No need to hide: Acknowledging the researcher's intuition in empirical organizational research

Barbara Kump iD
Vienna University of Economics and Business, Austria

Abstract

Experts on organizational research methods have begun to highlight the importance of researchers' intuition (i.e. 'direct knowing') and have called for more genuine method sections that acknowledge its use. However, using intuition contradicts established research standards of traceability. Hence, when intuition was involved in the research process, researchers must choose between reporting its role, thereby risking the impression of lacking scholarly rigor, and downplaying its role, thereby writing less-than-honest research reports. This article aims to provide a solution to this dilemma by conceptually exploring how intuition can be integrated in research such that scholarly rigor is maintained. Building on Weick's distinction of creative imagination and validation, it argues that intuition can be legitimately seized if its functioning principles are taken into account and its outcomes are later validated through analytical procedures. The article synthesizes theoretical assumptions and empirical findings on characteristics of intuition with discussions of organizational research methods to derive implications on (1) points in the research process where researchers' intuitions may be legitimately included and (2) possible types of intuitive outcomes that may be reported. This may contribute to both more genuine method sections and more rigorous research that systematically validates intuition, instead of hiding it.

Keywords

intuition, intuitive insight, intuitive judgment, reflexivity, research methods

Corresponding author:
Barbara Kump, Institute for Small Business Management and Entrepreneurship, Vienna University of Economics and Business, Welthandelsplatz 1, Vienna, 1020, Austria.
Email: bkump@wu.ac.at

Introduction

Recently, a number of research method articles have been published in reputable organizational journals that highlight the relevance of non-analytical (e.g. embodied or tacit) forms of knowledge in the research process (e.g. Behfar and Okhuysen, 2018; Bell and Willmott, 2020; Klag and Langley, 2013; Locke et al., 2008). As one crucial aspect, there has been an importance attached to acknowledging the role of intuition—'direct knowing without any use of conscious reasoning' (Sinclair, 2010: 378)—in the 'craft' of research (Bell and Willmott, 2020; Dörfler and Eden, 2019). However, reporting the use of intuition can be difficult for researchers. There is a long-standing tradition in both quantitative and qualitative organizational studies to establish rigor by adhering to what are considered the standards of the natural sciences, that is, traceable analytical procedures (Gioia et al., 2013; Locke et al., 2008; Savall et al., 2008). Intuition, by definition, does not meet these standards. Hence, even if many organizational researchers acknowledge the relevance of their intuition in personal conversations (e.g. Gehman et al., 2018), they usually have to downplay or camouflage it in their research articles to get their work published (Bell and Willmott, 2020; Dörfler and Eden, 2014, 2019). That way, method sections are not always genuine and not fully honest about how insights were gained (Locke et al., 2008). Thus, when relying on their intuition, researchers are facing a dilemma: either they report it, thereby risking the *impression* of lacking scholarly rigor, or they camouflage it, thereby *actually* impairing rigor.

This article aims to offer a way out of this dilemma by exploring analytically how researchers can include their intuition in a way that rigor is maintained. This is not to say that intuition *should* be involved in every study; scholarly advancement may occur in many other ways, for example, through systematic variation, creativity, or luck (Weick, 1989). However, if researchers realize that intuition was involved in their research, they should be able to make it transparent—and this article intends to provide a rationale for it.

As its theoretical basis, the article uses Weick's (1989) model of theory construction that distinguishes *creative imagination* and *validation* (see also Poincaré, 1908; Popper, 1959, and more recently, Locke et al., 2008; Von Krogh, 2020). The first part, creative imagination, can be an 'intuitive, blind, wasteful, serendipitous' process (Weick, 1989: 519) where new ideas are produced. In the second part, validation, these ideas are tested, justified, or otherwise proved. Weick (1989) criticized that the standards of validation are often applied to creative imagination; instead, the two should be separated to enable theoretical advancement. Weick's claim offers guidance on how to include intuition in research. Indeed, an intuition can never be the final outcome of an empirical study—at the end traceable, analytical methods have to take over (Lee and Lings, 2008). However, intuition can be legitimately involved at any point in the research process that benefits from creative imagination as long as the outcomes are later validated.

The main contribution of this article is a conceptual examination of the potential role of researchers' intuition in empirical organizational research. Therefore, it synthesizes findings from empirical studies on intuition with discussions of organizational research methods and elaborates on requirements for intuitive processing in research, intuitive research outcomes, and the potential role of intuition throughout the research process. It

develops implications on (1) points in the process where researchers' intuitions may be legitimately included and (2) possible types of intuitive outcomes that may be reported in the future.

To set the stage, the article gives a brief overview of the concept of intuition and its current role in organizational research. The subsequent section draws upon insights from psychological experiments to describe how intuition works and what outcomes it can produce. In the third section, these characteristics of intuition are transferred to the context of empirical organizational studies to examine how researchers' intuition may be legitimately included. The article closes with a discussion of implications for organizational researchers.

The concept of intuition and its role in organizational research

The concept of intuition

In the context of organizational research, intuition has been defined in various ways (for a historical overview, see Akinci and Sadler-Smith, 2012; see also Baldacchino et al., 2015). The present article uses, for multiple reasons, Sinclair and Ashkanasy's (2005: 357) definition of intuition as a 'non-sequential information processing mode which comprises both cognitive and affective elements and results in direct knowing without any use of conscious reasoning'. First, this definition reflects the common distinction between the intuitive *process* and its *outcome*, the intuition (Dörfler and Ackermann, 2012). Second, the view of intuitive processing as a 'non-sequential information processing mode' is in line with findings from psychological laboratory studies on the micro-foundations of intuitive processing (e.g. Betsch and Glöckner, 2010; Bowers et al., 1990). Third, 'direct knowing without any use of conscious reasoning' is broad enough to comprise different types of intuition as suggested in the literature (e.g. Dane and Pratt, 2009; Dörfler and Ackermann, 2012; Glöckner and Witteman, 2010; Miller and Ireland, 2005).

Most scholars studying intuition (for reviews, see Dane and Pratt, 2007; Dörfler and Ackermann, 2012; Evans, 2010; Hodgkinson and Sadler-Smith, 2018; Hodgkinson et al., 2008; Salas et al., 2010; Sinclair, 2010) contrast 'intuitive' with 'non-intuitive' processing, which has been referred to as 'rational thinking', 'System 2', or 'analytical thinking'. Dörfler and Ackermann (2012) and Dörfler and Stierand (2017) provided arguments as to why none of these terms are perfectly suitable to distinguish 'intuitive' from 'non-intuitive' forms. Being aware of this imprecision, the article follows some of the recent distinctions (e.g. Hodgkinson and Sadler-Smith, 2018) and uses the term *analytical processing*.

