus, Plato claims that experts in a given field have learned the principles upon which they base their activities but have forgotten them. They only intuitively rely on their principles. The role of the philosopher is to help experts recall their principles. (p.32) Furthermore, Dreyfus and Dreyfus credit Aristotle for recognizing that it is precisely the intuitive reference to principles that mark the expert as expert. “Experts don’t solve problems, they simply do what experience has shown normally works, and it normally works.” (p.42) “Reasoning always presupposes a background of intuition” (p.43).

Kurti (2011) says that in social arrangements like apprenticeship one gains implicit knowledge (p.15). The assumption therefore is that the master (expert) has implicit knowledge to give but that this kind of knowledge can only be learned by close association with the master. An “apprentice becomes a master through the mechanism of acculturation into the world of the expert. Actual participation is critical for two reasons: the majority of the knowledge that the master transmits to the apprentice is tacit, and the knowledge often varies with context” (p.16).

Winch (2010) adds that expertise can be seen in two ways: subject expertise and expertise having to do with an activity, procedural expertise. Though these are closely related, there are some critical differences one of which Winch names ‘the degree problem’ (p.5). A person may certainly know how to do an activity better or worse but it would hardly make sense to say that one knows something is the case in degrees. One either knows it or not. A second aspect that distinguishes subject knowledge from practical knowledge is the idea of appraisal. Practical

knowledge can be assessed on the basis of quality. Once again, subject matter expertise would not be appropriately appraised in this way.

This quick perusal of expertise provides three ideas that begin to show the landscape of ‘the tacit’. Dreyfus and Dreyfus point to a hermeneutic-like working-out of the unspoken to describe the secret ingredient of expertise. Kurti claims that social engagement is the key. She implies that this mechanism to be a kind of acculturative osmosis. Winch wades in by adding that expertise is based on a qualitative notion akin to a knowledge by acquaintance. This hermeneutic-like, acculturative osmosis type, knowledge by acquaintance is summarized by the term ‘tacit’.

### **The Tacit Landscape**

Ryle (1946) pointed out that a distinction exists between ‘knowing-that’ and ‘knowing how’. He viewed knowing-that as unproblematic in that it correlated closely with propositional logic. Gettier problems aside, knowledge in this sense can be explicitly stated. It can also be manipulated according to its implications and combined in new ways to form new ideas. More to the point, though, is that he took no issue with the standard model of knowledge as justified, true belief as long as it pertained to ‘knowing-that’. Such a knowledge-that view has become the standard way of construing knowledge.

However, Ryle provided compelling reasons to reconsider this monolithic epistemological structure for a very different reason. He believed that there were things that one could know that were not fundamentally propositional. Specifically, he identified knowing-how to do something

as a kind of knowledge that could not easily be described. One cannot easily describe how to ride a bicycle, for instance, in spite of knowing how to do it. One cannot easily teach someone the ‘tricks of the trade’ even if one is an expert at the craft. Knowledge-how, therefore, is not the same as knowledge based on propositional logic.

Polanyi (1966) generalized Ryle’s claim with his now famous dictum “we can know more than we can tell.” (p.4) Polanyi’s goal was to undermine the objectivist epistemological model held by logical positivists. (p.25) In doing so, he not only supported Ryle’s thesis that some knowledge was not reducible to propositions but claimed further that such knowledge provided the background of all propositional knowledge as well. “The question is how we infer the existence of a permanent object, from observing its sensible qualities” (p.32). The knowledge necessary to make this inference he calls tacit knowledge. What Polanyi calls ‘tacit’ looks a lot like the ‘intuition’ used by Dreyfus and Dreyfus and also like the ‘implicit’ used by Kurti.

Following Polanyi, some attempts have been made to contextualize ‘tacit knowledge’. But in doing so, the definition of the term changes, sometimes significantly. Nonaka and Takeuchi, for example, applied Polanyi’s terminology to the context of business practice. They speak of a conversion process (p.6) where tacit knowledge is converted into explicit knowledge for the expressed purpose of competitive advantage. However, there is some doubt about whether the term ‘tacit’ has the same meaning in the two cases. Whereas Polanyi is openly skeptical of anyone’s ability to articulate tacit knowledge, Nonaka and Takeuchi’s view is that, using Nonaka’s (1991) recommended procedure, tacit knowledge can be articulated. Clearly, Nonaka and Takeuchi are not talking about the same concept as Polanyi was. Yet they use the same term.

Eraut (2004) also offers a contender for the mix. He does “not consider tacit knowledge to be a single type of knowledge, but rather an attribute of several types of knowledge.” (p.253). He says that the act of paying attention forms experiences from the simple flow of existence. (p.251) In other words, Eraut proposes multiple kinds of knowledge some of which are tacit and some of which are not.

Interestingly, then, Eraut takes aim at the binary initially proposed by Ryle. But part of the binary problem is that Polanyi, himself, sets up his discussion in these terms. Zhenhua (2003) quotes Polanyi (1959) saying that “human knowledge is of two kinds.” So, it is not difficult to detect that Polanyi’s distinction between tacit knowledge and explicit knowledge is similar to Ryle’s distinction between “knowing how” to do something and “knowing that” something is the case” (p.14) but the discussion, per Eraut, becomes hyper-complex when type-token problems are thrown into the mix as well. That is, when we have to discuss types of knowledge in the sense of groups or species, we obviously have too many token knowledge concepts to discuss individually. Is this where we are at?

