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Rethinking Observation: Challenges and Practices

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Observation is the motor of empiricism. From ancient medicine (Pomata, 2011) to modern sociology (Platt, 1983), observing phenomena is considered critical to making sense of them. In social sciences, observation is more than a 'technique' or a 'tool'. It is a broader epistemological position, which supposes that to study a phenomenon, one must watch it attentively and at length. In the Management and Organization Studies field, observation is also a data collection method that is frequently acknowledged as uniquely enriching. This is particularly the case when it comes to investigating phenomena that are difficult to examine otherwise or reexamining those already extensively studied to unsettle their accepted truths (Bernstein, 2012; Locke, 2011). Despite this, it remains under-engaged by management scholars (Cunliffe, Linstead, Locke, Sergi, & Hallin, 2011; Von Krogh, 2020), certainly compared with interviewing or quantitative analysis. Even when used, it is frequently over-stated: as Bate (1997) stressed, much of its use in our field is best described as 'quasi-anthropological' that is characterized more by "quick description" (Wolcott, 1995, p. 90) than 'thick description' (Geertz, 1973). The 'ethnographic consciousness' (Linstead, 1997) central to its capacity for rich contribution thus remains lacking. This is for both analytical and practical reasons: some research questions are thornier than others in demanding more in-depth engagement; the contemporary realities of business schools rarely make space for extended forays into organizational fields.

In many methodological discussions, in turn, observation too often remains perceived as self-evident, engaged as secondary, and overshadowed by other research design elements, such as interviews or data analysis. Even when observation is central to a research design, its detail is often subsumed under discussion of related concepts, like ethnography (e.g., Kaplan, 2011) or case study (Yin, 1994), which often come to 'speak' on its behalf. This state of affairs likely reflects its deceptively obvious nature: how can going somewhere and seeing what happens be in and of itself complicated?

Beyond this, its frequent use in parallel with other methods (like interviews, archival, secondary data, etc.) contributes to an increasingly 'taken-for-granted' view of observation as well. Here, observation is used to theorize from data (e.g., Garreau, Mouricou, & Grimand, 2015; Journé, 2005); it is often used with equal importance to other data source (e.g., Dobusch, Dobusch, & Müller-Seitz, 2018), or used in order to contextualize (e.g., Bardon, Brown, & Pezé, 2017) or triangulate with other data (e.g., Bouty, Gomez, & Chia, 2019). The discursive (Putnam & Fairhurst, 2001), narrative (Fenton & Langley, 2011; Rhodes & Brown, 2005), and the practice (Vaara & Whittington, 2012; Whittington, 1996) turns in organization theory and strategy research have given observation a further notable importance in the field of organization studies in particular (it has long been elemental in others, like sociology and anthropology), as they build on what people do and say in their everyday activities. The spread of case studies, in turn, whether single or multiple, has expanded the use of observation to grasp lived realities of organizations and its members (Gibbert & Ruigrok, 2010; Gibbert, Ruigrok, & Wicki, 2008).

Observation's capacity to unearth richly meaningful data is evident in recent exemplars across organization studies. For instance, several of the most recent award winners of the best PhD dissertation by the Association Internationale de Management Stratégique (AIMS, French Association of Strategic Management, of which M@n@gement is the official journal) have primarily used observation as a data collection method. To cite a few, Grandazzi (2018) used observation as part of an ethnographic investigation in order to grasp in nuanced ways the various practices of Société Nationale des Chemins de Fer Français (French Railraod Company) (SNCF) staff in train stations. Sambugaro (2016), in turn, used longitudinal observation as part of a lengthy ethnographic immersion to better understand the transformation of a strategic initiative in an insurance company and to more generally address the

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complex issue of strategy making within pluralistic contexts from a pragmatist perspective. The extensive use of observation in these studies was praised as a key quality feature.

We believe observation, which has been fundamental to social science research development (Angrosino & Rosenberg, 2011; Bratich, 2017), is critical for high-quality qualitative research. Yet, for all its promise, it remains a difficult business in practice. To address just the tip of the iceberg: it is personally challenging, and spatially and temporally unruly; it involves access to often delicate realities, for which formal pre-consent may be impossible; its open-endedness brings not only freedom to explore but also the nuanced task of inserting boundaries, of 'cutting the network' somewhere, sometime (Strathern, 1996). This special issue thus aims at exploring in detail the critical challenges of observation as a *research experience* – of doing observational research in the field at this moment in time. It does not purport to give a set of best practices but rather aims at enriching our collective reflexivity about observation as a method for management research.

The challenges of observation

Observation is not a mere research tool. Instead, it draws on a triptych of epistemology–methodology-theory, which generates four central-related challenges as we see in the following sections.

Challenge 1: What to observe?

The foundational matter of the object of observation is misleadingly simple: is not the answer everything, as much as possible (Neyland, 2008)? Materiality, for example, has been extensively researched via observation (e.g., Dameron, Lê, & LeBaron, 2015), as have practices (Balogun, Best, & Lê, 2015; Kaplan, 2011; Nayak, 2008; Nicolini & Korica, forthcoming; Smets, Jarzabkowski, Burke, & Spee, 2015) and discourses (Abdallah & Langley, 2014; Hardy & Maguire, 2020; Vaara & Monin, 2010). Other phenomena seem less intuitively open to observation, such as cognition (Gylfe, Franck, LeBaron, & Mantere, 2015) or emotions (Cornelissen, Mantere, & Vaara, 2014; Liu & Maitlis, 2014). Here, observation operates via proxies.

For example, emotions are a physiological change in the body but can be manifested via facial expressions. For emotions to become observable, Plutchik (1997) proposed a circomplex model that made it possible for a researcher (or any other person) to observe emotions via standardized facial expressions. Emotional expression exists in context, however, which may make universality of agreed meaning far from settled. Does a presenter's wink to their audience observed in a meeting 'do' the same thing as a wink observed on a date? When we observe either, what phenomenon are we observing? Should we really be observing (or more realistically, noting) this in the first place, especially if say our analytical focus is on governance in practice or on the work of pub landlords? Not to mention: how do we know which observations will eventually matter? This brings into question the customary ethnographic injunction to observe everything. As Czarniawska (1998, p. 29) stressed, "although in the beginning researchers tend to be taken by panic and try to chase 'the action', in time they learn that important events are made into such in accounts. Nobody is aware that an important event is happening when it takes place."

Furthermore, while emotions may have customary proxies enabling some coherence in observation (even if inherently limited), other phenomena will not. Indeed, such proxies may likely emerge only in our very act of observing them: I observe laughter as a proxy for humor but not winks. It is said no person steps into the same river twice. If two researchers observed the same event, would they 'see' the same thing, or agree that what they saw meant the same? Even more tricky is the question of observing the 'unobservable'. Importantly, observation can be used to grasp absence or emptiness. For example, "space may be thought of as an absence of presence, as vast emptiness, as something that one can get lost in" (Kornberger & Clegg, 2004, p. 1095). How does one observe organizational decline or death, for instance? What proxies are suitable to speak on behalf of their absent friends? And finally, should some things simply not be observed (Roulet, Gill, Stenger, & Gill, 2017)?

Challenge 2: How to observe?

The question of how to observe is a tricky one too. It speaks to the distinction between observation and witnessing (Fassin, 2010; Reed-Danahay, 2016). This stresses that the method depends highly on the way the researcher recognizes and claims their subjective participation in the processes of observing/witnessing the phenomenon (Emerson, 1981). In this dichotomy, observing is seen to get rid of the subjective experience of seeing/hearing, by avoiding empathy in the way the phenomena are grasped. Modern anthropology, however, relies more on witnessing, in which the researcher's identity and empathy as a witnesser become more central to the process of perceiving and sensing phenomena. Epistemological orientations are thus key to considering how to observe.

This point also echoes the traditional distinction in management research between participant versus nonparticipant observation (Journé, 2008), though as this special issue also explores, this is just one dichotomy of many when it comes to types of observation. In particular, participant observation involves a period of intense social interaction between the researcher and actors, in which data are collected in a systematic

way (Lapassade, 2002), with a normally designated formal role for the researcher in that setting. Here, observation relies on the intersubjective relations that stand between the researcher and the field. The researcher can either make a reflexive use of these relations or even use this relation to modify the field in a collaborative design (Ledunois, Canet, & Damart, 2019). In contrast, observation customarily relies on a more detached stance. This includes dedicated efforts to avoid the researcher from becoming overly immersed (i.e., 'going native'), most chiefly by retaining solely an observer role. More radical is video recording that allows observing via a technological device (LeBaron, Jarzabkowski, Pratt, & Fetzer, 2018), which can involve complete avoidance of a researcher's presence in the field – at least during the data collection period. This method is particularly useful for accessing microelements such as an actor's praxis. It also facilitates interviews with the actors' post video recording, for them to comment on specific moments or practices (Rix-Lièvre & Lièvre, 2010).

Importantly, however, a researcher's physical absence from the field itself does not necessarily imply an absence of impact. The observed by virtue of being observed changes (Neuman, 2004). For example, critical management scholars tell us that being observed, including by a detached system of surveillance like electronic systems, can lead to conforming to corporate expectations via acts of self-discipline (Sewell, 1998), hiding deviant behaviors (Burawoy, 1979), managing impressions (Iedema & Rhodes, 2010), or even engendering a particular ethics of the self (Bardon, 2011). Even if a researcher's body or camera become part of the background noise to those observed, that forgetfulness itself may have effects. In a tense moment, the observed may all of a sudden remember they are observed, and the achieved sense of normalcy may switch to one of intrusion, leading to less openness down the line. Even after a lot of time together, it does not mean we are no longer noticed – as Barley (1990) found when the radiologists and technicians he observed positioned him for parting photographs painfully accurately in line with his usual stance when observing. This leads to a broader question of: to what extent can we become wholly invisible, and thus impact-less, to those we observe, regardless of which approach to observation we take? It also poses the related epistemological question: should we be wholly invisible and impact-less?

A more transversal way to consider how to observe is via the lightning metaphor, to which four criteria can be applied (Journé, 2008): unity of place, unity of time, unity of actor, and unity of inquiry. This results in four main observational strategies: street lamp observation (unity of place and time), spot lightning observation (unity of place but different periods of time), torch observation (unity of actor), and headlight observation (unity of inquiry). Each have their opportunities and disadvantages but may be complemented by each other in a

dynamic way to provide a robust data collection method, especially when the research aims at studying organizations coping with unexpected events (Journé, 2005).

Challenge 3: How to preserve what is observed?

After observation comes the handling: what to do with all that has been collected? Video recording makes the question of data recording and transcribing relatively easier, though safe storage of easily identifiable data is more than a trivial affair. For in-person observation, data transcribing and storage are of a different magnitude of complexity. Here again, choices have to be made in line with theory and the overall research design. Lots have been written on ethnography and taking notes of the field (e.g., Emerson, Fretz, & Shaw, 2011; Peretz, 2004; Van Maanen, 1979; Werner, 1999). When it comes to other research designs, however (e.g., observation is used in nomothetic multiple case designs [Eisenhardt, 1989] and collaborative designs [Ledunois et al., 2019]), prospective researchers find much less available. For instance, the research diary as a foundational component is too often relegated to the rank of an ''accessory document'' (Mucchielli, 2009, p. 130), despite a more promising start (Balogun & Johnson, 2004). In an attempt to draw on how researchers make sense of phenomena, Laszczuk and Garreau (2018) thus propose a structured research diary that articulates theoretical anticipation, descriptive field notes, analytical notes, and reflexive notes.