Many aspects of intuition are still contested and underexplored (Baldacchino et al., 2015; Hodgkinson and Sadler-Smith, 2018; Sinclair, 2010). Nevertheless, there is consensus about some of its key features (Dörfler and Ackermann, 2012; Dörfler and Bas, 2020; Dörfler and Stierand, 2017). In contrast with analytical processing, intuitive processing is seen as a rather *fast, spontaneous* process that *does not follow the rules of logic*; in contrast with an analytically derived outcome, an intuitive outcome is *tacit* and *holistic*, and intuitors *feel confident* about it, despite lacking evidence.

Intuition can take different shapes (Dane and Pratt, 2009; Dörfler and Ackermann, 2012; Glöckner and Witteman, 2010; Gore and Sadler-Smith, 2011; Miller and Ireland, 2005). In the context of research, Dörfler and Ackermann's (2012) distinction between *intuitive judgment* and *intuitive insight* seems particularly relevant. An *intuitive judgment* is an intuitive evaluation, such as a researcher's intuitive reaction to a 'strange' statistical outcome, or the intuition that a certain case will be interesting for a case study. An *intuitive insight* is an intuitive understanding, for example, of an unusual empirical observation or the emergence of a 'gestalt' in the data. As these examples illustrate, both types of outcomes may occur at multiple points of the research process regardless of the specific design. Both intuitive judgments and insights are forms of tacit knowledge (Dörfler and Ackermann, 2012), because intuitors are unable to give an account of how they arrived at those outcomes.

The role of intuition in organizational research

Reviewing the literature on researchers' intuition is not a simple task. The term 'intuition' is ambiguous, and scholars have used various expressions (e.g. 'hunch', 'gut feeling') for it. At the same time, many authors have used the term 'intuition', but were referring to 'assumptions' (e.g. 'In line with our intuition') or 'ideas' (e.g. 'The intuition behind our study was'). Despite a broad search, after excluding those latter publications, only very few remained that actually dealt with researchers' intuitions as defined in this article. The following sub-sections give an overview of (a) the role of intuition in research as discussed in *theoretical* articles, (b) how intuition is represented in *method* handbooks or *method* articles, and (c) how *empirical* articles report on the researchers' intuitions.

Theoretical perspectives related to intuition in organizational research. The view that intuition is involved in organizational research is part of at least two ongoing theoretical conversations. First, the claim to report intuition is linked to Bell and Willmott's (2020: 1380) perspective that research should be seen as 'more embodied, less certain, less cognitive, and more emotionally demanding', and method sections should account for those features. Bell and Willmott's article is in the tradition of earlier arguments on reflexivity in research that have questioned the ideal of 'objectivity' and challenged the idea of an independent, external reality (e.g. Alvesson, 2003; Cunliffe, 2003; Driver, 2016; Hardy et al., 2001; Johnson and Duberley, 2003). In this tradition, especially interpretive data analysis has been (theoretically) described as a 'mixture of the rational, serendipitous, and intuitive' (Van Maanen, 1979: 520), a 'dynamic, intuitive, and creative process' (Leitch et al., 2010: 78), and a craft that involves 'imagination and intuition' (Hibbert et al., 2014: 284).

Second, the claim to accept intuition in research is linked to the discussion on abduction in research (Behfar and Okhuysen, 2018; Klag and Langley, 2013; Locke et al., 2008; based on Peirce, 1868, 1903). Abduction means 'reasoning from data to an initial hypothesis', which plausibly explains the observed data (Behfar and Okhuysen, 2018: 323). It involves conscious analytical processes such as doubting, thinking through alternative possibilities, or rejecting initial assumptions (Locke et al., 2008). Nonetheless, abduction almost always contains a 'hard-to-grasp' element through which surprising

observations lead to conjectures about how these observations may be explained (Klag and Langley, 2013). In Peirce's (1903: CP 5.181) words, an abductive suggestion comes to our minds 'like a flash' and is 'an act of insight'; thereby, 'the different elements of the hypothesis were in our minds before; but it is the idea of putting together what we had never before dreamed of putting together which flashes the new suggestion before our contemplation'. While Peirce (1868: CP 5.213) denied the relevance of intuition, which he defined as 'cognition not determined by a previous cognition', his view of an 'abductive suggestion' mirrors the definition of an intuitive outcome in this article. Accordingly, many researchers have argued that abduction, also in Peirce's sense, involves intuition when it comes to discovering patterns and deriving explanations from data (Behfar and Okhuysen, 2018; Klag and Langley, 2013; Locke et al., 2008). For example, Taylor et al. (2002: 315f., emphasis added) described abduction as the '*intuitive* grasping of the whole meaning of something without a conscious logical thought process', which leads to a 'felt meaning'—it just 'feels right'.

In summary, at least two vibrant theoretical conversations—those who view research as a craft and emphasize reflexivity (e.g. Bell and Willmott, 2020) and those who highlight the relevance of abduction in research (e.g. Behfar and Okhuysen, 2018; Klag and Langley, 2013)—have called for acknowledging researchers' intuitions in organizational research.

Research methods that involve intuition. A few concrete organizational *research methods* can be found in method handbooks and method articles that mention the involvement of intuition. Probably the most prominent of these are variants of the grounded theory method (Glaser and Strauss, 1967) which aims to extract new insights through deep engagement with data. While the orthodox version of the grounded theory method is rooted in positivism and foresees strict rules and procedures to ensure 'objectivity', less orthodox forms exists that admit the role of the researcher's experience and intuition in the research process (Fendt and Sachs, 2008). The most prevalent variant of grounded theory methods in organizational research is the so-called 'Gioia method' that seeks to combine the 'revelatory potential' of grounded theory for creating new concepts with the 'qualitative rigor' required by top journals to understand the 'essence of the organizational experience' (Gioia et al., 2013: 15f.). Gioia and colleagues suggest that researchers should first try to get 'lost in their data'; then, by way of a 'gestalt analysis' (Gioia et al., 2013: 20), they should strive to identify some deeper structure in the unorganized array of codes. This process of intuiting about the essence (the 'gestalt') in the data is the very core of that method, but the 'gestalt analysis' is not very prominently described and the term intuition is not used.

More recently, Greenwood et al. (2019) presented a method for analyzing visual rhetoric of corporate records and argued that analyzing visual elements (e.g. pictures) requires intuitive processing. To this end, the authors sketched a content analytical procedure. However, they did not describe how this intuitive process takes place, and, as in Gioia et al.'s (2013) article on which they build strongly, the term intuition is not prominent.

As a final example, in a comprehensive handbook that compiled research methods to study intuition, Dörfler and Eden (2014) detailed how they combined intuitive approaches

with iterative cycles of sophisticated (analytical) concept mapping techniques to investigate how Nobel laureates think (and use their intuition). Their method is one of the most explicit attempts at seizing intuition in organizational research and making it transparent.

Empirical studies that used intuition in the research process. Despite these theoretical arguments that intuition is an important element of research and a number of research methods that explicitly foresee its involvement, intuition is rarely reported in empirical research articles (for similar observations see Bell and Willmott, 2020; Dörfler and Eden, 2019). Sometimes, intuition is mentioned (albeit not detailed) as a *starting point* of a quantitative (e.g. Ethiraj and Levinthal, 2009; Le Mens et al., 2015; Ramarajan et al., 2017) or—even less frequently—qualitative study (e.g. Howard-Grenville et al., 2013).

