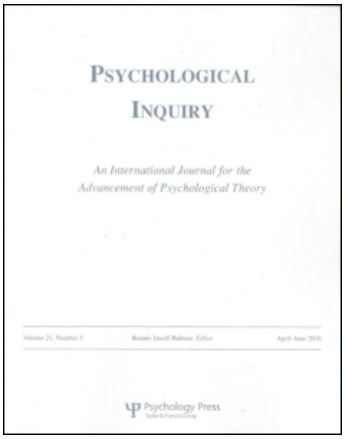

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Misconceptions About Intuition

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This article outlines advances in intuition research and draws attention to several misconceptions, based on conflicting assumptions about the intuition construct and the intuiting process. In particular, it focuses on the distinction between process and outcome, the role of consciousness and affect, the research focus on decision making or problem solving, and the differential use of intuition in technical and creative settings. It calls for a comprehensive intuition model that would refute some of the misconceptions and proposes three types of intuition: intuitive expertise, intuitive creation, and intuitive foresight.

Advancements in Intuition Research

Intuition is not a new concept, but it was relegated mostly to philosophy in the past. There were a few early voices penetrating the realm of management, such as Chester Barnard in the 1930s and more recently Herbert Simon (1957, 1987) and Henry Mintzberg (1976, 1989). Barnard (1938) maintained that individuals in high-pressure tasks tend to process knowledge without conscious effort but, being practitioner himself, he was unable to determine how such process evolves. First contemporary attempts at gaining insight into the psychology of intuition yielded contradictory conclusions. Simon's perspective that intuition is expert's "analysis frozen into habit" found many opponents who argued that it is a different, not suboptimal process (see Hammond, Hamm, Grassia, & Pearson, 1987). This later unleashed a debate whether analysis and intuition use the same processing system. Moreover, Mintzberg, informed by then popular split-brain theory, countered that intuition is not limited to experts, but it can be employed by anybody, including novices (Mintzberg, Ahlstrand, & Lampel, 1998).

As discussed elsewhere (Sinclair & Ashkanasy, 2005; Sinclair, Ashkanasy, Chattopadhyay, & Boyle, 2002), this divergent view was later reflected in two conceptualizations of intuition that confounded the definition debate that is, to some extent, still going on. Although there has been a relative consensus that intuition represents "direct knowing that results from nonconscious holistic information processing," the role of cognition and affect in the intuitive process remains less clear. While some researchers view intuition as a quick pattern recognition and synthesis of stored information (Isenberg, 1984; Simon, 1987), others stress its sensory and affective nature that enables connecting patterns in a new way (see Crossan, Lane, & White, 1999). I have argued that the rift between experience-based and affect-based intuition is artificial because these represent different facets of the same multidimensional construct. Although more recent conceptualizations have incorporated both components (see Dane & Pratt, 2007; Sinclair et al., 2002), their mutual relationship is yet to be fully explored (see Sinclair, Ashkanasy, & Chattopadhyay, 2010). In particular, this has a significant impact on research design and conclusions about intuition use.

Overall, the initial discussions were held mostly on the theoretical level, debating whether intuition is a useful construct in business and management. First large-scale empirical studies became available in the 1980s (Agor, 1984, 1986), triggered by the need to amend the static management models to reflect the newly arisen dynamic conditions in business. However, the analytical tools were still crude and the research focused primarily on the question what is intuition, whether managers use it, and under which conditions (e.g., Parikh, Neubauer, & Lank, 1994). The floodgate of intuition research opened in the late 1990s, and it is still on the rise, mostly thanks to advancements in psychology and neuroscience research, providing a more solid theoretical framework for the inquiry.