More broadly speaking, this acknowledges the individual nature of recording the observed. As Denzin and Lincoln (2005, p. 3) stressed, this is central to their definition of qualitative research more broadly, as ''a situated activity that locates an observer in the world. It consists of a set of interpretive, material practices that make the world visible. These practices transform the world. They turn the world into a series of representations.'' This also means individual choices in what is not observed, or not formally recorded, recognizing the key role of trust in facilitating continued access (Barley, 1990).

Challenge 4: How to tell what was observed?

Telling what was observed – in a book, an article, a dissertation, and a presentation – inherently generates a paradox: to represent with words what has happened some time ago somewhere else (Enaudeau, 1998). Providing a vivid sense of 'being there' is one of the biggest challenges of observation. How to make the reader sense what happened in the field without the possibility of physically transporting them (back) there? How to convince the reader of the account's nuances, not to mention 'validity'? Description *per se* can be insufficient for publishing (Suddaby, 2006), as a case study is not a case history (Pettigrew, 1990), even if ethnography has long relied on 'pure

description' that escapes formalism (Van Maanen, 2006). Researchers need to consider both making their theoretical analysis understood by the reader and demonstrating adherence to the data (Corbin & Strauss, 1990; Langley & Abdallah, 2011; Golden-Biddle & Locke, 1993). This double injunction generates tensions that the researcher may try to solve via using a first (highly descriptive) and then a second (analytical) order analysis (e.g., Gioia & Chittipeddi, 1991), articulating observational data via exhibits (e.g., Garreau et al., 2015) or engaging structured description mixed with verbatim excerpts (e.g., Kaplan, 2011). Three characteristics are thus accepted as central to the power of convicting the reader: authenticity, plausibility, and criticality (Golden-Biddle & Locke, 1993).

Of course, the act of convincing is also an act of rhetorical construction, which ought to be openly acknowledged too. As Yanow (2006, p. 1748) noted, "we construct representations of the situations we study, piecing together an understanding of what we see, read, and/or are told." This brings to light the role of the observer in that which was observed: his/he specific eyes seeing specific things through specific lenses and from specific starting points (Van Maanen, 1979). Ethnographic writing on method has thus long identified observation as inherently personal (Shaffir, 1999; Watson, 2000). In this way, it is also political: "it involves choices to include some things and exclude others and to view the world in a particular way when other visions are possible" (Stone, 1988, p. 306). Our field, however, engaged in an extended process of scientific emulation, has generally not made room for the personal – or seen it as consistent with credibility. As such, realist writing (Van Maanen, 1995b, p. 139) remains the standard means of reporting observational writing, to match "our customary aggressive certitude toward reality." What gets lost in such reporting, however, both practically and analytically? How can the 'shadows' (Van Maanen, 1995a) of organizational life, which observation has the notable capability to access, be preserved in our writing? Can we account for our observations' inherent limitations in a way that openly runs counter to 'the allergic reaction to admitting doubt' (Klemola & Norros, 2001), which remains dominant in our scholarship?

Various reflections on the criticality of how to write ethnography and on the complexities of formally putting observation to paper in a field characterized by diverse positionalities have been offered in the recent years (Abdallah, 2017; Dorion, 2020; Ericsson & Kostera, 2020; Isoke, 2018; Schindler & Schaffer, 2020; Yousfi & Abdallah, 2020). Describing observations 'flatly' is no longer an option. The challenge of conveying what was observed is considerable: after years of internalized methodological training that puts a presumed neutrality of the author at the center of academic research, it is hard for observational researchers to find their voice and own it. Confidence in one's ability to describe the inflection of a tone of voice, the particular 'texture' of a social practice (Cozza et al., 2020) or

the transformation of a group dynamic is hard to achieve. Today, such matters are given increased attention within broader discussions of qualitative research approaches. Yet, while many authors have variously engaged with these challenges over the years, with new sites, assemblages and methods of observation come possibilities for further theoretical and methodological refinement. The papers in this special issue propose such contributions.

Papers of the special issue

The first article of this special issue is a theoretical piece that discusses how to cope with the challenges of observing materiality in organizations. After reminding the reader of the key definitional and ontological debates, Isabelle Royer proposes that the three components of materiality (following Lefebvre, 1991), namely, 'activities', 'conceptions', and 'lived experiences', should be investigated via distinct observation methods: respectively, via 'observing materiality in actions', 'observing beyond seeing', and 'making participants observe'. For each observational method, Royer details the main challenges associated with data collection, storage, and analysis. While observing materiality in action could appear quite straightforward in that it involves paying particular attention to how materiality is produced and used, Royer emphasizes that specific techniques are nevertheless helpful. Royer then states that a privileged way to grasp 'conceptions', understood as how artifacts and spaces have been conceived by planners, is to pay particular attention to the unseen, including feelings, odors, sounds, or even absent elements. She discusses several ways for observing beyond seeing, including for researchers to experiment with materiality themselves. Finally, Royer reminds us that observing individuals' lived experience of materiality is particularly challenging since cognitive and emotional mechanisms are not directly visible. 'Making participants observe' thus implies engaging the informants' perspective by observing photographs, videos, or drawings they generated themselves, that is, engaging proxies that offer a representation of how they see the world and experience materiality.

The second article authored by Christelle Théron resonates with Royer's contribution, in that it deals with the challenge of capturing the cognitive mechanisms that underpin organizational actors' various actions. Théron proposes to investigate the inner experience of individuals through an original research approach: the Shadowing–Conversations–Interview (SCI) design. This method builds on situated action scholarship and consists of combining shadowing with conversation analysis and 'interview to the double' (i.e., the shadowed person), a distinct interview method that aims to access an actor's customary practices by asking him/her how the interviewee might act as they do. Théron starts by reminding us about key

epistemological foundations of situated action scholarship in relation to cognition. Notably, she examines how the cognition-action link and the distinction between the *in situ* and structuring facets of cognition are understood in this intellectual tradition. She argues that existing methods fail to fully grasp organizational actors' cognition, either because they capture cognition separately from actions or because they are unable to capture both its *in situ* and structuring facets. This allows Théron to outline how the SCI research design addresses such shortcomings by illustrating her points with empirical vignettes, which make the main benefits and the practical challenges of this approach visible.

Beyond offering a method for grasping the cognitive mechanisms underpinning organizational actors' actions, Théron's article invites us to reflect on how observational methods can be combined with other data collection techniques. Going beyond the tendency of approaching observation as a minor or peripheral method, Théron demonstrates how it can be combined with others following a synergy-driven logic, rather than a stacking logic, to better understand organizational phenomena.

While Théron's article demonstrates the benefits of combining observation with other methods, Nathalie Raulet-Croset, Rachel Beaujolin, and Thierry Boudes' contribution highlights the benefits of multi-actor observations. They demonstrate that multi-shadowing – in which several researchers shadow organizational actors simultaneously – constitutes a uniquely valuable way of observing 'organizing', that is, organizational phenomena in the making. Specifically, they argue that multi-shadowing can help address three particular challenges encountered by researchers investigating 'organizing': being able to observe several events simultaneously; knowing what to observe within the myriad of events that happen in organizational settings; and being able to grasp the coordination between geographically dispersed events and actors. To elaborate their contribution, they first compare the main mono-actor and multi-actor observational methods and show that they present important limits for getting access to organizational phenomena in the making. They then present a multi-shadowing approach to investigate how hunting with hounds unfolds. Although such hunting can seem as an unusual setting, the authors emphasize that it shares many commonalities with many modern organizations, since it involves a myriad of geographically dispersed actors unfolding in a very uncertain context. The authors report on their own experience to specify how multi-shadowing could be conducted to investigate organizational phenomena in the making, both in their temporal and spatial dimensions.

The fourth article of this series focuses on how to organize, analyze, and construct meaning from observational data. Specifically, Hélène Peton and Justine Arnoud address the challenge of giving meaning to complex and indeterminate organizational situations by using data collected through dynamic observation. The authors argue that existing contributions recognize the relevance of using dynamic observation for investigating indeterminate situations, providing sophisticated hints about possible dynamic observation strategies. Despite this, present studies say very little about how to put to work the data collected with dynamic observational methods, beyond suggesting these be turned into 'plot-rich' narratives in order to make them speak. Quite what 'plot-rich' narratives are and how to produce them is less clear. To overcome such shortcomings, Peton and Arnoud propose a method that builds on Ricoeur's perspective, notably on the notions of story, narrative, emplotment, and mimesis. They report on fieldwork conducted in a nuclear plant as an illustration of their method. This consists of elaborating plot-rich narratives through collective inquiry, with both researchers and research participants. By doing so, they show that it is possible to make sense of dynamic observational data collectively to better understand complex situations.

The last article of this special issue is an invited contribution by Hervé Laroche, who offers a rather unconventional way to reflect on observation: using photography as a metaphor. In conversation with photography, Laroche reflects on key debates and main challenges associated with observation. To begin, he reminds us that photographs were initially understood as faithful representations of 'reality', but that their socially constructed – if not fictional – character has been increasingly recognized, debated, and played with. Laroche thus questions the ontological status of observational data as a 'raw material of truth'.

Following on, he reflects on observational data collection by building on diverse examples from forensic photographs to the work of the German artist Thomas Ruff. He argues that choosing a particular method for observation raises a number of questions. Issues such as the amount of data collected, the choice of observation targets, the granularity of observation, the attention to invisible elements, or the observers' point of view are notably discussed. Laroche then continues by drawing a parallel between reading photography and interpreting observational data. He notably reflects on the objective of analyzing observational data and what should attract researchers' attention during analysis. In particular, he advises us not to be lured in by salient elements that could make researchers miss relevant points. He also recommends paying attention to non-salient ones that are generally ignored. Relatedly, he suggests that the objective of observational data analysis might be to make visible what is invisible to others. To do so, he advises that researchers should educate their eyes and propose the organization of forums where observational data could be collectively analyzed. Finally, Laroche insists that researchers should reflect on how to present observational data in the most convincing way, as a photographer would do to persuade a curator or a publisher. He proposes several strategies to

present observational data, so that they look 'good', while also discussing how to make one's method more transparent and how to prepare readers for one's argument when using observational data.

Collectively, this series of rich and diverse contributions offers meaningful opportunities to reflect on how to collect, store, analyze, and present observational data in the context of researchers' own studies. All insist on the need to adapt observation to one's ontological understanding and research objectives, and to embrace a broader, less instrumental view of observation. In particular, they illustrate the benefits of methodological creativity by developing innovative observational methods that fit with one's research project's specific challenges. They also hint at our world today – one in which 'multi' is becoming a dominant trend in research methods (Jarzabkowski, Bednarek, & Cabantous, 2015): observing multiple targets and multiple aspects of one's target; conducting multi-actor observations; combining observation with multiple others methods; making sense of observation collectively by involving multiple stakeholders; etc. Following our increasingly dystopian realities, our research questions are likely to become more complex and require adaptive data collection approaches to provide nuanced and balanced answers. As our world becomes more fragmented, dispersed, divergent, and multifaceted, so our methods must keep up too. Our hope is that this special issue gives inspiration along the way.