Casselmann and Samson (2005) come at the issue in yet another way. They point out that there are two other views of what knowledge is: “knowledge as an objective commodity and knowledge as a socially constructed process.” (p.1) While it is tempting to equate this dichotomy in terms of the difference between the tacit and the explicit, their process oriented thinking allows for the possibility that socially constructed processes can generate either explicit or tacit knowledge.

So, in addition to the three conceptions of ‘tacit’ that were generated by the theories of expertise, we have four more now (or more, depending on how one counts): Polanyi's originating hard distinction between the tacit and the explicit; Nonaka and Takeuchi's soft conversion view where the tacit simply is unprocessed explicit knowledge (Note that Polanyi's view and the Nonaka /Takeuchi view are contradictory); Eraut's view that the tacit is not even a type of knowledge but is, instead, a property of it (the problem of ontological confusion); and, finally, Casselman and Samson's view that both the tacit and the explicit may have the same origin, therefore implying that the distinction between them, though novel and worth exploring, is not profound.

### **An Explicit Interlude**

So, let's back up here a bit. So far, we have a range of competing conceptions of ‘tacit’. Roughly speaking, they range from borderline explicit (Nonaka and Takeuchi) knowledge to some proto-property (Eraut) of knowledge. So, let's try to get a clearer idea as to what the tacit is not.

Schwitzgebel (2015) goes so far as to say that “the traditional analysis of knowledge...takes knowledge to be a species of belief—specifically, justified true belief.” But Davies (2015) cites several reasons that tacit knowledge is not belief at all. First, we are usually unaware of our tacit knowledge. Although many people carry on without explicit knowledge of their beliefs is it a simple matter of self-questioning to discover them. This is not the case with tacit knowledge. Second, tacit knowledge is not causally significant. Whereas individual beliefs are at the root of a wide variety of decisions, tacit knowledge emerges as significant only in highly specific instances. Third, belief requires the possession of concepts while tacit knowledge does not. (p.77)



In addition to this fairly convincing argument against tacit knowledge being justified, true belief, Casselman and Samson talk about four ‘dimensions’ of knowledge, four issues where the standard definition of knowledge might also run into some difficulty. The first issue is knowledge validity. To what extent are statements said to be true based on commonly accepted rules of logic? Is knowledge limited to the area within the perimeter of these rules? The second, the social aspect of knowledge, attempts to stop the tendency toward an infinite regress of justification, implied by the standard definition of knowledge, by establishing a system of credentials and recognition. This issue raises the question of how much justification is required for belief to become knowledge. The third is the temporal aspect of knowledge. “Knowledge is path-dependent in that the acquisition of certain pieces of knowledge opens up an ability to acquire other pieces of knowledge” (p.5). The fourth is knowledge heterogeneity, the fact that no two pieces of knowledge are the same. “Even seemingly identical pieces of knowledge have different implications” (p.6). Two people can know the same fact but have different associations connected to it.

Two things then. First, since, in just two paragraphs, there are several notions of knowledge that are assumed to be explicit, we can see that the issue of profusion and confusion is not unique to the tacit landscape. It typifies more of the epistemological world than just the tacit. Second, tacit knowledge is not merely unjustified belief. It is not proto-knowledge. It is something else.

So, to reiterate, now have a hermeneutic-like, acculturative osmosis type, knowledge by acquaintance that is summarized by the term ‘tacit’. We have a hard distinction form of tacit and

a soft conversion form as well. We have ‘tacit’ as a property and a ‘tacit’ as a function of a common origin. Now, in addition, we have a wider context that is equally diverse.

### **The Tacit Landscape Revisited**

Still, there are several more views on knowledge that can be described as tacit. Pertinent to the theme of this paper, however, is that whether there are actually many distinct forms of tacit knowledge or whether one knowledge goes by many names is interesting in itself but, either way, we have a growing confusion. Let’s finish the job, though.

As mentioned earlier, Eraut (2004) also talks about different kinds of knowledge but he is not clear as to whether he considers them tacit or not. His ‘codified knowledge’ looks suspiciously like Polanyi’s explicit knowledge. But he also talks about ‘cultural knowledge’ (p.263) and points out that there is some debate as to its ability to be converted into explicit terms. He seems to imply that it is somewhere in between. In this way, he hints that this type of knowledge may at least be viewed as the ‘gestalt’ interpretation as laid out by Zhenhua (2003), that is, cultural knowledge is often taken for granted.

Eraut also focuses on ‘informal’ learning. He observes that the knowledge gained from informal learning is considered either tacit or as part of a person’s natural ability, not as something learned (p.249). This is a strange combination but it amounts to yet another conception of the tacit, namely that the tacit is innate, like a personality trait.