When it comes to *making sense of the data*, intuition is largely absent. Two rare exceptions from quantitative research are a study on meta-analyses where Dalton and Dalton (2008) justify their decision for applying an additional statistical analysis with their intuition and a study by Salge and Karahanna (2018), who explicitly state how they used intuition to discover that it was bots (i.e. digital actors), not human actors, that were important agents in online protests in response to a large corruption case in Brazil.

Despite long-standing arguments by methodologists that interpretive data analysis involves intuition (e.g. Hibbert et al., 2014; Leitch et al., 2010; Van Maanen, 1979), qualitative studies usually do not contain references to researchers' intuitions. Exceptions include the studies of De Keyser et al. (2019), Dörfler and Eden (2019), and Smets et al. (2015), all of which briefly mention that intuition was at play in their analyses, and Cunliffe and Coupland's (2012) article that reports on how their intuitions were involved in analyzing video data. In general, however, even such tentative descriptions of how researchers' intuition was involved in making sense of the data are scant in empirical articles.

Reasons why intuition was banished from method sections

Although this overview of the literature surely is not exhaustive, it reveals some clear tendencies. Theoretical perspectives on research-as-a-craft and abduction in research highlight that intuition is important. A few concrete methods have been suggested that foresee researchers using their intuition at some point(s) in the analysis. However, even if some empirical articles mention intuition in their method sections, very few authors of empirical studies provide details on where they relied on intuitive processing and on the associated outcomes (for exceptions see Dalton and Dalton, 2008; Dörfler and Eden, 2019; Salge and Karahanna, 2018; Smets et al., 2015). Organizational scholars (like scholars in many other domains) have largely abandoned intuition from their empirical articles.

Dörfler and Eden (2014: 268f.) surmised that '[i]f the role of intuition were discussed in papers submitted to top journals in the management and organizations field, then [. . .] the papers would be rejected because of the declared difficulty of replication' (for similar arguments, see Bell and Willmott, 2020). The rejection of intuition from the organizational research process has been taken to its extreme by critics like Hammond (2010:

329, emphasis in original), who viewed researchers who '*surrender* to intuition' as too lazy to do the 'dull hard work of justification that demands thinking'. Given such harsh criticism, it is no surprise that intuition is not mentioned prominently in empirical studies.

In the 'hard sciences' (e.g. physics, mathematics), the barrier to open disclosure of intuition seems lower than in 'softer sciences' like management research, probably because hypotheses created through intuition can immediately be exposed to rigorous experimental testing (Dörfler and Eden, 2014). This mirrors the observation that intuition is somewhat more visible in quantitative than in qualitative studies. Even if a quantitative study starts from an intuition, statistical models and procedures convey a sense of objectivity. In contrast, qualitative researchers must make great efforts to demonstrate scholarly rigor. An analysis of 474 reviewer reports over 28 years in qualitative management research revealed that 'insufficient explication on the part of the author [and a] lack of traceability' (Savall et al., 2008: 525) was the second most frequently used review criterion (after 'lacking relevance'). It is only through the development of 'sound', 'rigorous' analytical methods (Locke et al., 2008), (quasi-) standard procedures (e.g. Gioia et al., 2013), and quality criteria (e.g. Bansal et al., 2018; Tracy, 2010) that interpretive techniques have become accepted as 'scientific' methods. Nevertheless, similar tendencies exist in quantitative research and even in the 'hard sciences'. Bell and Willmott (2020) give an example of a group of student physicists who had to learn to omit all references to embodiment, indeterminacy, or intrusiveness from their reports in order to publish their findings.

All of these observations point to one conclusion. Although intuitive processing seems to play a crucial role in research, it does not meet the traditional standards of scholarly rigor because the underlying non-conscious processes cannot be traced. Consequently, researchers tend to downplay the involvement of their intuition. However, research does not become more rigorous if researchers *pretend* that something that they deem as 'unscientific'—such as intuition—was not involved. It becomes more rigorous if researchers acknowledge that it was involved and demonstrate that they dealt with it in a rigorous way.

The main argument made in this article is that lacking traceability is not an obstacle to including intuition in research. The first part, creative imagination, can be 'intuitive, blind, wasteful, [and] serendipitous' (Weick, 1989: 519) to provide 'raw materials' for new insights; validity is no requirement at this stage (see also Locke et al., 2008; Von Krogh, 2020). Consequently, intuition can be included in research processes if its functioning principles are taken into account and if intuitive outcomes are later validated through rigorous analytical methods. The subsequent section gives a concise overview of the general characteristics and functioning principles of intuition, which will later be transferred to the context of organizational research.

Characteristics and functioning principles of intuition

The following sub-sections present (mostly empirical) findings on (a) the formation of intuitions, (b) possible intuitive outcomes, and (c) the validity of these outcomes.

The formation of intuitions

There is substantial evidence from psychological research (Betsch and Glöckner, 2010; Bowers et al., 1990; Dijksterhuis and Nordgren, 2006; Epstein, 2010; Glöckner and Witteman, 2010) that, through intuitive processing, the mind can rapidly and effortlessly reveal an accurate overall impression of or pattern in a large amount of incoming data. Thereby, the mind seems to apply implicit learning to non-consciously develop a sense of contingencies that represent an underlying coherent pattern (Bowers et al., 1990; Evans, 2010; Isenman, 2018; Lieberman, 2000), for example, a set of categories for data. Betsch and Glöckner's (2010) psychological laboratory studies provide compelling evidence that intuition is so fast because it is based on non-sequential processing. Substantial information can be considered *at the same time* to provide the outcome.

In the current understanding, intuitive processing consists of *sensing* and (intuitive) *sensemaking* (Dörfler and Bas, 2020). At the sensing stage, sensory information is perceived and transformed into sensations; the sensemaking stage reveals the meaning of that sensory information. Findings from psychological experiments suggest the following mechanism. Whenever new information enters an intuitor's mind (*sensing*), supporting facts are highlighted and contrary facts are devalued through the activation and deactivation of certain mental areas (Bowers et al., 1990). Once mental activation has crossed a threshold, the intuitive outcome enters consciousness as a holistic insight or judgment of the situation (*intuitive sensemaking*) (Betsch and Glöckner, 2010; Bowers et al., 1990; Isenman, 2018).

Psychological studies suggest that, if information is presented to an intuitor stepwise, novel incoming information is continuously integrated (Bowers et al., 1990; Dijksterhuis and Nordgren, 2006). This has been described as a process of 'constructive intuition' (Glöckner and Witteman, 2010: 11), where cognitive top–down and bottom–up mechanisms interact to form a non-conscious mental representation of a situation. The representation of the situation is updated whenever new information is available (Betsch and Glöckner, 2010).