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M@n@gement

Observing materiality in organizations

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Abstract

Research on materiality has grown rapidly over the past 10 years, highlighting the influence of physical artifacts and spaces in organizations, which had been overshadowed by discursive approaches. This body of research enriches our understanding of organizations in many areas including technology, decision-making, routines, learning, identity, culture, power, and institutions. However, researchers sometimes struggle to select methods suited to study materiality, as previous works have not been explicit in that respect. This article calls organizational researchers interested in physical environments – that is, artifacts and spaces – to integrate observation into their data collection. The first section presents a tripartite definition of the physical environment including activities, conceptions, and lived experiences. Ontological debates are introduced, and observation is proposed as a relevant method for studying materiality in organizational research. The second section presents observation techniques based on three approaches: *observing materiality in actions*, *observing beyond seeing*, and *making participants observe*. Each approach is mainly associated with one of the three components of materiality. The final section discusses the scope of observation techniques, suggests how to combine approaches, and flags difficulties associated with visual techniques.

Keywords: *Materiality; Artifact; Space; Observation; Visual techniques*

This article focuses on how to observe materiality in organizational research. After the discursive turn at the beginning of the century, accompanied by associated methods (see e.g. Fairclough, 2003; Phillips & Hardy, 2002), organization scholars called for a 'material turn' aiming to reintroduce physical and spatial dimensions of organizations (e.g., Boxenbaum et al., 2018; Carlile et al., 2013; de Vaujany & Mitev, 2013; Pratt & Rafaeli, 2006; Taylor & Spicer, 2007). In this new material perspective, authors invite researchers to think of organizations as "conglomerates of physical artifacts" (Vilnai-Yavetz & Rafaeli, 2006, p. 10) or "as material and spatial sets, not just cognitive abstractions" (Kornberger & Clegg, 2004, p. 1095).

The material turn aims at "rematerializing the organizational world" (Yanow, 2012, p. 34), as the spatial and artifactual dimensions of organizations already appear in works that are now considered classics of organizational research. As Kornberger and Clegg (2004) note, space is part of Taylor's work on shop floor management. The same is true of artifacts that can be defined as man-made objects. In *Principles of Scientific Management,* Taylor (1914) explains, for example, the design and use of shovels of different sizes

depending on the density of the materials in order to always lift an optimal load, and the use of colored cardboard to show illiterate miners their performance and promote learning.

The material turn emphasizes the socially constructed character of artifacts and spaces. It gives an important place to the social aspect in materiality which is now commonly accepted (de Vaujany & Mitev, 2013; Kornberger & Clegg, 2004; Taylor & Spicer, 2007), although the relationships between the material and the social have been conceptualized variously as intertwined (Pickering, 2001), imbricated (Leonardi, 2017), or co-constitutive (Orlikowski, 2007). Research related to materiality of or in organizations has grown quickly to contribute to our understanding of sensemaking (Garreau, Mouricou, & Grimand, 2015), identity (Cappetta & Gioia, 2006; Pratt & Rafaeli, 1997), routines (D'Adderio, 2008), power (Dale & Burrell, 2007), and institutions (Jones et al., 2012) – to name a few examples.

This body of research, however, rarely addresses the ways of studying materiality in organizational research. While a few authors have recommended methodological approaches (e.g., Bechky, 2008; Gagliardi, 1990; Leonardi, 2017; Yanow, 2006),

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articles mentioning available techniques are limited even though materiality presents particularities in terms of data collection (Reh & Temel, 2014). As de Vaujany and Vaast (2014) suggest in their article titled, *If these walls could talk,* spaces say something about organizations, but they cannot be interviewed. The influence of artifacts can pass through movements – which are easily visible; and also through other senses than sight – sometimes unconsciously (Gagliardi, 1990) – being more difficult for researchers to grasp. The Methods section in published articles gives more details about interviews and documents than it does about observations despite the particularities of materiality. For example, Bechky (2008) indicates that Elsbach (2003) did not mention in her published article that she used photography. Yet, Yanow (2012) considers ethnography, which is based on observation, to be particularly suited to taking materiality into account, because of the presence and experience of the researcher who is attentive to settings and objects in addition to being aware of acts and words.

The relevance of observation in studying the impact of materiality contrasts with the paucity of articles on the subject. The current article provides an overview of techniques for organizational researchers interested in physical artifacts and spaces. It proposes various ways of observing materiality in organizations through the examples of researchers who have detailed their research practices in organization studies or other disciplines. For this purpose, I have adopted a tripartite definition of materiality that includes activities, conceptions, and lived experiences.

In the first part, I define the materiality of physical environments and its properties, discuss ontological debates, and present the method of observation. In the second part, I describe and illustrate observation techniques grouped into three approaches: observing materiality in actions, observing beyond seeing, and making participants observe – each being a major means of studying one of the components of materiality. In the discussion, I present the scope of these techniques, suggest ways to combine the three approaches to study materiality in its entirety, and summarize some difficulties of working with visual data. The article's aim is to enrich our knowledge of techniques for observing materiality in organization research by associating one main approach and its techniques with one component of materiality (activities, conceptions, and lived experiences). It offers a guide in terms of approaches and techniques from which to choose, depending on how researchers wish to take materiality into account in their study.

Materiality and observation

The material world of organizations includes artifacts, spaces, and human bodies. Although the physical body has attracted increasing attention in research on strategy (e.g., Dameron, Lê, & LeBaron, 2015) and organization (e.g., Rahmouni Elidrissi & Courpasson, forthcoming; Schatzki, 2001a), I am limiting the scope of my investigation to the physical environment defined by Elsbach and Pratt (2007, p. 181) as including physical objects (artifacts) and their spatial arrangements. Artifacts and spaces are reciprocally linked in that physical artifacts are located in space (Gagliardi, 1990), and space "subsumes things produced, and encompasses their interrelationships in their coexistence and simultaneity" (Lefebvre, 1991, p. 73). Other authors (e.g., Reh & Temel, 2014) consider built spaces as a specific category of artifacts.

Materiality was first reintroduced into organization research with socio-technical systems (Carlile et al., 2013) to show the impact of technologies on the social world (e.g., Huber, 1990) or the mutual influences between the technological and the social (Barley, 1986; Leonard-Barton, 1988). The focus on technology has narrowed the scope of research on materiality in organization at that time. From the 2000s, the scope of research on materiality expanded to objects and spaces, recognizing that artifacts can facilitate collaboration (Kaplan, 2011), and contributed to sensemaking and sensegiving (Cappetta & Gioia, 2006; Garreau et al., 2015). The material and the social are mixed in practices (Schatzki, 2001b), each having a form of agency and thus, sometimes producing unexpected effects. For example, new phenomena can emerge from new material situations, as was the case with *panoramic seeing* born from the experience of a railway journey (Pickering, 2001). In addition, beyond providing a better understanding of organizational practices and dynamics, materiality can extend the approaches of organization studies by reintroducing neglected aspects. As Carlile (2015, p. S25) indicates, "materiality helps us to see durability and not just dynamics; accumulations and not just activities; outcomes and not just process, consequences and not just change; layers and not just context."

This broader view of materiality that is relevant to organizational research has led to a growing body of studies showing the impact of a wide variety of artifacts. This include maps (Garreau et al., 2015), PowerPoint presentations (Kaplan, 2011), garments (Pratt & Rafaeli, 1997), IT systems (D'Adderio, 2008), robots (Barrett et al., 2012), vehicles (Rafaeli & Vilnai-Yavetz, 2004), offices (Elsbach & Bechky, 2007), stores (Cappetta & Gioia, 2006), and buildings (de Vaujany & Vaast, 2014; Edinger, 2014; Jones et al., 2012). This variety first necessitates a definition of physical artifacts and spaces and their properties. Following such definition, I present associated ontological debates and their consequences on methodology. Finally, I introduce observation as a proper method for studying the effects of physical artifacts and spaces in organizations and organizing.

Physical artifacts and spaces: Definitions and properties

Because of the link between artifacts and physical spaces (Gagliardi, 1990; Lefebvre, 1991), I have chosen to analyze them together using a common definition. This article considers materiality as tripartite according to relationships between the material and the social. The three components consist of activities, conceptions, and lived experiences. This definition is mostly inspired by the triad conceptualized by Lefebvre (1991) for the production of social space, and by other authors interested in artifacts (e.g., Gagliardi, 1990) including invisible ones such as aromas (Warren & Riach, 2017). All these authors considered three aspects: contribution to actions, conceptions or intentions they convey, and feelings and meanings individuals give them.

Lefebvre (1991, p. 40) defines social space as "[t]he perceived-conceived-lived triad (in spatial terms, spatial practices, representations of space, representational spaces)." The practice of physical space, which includes production and use, constitutes the *perceived* because it "presupposes the use of the body: the use of the hands, members and sensory organs, and the gestures of work" (Lefebvre, 1991, p. 40). The *conceived* and the *lived* space are both representations, although of different natures. The conceived space is the one of planners, urbanists, engineers, etc. It is the locus of abstract social representations including knowledge and ideologies, and it has some consistency (Lefebvre, 1991). On the contrary, lived experiences are individual and derive from the experience of space, which is sensory, aesthetic, and cognitive. The experience can reach a great complexity according to Lefebvre, as it can include representations of the conceived space but also other individual knowledge, images, and affects. It does not require consistency and is fluid and dynamic. As individual experiences differ, a multiplicity of representations or lived spaces results (Lefebvre, 1991).

Lefebvre (1991) extends this definition to objects, which thus include conceptions from their creators. For example, in their article on desks as active objects in the workspace, Conrad and Richter (2013) indicate that tables materialize different conceptions. Based on their shape, round tables convey equality while rectangular tables differentiate according to the uneven distance between the people placed around them. Tables contribute – voluntarily or not – to social dynamics of meetings through the equality (or inequality) that they convey and the use people make of them. Thus, rectangular tables allow managers to show differences in status, for example, among boards of directors (Conrad & Richter, 2013). By placing themselves at one end, leaders signify their superior status. On the contrary, by sitting in the center, they maximize the integration of the members except those placed at the end, physically distant from exchanges. Each participant takes from the meeting their own representation, which includes meanings and feelings that together constitute the lived experience.

Gagliardi (1990) also considers three components of materiality, even though his perspective on culture differs from Lefebvre's (1991) Marxist-inspired perspective on the production of space. He defines the physical artifact as "a product of human action which exists independently of its creator," resulting from an intention that aims "at solving a problem or satisfying a need" that is "perceived by the senses, in that it is endowed with its own corporality or physicality" (p. 3). This definition includes a separation between the material and the social, which by contrast are linked in Lefebvre's definition. This separation makes it possible to consider the result of actions in addition to actions themselves.

Despite theses differences, Gagliardi considers artifacts like Lefebvre considers spaces, that is, resulting from production practices, including conceptions and perceived by the senses. Gagliardi motivates production by an intention to solve a problem or satisfy a need and specifies that artifacts constitute a translation of a broader cultural order that can be related with Lefebvre's conception. According to Gagliardi, each individual perceives artifacts and forms a representation that is both cognitive and sensory, called a *concrete image* similar to Lefebvre's lived experience. Warren and Riach (2017) also mobilize these three components of materiality in their work on aroma management. They indicate how culture (conception) influences the design and the management of aromas (activities). Subsequently, the impact of aromas on employees' performance at work would depend on lived experiences of individuals that result from their prior experiences and conceptual schema.

