**Culture and Cognition – or the Power of Tacit Knowledge**

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The most famous definition of tacit knowledge is not exactly a definition, but a paradoxical phrase coined by Michael Polanyi: "We know more than we can tell". Tacit knowledge is therefore something that is neither told nor spoken, something that is not “at hand” or explicit. Tacit knowledge arises in our consciousness in our awareness, but we do not understand very well why this happens. It refers to something that we know, without our being aware of that knowledge. However, we depend on it in order to be able to act. Let me give you two examples. The first is the famous picture: “Which chocolate does Charlie want?” (Gigerenzer: p. 46).

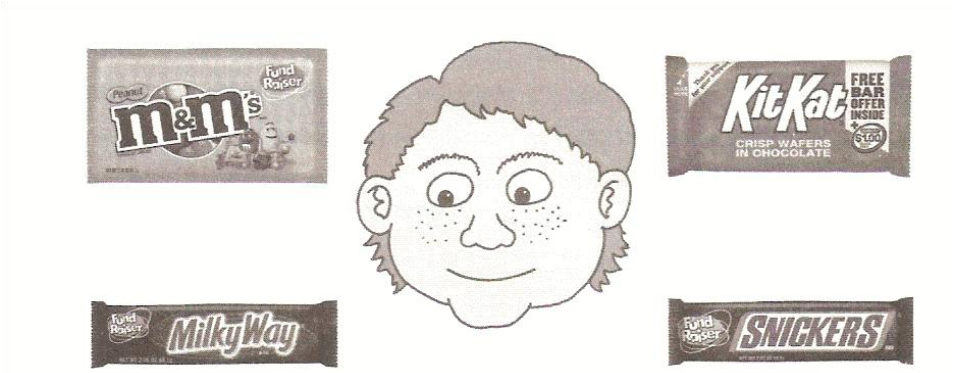
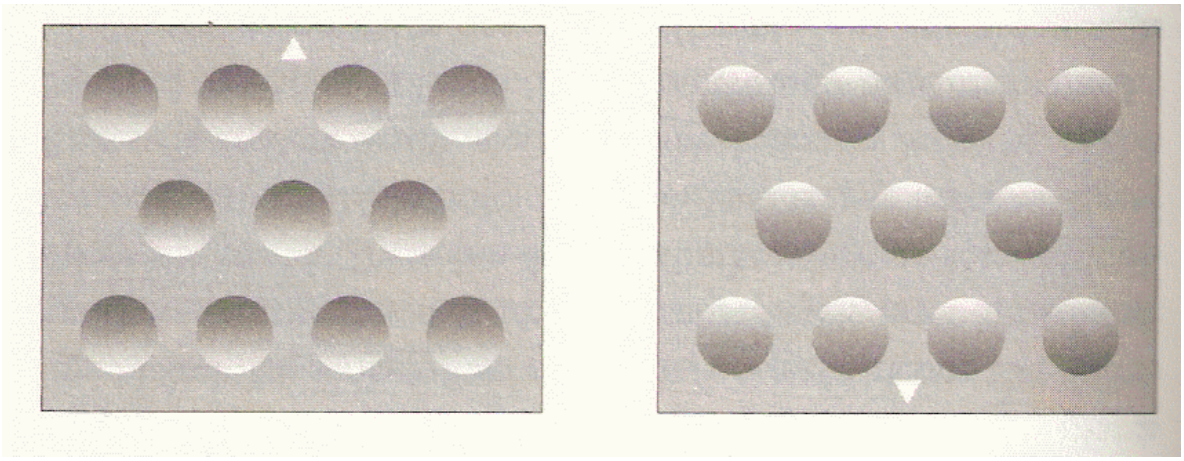



**Figure 3-3:** Which one does Charlie want?

Almost all of us will agree with the assumption that Charlie wants the “Milky Way” chocolate bar, but why do we agree with this? We cannot be sure, because the picture doesn’t tell us, but it seems to us that it is Charlie’s eyes that tell us what he wants. But eyes don’t speak – we are the ones that make them talk. In this case, what is automatically processed when we are asked about Charlie’s intention is a kind of “mind reading”, which is already, in itself, a very complex type of tacit knowledge. From childhood on, we are permanently involved in mind reading, trying to

understand what the others want or intend to do. Mind reading depends, therefore, on learning. Mind reading does not only mean knowing what the other is doing, but discovering his or her real intentions. This mind reading heavily determines our own thoughts and actions, establishing limits or opening up horizons. Normally, these presuppositions are very fast and occur automatically, so that it seems to us that we know what is happening without our being able to say why.