One important contribution in this respect is the development of System 1/System 2 theories (see Stanovich & West, 2000) claiming that humans process information in parallel, using one system for conscious deliberating and a different system for nonconscious intuiting. The most frequently drawn upon theory is the Cognitive-Experiential Self-Theory (Epstein, 1990, 1998, 2003) that views intuition as part of experiential processing that is imbued with affect and acts as default until the need for deliberation is activated. The other relevant contribution, proposed by psychology and reinforced by neurological findings, is the conclusion that information may "travel through

different pathways"[1] in the brain when we deliberate and intuit. Isen and her colleagues suggested in this respect the differential role of positive affect in creative information processing (Ashby, Isen, & Turken, 1999; Isen, Daubman, & Nowicki, 1987), which has been often likened to or equaled with intuition. Although this view was disputed later, considering intuition both as a consequence (Sinclair et al., 2002) and an antecedent of creativity (Raidl & Lubart, 2001; Sinclair, Sadler-Smith, & Hodgkinson, 2009), the question of a shared pathway with affect remains to be investigated.

There are, however, several misconceptions, usually rising from inappropriate conclusions drawn from previous research that was based on a different set of assumptions about the intuition construct and the intuiting process. They relate particularly to the distinction between process and outcome, the role of consciousness and affect, and the research focus on decision making or problem solving, as well as the differential use of intuition in technical and creative settings. This led to a number of flawed conclusions, which make the call for a comprehensive intuition model imperative.

Process Versus Outcome

One debate, in this respect, refers to the question whether intuiting and deliberating are parallel processes that can occur simultaneously. In other words, can we draw on intuition and deliberation at the same time? Or are these processes mutually exclusive, contrasting intuition and deliberation on a single bipolar dimension? The parallel view is represented by the already-mentioned Cognitive-Experiential Self-Theory that stipulates that people process information by two distinct systems that interact seamlessly (Epstein, Pacini, Denes-Raj, & Haier, 1996). This implies that both processes can occur simultaneously and, as such, are likely to use different neural pathways. A collateral implication for measurement is that each processing should be captured by an independent scale (Hodgkinson, Sadler-Smith, Sinclair, & Ashkanasy, 2009).

The unidimensional view, on the other hand, informed the development of bipolar scales that suggest the use of one cognitive style at the expense of the other (e.g., Allinson & Hayes, 1996), which makes it more likely that the information "travels" along the same neural pathways. This perspective was sometimes interpreted as the foundation for the Cognitive Continuum Theory (Hammond, 1996; Hammond et al., 1987) that places rational (deliberative) and intuitive styles on the opposite ends of a continuum but expects most information processing to occur as a mixture of both styles between the extremes in the zone of "quasi-rationality." The relative proportion of each style is determined by the nature of task and the type of decision, both acting as facilitators or blockers of intuition. On the surface it appears therefore that a person cannot employ a high degree of intuition and deliberation at the same time.

Upon closer examination of both theoretical perspectives, it becomes apparent that they are not that dissimilar after all. The difference seems to lie rather in the focus of each. Whereas dual systems theories examine the *process,* the cognitive continuum theory deals with the *outcome* in terms of the used style. In other words, the former asks along which pathways the processed information "travels," whereas the latter is interested in the resulting cognitive style. It remains yet to be seen *whether* and *when* the process of intuiting in either theory occurs along different, specific pathways in the brain (and the body) before it emerges into consciousness as pure intuition or intuition blended with deliberation. Although neuropsychological research did identify two distinct neural structures involved in information processing (Lieberman, Jarcho, & Satpute, 2004), their deployment seems to depend on the level of prior experience. This should not be equated automatically with intuiting, at least not in all its variations, as elaborated upon later. The distinction between process and outcome theories in conceptualizing intuition is therefore critical, the notion of which extends to the way we attempt to measure the construct. In practical terms, it is imperative to differentiate between *intuiting* as nonconscious information processing and *intuition* as its consciously registered outcome.