Our tripartite definition – which includes activities, conceptions, and lived experiences – frees itself from the theoretical perspectives of the authors from whom it drew inspiration, and which differ from one another. In particular, I have chosen the term *activities* to include, in addition to social practices, the activity of physical artifacts and spaces without simultaneous human interactions; for example, automated processes such as computer programs or deterioration over time. These activities of artifacts can have significant unintended consequences on organizations, such as the collapse of a building.

The relationships between the three components of materiality – activities, conceptions, and lived experiences – can be complex. Conceptions influence production activities. For example, according to Lefebvre (1991), the constructions of Frank Lloyd Wright and Le Corbusier include different conceptions of space (specifically a Protestant tradition and a scientific and intellectualized representation of space, respectively). However, conceptions do not systematically lead to implementations. Kornberger and Clegg (2004) note that many intentions are never realized. For example, most architectural projects get stuck in the design stage and are never

built. The low number of productions compared to designs leads Lefebvre (1991) to consider that artifacts reflect the conceptions of producers, who have the power to choose what they wish to achieve. Once produced, artifacts can convey conceptions in the social sphere (Carlile, 2002). However, individuals may use these physical artifacts and spaces differently (Gagliardi, 1990; Lefebvre, 1991), with consequences that are not necessarily expected (Kornberger & Clegg, 2004). People can also choose not to use them. For example, Pentland and Feldman (2008) observe that the creation of artifacts does not necessarily imply a change in the practices that they are supposed to modify. Royer and Daniel (2019) show that the same is true for legal artifacts, which constrain the formal aspect more than the actual content of a process. In addition, as individuals have different experiences because of their personal history, a multiplicity of lived experiences emerges (Lefebvre, 1991; Sergot & Saives, 2016; Warren & Riach, 2017) that can contribute to activities and be a source of new conceptions (Lefebvre, 1991).

Materiality, thus, plays a complex role in organizations due to the sometimes strong, sometimes weak coupling between activities, conceptions, and lived experiences. The three components are necessarily interconnected, which does not imply consistency (Lefebvre, 1991). This possible weak coupling between the three components, at the same time linked but retaining some kind of independence (Orton & Weick, 1990), has consequences on method. It implies first that one cannot necessarily access one component through another, and second that all three components are required for a global understanding. It makes systematic observation, ethnography, and case study more suitable research methods compared to surveys (Orton & Weick, 1990).

Besides components, physical artifacts and spaces have instrumental, aesthetic, and symbolic dimensions (Gagliardi, 1990; Lefebvre, 1991). According to Vilnai-Yavetz and Rafaeli (2006), the instrumental dimension refers to the way in which an artifact contributes to the performance of a task by an individual or an achievement by the organization. The aesthetic dimension concerns the sensory experience generated by an artifact, and the symbolic dimension refers to the meanings and associations that an artifact elicits. These three dimensions can be studied separately. However, Vilnai-Yavetz and Rafaeli (2006) recommend including all three, as did Elsbach and Bechky (2007) in their research on office design. Considering several dimensions makes it possible to highlight tensions between them, such as the aesthetic trumping the instrumental in fashion boutiques (Cappetta & Gioia, 2006), or the highly symbolic scrubs of nurses conflicting with some of their tasks (Pratt & Rafaeli, 1997). The three dimensions discussed can enrich analyses of physical artifacts and spaces by multiplying the possible points of attention for each of the components. Rafaeli and Vilnai-Yavetz (2004) used all three dimensions in

their research on the green color of public transport buses in Israel to show how the emotions generated by the color are associated with the organization. They have studied the three dimensions as perceived by respondents, which is the lived experiences component. However, the three dimensions are also relevant for the two other components: activities and conceptions. For example, Lefebvre (1991) specifies that the symbolic dimension is part of the lived experience of individuals who associate images and symbols with artifacts and spaces, but also that individuals can make symbolic use of objects and that conceptions also include codes and symbols. The article on the management of aromas by Warren and Riach (2017) takes into account the aesthetic dimension in each of the components. The dimensions enrich the study of materiality but have limited consequences on research approaches.

Finally, physical artifacts and spaces have the characteristic of being immediately perceptible (Gagliardi, 1990). The experience of the physical environment is not limited to sight. It is also olfactory and aural and can be tactile (Gagliardi, 1990) although sight tends to predominate over the other senses (Lefebvre, 1991). Consequently, the meaning of artifacts and spaces can be intuitive, without conscious interpretation (Gagliardi, 1990). Warren and Riach (2017) note that aromas are supposed to have the capacity to elicit emotional responses without going through the cognitive system. According to Gagliardi (1990), it is the *concrete image* that he defines as multisensory and not necessarily present in the mind that stimulates reactions. This peculiarity of the perception of artifacts implies that discourses can be insufficient to grasp the impact of physical environments.

Ontological debates

Beyond definitions, materiality is the subject of ontological debates that cannot be ignored. A first ontological debate concerns the agentic character of physical artifacts and spaces. The debate is not about the potential influence of artifacts, which is widely acknowledged, but about the nature of this influence. According to the classic perspective of the Actor Network Theory (ANT) by Latour (2005), there is no difference between humans and non-humans, including artifacts, which are all 'actants.' Other authors consider that physical objects must be considered differently from actors – notably because of the absence of intention (e.g., Leonardi, 2017; Nicolini, 2013). Following Gibson (1986), several authors (Faraj & Azad, 2012; Leonardi, 2012, 2017) use the concept of affordance, which confers on materiality an ability to facilitate or constrain depending on activities and capacities of agents (Costall & Richard, 2013).

Another debate concerns the relationship between the material and the social realms. It pits the co-constitutive approach (e.g., sociomateriality defended by Orlikowski, 2007) against

the opposite view that distinguishes the two despite recognizing strong relationships between them. Proponents of separation argue that it permits to better understand the relations that these two constituents of the world maintain over time (Gagliardi, 1990) and to better study the relationships described as 'imbricated' (Leonardi, 2017).

I argue that these ontological positions are linked to theoretical perspectives so as to ensure consistency. Thus, the focus on relationships of the ANT perspective is consistent with an ontology that considers the elements of the relationship in the same way, whether human or non-human. The practice perspective rooted in the humanist tradition, which emphasizes the integrity of individuals, does not recognize the same agency, intent, and knowledge in humans and artifacts (Schatzki, 2001b). The sociomateriality perspective, which includes some research on technology, defines the material and the social as co-constitutive, which is consistent with the involvement of both humans and tools to achieve goals. Finally, the concept of imbrication (Leonardi, 2017) is useful for the purpose of producing or transforming artifacts. I regard ontology as an integral part of the theoretical perspective it serves. It follows that ontology per se is less important compared to the coherence between ontology and theoretical perspective. In this respect, Clark (2020) points to a contradiction in the classic ANT proposition which, on the one hand, emphasizes the non-human by attributing human-like actions to it, but at the same time reduces it through co-constitution and a method that consists of following the actor and focusing on translation. Indeed, co-constitution reduces the capacity of the non-human by excluding the possibility of non-symmetrical relationships, such as a precondition for action. Thus, co-constitution tends to underestimate the power of the non-human, especially when remote (Clark, 2020).

Another debate apart from ontological also exists on what should guide empirical investigation, should researchers follow the actor (Latour, 2005) or should they follow the thing (Appadurai, 1988)? Following the actor permits to understand how artifacts influence practices. For example, the practice perspective encourages researchers to analyze how artifacts contribute to practice, how they are used, and how they contribute to give sense to the practice itself (Nicolini, 2013). The focus of the study is thus the influence of artifacts on an object of study chosen by the researcher. Appadurai (1988) shares the theoretical view that humans give meaning to artifacts, but also argues that from a methodological standpoint "it is the things-in-motion that illuminates their human and social context" (p. 5). Supporters of following the thing highlight the diversity of people, situations and uses encountered. In this perspective, the artifact presents an intrinsic interest, thus becoming the object of the research. For example, researchers can investigate the production and uses of such artifacts. Following this approach, Suchman (2005) shows how the 8,200 copier from Xerox, which was considered

an everyday object, has been reconsidered as an object of research in the company thanks to multiple affiliations. This second posture seems less common than the first in literature on organization.

The purpose here is not to defend an ontological posture because most of them are justified by the theoretical perspectives that they serve. The same is true of the place given to the artifact to guide the investigation. From a practical point of view on data collection, it might be opportune to think of artifacts and spaces as acting, whatever one's ontological perspective, so as to pay more attention to them. In the same vein, separating the social from the material permits a more thorough exploration of the symmetrical links of imbrication between the social and the material (Leonardi, 2017). In addition, the separation makes it possible to enrich our research (Carlile, 2015) by considering the non-symmetrical influences of materiality (Clark, 2020), such as diachronic relationships (Gagliardi, 1990) beyond practices (Winthereik, 2020).

Observation as a method to study materiality

The observational method can be defined according to Weick (1968, p. 360) as "the selection, provocation, recording, and encoding of that set of behaviors and settings concerning organisms 'in situ' which is consistent with empirical aims." As Journé (2005) reminds us, this definition includes both the naturalist approach and quasi-experimentation in a real or natural situation. Thus, the observational method extends to situations voluntarily created by the observer in order to test theory and differs from laboratory experiments where the environment is not familiar to participants. Data collection in situ has advantages and disadvantages compared to other methods, such as interviews and questionnaires. It permits the collection of a large amount of fine-grained data at the time of occurrence, allowing a global understanding (Arborio & Fournier, 2015; Weick, 1968). Because of its capacity for global apprehension, observation is an appropriate method for studying the influence of physical environments. Further, observation allows the collection of data on things of which individuals are unaware and avoids retrospective and defensive biases (Weick, 1968). As the influence of artifacts is not always conscious (Gagliardi, 1990), their effects are less likely to appear in discourse collected through interviews, making observation in such cases particularly useful.

Observation can be used as a primary method of data collection in different research strategies such as ethnography (Bechky, 2008; Ybema et al., 2009), ethnomethodology (Nicolini, 2013), or as a complement associated with interviews and documents in case studies (Eisenhardt, 1989; Van de Ven & Poole, 2002; Yin, 2013). As defined by Weick (1968), the observation method also allows the researcher to stimulate or amplify behaviors. Stimulation of behaviors can enrich data

collection and understanding of these behaviors, especially if they are infrequent or hidden. Stimulation can take various forms. One of them is one-group pretest-posttest quasi-experimental design (Shadish, Cook, & Campbell, 2002). Weick (1968) cites the example of Holmberg who introduced machetes to a population of South American Indians and studied consequences. More commonly, several confrontational techniques can be used to improve understanding. Observers can ask participants to fill out a questionnaire and then observe how they reach agreement on answers that differed among them (Weick, 1968). Cross-self-confrontation can be used to spark controversy. This technique consists of filming two individuals (A and B) doing a similar task and having each of them comment, first on their own action and then on the comments of the other (Lorino, Tricard, & Clot, 2011). In their research on the largest electricity supplier in France (EdF), Wieviorka and Trinh (1989) organized meetings to compare their results with supporting diagrams to test their theory in development, provoking tensions that shed light on the relevance of their reasoning. Stimulation thus opens up the possibility of creating, introducing, modifying, and moving artifacts in order to stimulate reactions aimed at improving understanding. Some research strategies such as intervention research (Moisdon, 2015) or participatory action research (Kemmis & McTaggart, 2005) aim at improving the situation that was the subject of research co-constructed with an organization. In such research strategies, artifacts can be created or introduced with a transformative purpose in addition to understanding.