Looking at Charlie, and looking towards where he is looking, we recognize that there is an intention hidden "behind" his gaze. We know therefore that what he is observing is the object of his desire. This experience is important in three senses: first of all, we understand that tacit knowledge is based on general cognitive processes (such as mind reading or theory mind). Secondly, as we (almost all) agree, we also have to recognise that tacit knowledge is shared (and not just individual). Finally, since our supposition is shared, and based upon experience, it is transmitted through education. We will have to come back to all of these three points later.



A second picture (Gigerenzer: p. 43) illustrates another process of tacit knowledge. In looking at this double image, the mind automatically deduces that the dots on the left are concave, i.e. receding into the surface away from the observer, while those on the right are convex, i.e. projecting up from the surface towards the

observer. If we turn the pictures upside down, the concave dots will turn into convex dots and vice-versa. However, in “reality” they are neither concave nor convex, nor do they recede inwards or project outwards. It is just our perception that causes them to move; we apply a complex experience of reality to the pictures: “Our brain does not have sufficient information to know for certain what is out there, but it is not paralyzed by uncertainty. Second, the brain uses heuristics to make a good bet. Third, the bet is based on the structure of its environment, or what it assumes the structure to be. The brain assumes a three-dimensional world and uses the shaded parts of the dots to guess in what direction of the third dimension they extend. In order to make a good guess, it assumes that 1) light comes from above, and 2) there is only one source of light.” (Gigerenzer: pp. 43-44). The point is that we do not know why we see the dots as being concave or convex, we just apply a certain experience of the world to a new reality. This experience of the world – applied without being explicitly claimed – foreshadows or even directs our perception. We apply certain “rules of thumb”, as Gerd Gigerenzer calls them, which rely upon our basic experience, the idea of a three-dimensional world, the light from above and its singularity. I ask you now to consider how far removed these experiences are from the pictures that are represented: there are only two dimensions in a picture and there is no light – neither from above, nor as one single source of illumination. The observer can ignore or even “switch off” such rules, should he or she so wish, and see in the dots just dots (without any curvature), but that requires a great conscious effort. “Normally”, we cannot avoid seeing the dots in three dimensions, we are unaware that we are applying rules, we are unconscious of what we are doing. Once again, we recognise here the importance of learning (in this case, a discussion takes place: about whether these rules are learned individually or acquired through a process of evolutionary learning). Yet the application of such knowledge isn’t always conscious. Sometimes, it even works better when it is not a question of control.

This is an argument that is examined by Gerd Gigerenzer in his book about so-called “Gut feelings”, which must be considered as a second type of tacit knowledge that enables us to act upon a certain kind of knowledge that is not explicit to us. We carry this knowledge around with us without knowing. Gigerenzer argues that this type of knowledge is very powerful, particularly in problem-solving. Sometimes it is even more powerful and successful than elaborate algorithms. So, he concludes that we should pay more attention to this knowledge.

But tacit knowledge is not limited to rules of thumb and intuition. A third type of tacit knowledge can be found in what Richard Nisbett has called “The Geography of Thought”. His main thesis is that “indoctrination into distinctive habits of thought from birth could result in very large cultural differences in habits of thought” (Nisbett: XVI). Nisbett’s research seems to prove that the mind doesn’t develop only in an evolutionary way. It is the same for all humanity, but geographical, social and cultural conditions lead to different practices and beliefs, and therefore to different types of thought: individually, within the scope of each life; collectively in the form of different cultures. The argument is based on a long-term observation, not in the sense of evolution, but rather in the sense of history. The main difference that he tries to prove occurs between “Asians” and “Westerners”, or, in other words, based on the distinction between China and Classical Greece. “The ecologies of ancient Greece and China were drastically different - in ways that led to different economic, political and social arrangements.” (Nisbett: p. 32) “Focusing on different things will produce different understandings about the nature of the world. Different worldviews will in turn reinforce differential attention and social practices. The different worldviews will also prompt differences in perception and reasoning processes – which will tend to reinforce worldviews.” (Nisbett: p. 38)

Nisbett’s theory highlights the importance of environment for our way of thinking, whether in geographical or historical terms. It is worth looking at cognition

not only in its structural terms, but in its concrete historical form, known by concepts such as “discourse”, in the sense used by Michel Foucault, “paradigm”, in the sense used by Thomas Kuhn, or “Denkstil” and “Denkkollektiv”, in the sense used by Ludwik Fleck. Aren’t these concepts synonymous with the historical creation of a tacit knowledge? And, if this is the case, can we imagine any kind of cognition without these tacit bases?