Role of Consciousness

If we refer to the intuition cube that depicts the construct three-dimensionally (Kuhnle & Sinclair, 2009), there are varying degrees of consciousness involved before the outcome of intuiting emerges into our awareness as intuition. This brings about a collateral question: Is intuiting a nonconscious process that uses unique dedicated pathways or does it utilize the same neural network, only without our awareness? Outcome-oriented research is not overly concerned about it; the primary goal of unconscious thought theory (Dijksterhuis, 2004), for instance, is to determine which process yields a higher quality of decision, not necessarily along which neural pathways it eventuated. Intuition is, by definition, "knowing without reasoning or conscious processes," hence it is supposed to be nonconscious. Here again, a distinction has to be made between the process itself and our awareness that it is happening. Nonconscious thought should

[1] I am using the terms "neural pathway" and "affective synapse" in a generic sense because I do not claim to be a neuroscientist or possess an expert knowledge of human brain. I am basing my conclusions on interpretation of the relevant literature.

occur without our intervention; we merely provide "the respite for our mind to do its job." In other words, we prevent deliberation on the subject matter, which would impede or block our intuiting. The label "unconscious thought," however, suggests that the process occurs neurologically the same way as deliberation. Although its explanation as "thought without conscious attention" (Dijksterhuis, 2004; Strijk & Dijksterhuis, in press) suggests that this implication may be intended, as might be the case with other conceptualizations of intuition, it could be simply a result of lacking vocabulary. Intuition research in its nascent phase had to borrow terminology from other disciplines, which led to semantic confusion and numerous misinterpretations (Sinclair & Ashkanasy, 2002/2003).

So far, intuiting is assumed to be a fully unaware process that we have no control over. Recent research on mindfulness suggests that it does not have to be the case though (Dane, in press). We can train ourselves to pay peripheral attention to cues in our environment that may alert us to danger or give hints for answers to sought after solutions. Proponents of nonlocal intuition, drawing upon quantum physics, would argue that to put a "structure" onto our environmental scanning, we need to have a clear intention about our desired goal (Bradley & Tomasino, in press). This is consistent with the proposed active nature of "unconscious thought" that requires a goal-directed thought process aimed at a specific task (Strijk & Dijksterhuis, in press). But it could be merely a general notion to stay out of harm's way or to notice broad opportunities in a particular area. My observations of individuals trained in intuiting imply that this process can be triggered consciously (at will) by bringing oneself into the "state of nonintruding thought," but always with clearly intended purpose. Trained medical intuitives, for example, report a similar process (Orloff, 2001; Schulz, 1998).

Hence, we can place our *awareness of intuiting* at four levels: (a) accidental nonconscious level (intuition emerges at whim and usually catches us by surprise), (b) primed nonconscious level (we create nonintruding space, like in unconscious thought, by focusing on a different activity), (c) passively conscious level (we reinforce the nonintruding space by formulating a general or specific intent, scan environment for cues peripherally but let go off our active attention), and (d) actively conscious level (we enter a relaxed mental state at will with a clear intention of a desired outcome). Although there is no guarantee that either "prepared" process will activate intuiting, my observations suggest that results at least in the last category can be enhanced with training. This categorization implies that we can consciously prepare for intuiting but the information processing itself remains nonconscious, that is, we are not aware *how* the information is sifted through, and how or why specific patterns are highlighted. In other words, we can learn how to invoke intuiting at will without knowing how it generates the answer.

The Role of Affect

The view that intuition includes an affective component is becoming more widespread, as suggested by its embeddedness in affect-infused experiential processing (Epstein, 1990, 2003). However, the role of affect needs more clarification as it appears to address different points of intuitive processing and outcome.

Affect as Antecedent

First, there is affect that surrounds or precedes intuiting. In this function it can be used to trigger or reinforce intuitive processing. Here, different effects of mood and discrete emotions have been predicted. Generally, moderate degrees of positive mood were found to facilitate intuition (Elsbach & Barr, 1999; Epstein, in press), whereas negative mood seems to block it. This is consistent with neurological findings that each affect activates appraisal in different regions of the brain (Lieberman, 2000). Recent research (Sinclair et al., 2010) indicates, however, a more complex relationship between mood and intuiting in which the degree of arousal matters. It appears that high-intensity mood can facilitate intuiting regardless of its valence, in that it functions in the same manner as the proposed facilitating effect of intense discrete emotions (Sinclair, 2010; Sinclair et al., 2002).