A central feature of the method are observers themselves, who necessarily influence the course of action to varying extents (Weick, 1968). There are today three postures for observers depending on the degree of their participation: non-participant observation, participant observation, and observant participation (Soulé, 2007), which can be more or less covert (Roulet et al., 2017). According to Weick (1968), the presence of non-participating observers can lead to hostile behavior among actors. Non-participating observers can be asked for advice (Musca, 2006). They can also be asked to take sides in a conflict, so that non-participating observers are sometimes forced to intervene to maintain their relationship with their setting (Weick, 1968). Participant observation serves the main purpose of observing, with participation itself remaining a peripheral role. On the contrary, observant participation is primarily about participating, sometimes to the detriment of observation. Its main purpose is to produce data from one's own subjective experience as participant (Soulé, 2007). In the same vein, Wacquant (2015) calls for embodied approaches in which researchers, like the individuals they study, understand their object of study through their own body. For example, in his research on learning to box in a club in a Chicago ghetto, the researcher himself did the training at the rate of three sessions per week (Wacquant, 1989). Finally, the participant

researcher can play a transformative role in action research strategy. As artifacts have their own physicality and are perceived by several senses (Gagliardi, 1990), the direct multisensory experience of the observer makes observation an interesting method for discovering and better understanding the physiological effects of artifacts.

Some advantages of observation as a method for studying materiality in organization research include: global apprehension, no need for actor awareness, potential for stimulating behaviors, and ability to experience the multi-sensory effects of artifacts oneself. However, how to observe artifacts and spaces is rarely addressed in the literature on observation. For example, Weick (1968), while detailing techniques to record facial or bodily expressions, did not specify how to observe physical environments. Nearly half a century later, books dedicated to observation still devote little attention to materiality (e.g., Arborio & Fournier, 2015). The following section presents several observation techniques to take physical environments into account in organization research.

How to observe materiality

The three components of materiality – activities, conceptions, and lived experiences – require different data collection techniques. As noted earlier, observation provides direct access to materiality that cannot be obtained through interviewing. However, observation methods do not provide direct access to each of the components of materiality and their effects. Indeed, lived experiences, being individual and including a cognitive part, require interviews to collect data on the feelings and interpretations of actors. I have grouped observation techniques into three approaches according to the role of sight in apprehending relationships between the material and the social. These are: *observing materiality in actions*, *observing beyond seeing*, and *making participants observe*. Each is a primary means of accessing one component of materiality, and each traditionally connects to different theoretical perspectives. The first approach – observing materiality in actions – is useful for studying the activities component, which refers to actions and interactions between humans and physical artifacts and spaces (particularly in production and use). It can be found, for example, in the socio-material perspective (Hindmarsh & Llewellyn, 2018), practice perspective (Nicolini, 2013), and ANT (Latour, 2005). The second approach – observing beyond seeing – brings together techniques that aim to apprehend feelings, conceptions, and absence. These techniques allow observers to grasp more thoroughly the effect of materiality when artifacts are static and sometimes highly distant from the social, but act through odors, sounds, and the meaning actors give to them. Some of the techniques are useful for studying the conception component. As physical artifacts and spaces mediate culture, order or institution,

observers can understand their instrumental and symbolic dimension and grasp their aesthetic dimension with all their senses, not only sight. For example, these techniques can be used in neo-institutional, post-modern, and cultural perspectives (e.g., Gagliardi, 1990; Kunter & Bell, 2006). Finally, making participants observe is the most indirect observation method as it delegates observation to participants themselves. This third approach is most relevant in studying the lived experiences component and can be used, for example, in the phenomenological perspective, identity research (Bechky, 2008; Davison & Warren, 2017) and critical perspectives.

Observing materiality in actions

Observing materiality in actions allows researchers to study activities, including the production and use of physical artifacts and spaces. As this activities component is close to social interactions between individuals, the techniques present no notable peculiarity aside from attention to materiality in actions (even in the absence of individuals). As observers – whether participant or not – researchers need to record various data including who is present, what each actor does with artifacts, how they do it in the physical space, and what they say about artifacts and spaces during the action. Hindmarsh and Llewellyn (2018) argue that observation must be limited to this and exclude any search for possible effects of artifacts that are not touched or invoked during the action because they are deemed irrelevant. This posture solves the intrinsic "problem of relevance" that arises from observing materiality. Materiality is omnipresent and, therefore, necessitates a focus on what is relevant to the research question (Hindmarsh & Llewellyn, 2018). However, such actor-focused perspective neglects distant effects of materiality that may not be verbalized such as light, odors, or feeling of a space. It also ignores productions by artifacts themselves, which can have delayed effects on the social realm: for example, an accumulation of products or waste that piles up in a production chain and can be discovered by actors later. Taking into account activities of the artifacts widens the points of attention of observers, but not the available techniques for observing them. These include video, photography, sketching, and note-taking.

Video is now the preferred method to record empirical details (for an introduction see LeBaron et al., 2018). It is an interesting technique because of its capacity to preserve both verbal exchanges and the richness of image, in addition to actions. The possibility of seeing and reviewing the film in slow motion allows a fine analysis of actions and behaviors, including facial expressions and tiny movements (Thierbach & Lorenz, 2014). It allows researchers who view the action to stop and zoom in on artifacts and spaces under study and examine how they are used.

A fixed video camera with continuous recording can be used to provide a sample of actions in the same place that can be easily compared. This fixed video camera technique is useful to study ordinary situations in ethno-methodological perspectives. For example, Hindmarsh and Llewellyn (2018) used it to study the end of consultations with patients as part of their research on dentists' learning. When action is not repeated in the same place, devices embedded in eyeglasses, for example, make video-making even less intrusive than mobile phones. However, the richness of video has some drawbacks. First, film analysis is highly time-consuming and can be tedious. Further, although video permits the collection of fine-grained data, it does not necessarily record all the data that researchers would like. This is particularly true when several people are busy around something or someone, masking part of the action, of people, and of artifacts. In these situations, it can be interesting to multiply the angles of view which can be done, for instance, by a team of multiple researchers. This division of data collection work can be performed according to the focal points (i.e., individuals and artifacts to be observed) or additional data collection techniques (i.e., photography and note-taking). Finally, video raises ethical and practical questions (Boxenbaum et al., 2018) that will be examined in the discussion section; notably, obtaining consent from actors.

Photography, because of its static nature, is not the richest way to capture action but it may be more easily accepted by participants. It allows researchers to record relationships to objects in the studied context, such as how people handle and view them. As part of a 6-year ethnographic research on culture change in a Coke plant, Down, Garrety, and Badham (2006) photographed employees at work (Figure 1). The photographs captured both the hostile environment and the masculine character of the work by teams of specialists who maintain and repair the doors and other aspects of the Coke oven battery.

When used systematically, photography can record an entire process. For example, Comi and Whyte (2018) did this during their ethnographic study of a project in an architectural firm to understand how visual artifacts participate in the transition from an imagined future to a realizable course of action. They took 600 photos of artifacts successively produced and used to arrive at the model of a real estate project, showing how these artifacts allowed imagining, testing, stabilizing, and reifying the project. Besides planned and systematic uses, other authors (e.g., Kunter & Bell, 2006) call for an emergent-spontaneous use of photography, which permits the collection of interesting data when something unexpected but revealing occurs. Photography can also be useful to show consequences of action. For example, Harper (2005) considers it particularly interesting for studying change: two photos of the same place, before and after, can provide rich details to examine and compare.

Figure 1. Specialists adjusting battery doors (Down et al., 2006, p. 102; reprinted with permission).

Drawing, which was part of the traditional ethnographer's tool kit, tended to disappear with photography. However, sketches remain important in representing spaces as well as the actions that can take place there. For example, Barrett et al. (2012) reported in their article the schematic view of a hospital pharmacy before and after the introduction of a dispensing robot. The reader can therefore easily perceive the transformation that has taken place, including the importance of the space occupied by the robot and the division of the space it created (Figure 2).

Figure 2 illustrates how sketches can capture the spatial dimension; for example, the distance between shelves and the size of the robot – two aspects that may not be well captured by photography. Drawings and sketches can also represent an entire partitioned space, which cannot be done with photography either. Additionally, sketches can quickly represent flows by means of arrows to record movements by artifacts and people. As such, sketching may be more suitable for recording action data compared with photography.

Note-taking remains an important technique with many advantages. While it may not be well-suited for recording in settings with multiple or fast actions and people talking, it works best when action is slower, unexpected, and takes place over a

longer period of time. There are many different ways of taking notes, from the traditional notebook to the computer, tablet, and mobile phone that can be used as a Dictaphone. Choosing between paper and digital media is essentially a matter of personal preference, as the two are substitutable in many contexts. Whatever the medium chosen, note-taking is a valuable technique in that it allows observers to record not only what they see and hear, but also what they feel, think, and do. This is particularly important for participant observation. Textbooks recommend splitting such notes into three sections. While the main part aims at describing action as precisely as possible in its context, the section on 'methodological notes' (Groleau, 2006) records interactions between observer and observed. These notes can later be used to analyze the impact of researchers' presence on the organization, and possible consequences of these interactions on collected data and analyses. Finally, the third part records ones impressions, intuitions, and elements of conceptualization. Because methodological notes and impressions relate to given descriptions, note-taking is often used to complement visual techniques. For example, researchers using video recording indicate that they regularly write down the exact time of their note-taking in order to precisely match notes with the action recorded in a video.

Sometimes the abundance of material to record can feel exhausting and overwhelming to researchers. Observation requires concentration, which decreases over time. In intensive collection contexts, a team approach is recommended. For example, in their research on spatial orientation, Thierbach and Lorenz (2014) took advantage of a 2-day event to collect data. As time was so limited, data collection was necessarily intensive. In order to collect a large amount of high-quality data, the authors decided that no researcher would observe for more than two hours without a break. In addition, each observer had to change location after one hour to avoid monotony, to multiply observation locations, and to get data from different observers at the same location. Such arrangements are possible when activities can be successfully anticipated. This is not the case in observation settings that are characterized by infrequent episodes involving multiple fast-paced actions interspersed with long, dull periods without action.