But I should now like to return to a second point that is much more closely related with the question of the geography of thought. In quoting Nisbett earlier, I used a very controversial word: the word “mentality”. Once again, I should like to ask: What is the cognitive status of “mentality”? Is it just a superficial idea or is there something behind it, which might represent a condition for cognitive processes? The “Geography of Thought” highlights the idea that, besides universal principles, “the child also assimilates culture-based schemes and principles that determine the development of cognitive styles valid only at local level” (Viale, Pozzali: p. 238). These culture-based schemes and principles give rise to “profound differences between various cultural areas in terms of the cognitive style of Implicit Cognitive Rules”.

This is the point at which applied sciences, such as Intercultural Management, begin their research. Let me give you just one example, perhaps the most striking and the most famous: the research undertaken by Geert Hofstede into the international differences in work-related values. One of his most recent books speaks of cultures and organisations as the “Software of the Mind”. His research reveals interesting data precisely about the question of the cultural differences based on the way in which people think – differences that may also be measurable. Of course, the statistical statement of these facts does not demonstrate any element of proof in cognitive processes, but it may help to show where we need to look in order to find these differences in the way in which people think and act. The dimensions of national culture studied by Hofstede might be a brief description of the areas in which tacit

knowledge is particularly relevant. These dimensions are as follows: the "Power Distance Index", individualism, masculinity, uncertainty avoidance and long-term or short-term orientation. According to Hofstede, the "software of the mind" works differently if a certain index is higher or lower – which leads to different results and realities. Tacit knowledge, in the sense of mentalities, seems to function efficiently in the area of power (and resistance), in the fight between individualism and collectivism, in questions of gender, projection time (as in memory or in the representation of future projects) and when certainty and uncertainty are at stake. I would suggest that we take these statistical results seriously, since they describe a fairly broad range of differences in thought and behaviour, covering a greater area than the individual, but being less general than humankind.

Hofstede's research dates from the late 1970s, which means that, in a certain sense, his data are fairly out of date. Roughly thirty years later in the process of globalisation, the national difference seems, in a certain way, to have disappeared. Nowadays, culture seems to be determined much more by hybridism and fluidity than by any certainty. We may follow Néstor García Canclini in his argument that "it is not possible to speak of identities as if they were simply a matter of a set of fixed characteristics, or to posit them as the essence of an ethnicity or a nation" (Canclini: XVIII). For this reason, he suggests: "Studying cultural processes, therefore, rather than leading us to affirm self-sufficient identities, is useful for recognizing forms of positioning oneself in the midst of heterogeneity and for understanding how hybridizations are produced." (Canclini: XXIX). This seems to be even more important, if we bear in mind not only social and cultural mobility in times of globalisation, but also the new media and the challenges that they present for the concept of identity, encouraging a new view of tacit knowledge. Jay David Bolter and Richard Grusin argue that the "windows" style of the World Wide Web "privileges fragmentation, indeterminacy and heterogeneity" (p. 31) and that "the unity of our selves is fractured" (p. 257) by the televisual culture in which we live. Being "remediated",

"virtual" and "networked" are the three main ways in which the digital media reformulate the definitions of our culture and of our selves. The so-called "Second Life" is the ultimate attempt to separate body, mind and world into autonomous entities that operate independently. My avatar moves though the virtual world and its own appearance as a well-defined body may even contradict everything that I am in the real world: I may be fat or thin, tall or short, courageous or cowardly – and even male or female. Imagine my female avatar looking for a female fitness studio in the "second life". What then should I answer when an avatar asks me: "Are you really a woman?" (Bolter, Grusin: p. 263).

Tacit knowledge comes into play at precisely this point. Tacit knowledge is where I am a man and not a woman, where my thinking and acting, even my hearing and seeing, where each point in me is tacitly male. Without wishing to be too simplistic, we may conclude that there are some tacit points in my mind that are not individual or universal, but belong to a certain group of people. This is what I call the power of tacit knowledge, which we must begin to consider more openly.