Problems with conclusions about effects of mood on intuiting seem to be twofold. First, the level of its intensity may override differential effects of positive versus negative valence (Sinclair et al., 2010). Second, positive and negative mood may be too generic to capture (and measure); they could encompass varying effects of specific moods (such as happy vs. glad). This reasoning is in line with conclusions that high-intensity emotions can facilitate intuiting when they are used as an "emotional conduit" to generate a solution (Sinclair et al., 2002), similar to the function of intent in nonlocal intuition (Bradley & Tomasino, in press). Conversely, intense emotions can stifle the process if the person focuses on the emotion itself (Sinclair et al., 2002). An empirical study by Coget (2004) proposes that these effects may be further differentiated depending on the specific discrete emotion, as demonstrated by contradictory and contextual effects of anger and fear, not only in general but also within individuals.

Affect as Process Component

The second issue related to affect is an affective component inherent in intuiting itself. It relates to the actual information processing, using affective synapses

as conduit. This conclusion is congruent with psychology research suggesting that the neural pathways for creative problem solving are linked to affect (Isen, 1999) and, as a result, might be distinct. Research by Bechara (2004) implies that these pathways may be used differentially depending on the novelty of the task, which concurs with conclusions that intuition is usually employed when the situation is novel and lacks precedence (Sinclair et al., 2002). Naturally, had we dealt with a similar situation before, we would have a mental schema to draw upon and the employment of intuiting would be redundant—unless we would like to come up with a new, different answer or solution (see section on problem solving). The differential role of affect might be attributed to Bechara's (2004) distinction between information processing in the (affective) body loop and via the (affect-poor) "as-if" loop depending on the degree of novelty. This could be an explanation for varying levels of affect involvement in the intuiting process (Sinclair et al., 2009).

The information may be also processed differently depending on the origin of affect. It was found that different parts of brain respond to somatic states, which were often used as an explanation for affect-based intuition, if these were triggered by affective events in the environment or in the memory (Reinemann & Bechara, in press). The presence of affect alone, however, is not sufficient to identify the information-processing mode because affect from the experiential system can "infiltrate" deliberating (Epstein, in press). Nevertheless, the question remains whether intuiting can occur without any affect at all—or whether it simply utilizes the same neural pathways as affect. If the latter is the case, it would require to revisit the conclusion that the affective component is represented solely by affective tags of the processed information (see Sadler-Smith, Hodgkinson, & Sinclair, 2008). In other words, is the affective component built in the stored information that is processed intuitively, or is it "hard-wired" in the pathway along which intuiting proceeds?

Affect as Confirmation

The third commonly debated role of affect relates to the moment when the outcome of intuiting emerges into consciousness. The resulting intuition tends to be accompanied by a confirmatory feeling, which is frequently of affective nature. This can be viewed as an accompanying symptom of intuiting (Sinclair & Ashkanasy, 2005) or an inherent part of the intuitive process (Kuhnle, Sinclair, Hofer, & Kilian, 2010). A question arises whether this is the stage Dane and Pratt (2007) referred to in their definition of intuition as an "affectively charged judgment." The confirmatory feeling is frequently described as "weight falling off one's shoulders," "a knot untied in the stomach," or "a sense of relief." As discussed elsewhere, this does not guarantee the correctness of the registered intuition, merely its genuine nature (Sinclair, 2003). It distinguishes it from wishful thinking, especially if we are heavily vested in the outcome when emotions tend to blur both our deliberative judgment and intuition. It also infuses positive affect into subsequent information processing, thus reinforcing future reliance on intuiting (Kuhnle et al., 2010; Sinclair et al., 2002). My interviews with participants of various intuition seminars suggest, however, that intuition can be confirmed also through other, nonaffective means. In accordance with Vaughan (1979), people reported different forms of confirmation, such as a unique smell, a specific taste in the mouth, even a voice. For obvious reasons, those receiving intuition through "sensory channels" are not forthcoming. Their confirmation signal, however, seems to be as vivid as an affective feeling, and I speculate that nonaffective confirmation may be more widespread than we think.