Perhaps the best description of this proliferation of competing concepts and terminology comes from Zhenhua (2003). Zhenhua argues that there are essentially two forms of tacit knowledge, a strong and a weak version. The strong is based on the tight positivist bond between language and knowledge while the weak form is not. Zhenhua relates four interpretations of tacit knowledge as described by Grimen (1991). “The first interpretation can be called the thesis of conscious under-articulation” (p.12). In workplaces, this can be seen when it is disadvantageous for an employee to divulge certain information. But, as Zhenhua points out, this form is of sociological interest not epistemological. “The second is the Gestalt thesis of tacit knowledge” (p.12). It is the kind of knowledge that forms the background to what can be stated. It is important to note that this interpretation of tacit is not necessarily inarticulable. It is inarticulable only during the activity for which it provides a background. The most common example of this type occurs during the playing of a musical instrument. “The third interpretation can be characterized as “the thesis of epistemic regionalism”” (p.12). In this understanding of tacit, the background is the totality of the vast quantity of articulable knowledge that a person possesses only a part of which is articulable at any given moment. “The fourth interpretation is the strong thesis of tacit knowledge.” That is, “there are specific kinds of knowledge that are in principle verbally inarticulable” (p.12). This ‘strong’ type of tacit knowledge differs from the ‘gestalt thesis’ and the ‘epistemic regionalism’ thesis in that the tacit knowledge within it is never articulable whereas in the other two, tacit knowledge is potentially articulable. “According to Polanyi, not only is there knowledge that cannot be adequately articulated by verbal means, but also all knowledge is rooted in tacit knowledge in the strong sense of that term” (p.14).

## Putting it together

Perhaps these preceding distinctions can be made clearer by the following closing paragraphs.

Three conclusions seem appropriate.

First of all, much of the difficulty over what tacit means centres on choices of words. There are different words for 'tacit'. Eraut (2004) uses 'informal'. Reber (1989) uses 'implicit'. Fuchs (2001) views tacit knowledge as implicit or procedural "schemas of interactions." (p.324)

Goodman (2003) also weighs in when he quotes Wittgenstein who says that the ultimate "truths of logic, like ethical and aesthetic responses, cannot be stated they can only be shown." (p.137)

But, just as importantly, there are different conceptions of what 'tacit' means. In other words, not only are there different uses of the word, there are other words applied to 'tacit' concepts without clear technical disambiguation. Fruehoff (2014) sums this up by stating that "in view of the tacit character of meaning, we can never quite know what is implied in what we say" (p.106)

Second, one might assume that articulation of the tacit must be through language but this may not be the case. Zhenhua, for example, concedes that an argument might be made that since some types of knowledge are not expressible in words these types ought not to be considered knowledge. But he goes on to say that the use of words is not the only way knowledge might be articulated. It can be articulated by demonstration as well - articulation by action. Thus, the normal mechanism of transferring knowledge from one to another is rendered one of many rather than unique. In a similar vein, Kurti talks about focal awareness as opposed to subsidiary awareness regarding tool use. She observes that in one's focus on a nail driven by one's hammer,

the knowledge of the activity transferred from hammer to hand goes unrecognized. She refers to Polanyi's 'from-to' structure as an example of this kind of non-language articulation - articulation by feel. (p.10) Casselman and Samson say that tacit knowledge is the key to the process of revealing truth (p.3). While it is not clear how Heideggerian this comment is intended to be, it does suggest yet another avenue for articulation. Nevertheless, there is something to be said for this view in that it provides the background or the underlying foundation for the meaningfulness of explicit knowledge. Zhenhua says that "giving meaning to and understanding...linguistic symbols" (p.16) are themselves forms tacit knowing. Therefore, explicit knowledge relies on tacit knowledge for its articulation. Many kinds of graphically presented information can be given but without the tacit ability to comprehend no knowledge would be transferred.

Third, much of the culpability for the confusion in the tacit landscape lies with those who have attempted to incorporate a philosophical term into other venues. Nonaka and Takeuchi (1995) adopted the term 'tacit' to describe knowledge that was not explicit. Outwardly, this is in keeping with Polanyi's structure but Nonaka and Takeuchi's phrase might better be read as 'tacit' as describing knowledge that is not explicit yet. Significantly, Nonaka and Takeuchi's formulation led to the development of a knowledge management industry that attempted to gain competitive advantage by systematically trying to convert any and all available 'tacit' knowledge into usable and transferable explicit knowledge. This has led to the wide dissemination of the concept of 'tacit' but in a trimmed-down version with much of its philosophical sophistication stripped off for utilitarian purposes.

We must not only be aware of the many nuanced versions of a concept. Navigating through these legitimate versions is a challenge enough. Some versions of a concept are so substantially different, though, that we ought to conclude that their authors absconded with the terminology to describe them. Such is the case with Nonaka and Takeuchi's use of 'tacit'. It is only in the serendipitous examination of tacit knowledge in the context of the work environment that this slight-of-hand comes out of the shadows.

Normally philosophers and business analysts sit at a distance from one another looking at one another down their noses. Is it any wonder? We don't even speak the same language. We use the same words but mean different things. Perhaps this should stop. It is the philosopher's job to clear this up. This is a huge job considering that the philosopher's own back yard is a confused mess.

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