Although intuition is highly efficient and fast compared to analytical processing (Dörfler and Stierand, 2017; Epstein, 2010), it may take some time until the overall outcome is delivered (Dijksterhuis and Nordgren, 2006; Sinclair, 2010). Thereby, the speed of intuitive processing is assumed to be relatively insensitive to the *amount* of data that can be processed (Betsch and Glöckner, 2010) but sensitive to *incoherencies* in the data (Thompson et al., 2011. For coherent data, intuitive outcomes are produced faster than for incoherent data. Accordingly, Gore and Sadler-Smith (2011) and Isenman (2018) distinguished rather fast intuitions from rather 'slow-cooking' intuitions that emerge over time.

Intuitive outcomes

Intuition reveals two types of outcomes, *intuitive judgments* and *intuitive insights* (Dörfler and Ackermann, 2012). In a qualitative empirical study, Sadler-Smith (2016) asked 'What happens when you intuit?' to investigate how intuitors experience these outcomes.

Positive or negative signals. Intuitive *judgments* are perceived as signals (Sadler-Smith, 2016), that is, as various kinds of non-conscious evaluations of a situation (e.g. as 'the right thing to do', 'a wrong candidate', or an 'incomplete explanation'). Sadler-Smith's (2016) study suggests that signals can manifest as cognitive awareness (e.g. a cognitive 'sense' or 'cognitive feeling') or bodily awareness (e.g. visceral feelings, bodily sensations). The latter has also been referred to as *somatic marker* (Damasio, 1994).

Despite an ongoing debate around the question of whether intuition *always* has to involve affect (as an umbrella term for emotions and affective feelings), there is agreement that intuition *frequently* comes with affect (Dörfler and Bas, 2020; Sinclair, 2010; Sinclair and Ashkanasy, 2005). This affect does not necessarily have to be strong but can also be a more 'cognitive feeling' of low charge (Sadler-Smith, 2016: 1082). In the context of an intuitive judgment, it can also be the affect that serves as a signal of 'rightness', 'wrongness', 'incompleteness', and so forth (Epstein, 2010; Isenman, 2018).

Intuitive insights. Intuitive insights can manifest, as a holistic impression (e.g. Bowers et al., 1990; Epstein, 2010), a whole picture (instead of fragments) (Dijksterhuis and Nordgren, 2006), a global pattern, comprehensive categories of information (Dane and Pratt, 2007), or an organizing principle underlying a set of data (Salas et al., 2010). These insights can be (verbally or non-verbally) expressed as different kinds of imagination (Isenman, 2018) or, most importantly, as metaphors (Epstein, 2010; Sadler-Smith, 2016). Metaphors may occur in different modalities besides language, for example, as pictures, gestures, sculptured artifacts, or sounds (Cornelissen et al., 2008). They can serve as vehicles to verbalize (tacit) intuitions that otherwise cannot be directly expressed (Epstein, 2010; Sadler-Smith, 2016). Using metaphors, intuitions can be further processed analytically—for example, by decomposing them into their constituting elements (Tsoukas, 1991, 1993).

The validity of intuitions

Although intuitions, as 'raw materials' of theoretical developments, do not always have to be valid (Von Krogh, 2020; Weick, 1989), it is only useful to include them in research if they have the *potential* to be valid. Findings from psychological experiments suggest that, when they are based on large amounts of data, intuitive outcomes can be highly accurate—and more accurate than conscious analytical processing (e.g. Betsch and Glöckner, 2010; Bowers et al., 1990; Dijksterhuis and Nordgren, 2006).

In the organizational context, results on the validity of intuition are mixed (for reviews see Akinci and Sadler-Smith, 2012; Baldacchino et al., 2015; Dörfler and Bas, 2020). A closer look at extant findings suggests differences due to levels of expertise: it seems that novices' intuitions cannot be trusted, while experts' intuitions can reveal highly valid outcomes (Dörfler and Ackermann, 2012; Dörfler and Bas, 2020; Dörfler and Stierand, 2017). This interpretation is in line with the findings from the above-mentioned psychological experiments because these experiments simulated high levels of expertise: the 'large amounts of incoming data' (e.g. return values of various fictional shares) com-

prised the full information that was required to arrive at a valid outcome (e.g. the intuitive judgment of the fictional shares; Betsch and Glöckner, 2010).

In conclusion, there is broad agreement in the literature that expertise is a *necessary* condition for valid intuitions (Dörfler and Ackermann, 2012; Dörfler and Stierand, 2017; Sinclair and Ashkanasy, 2005). Moreover, empirical findings from various sources imply that expert's intuitions also have a high potential to be valid (Dörfler and Bas, 2020).

Integrating intuition in the organizational research process

The characteristics of intuition are now transferred to the context of organizational research to describe (a) requirements for intuitive processing, (b) intuition as intermediate outcomes, and (c) the involvement of intuition at different points in the research process.

Intuitive processing in organizational research

Large and diverse amounts of input data. While analytical processing is beneficial in circumstances that warrant the application of specific rules, intuitive processing is suited for situations where the amount of relevant information increases such that strictly following rules ceases to be feasible (Dijksterhuis and Nordgren, 2006). Thereby, the accuracy of intuitions increases when the amount of information increases. Even if the conscious parts of researchers' minds are 'flooded', intuitive judgments or insights become more accurate when more information is available to reveal a coherent overall impression. Hence, intuitive processing requires that researchers deeply engage with the setting and data to *sense* large amounts of information. In an empirical study, this does not only include intentionally collected information (e.g. interviews) but 'the rich experience of the setting' (Einola and Alvesson, 2019: 1897) that goes beyond verbal or visual data. Organizations may also be touched, felt, heard (Cunliffe and Coupland, 2012), or even smelled (Martin, 2002; Riach and Warren, 2015). Then, preliminary intuitions may unfold (intuitive *sensemaking*; Dörfler and Bas, 2020) that get consolidated or 'rejected' as more information is processed.

Immersion in and detachment from the data. It has been argued that researchers have to get immersed in their data, such that the data sink in (Bell and Willmott, 2020). In the context of interpretive research, this has been described as an experience of 'being inside your data, your data being inside you' (Langley, in Gehman et al., 2018: 296). This phase of 'being lost' or 'immersed' in the data often precedes novel insights (Gehman et al., 2018).

If all research data point to similar outcomes, intuitions may emerge fast and easily. However, when the situation is complex and information is incoherent, their formation may be more difficult and take longer (Betsch and Glöckner, 2010; Isenman, 2018; Thompson et al., 2011). Hence, after immersion, a phase of detachment is often needed for intuitions to emerge. Accordingly, research-related intuitions may occur unexpectedly or delayed when the conscious mind is engaged in some other activity (Klag and Langley, 2013).

Intuition as (intermediate) research outcome

Both types of intuitive outcomes, intuitive signals and insights (Sadler-Smith, 2016; see also Dörfler and Ackermann, 2012; Isenman, 2018), can be relevant in the research process.