The different observation techniques – that is, video, photography, sketches, and note-taking – can be combined when observing materiality in actions. Sketches can be part of note-taking, and notes are useful complements to photography and video. In addition, photography can be combined with interviews, such as in the photo-interview technique (Harper, 2005). This consists of conducting individual or group interviews based on photographs, maybe taken earlier by the researcher. The photograph serves as a stimulus during the interview to better convey actions and reactions of participants. The image stimulates memory to a greater extent than an interview without visual imagery would (Harper, 2005).
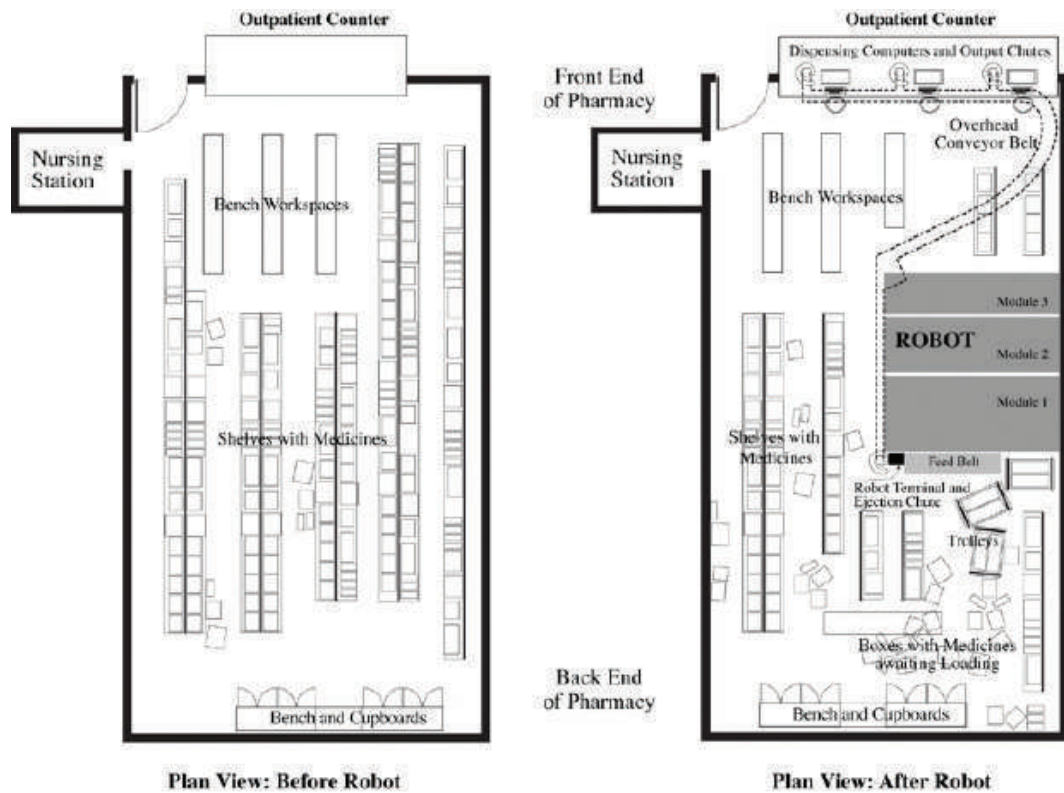
Figure 2. Layout of Duke Pharmacy before and after the installation of the dispensing robot (Barrett et al., 2012, p. 1453; reprinted with permission).

The same holds true for a video made by the observer. Portions of a video can be shown to actors who are asked to comment on what they did, as in the self-confrontation interview technique (Rix-Lièvre & Biache, 2004). Several authors (e.g., Bechky, 2008; Patton, 2002) indicate that photography can also be used as memory aid for observers. Photographs can remind observers of some activities that took place in the research setting but were not recorded in note-taking, perhaps because of time constraints. All the techniques that have been presented in this section to observe materiality in actions are mostly visual and may overshadow effects of materiality that are not detected as visible movement. Other techniques, or other ways of using the same techniques, can be used for this purpose.

Observing beyond seeing

One challenge of organizational ethnography is to make the familiar strange so as to infer what goes without saying (Ybema & Kamsteeg, 2009). To this end, chance is an ally of researchers. Unexpected incidents – particularly malfunctions such as a computer network shut down – make it possible to detect effects of artifacts that are no longer noticed. Among those

overlooked artifacts are fixed artifacts of the environment, effects of which are not detected as visible movement, but can impact actors by their meaning or through senses such as hearing or smell. The techniques grouped in this section aim to record feelings and access to conceptions. The first technique is to experiment by oneself, the second is to examine artifacts and spaces, and the third provides ways of apprehending absence as defined by Lefebvre (1980) as part of a continuum with presence.

Experiencing materiality by oneself

Artifacts and organizational spaces integrate institutional arrangements and influence behavior, particularly by guiding and structuring the sensory space (Gagliardi, 1990). Both are perceived by the body (Lefebvre, 1991; Merleau-Ponty, 1945). Thus, observers – like anybody else – can personally experience the effect of artifacts with their five senses (Arborio & Fournier, 2015; Gagliardi, 1990) – notably their aesthetic and symbolic dimensions. This is particularly true for physical spaces whose apprehension first passes through the body (Lefebvre, 1991), which is capable of remembering it (Schatzki, 2001a). Observers can experience a space by walking through it, being

attentive to its design and the objects therein, and using some objects. They can take time to listen, to smell, and to touch. Observers can feel the comfort of a seat, the brightness of a place, the fatigue of walking through wide spaces, and the emotions this provokes. For example, in their research on the experience of a new place as an atmosphere (de Vaujany et al., 2019), researchers built upon their own experience of 110 tours of collaborative spaces that were empty most of the time to identify the emotional registers used by tour guides to produce a particular atmosphere.

Reh and Temel (2014) propose a four-step observation process, implemented in their study of classroom atmosphere, to observe materiality with the five senses. In the first step, observers capture the action and the material context with "free floating attention" which covers people and physical environment. In the second step, observers focus on the physical environment. The authors state that they try "to trace how the surrounding materiality of space encounters [them] – to perceive and sense what [they] hear, smell, see and feel, to respond to the atmosphere of the space [they were] in, to the interaction between [their] body and its material surroundings" (Reh & Temel, 2014, p. 174). This global perception of the surroundings by the body requires observers to turn their attention away from actors so as to focus on their own sensations. In the third step, observers focus on individual things and details to improve their perceptions by activating all their senses. For this purpose, it is possible to dissociate the senses. For example, headphones can suppress sound while closing one's eyes removes sight in favor of the other senses. The fourth and last step involves reverting to the ordinary posture of observing activities while considering one's own lived experience. Relating one's personal experience with observation can lead one to identify relationships between the material and the social that had not been perceived before.

Gagliardi (1990) also suggests that action and communication tend to grab attention. Thus, capturing the language of artifacts is best done in isolation. To do so, he stays in the organization after all other people have left the place so that he can better grasp the language of artifacts. He also notes that the ability to capture specificities erodes with time spent in the setting. Consequently, the first visits are particularly interesting to apprehend the sensory singularities of an organization.

Examining physical artifacts and spaces

A detailed examination of artifacts and spaces is a means of identifying the conceptions that they materialize and convey. This examination can be done with the artifacts themselves or photographs of them. For example, researchers working on organizational identity can collect visual artifacts produced by the organization to analyze their symbolic dimension (Kunter & Bell, 2006). Gagliardi (1990) wonders whether the best way to study an artifact would be an archeological approach.

Researchers interested in technology can place the study of an artifact itself at the forefront. Leonardi (2017) recommends analyzing the artifact itself as the first step to study materiality. Such examination would include the artifact's component materials, how they are arranged into particular features, and what the artifact's features allow users to do, in order to identify use limitations. Leonardi argues that the study of materials is a prerequisite to understanding the use of technological artifacts and associated lived experience, because both depend on the physical properties of artifacts, which favor or constrain their use. Leonardi illustrates the importance of materials by recounting an experiment he runs in class. He indicates that, when volunteers are asked to stand on a chair, they remain on those made of steel but do not stay more than a few seconds on those made of soft plastic.

Photography can also be used when studying conceptions in research on organizational culture (Gagliardi, 1990), or identity (Bechky, 2008) for example. Lefebvre (1991) emphasizes that photography provides only a fragmented image favoring form over content. Taking the example of a house, he contrasts the immovable nature of a house easily rendered by photography with the flows of energies (water, electricity, etc.) consumed by its occupants and hard to capture by photography. Despite the limitation that reinforces illusions, Lefebvre (1991) does not deny the impact of the visible world in imposing standards. Photography is therefore suitable for studying conceptions that are social representations. As the materialization of producers' conceptions, artifacts not only guide behaviors but also generate meanings and emotions.

Despite its limitations, photography is an interesting technique because of its great efficiency. A few photographs are sufficient to record all visible artifacts in one place. Photography, thus, saves time compared to note-taking. In addition, it can provide data on things that researchers may not have noticed while on site and therefore could not record in their notes. Photography further permits the examination of images of artifacts and spaces, and facilitates comparison among them. It thus offers an opportunity to think more deeply about objects and their meaning (Bechky, 2008). When the meaning of a given space is not manifest, researchers can imagine removing one artifact it contains or replacing it with another, with opposite features, in order to better understand its influence. For example, in their study of an organization (assigned the pseudonym 'Angelic'), Kunter and Bell (2006) used photographs of spaces and artifacts produced by the organization. During an initial visit to the organization, Aylen Kunter took a

picture of the kitchen wall (see Figure 3), which was covered with portraits of Angelic's employees as babies. These portraits also appear on the organization's website. This photograph of artifacts staged in an organizational space is an interesting piece of data about organizational culture (in this case, a culture where employees are treated as children of the same family). Kunter and Bell note that this photograph highlights the visual nature of the organizational culture and facilitates convincing analysis compared to fieldnotes and interviews.

Finally, to enrich the analysis of conceptions of artifacts and spaces, deconstruction (Derrida, 1976) can be used. Deconstruction, originally, aims at generating new interpretations of a text through in-depth analysis of its construction, including recurrent exclusions (for applications in management, see e.g., Kilduff, 1993; Martin, 1990). Its use was then extended to pictorial, cinematographic, and architectural works and spaces (Brunette & Wills, 1994) and is part of visual research in management (Campbell, 2012; Maire & Liarte, 2018). Campbell illustrates the deconstruction of an image with the corrected map of the world by Mc Arthur. By reversing north and south and placing China at the center of the world map, Mc Arthur shows that maps do not reflect the world but are based on a convention that "centralises and often enlarges Europe" (Campbell, 2012, p. 110).

Accounting for absent artifacts

Literature on organization has focused on materiality of presence, but Giovannoni and Quattrone (2018) call for organizational research on "materiality of absence." Building on Lefebvre (1991), they argue that absence can also produce organizing effects. For example, in their study of the incomplete cathedral of Siena, Giovannoni and Quattrone (2018) show that the impossibility of the full representation of the cathedral provoked the maintenance of the organization throughout the entire period during which solutions were sought. In this case, absence did not influence the dynamics of the organization by the immanent presence of something existing (absent presence), but by the non-existence of something, which they describe as "present absence." In this case, they show that the incompleteness of the structure resulted from being unable to align civic, financial, architectural, and religious powers regarding the conception of the cathedral.

In their article on desks, Conrad and Richter (2013) included the absence of tables. They illustrated it with

Figure 3. Portraits on Angelic organization's kitchen wall (Kunter & Bell, 2006, p. 185, reprinted with permission).

photographs of meetings with absent or neglected tables at the RAND Corporation. According to them, absence of tables can be interpreted as a mark of unconventional attitudes favoring creativity, although other interpretations could be found as well. Identifying the relevance of absent materiality and its consequences on organizations through observation is difficult, yet possible. The relevance of something absent can be established in relation to normative expectations (Lynch, 2001): something should exist and yet is not there. For example, the observation of the unfinished facade of the cathedral of Siena immediately indicates an absence because what one sees is not congruent with the conception of cathedrals (see Figure 4).

The same is true of the absent tables in photographs of meetings at RAND Corporation, where people sit in a circle on the floor or on chairs. The consequences of absence can be actions – such as the search for solutions in the conception of the Siena cathedral – but also lack of actions. In this latter case, Lynch (2001) suggests systematically recording practices in order to show those that have not been carried out.

Techniques aiming at observing beyond seeing all rely on researchers as subjective individuals who experience materiality themselves and examine artifacts and spaces. They can complement data from techniques aimed at observing activities by adding physiological effects and conceptions carried out by physical artifacts and spaces. However, they do not give access to the lived experiences of actors (except those of participant observers).