The point is that this tacit conditioning of all my thought is not only accidental and arbitrary. On the contrary: it is based on a general principle and a specific cultural configuration. The principle has been described by Leonard Talmy in his theory of a cognitive semantics. According to Talmy, it "has evolved in the human species an innately determined brain system whose principal function is the acquisition, exercise, and imparting of culture" (Talmy II: p. 373). This so-called "cognitive cultural system", "directs the individual, particularly the developing child, to preferentially attend to and observe certain aspects of the behavior of the people most directly interacting with that individual, and to assess these observations for certain kinds of regularities, patterns, and norms" (Talmy II: p. 378). Later in life, the "cognitive culture system can conclude that there are incompatibilities or conflicts between the patterns it detects in two or more different groups assessed as relevant to the self" (Talmy II: p. 380), so that

it can focus “on one pattern to the relative exclusion of the other patterns, [develop] a distinctive blend of two or more of the patterns, and [develop] psychologically compartmentalized forms of each of the patterns” (Talmy II: p. 381). There is, however, one thing that the cognitive culture system cannot do: it cannot abstain from developing patterns and norms.

Yet culture, patterns and norms are not universal and cannot be taken for granted. They are – as Talmy has shown – a question of “acquisition, exercise, and imparting”. Culture is not something that is already and automatically acquired: it is a question of sharing experiences and intentions, and a question of learning and teaching. That is why culture can be changed, that is why culture may be lost and that is why we need to know more about its tacit power over our way of thinking and acting.

Tacit knowledge derives from an intimate relationship between perception and conception, for which Leonard Talmy suggested the intuitive term “ception”. “Ception” refers to the indissociable relationship between what happens in our brain (through the stimulus provided by our eyes, ears and other senses) and the world constituted as such, which is simultaneously the origin of the stimuli. “Ception” is therefore a key factor in the inseparable unity of body and mind.

That is why Michael Polanyi writes that “wherever some process in our body gives rise to consciousness in us, our tacit knowing of the process will make sense of it in terms of an experience to which we are attending. And further on, he says: “the process of education by which the human mind is brought into existence is a major exercise of these powers of understanding. The growing mind recreates the whole conceptual framework and all the rules of reasoning bequeathed to it by its culture.” (Polanyi, 2009: pp. 45-46).

This recreation of the conceptual framework and the rules of reasoning will establish a certain way of thinking – which will be present in other perceptions, experiences, understandings, arrangements, decisions and acts. Once again: it is not a question of claiming the idea of a static determinism or an immutable destiny. And even less so must tacit knowledge be used as an excuse for prejudices, clichés or stereotypes. The aim is to emphasise the relationship and contextualisation of our thought for tacit and conceptual frameworks and the norms established by culture and through education. To this extent, what we know about tacit knowledge prepares us for a critical assessment of our limitations.

I shall also try to repeat myself once again in a different form – and I should like to propose the example to be followed not as an argument, but only as an image, a metaphor, if you prefer: tacit knowledge is, in a certain sense, like language. As happens with different languages, a person may acquire more than one (when the school system makes this possible) – but can never acquire more than a certain number, and normally he does not mix them up, but instead separates and distinguishes them from one another, knowing that only in this way will communication be possible. Otherwise, the speech would make no sense. The person will not be understood. We acquire languages at home and at school, watching television and listening to those whose voices are in evidence. We learn by talking, communicating, acting, in short by sharing words and meanings. And this is what we do with tacit knowledge.

Continuing with my metaphor, I should say: we have to learn more about the grammar and vocabulary of our tacit knowledge. We have to acknowledge the rules and definitions that have brought us thus far, we have to study them carefully and critically, and consider what they mean, in order to be able to take them seriously. The point is this: without grammar and vocabulary, we cannot talk; without the grammar and vocabulary of our tacit knowledge, we cannot even think. And that is why we need

to know more about tacit knowledge – and then we may perhaps discover the rules and patterns that have established the limits of our thinking and, simultaneously, afforded us the guarantees for sharing them. Like good teachers, we must draw attention to the grammar and vocabulary of tacit knowledge, recognising its fundamental power and preparing ourselves for the changes that we are ready to establish for future generations.

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