Researchers' positive and negative signals. Regarding intuitive signals, several authors have mentioned the value of researchers' visceral reactions in research as an embodied experience (Bell and Willmott, 2020; Kelemen et al., 2019; Klag and Langley, 2013). For example, in response to a research outcome, researchers may perceive a cognitive feeling of rightness, a sense of relief, or a feeling of 'settledness' (Locke et al., 2008; Sinclair, 2010) or saturation (Glaser and Strauss, 1967). Vice versa, new, incoming data may produce feelings of doubt or 'unsettledness' that can indicate the need for further inquiry and data collection (Locke et al., 2008), further statistical analyses (e.g. Dalton and Dalton, 2008), or point to completely new lines of thought (e.g. Salge and Karahanna, 2018).

The above examples mostly refer to signals with low emotional charge, but intuition may involve stronger emotions as well (Isenman, 2018). Some research methods explicitly include emotions, for example, Munkejord's (2009) approach to integrate researchers' emotions into grounded theorizing. However, in empirical studies, researchers' emotions are hardly mentioned let alone elaborated on in detail (Gilmore and Kenny, 2015). For two exceptions see Cunliffe and Coupland (2012) who included the researchers' emotions in response to the data (videos they watched) in their analyses and Kisfalvi (2006) who demonstrated the role of emotions in ethnographic studies. Overall, when intuition is to be made visible in the research process, all these types of signals may be reported in the study.

Researchers' insights. Researchers' intuitions may also manifest as intuitive insights. Organizational scholars have described that sometimes a concrete outcome emerges as a 'Shazzam!' moment of revelation (Gioia et al., 2013: 22) or an experience of serendipity (Klag and Langley, 2013). Both, Dörfler and Ackermann (2012) and Isenman (2018) give several examples from the sciences where mathematical functions or solutions to physics problems just entered the experts' minds. However, insights can also be less concrete and less easy to verbalize. Experts of (organizational) research methods have outlined that researchers need to identify underlying structures, an underlying 'gestalt' in the data (Gioia et al., 2013), or discover a 'grounded theory' (Glaser and Strauss, 1967). In such situations, intuitors sometimes cannot even explain the solution. It is only later, through analytical processing, that they can consciously grasp their discoveries (Dörfler and Ackermann, 2012).

In this context, metaphors can play a crucial role. By means of metaphors, researchers may be able to put their tacit intuitions into words for subsequent analytical processing (Tsoukas, 1991, 1993). These metaphors can lay the basis for scientific models and theories (Cornelissen and Kafouros, 2008; Cornelissen et al., 2008; Ketokivi et al., 2017; Morgan, 1983; Tsoukas, 1991, 1993; Weick, 1989). For example, many of the current advances in science are assumed to be related to powerful metaphors, such as the chemist August Kekulé's dream of a snake biting its own tail, which led to the intuition that the

benzene molecule may be ring-shaped (Isenman, 2018; Locke et al., 2008). Cohen et al.'s (1972) 'garbage can theory' is an example of an organizational theory based on a metaphor.

Validity of outcomes. Especially at high levels of expertise, researchers' intuitions have high potential to be valid. For example, an expert physicist's intuition may 'tell' him or her 'what's going to work and what's not going to work' (Dörfler and Eden, 2019: 538). If an organizational researcher has profound knowledge of a field and has deeply engaged with the data, intuition can reveal a valid holistic impression, a theoretical model (e.g. Cohen et al., 1972), or a 'grounded theory' (Gioia et al., 2013; Glaser and Strauss, 1967). Similarly, an expert of a statistical method can intuitively recognize 'unusual' outcomes that imply further analyses (e.g. Dalton and Dalton, 2008; Salge and Karahanna, 2018).

However, regardless of the researcher's expertise, intuitive outcomes have to be validated. How exactly validation is achieved depends on the research design. In hypothetico-deductive designs, it usually means that researchers apply statistical methods to *test* their intuitions (Bamberger and Ang, 2016). In interpretive research, validity is established when findings are *justified* (Sandberg, 2005); that is, when intuitive interpretations are in line with the data and ideas, constructs, and observations correspond.

Intuition at different points in the research process

Intuition may be involved at different points in the research process, depending on the specific empirical design. In many cases, research processes are iterative, and in many types of designs (e.g. grounded theory methods), the different stages cannot clearly be separated. Nevertheless, for the sake of simplicity, the following sub-sections discuss the role of intuition at the outset of an empirical study, in data collection, and in data analysis.

Intuition as the starting point of a study. Empirical studies can *start* with an intuition. In hypothetico-deductive designs, the ideal situation is that research gaps are identified analytically and translated into scientific hypotheses which can be tested empirically. However, researchers' intuition may be at play at this stage, for instance, when there is mixed empirical support for a theoretical explanation (Behfar and Okhuysen, 2018). In fact, a few articles acknowledge the role of intuition at the outset of their quantitative study (Ethiraj and Levinthal, 2009; Le Mens et al., 2015; Ramarajan et al., 2017). A researcher's intuition may also point to a more open-ended question or empirical puzzle, which is the starting point of an interpretive (often qualitative) study aiming to develop an explanation or theory (e.g. Howard-Grenville et al., 2013). However, to serve as feasible starting point of an empirical study, intuitions may still have to be checked against the literature and translated into theoretically driven research gaps and potential theoretical contributions.

Intuition in data collection. Intuition may be involved in data collection. While the current view of scholarly rigor (especially traceability) would imply that samples and data are

analytically derived from the research question, this process is not always purely analytical, as intuition may have an impact, for instance, on the choice of particular samples or the collection of specific information (Behfar and Okhuysen, 2018). A quote from the *Academy of Management Discoveries* journal that explicitly invites abductive studies illustrates this role of intuition in a quantitative design: 'Based on simple logic, a few disparate data points, and a bit of intuition, the authors explore the possibility that four different kinds of network changes are important for individual advantage over time' (Burt and Merluzzi, 2016: 369).

In interpretive research, discovery has been described as 'detective work followed by a creative leap' (Arino et al., 2016: 112), with detective work being an 'untidy process'. Initial evidence may lead to the formation of intuitive insights (as metaphors, images, etc.), making it necessary to collect further evidence. Hence, in interpretive designs, theory development from data is iterative in nature, because researchers move back and forth between data and the emerging insights (Klag and Langley, 2013; Locke et al., 2008). Thereby, intuitive signals in the shape of the above-mentioned experiences of saturation (Glaser and Strauss, 1967) or of 'unsettledness' and doubt (Locke et al., 2008) may play a crucial role in the ongoing process of sampling and data collection and determine its end.