Making participants observe

Lived experiences constitute the third component of the triad necessary for a comprehensive understanding of materiality. Although physical artifacts and spaces embody the conceptions of the individuals who produced them, the experiences of producers and users can differ depending on their prior knowledge and experience. For example, Rafaeli and Vilnay-Yavetz (2004) studied how stakeholders made sense of buses from a transport company in Israel. They showed that the dark green color generated unsolicited emotions toward both artifact and organization that could differ broadly among respondents. Some perceived the color as beautiful and others as ugly; some associated it with environment and nature and others with terrorism, war, or camouflage. The authors used traditional interviews as the primary method of data collection. Compared to this method, *making participants observe* consists in generating interviews from photographs, videos or drawings produced by participants themselves. As Davison and Warren (2017, p. 119) note, it is about "seeing the world through someone else's eyes." The various techniques available to researchers make different contributions that are presented below.

Having participants photograph physical artifacts and spaces that they have deliberately chosen gives researchers access to their representations and perceptions using the photo-elicitation technique. For example, in her research on organizational aesthetics, Warren (2002, p. 232) asked participants to photograph what "represents their work

Figure 4. Unfinished facade of the Siena Cathedral (© Tomáš Zrna, https://www.flickr.com/photos/gregor_samsa/29290454612, reprinted with permission).

environment to them." The associated interviews are essential for understanding the photographs, as images alone can be misinterpreted by researchers (Bolton, Pole, & Mizen, 2001). The images are used as stimuli for the interview. Researchers ask participants why they chose the object or space on their photograph and what are its features, in order to understand the meanings and perceptions arising from the participants' lived experience.

Images also often provide richness of details that can help researchers prompt participants during interviews. Davison and Warren (2017) indicate that Parker and Warren used this photo-elicitation technique in their research on the presentation of self and professional identity of accountants. Participants were asked to take photos of scenes, objects, people, and places that represented their identities as accountants. They were then asked to sort them according to whether or not photos expressed who they are before beginning the interview. Other uses of photographs are possible as well. As part of their research on part-time child workers in Great Britain, Bolton et al. (2001) had young people aged 11 to 16 take pictures that represent their working life.[1] Strikingly, these photographs almost always showed empty places and no action. The authors believe that photographs helped them discover the material conditions in which these children work – often behind-the-scenes cleaning work, unknown to customers and researchers – in addition to the way they perceived their role in the organization employing them. In their research on the institutionalization of suffering, Stowell and Warren (2018) used photo-elicitation in a particular way: Stowell, who took the photographs as part of her auto-ethnography, was asked by her coauthor to comment on them.

Participants can also record their own experience using body video cameras (Rix-Lièvre & Biache, 2004). Recorded data are very close to the lived experience. Researchers can see what the participant focused on in a context enriched by sound, including heartbeats, which can be useful for studying emotions. In the video elicitation interviews, researchers view portions of the film with participants, who explain their actions and sensations (Rix-Lièvre & Biache, 2004). Body video cameras, however, have limitations similar to those of photography. In their research on refereeing, Rix-Lièvre and Biache equipped referees with body video cameras. The resulting videos, although shaky, were easily understood by the referees who had recorded them, whereas other viewers could find them to be disturbing or destabilizing. This indicates a need for associated interviews with the participants who recorded the videos. Other techniques are available when research requires precise data on attention, provided context allows. For this,

eye-tracking devices (glasses that participants wear for the experiment) provide precise identification of the eye's focus point. For example, in their research on orientation in space as a social process, Thierbach and Lorenz (2014) use this technique to capture the focus of gaze during the way-finding process, including use of maps.

Finally, observations made by participants can also be recorded in notes, drawings, and sketches. Drawings and sketches made by participants provide mental representations with their selections and omissions (Edinger, 2014). These selections, omissions, and possible additions provide an advantage over photography by better representing the necessarily subjective and partial perception of individuals. When produced outside the studied physical environment, drawings and sketches also give access to participants' memory. In her research on space perceptions of university library users, Edinger (2014) invited participants to visualize their library and draw their mental representation, called mental map. She asked them to draw from memory the map of the library, and in this map their favorite place with its features. Similar to photography or video recorded by participants, the drawn maps were accompanied by interviews focused on the subject's favorite place. They allowed identifying patterns of disorientation because of lack of knowledge and to architecture, as well as appropriation of space by students (Edinger, 2014).

Discussion

Following the material turn that calls for the reintegration of the material in the study of social phenomena, I have presented a panorama of observation techniques to study the influence of physical artifacts and spaces on organizations and organizing. I grouped them into three approaches, each being best suited for one of the three components of materiality (activities, conceptions, and lived experiences) (see Table 1). Together, these three approaches – observing materiality in actions, observing beyond seeing, and making participants observe – provide access to a comprehensive understanding of materiality.

Each approach has been associated with the component of materiality it suits best, and therefore should be selected to study this component. However, those approaches are not exclusive and can contribute to the study of other components. Observing materiality in actions is probably the richest in that, in addition to actions and interactions, it can be used to infer conceptions directly or through behavior. It also provides data on the lived experiences of individuals, especially the emotions legible on their face and the interpretations that participants verbalize during action. The techniques for observing beyond seeing, which stimulate bodily perceptions or attention to infer conceptions and meanings, also fuel the lived experience of the researcher. Finally, making participants observe can also be a means of studying the conceptions of artifacts and spaces as

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[1.] Working is authorized in Great Britain on a part-time basis up to 25 h per week starting at the age of 13, and full-time at the end of compulsory education at the age of 16.

Table 1. Observation approaches of materiality

Approaches	Main component of materiality	Goals	Techniques	Attitude of the researcher
Observing materiality in actions	Activities	Record actions and interactions between the material and the social in the production and use of artifacts and space.	Video (possibly with interview). Photography (possibly with interview). Sketch. Note-taking.	Active attitude on the alert to capture activities as they happen. It can include participation.
Observing beyond seeing	Conceptions	Infer conceptions embedded in physical artifacts and spaces.	Examination of artifacts and spaces or the photographs representing them.	Stand back from action: - to concentrate on inference of conceptions and meanings;
		Apprehend corporal and cognitive effects, including from static and distant artifacts.	Sensory experience of researcher.	- to focus on their own sensations.
		Account for absence of artifacts.	Grasp absence by comparison.	
Making participants observe	Lived experiences	Record interpretations and feelings of participants.	Elicitation interviews based on photographs, videos, drawings made by participants	Empathic listening

perceived by the participants, as well as a means of collecting some data on actions. Further, the overlap between approaches gives an opportunity to triangulate data.

Scope of use of techniques

Most of the observation techniques are valid across epistemological perspectives. Indeed, it is mainly the way a technique is used and to what end that inscribe it in an epistemological perspective (Ackroyd, 1996; Royer & Zarlowski, 2014). Many techniques can be used in research strategies as different as ethnography, action research, case studies and quasi-experimentation.

The techniques for observing materiality in actions – that is, video, photography, sketching, and note-taking – are free of epistemological imperatives. In particular, they can meet the criterion of researcher objectivity, which is necessary for validity in positivist research. These techniques are commonly used in ethnography, which as a research method is well-recognized in all positivist, interpretive, and constructivist perspectives (Reeves Sanday, 1983; Yanow, 2012). For example, ethnographic techniques have been used in Zuzul's (2019) research on boundary objects as generators of conflict in an objectified approach; in Stigliani and Ravasi's (2018) research on aesthetic knowledge using Gioia's interpretive framework (e.g., Gioia, Corley, & Hamilton, 2013), and in the posthumanist research by Hultin and Introna (2019) on the impact of work environment on identity work.

The techniques for making participants observe, such as photo-elicitation and self-confrontation, also have a wide spectrum of use including action research and critical perspectives. Indeed, explanations from participants requested by the researcher constitute a source of awareness useful for transformation in action research (Lorino et al., 2011) or emancipatory

research. According to the perspective, participants will be considered differently as research objects, informants, research participants, research partners (Pole, Mizen, & Bolton, 1999), or co-inquirers in a co-construction (Lorino et al., 2011).

By contrast, the techniques for observing beyond seeing cannot be used in every epistemological perspective as they rely on the sensitivity and subjectivity of the researcher. For example, auto-ethnography cannot claim objectivity as a major interest of this approach lies precisely in the subjective experience of the researcher (e.g., fatigue or suffering) (Stowell & Warren, 2018). Regarding deconstruction, which aims at creating new hidden interpretations (Campbell, 2012; Maire & Liarte, 2018), it is associated with post-modern and critical perspectives.

Combining the three approaches

Using all three approaches is useful for a comprehensive understanding of materiality, for studying the relationships and dynamics among components of materiality (Lefebvre, 1991). However, I argue that the three approaches are difficult to implement simultaneously because of the different attitudes they require from observers. Several authors (e.g., Gagliardi, 1990; Reh & Temel, 2014) have warned researchers against allowing themselves to be dominated by action and to focus on sight to the detriment of other senses. Indeed, observing materiality in actions focuses on activities and social behaviors and requires observers to be on the alert to record what is happening and what is being said. On the contrary, observing beyond seeing requires taking a step back from action and focusing on oneself to reflect and sharpen senses other than sight. Finally, making participants observe requires an empathic attitude toward participants, as individuals, so that they can verbalize their lived experiences. The challenge of different

attitudes, focuses of attention, and paces supports alternating approaches over time or distributing them across a team of researchers.

Alternating among the three approaches leaves room for emergent findings from one approach that could motivate further investigation, implemented with another approach. For example, knowledge about conceptions resulting from observing beyond seeing can guide part of the observation in actions. Conceptions can also be used as a prompt during interviews with participants – for example, to check whether they have perceived them or not. The researcher's lived experience, including feelings, can encourage new points of attention for observing materiality in actions and stimulate conversations to gather the lived experience of participants. For example, in her participant research on the institutionalization of suffering (Stowell & Warren, 2018), Stowell's experience of suffering on-the-job physical injuries while recycling electronic equipment led her to ask her colleagues about job-related injuries, and discover that they, too, were hurt at work but considered it as part of their job. In return, observing materiality in actions help researchers to spot artifacts and spaces that are relevant to study in depth. Observers can then study their conceptions and how participants experience them.

Because of possible positive dynamics among approaches, Gagliardi (1990) suggests starting with the lived experience of the researcher when he or she first entered the setting. Novelty allows researchers to grasp particularities that they can photograph or record before they are accustomed to the environment and no longer perceive them. During observation in actions, researchers can take a step back mentally when situation permits (Reh & Temel, 2014), or physically after members of the organization have left the site (Gagliardi, 1990). A single researcher can alternate among approaches when the pace of action is slow or when staying over a long period of time in the setting. On the contrary, when access to the setting is time-constrained, such as a 2-day event (Thierbach & Lorenz, 2014), the concentration of data collection over a short period of time may require significant upstream preparation and a team among which to distribute data-collection techniques.