Intuition, Expertise, and Heuristics

This leads us to another issue, implied in Dane and Pratt's (2007) definition—that intuitions are nonconscious judgments. In line with naturalistic decision making (Klein, 1998, 2003), it suggests that while intuiting we rely solely on information and experience that we possess already. Or can we go beyond that? This question may be obscured by a narrowly delineated understanding of intuition, stemming from the current research focus on expert intuition (or intuitive expertise) in the decision-making paradigm, driven by business needs and available research tools.

Management research into intuition has been more evolved in the arena of decision making for apparent reasons: common occurrence and easier linkage to outcomes that, it is hoped, can be measured. However, this delineation would limit the application of intuition only to experts, which contradicts reports from different business and management areas as well as personal life—and was vehemently disputed by researchers such as Minztberg. It puts also a constraint on testing and measurement: Have we studied true experts or only experienced professionals? Research suggests that experience does not necessarily equate expertise and that those with midrange level of experience process information differently from accomplished experts (Baylor, 2001; Pretz, in press). It is also questionable when a high level of expertise is reached, although there is consensus that it requires substantial learning and ample practice (Ericsson & Charness, 1994; Kahneman & Klein, 2009). Caution needs to be exercised when conducting expert intuition studies and drawing conclusions from their findings.

Commonly cited examples of expert intuition come from professions dealing with crisis management, often in life-threatening situations (see Langan-Fox &

Vranic, in press). One view represented here is that intuiting is an extremely fast deliberation that occurs too fast to be noticed consciously (see Klein, 1998). It would mean, though, that intuiting is nothing else but a superspeed "analysis frozen into habit," exactly the view Hammond et al. (1987) warned us about. It would also mean that those who are not true experts would arrive at substandard decisions when relying on intuition. That is why, according to Baylor (2001), "semi-experts" tend to prefer careful deliberation because they know enough to be cautious and not enough to be intuitive. On the other hand, her curvilinear model proposes that novices can be intuitive *because* they know too little to deliberate. When dealing with areas where domain knowledge is necessary, this may result in what Baylor labeled "immature" intuition. In situations that do not require expertise, this may not be necessarily an impediment, as discussed later. The novice scenario, however, tends to be often confused with heuristic processing, leading to cognitive shortcuts and biases (Tversky & Kahneman, 1983), which could be a result of low-effort deliberation.

Intuiting has been known to be more effective in complex decision making (Elsbach & Barr, 1999; Pretz, in press) because we do not have the capacity to process all involved information consciously (Dijksterhuis, 2004; Kuhnle & Sinclair, 2009). This implies the activation of a different process than deliberation, distinct from low-effort mental heuristics (Epstein, in press; Lieberman, 2000; Sinclair et al., 2010). Participants selecting the optimum apartment in unconscious thought experiments (Dijksterhuis, 2004), for example, were encouraged to put the problem aside completely, not to make an educated guess that would require a shortcut deliberation. Confusing intuition with heuristics led in the past to conclusions that intuiting is an inferior process prone to biases and mistakes. This error was confounded by testing intuition on problems that are more suited for analysis and logic. Because intuiting is associonistic and approximative (Epstein, 1998), it is likely not to be accurate, for instance, when dealing with an exact mathematical task (Sinclair & Ashkanasy, 2005). Neither information-processing mode is fault-free, it has only a different error distribution with different consequences (Dunwoody, Haarbauer, Mahan, Marino, & Tang, 2000). The question should be rather whether we identified the used information-processing system correctly—so that we can determine its suitability and thoroughness in the given context.

Intuition in Decision Making and Problem Solving

The decision-making paradigm of expert intuition seems to be rather narrow to encompass all types of intuiting. What about a protracted incubation of inventor's intuition or a strategic foresight? These appear to relate more to problem solving and have unique characteristics that do not fit well with the expertise model. One way of differentiating them could be by (a) the point of time on which the intuiting focuses, and (b) the breadth of information it processes. The former aspect relates to past-, present-, and future-oriented source of processed information. The latter refers to the type of processed information and distinguishes in particular between domain-specific expertise, general experience (Sinclair et al., 2002), and cursory exposure. Different combinations of these two factors produce three distinct groupings: intuitive expertise, intuitive creation, and intuitive foresight (see Sinclair, in press).