Intuition in data analysis. Intuition may also be involved in data analysis. As just mentioned in the previous paragraph, the process of data collection and data analysis can be iterative. When interpreting large amounts of qualitative data, intuitive insights may gradually emerge and reveal a pattern, a 'gestalt' (Gioia et al., 2013), or a metaphor (Locke et al., 2008) that makes intuitive sense for the researcher. As one of the examples mentioning intuition, Smets et al. (2015: 939) acknowledged that they started with an 'initial inductive hunch, which [was] then coded, categorized, and progressively worked to a higher level of abstraction' and that they merged different researchers' individual case descriptions into 'a single story that resonated with all of us'. Similarly, De Keyser et al. (2019: 9) stated that 'initial hunches sowed the seeds for the "uncodifiable creative leaps"', which were then 'iteratively held against the backdrop of various existing organizational perspectives'.

However, intuition can also be involved in quantitative data analysis. A classical hypothetico-deductive procedure would imply that (mostly statistical) methods for testing the hypotheses are defined ex ante. Nevertheless, researchers may use alternative measures to investigate their data from different angles (Behfar and Okhuysen, 2018). Thereby, they may also follow intuitive signals. They may 'examine data patterns with an eye toward potentially important anomalies' and 'follow up on hunches or ideas about discovered anomalies to test these new insights' (Bamberger and Ang, 2016: 3). This may even lead to a change in the initial research question, like in Salge and Karahanna's (2018) study.

Moreover, intuitive signals may point to the need to reconsider statistical analyses when they reveal unusual outcomes. For example, Dalton and Dalton (2008: 129f.) explain their decision for digging deeper in their statistical data based on intuition as follows: 'Our analytical intuition [. . .] would immediately suggest that something is wrong.' They were right, as further analyses revealed: 'This, consistent with our intuition, suggests that there

is a moderator influencing these data.' Researchers may follow these examples and begin to disclose in their reports how their intuitions shaped their analyses.

Discussion

This article started from the dilemma between calls for more genuine research reports that pay attention to researchers' 'discovery experiences' (Locke et al., 2008: 917) and acknowledge the role of intuition (Bell and Willmott, 2020; Klag and Langley, 2013) and standards of organizational research that require traceable, analytical procedures (Gioia et al., 2013; Savall et al., 2008; Tracy, 2010). In short, as outlined above, researchers must choose between reporting their intuitions, thereby risking the *impression* of lacking rigor or hiding it, thereby *actually* impairing rigor. Currently, they usually tend to choose the latter and retrospectively rationalize their findings (Bell and Willmott, 2020; Dörfler and Eden, 2019).

As its main contribution, the present article aimed to show a way out of this dilemma by discussing how intuition may be included in the research process, while maintaining and convincing readers of scholarly rigor. Building on established models of theory construction (Weick, 1989; see also Locke et al., 2008; Von Krogh, 2020), it was argued that scholarly rigor does not mean to ensure the validity of intuitive outcomes at the moment of their *creation*; instead, it only has to be made sure that the researcher's emerging intuitions are validated later in the process. Expanding on these arguments, the present article synthesized empirical findings on the formation and nature of intuition with discussions of organizational research methods in order to theorize on how researchers' intuitions may emerge, how they may manifest, and what may be their role at different points in the research process. This conceptual study has two main implications for organizational research methods.

First, it has implications concerning the question of where and how to include intuition in research. Earlier articles have outlined that, in any case, empirical research cannot stop at an intuitive outcome; ultimately, analytical processing must take over to ensure scholarly rigor (e.g. Lee and Lings, 2008; Sandberg, 2005). The conceptual examinations in the present article enable a more nuanced argument: intuition is legitimate at any point in the research process if it emerges after processing large amounts of information and if it is only treated as a *preliminary* assumption, explanation, or conclusion. For example, a researcher with extensive knowledge in the field may perceive an intuitive signal in the shape of an 'unsettledness' concerning an extant theory that motivates a research study. In this case, intuition may be a legitimate starting point of a research project. Still, the researcher must provide analytical arguments that back that initial intuition, and an appropriate research procedure must be designed to explore and test it. Furthermore, intuition may be legitimately included in data collection as an indicator of 'doubt' or 'inaccuracy', triggering further data collection. Finally, intuition may be legitimately included in rather early stages of data analysis. For instance, intuitive processing may lead to a sense of an overall 'pattern', a 'tendency', or a 'gestalt' in the data. However, such intuitions need to be validated. To this end, in quantitative designs, intuitions may be tested statistically (Bamberger and Ang, 2016); in interpretive designs, emerging intuitive insights have to be continuously justified before the backdrop of the underlying data

(Sandberg, 2005). Researchers may then report both their emerging intuitions ('creative imagination') and how they validated them. Current research articles tend to emphasize the 'validation' part of research, the 'creative imagination' aspect is largely neglected. In the future, researchers may find ways of making this interplay of creative imagination and validation explicit. Moreover, while current articles tend to report only validated intuitions, in the future, they may also include intuitions that were rejected. This would increase the authenticity and honesty of research reports and free researchers from 'ex-post-rationalizations' in their method sections.

The second implication for organizational research methods is that the research community may start reconsidering what constitutes feasible (interim) research outcomes. For example, researchers may perceive their intuitive *judgments* as signals (i.e. affective responses or bodily and cognitive feelings) such as feelings of 'truth', 'saturation', or 'wrongness'; intuitive *insights* may occur as metaphors or other types of images. If we want researchers to honestly report on their intuitions, in addition to neat data structures (e.g. Gioia et al., 2013) or logical boxes-and-arrow-diagrams, they may start reporting intuitive outcomes and how they guided further analyses. Currently, organizational researchers tend to write 'analytical' articles: '[W]e are not just reporting what we feel like saying' (Eisenhardt, in a transcript by Gehman et al., 2018: 292). However, they may begin to do exactly that and report what they 'felt' in response to the data. Including intuitive outcomes could preserve some of the 'richness' of the data and the setting mentioned by Einola and Alvesson (2019). Thereby, researchers may have to become more visible—and vulnerable (Bell and Willmott, 2020)—as individuals with their bodily and cognitive feelings and 'direct' insights.

As a side-argument, the present article has touched upon the potential validity of researchers' intuitions—an aspect that has not been explicitly dealt with in earlier calls to include intuition in research (e.g. Bell and Willmott, 2020). Although intuition is part of creative imagination and, in Weick's (1989) terms, creative imagination does not have to meet the standards of validation, the final research outcome depends on the quality of its 'raw materials'. Hence, as argued above, for the final outcome to be valid, the outcomes of creative imagination should have the *potential* to be valid. Drawing on earlier arguments (e.g. Dörfler and Bas, 2020) and findings from psychological experiments, it was concluded that intuitions have a high potential to be valid when they are based on expertise and experience in the research area, build on large sets of input data, and result from immersion in those data. All of this often holds true for researchers' intuitions. Consequently, researchers' intuitions can be seen as particularly promising raw materials for research. Nevertheless, by far not all of the researchers' intuitions may withstand validation and lead to substantiated theories; many of them may still have to be rejected at the validation stage.

In conclusion, there is no need for researchers to hide their intuitions that emerged in the research process. Intuition may be legitimately included if conditions of intuitive processing are taken into account such that intuition has the potential to reveal valid outcomes, and if the research process is designed in a way that intuitive outcomes are later validated through rigorous, analytical procedures. Researchers may begin to disclose both aspects, creative imagination and validation, and the interplay between the two. This may not only lead to more genuine method sections but also to more rigorous

empirical research that acknowledges and systematically validates intuitive outcomes instead of camouflaging them.

ORCID iD

Barbara Kump 🆔 https://orcid.org/0000-0002-7513-8659

References

Akinci C and Sadler-Smith E (2012) Intuition in management research: A historical review. *International Journal of Management Reviews* 14(1): 104–122.

Alvesson M (2003) Beyond neopositivists, romantics, and localists: A reflexive approach to interviews in organizational research. *Academy of Management Review* 28(1): 13–33.

Arino A, LeBaron C and Milliken FJ (2016) Publishing qualitative research in *Academy of Management Discoveries. Academy of Management Discoveries* 2(2): 109–113.

Baldacchino L, Ucbasaran D, Cabantous L, et al. (2015) Entrepreneurship research on intuition: A critical analysis and research agenda. *International Journal of Management Reviews* 17(2): 212–231.

Bamberger P and Ang S (2016) The quantitative discovery: What is it and how to get it published. *Academy of Management Discoveries* 2(1): 1–6.

Bansal P, Smith WK and Vaara E (2018) New ways of seeing through qualitative research. *Academy of Management Journal* 61(4): 1189–1195.

Behfar K and Okhuysen GA (2018) Discovery within validation logic: Deliberately surfacing, complementing, and substituting abductive reasoning in hypothetico-deductive inquiry. *Organization Science* 29(2): 323–340.

Bell E and Willmott H (2020) Ethics, politics and embodied imagination in crafting scientific knowledge. *Human Relations* 73(10): 1366–1387.

Betsch T and Glöckner A (2010) Intuition in judgment and decision making: Extensive thinking without effort. *Psychological Inquiry* 21(4): 279–294.

Bowers KS, Regehr G, Balthazard C, et al. (1990) Intuition in the context of discovery. *Cognitive Psychology* 22(1): 72–110.

Burt RS and Merluzzi J (2016) Network oscillation. *Academy of Management Discoveries* 2(4): 368–391.

Cohen MD, March JG and Olsen JP (1972) A garbage can model of organizational choice. *Administrative Science Quarterly* 17(1): 1–25.

Cornelissen JP and Kafouros M (2008) Metaphors and theory building in organization theory: What determines the impact of a metaphor on theory? *British Journal of Management* 19(4): 365–379.

Cornelissen JP, Oswick C, Thøger Christensen L, et al. (2008) Metaphor in organizational research: Context, modalities and implications for research. *Organization Studies* 29(1): 7–22.

Cunliffe AL (2003) Reflexive inquiry in organizational research: Questions and possibilities. *Human Relations* 56(8): 983–1003.

Cunliffe A and Coupland C (2012) From hero to villain to hero: Making experience sensible through embodied narrative sensemaking. *Human Relations* 65(1): 63–88.

Dalton DR and Dalton CM (2008) Meta-analyses: Some very good steps toward a bit longer journey. *Organizational Research Methods* 11(1): 127–147.

Damasio A (1994) *Descartes' Error: Emotion, Reason and the Human Brain*. New York: Putnam.

Dane E and Pratt MG (2007) Exploring intuition and its role in managerial decision making. *Academy of Management Review* 32(1): 33–54.

Dane E and Pratt MG (2009) Conceptualizing and measuring intuition: A review of recent trends. In: Hodgkinson GP and Ford JK (eds) *International Review of Industrial and Organizational Psychology*. Chichester: Wiley, 1–40.

De Keyser B, Guiette A and Vandenbempt K (2019) On the dynamics of failure in organizational change: A dialectical perspective. *Human Relations*. Epub ahead of print 11 November 2019. DOI: https://doi.org/10.1177/0018726719884115.

Dijksterhuis A and Nordgren LF (2006) A theory of unconscious thought. *Perspectives on Psychological Science* 1(2): 95–109.

Dörfler V and Ackermann F (2012) Understanding intuition: The case for two forms of intuition. *Management Learning* 43(5): 545–564.

Dörfler V and Bas A (2020) Intuition: Scientific, non-scientific or unscientific? In: Sinclair M (ed.) *Handbook of Intuition Research as Practice*. Cheltenham: Edward Elgar Publishing, 293–305.

Dörfler V and Eden C (2014) Research on intuition using intuition. In: Sinclair M (ed.) *Handbook of Research Methods on Intuition*. Cheltenham: Edward Elgar Publishing, 264–276.

Dörfler V and Eden C (2019) Understanding 'expert' scientists: Implications for management and organization research. *Management Learning* 50(5): 534–555.

Dörfler V and Stierand M (2017) The underpinnings of intuition. In: Liebowitz J, Paliszkiewicz J and Gołuchowski J (eds) *Intuition, Trust, and Analytics*. New York: Auerbach Publications, 3–20.

Driver M (2016) Making the absent subject present in organizational research. *Human Relations* 69(3): 731–752.

Einola K and Alvesson M (2019) The making and unmaking of teams. *Human Relations* 72(12): 1891–1919.

Epstein S (2010) Demystifying intuition: What it is, what it does, and how it does it. *Psychological Inquiry* 21(4): 295–312.

Ethiraj SK and Levinthal D (2009) Hoping for A to Z while rewarding only A: Complex organizations and multiple goals. *Organization Science* 20(1): 4–21.

Evans JSBT (2010) Intuition and reasoning: A dual-process perspective. *Psychological Inquiry* 21(4): 313–326.

Fendt J and Sachs W (2008) Grounded Theory Method in management research: Users' perspectives. *Organizational Research Methods* 11(3): 430–455.

Gehman J, Glaser VL, Eisenhardt KM, et al. (2018) Finding theory–method fit: A comparison of three qualitative approaches to theory building. *Journal of Management Inquiry* 27(3): 284–300.

Gilmore S and Kenny K (2015) Work-worlds colliding: Self-reflexivity, power and emotion in organizational ethnography. *Human Relations* 68(1): 55–78.

Gioia DA, Corley KG and Hamilton AL (2013) Seeking qualitative rigor in inductive research: Notes on the Gioia methodology. *Organizational Research Methods* 16(1): 15–31.

Glaser B and Strauss AL (1967) *The Discovery of Grounded Theory: Strategies for Qualitative Research*. New York: De Gruyter.

Glöckner A and Witteman C (2010) Beyond dual-process models: A categorisation of processes underlying intuitive judgement and decision making. *Thinking & Reasoning* 16(1): 1–25.

Gore J and Sadler-Smith E (2011) Unpacking intuition: A process and outcome framework. *Review of General Psychology* 15(4): 304–316.