Intuitive Expertise and Decision Making

In intuitive expertise, we draw on our domain-specific knowledge in the form of expertise accumulated in the past. In other words, we match our stored patterns with the current situation, with a specific goal in mind. Because this type of processing tends to be linked to decision making under pressure and focused on a clearly delineated domain, intuition usually emerges quickly, hence its frequently cited attribute of speed (Dane & Pratt, 2007; Sinclair et al., 2002). Some researchers argue that this kind of information processing is inferential (Pretz, in press), which implies that it relies on reasoning. This view is congruent with the understanding of intuiting as automated analysis that draws on a substantial pool of stored domain-specific knowledge (Klein, 1998; Simon, 1987). It would explain why it is limited to experts in a decision-making paradigm, and only to areas in which they are experts (Sinclair et al., 2002). More important, it is questionable whether this type of intuiting, if it is indeed of inferential nature, uses a separate neural pathway from deliberating. It is also unclear how much affect is involved. Because intuitive expertise draws on already stored schemas that are used in the same way as before, it is reasonable to assume that the information will "travel" along the "as-if" loop, which relies on affect to a lesser degree (Bechara, 2004).

Intuitive Creation and Problem Solving

So far, the discussion revolved around decision making. When we expand our view to problem solving, especially if linked to innovating or inventing, a different picture of intuiting emerges, that of intuitive creation. First, beside domain-specific expertise, inventors tend to draw also on a wide range of experience in unrelated fields or from everyday life (see Monsay, 1997; Sinclair et al., 2002) to create something new. This view is consistent with Crossan et al.'s (1999) description of entrepreneurial intuition that combines the

existing patterns in a novel and creative way. The first distinction from intuitive expertise lies in the breadth of processed information, encompassing expertise *and* experience. The second distinction relates to the point of time when this information was accumulated. Although most of it has been stored in the past, there seems to be some element of the present, as some inventors report, in that a cursory exposure to a current stimulus may act as catalyst for the intuiting to coalesce.

This type of information processing appears to be of holistic nature in that it combines disparate patterns in a new, associonistic way, which implies a nonrational approach (Pretz & Totz, 2007; Sinclair & Ashkanasy, 2005). It is therefore likely that it might use a dedicated neural pathway, aligned with experiential processing. The novelty of stimuli suggests also that the information should "travel" along the affect-infused body loop (Bechara, 2004), implying the presence of a stronger affective component. Because there are known effects of positive affect on cognitive flexibility, innovativeness, and establishment of remote associations (Bolte, Goschke, & Kuhl, 2003; Isen, Rosenzweig, & Young, 1991), a question arises whether it is more strongly present in this type of intuiting.

This is obviously a much slower process than intuitive expertise (Dörfler, Baracskai, & Velencei, 2010), which explains the contradictory views on intuition speed. Although the emergence of intuitive creation is instantaneous (we know in the instant it emerges into consciousness), it is not always immediate (Sinclair & Ashkanasy, 2002/2003). There tends to be a prolonged period of "incubation" (Goldberg, 1983) before intuiting is complete and can emerge, often in the so-called aha moment while walking, taking a shower, or sleeping (Bastick, 1982; Hanlon, 2008). Hence, the creation of nonimpeding space on the passive conscious level, as discussed earlier, becomes even more important in the problem-solving context.

The breadth of information processed by inventors appears to be similar to that of strategic intuition, which relies on integration of domain-specific expertise and broad experience accumulated in the past directly and indirectly through reading, seeing, and hearing (Duggan, 2007). As a result, this is also a slower process, although the delay seems to be rather due to waiting for the opportune moment or situation to make a decision than creating something new. If it is indeed the case, one would assume that this kind of intuiting utilizes inferential processing, similar to intuitive expertise, rather than intuitive creation, but in a broader and more lateral sense. The lateral aspect (de Bono, 1971) could be an explanation for the uniqueness of solutions.