Greenwood M, Jack G and Haylock B (2019) Toward a methodology for analyzing visual rhetoric in corporate reports. *Organizational Research Methods* 22(3): 798–827.

Hammond KR (2010) Intuition, no! . . . Quasirationality, yes! *Psychological Inquiry* 21(4): 327–337.

Hardy C, Phillips N and Clegg S (2001) Reflexivity in organization and management theory: A study of the production of the research 'subject'. *Human Relations* 54(5): 531–560.

Hibbert P, Sillince J, Diefenbach T, et al. (2014) Relationally reflexive practice: A generative approach to theory development in qualitative research. *Organizational Research Methods* 17(3): 278–298.

Hodgkinson GP and Sadler-Smith E (2018) The dynamics of intuition and analysis in managerial and organizational decision making. *Academy of Management Perspectives* 32(4): 473–492.

Hodgkinson GP, Langan-Fox J and Sadler-Smith E (2008) Intuition: A fundamental bridging construct in the behavioural sciences. *British Journal of Psychology* 99(1): 1–27.

Howard-Grenville J, Metzger ML and Meyer AD (2013) Rekindling the flame: Processes of identity resurrection. *Academy of Management Journal* 56(1): 113–136.

Isenman L (2018) *Understanding Intuition: A Journey in and out of Science*. London: Academic Press.

Johnson P and Duberley J (2003) Reflexivity in management research. *Journal of Management Studies* 40(5): 1279–1303.

Kelemen M, Rumens N and Vo LC (2019) Questioning and organization studies. *Organization Studies* 40(10): 1529–1542.

Ketokivi M, Mantere S and Cornelissen J (2017) Reasoning by analogy and the progress of theory. *Academy of Management Review* 42(4): 637–658.

Kisfalvi V (2006) Subjectivity and emotions as sources of insight in an ethnographic case study: A tale of the field. *M@n@gement* 9(3): 109–127.

Klag M and Langley A (2013) Approaching the conceptual leap in qualitative research. *International Journal of Management Reviews* 15(2): 149–166.

Lee NJ and Lings I (2008) *Doing Business Research: A Guide to Theory and Practice*. Los Angeles, CA: SAGE.

Leitch CM, Hill FM and Harrison RT (2010) The philosophy and practice of interpretivist research in entrepreneurship: Quality, validation, and trust. *Organizational Research Methods* 13(1): 67–84.

Le Mens G, Hannan MT and Pólos L (2015) Age-related structural inertia: A distance-based approach. *Organization Science* 26(3): 756–773.

Lieberman MD (2000) Intuition: A social cognitive neuroscience approach. *Psychological Bulletin* 126(1): 109–137.

Locke K, Golden-Biddle K and Feldman MS (2008) Making doubt generative: Rethinking the role of doubt in the research process. *Organization Science* 19(6): 907–918.

Martin PY (2002) Sensations, bodies, and the 'spirit of a place': Aesthetics in residential organizations for the elderly. *Human Relations* 55(7): 861–885.

Miller CC and Ireland RD (2005) Intuition in strategic decision making: Friend or foe in the fast-paced 21st century? *Academy of Management Executive* 19(1): 19–30.

Morgan G (1983) More on metaphor: Why we cannot control tropes in administrative science. *Administrative Science Quarterly* 28(4): 601–607.

Munkejord K (2009) Methodological emotional reflexivity. *Qualitative Research in Organizations and Management: An International Journal* 4(2): 151–167.

Peirce CS (1868) Questions concerning certain faculties claimed for man. *Journal of Speculative Philosophy* 2(2): 103–114.

Peirce CS (1903) Harvard lectures on pragmatism: Lecture VII. *Manuscript*, R315.

Poincaré J-H (1908) *Science et Méthode*. Paris: Ernest Flammarion.

Popper K (1959) *The Logic of Scientific Discovery*. New York: Basic Books.

Ramarajan L, Berger IE and Greenspan I (2017) Multiple identity configurations: The benefits of focused enhancement for prosocial behavior. *Organization Science* 28(3): 495–513.

Riach K and Warren S (2015) Smell organization: Bodies and corporeal porosity in office work. *Human Relations* 68(5): 789–809.

Sadler-Smith E (2016) 'What happens when you intuit?': Understanding human resource practitioners' subjective experience of intuition through a novel linguistic method. *Human Relations* 69(5): 1069–1093.

Salas E, Rosen MA and Diaz Granados D (2010) Expertise-based intuition and decision making in organizations. *Journal of Management* 36(4): 941–973.

Salge CADL and Karahanna E (2018) Protesting corruption on Twitter: Is it a bot or is it a person? *Academy of Management Discoveries* 4(1): 32–49.

Sandberg J (2005) How do we justify knowledge produced within interpretive approaches? *Organizational Research Methods* 8(1): 41–68.

Savall H, Zardet V, Bonnet M, et al. (2008) The emergence of implicit criteria actually used by reviewers of qualitative research articles. *Organizational Research Methods* 11(3): 510–540.

Sinclair M (2010) Misconceptions about intuition. *Psychological Inquiry* 21(4): 378–386.

Sinclair M and Ashkanasy NM (2005) Intuition: Myth or a decision-making tool? *Management Learning* 36(3): 353–370.

Smets M, Jarzabkowski P, Burke GT, et al. (2015) Reinsurance trading in Lloyd's of London: Balancing conflicting-yet-complementary logics in practice. *Academy of Management Journal* 58(3): 932–970.

Taylor SS, Fisher D and Dufresne RL (2002) The aesthetics of management storytelling. *Management Learning* 33(3): 313–330.

Thompson VA, Prowse Turner JA and Pennycook G (2011) Intuition, reason, and metacognition. *Cognitive Psychology* 63(3): 107–140.

Tracy SJ (2010) Qualitative quality: Eight 'big-tent' criteria for excellent qualitative research. *Qualitative Inquiry* 16(10): 837–851.

Tsoukas H (1991) The missing link: A transformational view of metaphors in organizational science. *Academy of Management Review* 16(3): 566–585.

Tsoukas H (1993) Analogical reasoning and knowledge generation in organization theory. *Organization Studies* 14(3): 323–346.

Van Maanen J (1979) Reclaiming qualitative methods for organizational research: A preface. *Administrative Science Quarterly* 24(4): 520–526.

Von Krogh G (2020) Building capacity for empirical discovering in management and organization studies. *Academy of Management Discoveries* 6(2): 159–164.

Weick KE (1989) Theory construction as disciplined imagination. *Academy of Management Review* 14(4): 516–531.

Barbara Kump is Assistant Professor at the Institute for Small Business Management and Entrepreneurship at Vienna University of Economics and Business. Her research interests include cognitive processes in organizational learning and strategic change, such as changes in organizational structures, practices, and knowledge, as well as organizational research methods. Among others, her work has been published in the *International Journal of Management Reviews, Industrial and Corporate Change*, and the *Journal of Knowledge Management*. [Email: bkump@wu.ac.at]