A different variant of intuitive creation relates to those who are no experts yet come up with creative, intuitive solutions to problems. Here obviously the pool of processed information is limited to general experience, drawing on past and present stimuli. Building on conclusions about novice intuition (Baylor, 2001), maybe because these problem solvers are unencumbered with "how things should be done," they can come up with something new more easily than an expert "thinking in a box." Because no expertise is utilized in this instance, the immaturity of novice intuiting (Baylor, 2001) can become an advantage. In line with previous reasoning, this would assume holistic processing with involvement of affect.

Intuitive Foresight

There is another process that involves also future events, which I call intuitive foresight. Although not much is known about its inner workings at the moment, we can draw some speculative extrapolations from entrepreneurship research (Sadler-Smith et al., 2008). Entrepreneurs seem to have the ability to sense opportunities "hidden" to others (Timmons, 1989). One could argue that they can see a "seed" of a future pattern in a current situation because of their expertise in entrepreneurial scanning accumulated in the past, the same way a skilled technician can read an MRI scan. In this case, their intuiting could be likened to a future-oriented intuitive expertise if they match the foreseen patterns to those from the past—or to intuitive creation if they include broad experience and combine all in a novel way. This distinction would allow for employment of inferential or holistic processing, with a differential role of affect.

Another intriguing possibility is suggested by findings that entrepreneurs can respond to an emotional stimulus before it actually occurs or is generated (La Pira & Gillin, 2006). Several studies of heart–brain interaction found that respondents reacted 4 to 7 seconds before the stimulus was selected (McCraty, Atkinson, & Bradley, 2004). Interestingly, the heart responded even before the brain. This raises a question whether we can indeed intuit a future event holistically, without reliance on inference. If it is possible, then an affectively charged intent (Bradley & Tomasino, in press) would seem to play a similar role in the process like goal orientation does in unconscious thought. This would also necessitate expanding the multidimensionality of the intuition model to include processing of information beyond the currently perceived boundaries (Sinclair et al., 2002).

In summary, the environmental scanning and information pool that intuiting utilizes in terms of specific expertise, broad experience, and cursory exposure can be oriented toward past, present, and future. There are also differential effects of speed with which intuition emerges into consciousness and a differing role of affect. Speaking broadly, there seem to be a different grouping of factors and conditions at play in intuitive

decision making and intuitive problem solving, which appears to be systemically more holistic in nature and follow neural pathways infused with affect.

Technical Versus Creative Professions

Most management research to date was conducted in more technical types of business environment. A question arises whether intuiting might function under different constraints in business-oriented yet creative type of industries. Preliminary results of my recent study of film production teams suggest that this may be indeed the case. Film production teams consist of technical and creative individuals who must work together under time pressure, frequently changing conditions that require teamwork, resourcefulness, and improvisation (Bechky, 2006). Professionalism is a must, both on operational and strategic level. Yet each profession has a very different focus. Surprisingly, all interviewed team members, regardless of their professional background, were familiar with intuition and reported using it in their job—but they seem to apply it differently.

The biggest distinction in use I found is between the operational/technical and the creative professions. Technical staff, such as production managers or prop managers, reported mostly instances of intuitive expertise that arose during film production in crisis situations and corresponded broadly to inferential decision making. Interestingly, they also relied heavily on intuitive foresight of inferential nature that was based on their ability to foresee a future event or a starting pattern (and prevent it or prepare for it). Creative staff, such as film directors or cinematographers, seemed to employ intuiting more heavily in the preproduction stage, before the film shooting started. The most commonly cited instances referred to intuitive foresight of holistic nature when they, for instance, recognized immediately the potential of a project or while selecting members of the team. Intuitive creation came into play for them during the film production, especially when they "crafted" a scene, worked with actors or sensed a change of mood on the set. Although the analysis is still in preliminary stages, it indicates that the type of intuiting may be of contextual nature even within individuals and that more attention should be paid to various professions.

Conclusion

It appears that although intuition research has moved forward, certain areas would benefit from further clarification. In particular, we should pay more attention to the distinction between the intuitive process and outcome, the role of consciousness and affect, the dynamics of intuiting in decision making and problem solving, and the differential use of intuition in technical and creative settings. More than ever, there is a need to develop a comprehensive intuition model that would refute some of the misconceptions.

Note

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