Difficulties of visual techniques

Visual techniques provide several benefits in observing materiality, but also pose ethical and pragmatic challenges (Boxenbaum et al., 2018). For instance, some activities, situations or organizations cannot be filmed or photographed because of their strategic or confidential nature. When visual techniques are not prohibited, participants can resent intrusiveness because the video camera is not as discreet as a notebook (Warren, 2002). Discretion has improved with modern equipment, such as cell phones. They are smaller than notebooks and people have grown accustomed to seeing such devices recording

everywhere. However, feelings of intrusion can still be an issue. When participants are not accustomed to being filmed, Bottorff (1994) recommends making video familiar by filming regularly before the period of interest to the researcher and filming over periods longer than required for analysis during the period of investigation. The initial discomfort can disappear over time, even quickly if participants get involved in the action (Bottorff, 1994). Reluctance can stem from fears on the part of participants regarding their evaluation or diffusion of what has been filmed that could harm them. This reluctance can be removed by participants' trust in the researcher, which increases when they get to know each other during prior interactions. This trust requires the researcher's commitment to respect the right of participants to anonymity and confidentiality, by implementing all necessary procedures according to ethical principles of research. When participants change their mind, researchers must erase records related to them. Such loss can be necessary to pursue the ongoing research (Bottorff, 1994). The major difficulty of visual data is less in the possibility of capturing images to study and analyze than in their diffusion, including in academic publications. The use of people's visuals impedes confidentiality (Harper, 2005). The same is true of organizations that can be identified by their logo (Kunter & Bell, 2006), products, or headquarters. Blurring and cropping, while technically possible, can make visuals uninteresting. Therefore, the explicit consent to diffuse images by recognizable persons and organizations is paramount.

In addition, the ethics of visual techniques pose pragmatic challenges. Obtaining a signed form of consent from every person in a picture can be difficult when people are numerous. Boxenbaum et al. (2018) also note copyright issues that make the use of visuals difficult or expensive. As an academic author, my experience is heterogeneous. Obtaining copyright permission can be quick and easy when asking photographers, and certain academic publishers that have platforms from which one can obtain such permission for free with a few clicks. It can also be long, complicated, and costly with other publishers and organizations, to the point that one has to remove the visuals from one's manuscript. Boxenbaum et al. (2018) also mention the cost of printed publications on paper. Such cost might explain why there are few images in most printed publications despite the use of visual techniques by authors.

Conclusion

In response to the material turn in organization studies (Boxenbaum et al., 2018; Carlile et al., 2013), this article provides researchers with a panorama of techniques for observing materiality in and of organizations, grouped into three approaches. Specifically, these are: *observing materiality in actions*, *observing beyond seeing*, and *making participants observe*. The three approaches can be combined either alternately or

simultaneously for a comprehensive study of the three components of materiality (i.e., activities, conceptions, and lived experience). By linking observation techniques to components of materiality, this article complements previous methodological work on observation and study of materiality. Extant work has mostly addressed observation as a method in itself (e.g., Adler & Adler, 1994; Journé, 2008; Weick, 1968) or as part of what Denzin and Lincoln (2005) call a research strategy, such as ethnography and ethnomethodology. In any case, this was done without delving into the specificities of materiality. Those papers that have presented methods to study materiality have often done so in the context of a research area such as identity, status, and knowledge (Bechky, 2008); organizational culture (Gagliardi, 1990); or a focus on one type of artifact and space, such as technological artifacts (Leonardi, 2017). In contrast, I aim to bridge conceptual components of materiality with hands-on practicality in a way that cuts across research topics. In doing so, I followed a tradition perhaps best exemplified by Karl Weick's (1968) classic article on observation.

Associating three approaches with the three components of materiality has the advantage of being potentially relevant for a broad range of research involving materiality. Indeed, most of the techniques presented above can be used within various epistemologies, and together they cover a wide spectrum from positivist to postmodern and critical perspectives. Similarly, they are not specific to a theoretical perspective in organization studies, even if their use might suggest so.

Approaches and techniques being related to components of materiality that are common to both physical artifacts and spaces, the same techniques can be used to study both of them. The focus on commonalities does not negate differences between artifacts and spaces. Notably, whereas a physical artifact is inherently composed of materials, space is mostly characterized by an absence of materials. Further, physical artifacts exhibit great variety in terms of size, complexity, and spatial distribution. Callon and Law (2004) note that action can mobilize distant actants – phones for example – who are, therefore, both absent and present. Such spatial distribution has methodological consequences that have not been considered here. Future papers could differentiate observation approaches and techniques according to categories of artifacts. I also excluded the body as subject of research. I only considered how it is affected by the physical environment. Other work could address ways to study the physical body in organization studies.

Observation is a highly valuable method for studying physical artifacts and spaces. Like any method, it entails some difficulties, but it can provide a large quantity and variety of fine-grained data. It enables researchers to study aspects that are non-verbalized or even unconscious. This richness should not preclude using other methods as well; for example, in multimodal research (Boxenbaum et al., 2018). As understanding how materiality impacts organization and organizing becomes a more pressing question, I have argued that observation is well suited to collect rich data across a variety of research topics. The association between techniques and components of materiality should help interested researchers to decide which approach and methods are best suited to their research question and setting.

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Enhancing *In Situ* Observation with the SCI Design (Shadowing–Conversations–Interview to the Double) to Capture the Cognitive Underpinnings of Action

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Abstract

In situ observation methods have essentially been mobilized to study actors' doings, but they have also been mobilized (through studies in the stream of situated action) to study cognition in these same organizational actors. The existing methodological designs have helped to enhance our knowledge of certain cognitive underpinnings, but they carry two limits: (1) they are deployed following a stacking logic, that is, by triangulation, which is more about compensating for the weaknesses of the component methods than uniting their strengths, and which has the pitfall of capturing cognition and action separately; and (2) they cannot capture all the situated and structuring facets of the cognitive underpinnings of action. Here we propose to overcome these barriers with the SCI design: S for shadowing, C for conversions, and I for an interview borrowing on the 'interview to the double' technique. This design is built in a synergy-guided effort that hinges on tightly meshing these three techniques together at fieldwork deployment. This articulation makes it possible to capture action and cognition together and to surface both the situated and structuring facets of cognition underpinning action. The SCI design is easy enough to deploy in fieldwork across a whole range of research settings.

Keywords: *Action; Cognition; Shadowing; Conversations; Interview to the double*

"As such, my informants' descriptions of the qualities of attention – and the experience-based mechanisms associated with them – are subject to questions concerning veridicality that are fundamentally linked to the research methodology employed. Perhaps by adopting other methodologies, such as neurophysiological approaches, researchers could circumvent these limitations and develop an account of attention and its qualities that either validates or challenges the findings reported here" (Dane, 2013, p. 73). This is how Dane concluded on the limits of his study into the attentional properties of trial lawyers in court via observations and interviews, in reference to the research method employed to capture the cognitive process (attention) underpinning the way the trial lawyers argue their case in court. At the end of his article, Dane proposed a neurophysiological approach as a way to empirically capture cognitive phenomena as they unfold. The issue he raised here is that it is hard to study via observation what are essentially covert phenomena at work. Do we really need to put electrodes on the heads of the actors we study to understand the cognitive mechanisms they deploy in action? A fine-grained understanding of the cognitive drivers underpinning action, both in their visible and invisible aspects, is one of today's big challenges, as understanding what guides organizational actors to do what they do helps us better understand the constraints weighing on action at work (see, e.g., Falzon, 2004; Ombredane & Faverge, 1955; Pavard & Karsenty, 1997), the dynamics underpinning observed practices (Feldman & Orlikowski, 2011; Nicolini, 2012), and the potential cognitive load that the actors are under pressure to handle (Bidet, 2011; Datchary, 2011; Datchary & Licoppe, 2007; Isaac, Kalika, & Campoy, 2007). Cognitive phenomena may be hard to capture with our observational senses, but studies in the stream of situated action (Suchman, 1987) use observational methods to study action and its cognitive underpinnings, such as decision-making processes, attentional processes, and even sensemaking processes. These *in situ* observation methods can collect and compile richly informative contextualized data on routine behaviors in all their complexity and their multiple

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facets, where Mintzberg's (1973) seminal study on managerial work paved the way. Although observation is useful for studying readily perceived events like the actions or visible traces of *in situ* cognition (Journé, 2005), it cannot (or can only partially) understand the cognitive underpinnings of action when action is ambiguous or when cognitive underpinnings are embedded in features that go beyond the here-and-now (such as a lawyer who routinely pleads for exactly the same sentence, regardless of the case filed). These structuring underpinnings, embedded in features of cognition that are connected to the actors' own tacit knowledge, emerge when actors encounter similar situations and they lastingly structure the way actors conduct their actions. Capturing the situated and structuring dimensions of cognitive processes at work therefore poses a methodological challenge for observational methods. The existing methodological designs have enhanced our knowledge of action and its underlying cognitive underpinnings, but they carry two limits that rule out attempts to go further and systematically capture the tandem situated and structuring dimensions of cognition at work. First, certain designs carry a pitfall in that they stack up methods deployed on top of observation, without articulating them together (stacking tactic). While this stacking tactic often reflects a data triangulation strategy, the disconnect between the methods deployed fails to capture a coherent picture of the cognitive processes studied. Second, certain designs that do implement an articulated set of methods (synergy tactic) still only partially capture the cognitive underpinnings of action, as they focus data collection exclusively on either the situated feature or the structuring feature. How can we use methods employing *in situ* observation to systematically capture action with its cognitive underpinnings at work in both the situated and structuring dimensions? Here, to address this methodological challenge, we propose a new methodological design grounded in a core foundation of *in situ* observations, which we have dubbed shadowing–conversations–interview to the double (SCI) design. The SCI design is a methodological triad that mobilizes shadowing – an on-the-move observational method, conversations – between researcher and actor observed, and an interview borrowing on the interview to the double technique.

As the SCI design borrows and builds on the situated action research, we begin by setting out three fundamental principles underpinning situated action theory and the implications for research into capturing cognition. We go on to look through various data collection methods that mobilize *in situ* observation to study cognition. We then analyze their stacking *vs* synergistic design and the characteristics of the focal cognitive underpinnings they study, which prompts us to look at the limitations of these methods. This leads into an outline of the methods adopted here as part of the SCI design – shadowing, conversions, and a version of the interview to the double method. A third section gives a walk-through of the SCI design together with empirical excerpts taken from observational material to illustrate the articulation between the SCI design component methods and the way this articulation synergistically captures the situated and structuring features of cognitive underpinnings. The fourth and final section shares our concrete thoughts on the SCI design implementation and sets out its limits. Discussion also covers the two major contributions that the SCI design brings to *in situ* observation methods, that is, it is synergistic, and this synergy brings advantages over the triangulation tactic, and it is able to capture both the situated and structuring cognitive underpinnings of action.

Capturing cognition through action: A situated perspective

Let us begin with a summary of three fundamental pillars underpinning the epistemological foundations of the situated action theory in which the SCI design is grounded. First, the SCI design considers action and cognition as tightly intertwined. Second, the SCI design considers naturalistic observation as the most appropriate method for empirically capturing the cognitive underpinnings of action. Third, while the SCI design does consider cognition in its embodied visible dimension, it also takes into account the tacit features of cognition that are harder to capture via the senses. Here, it focuses on the features structuring cognition as it unfolds *in situ*, that is, the potential patterned regularities in the enactment of cognition, rather than just its situated dimensions. Below we expand on these three key principles.

The cognition–action link

The SCI design borrows on studies mobilizing the notion of situation and belonging to the stream of situated action theory (Suchman, 1987). The name 'situated action' connects back to various streams of research where the common denominator is that the situational setting is considered both the frame that builds the action and the outcome of that action. Seeing the situation as a frame shifts the focus onto social dimensions and artifacts shaping and influencing the action, while seeing the situation as an outcome of action underlines its emergent, indeterminate nature. While cognition is one element underpinning the dynamics of action, a situated perspective reads cognition not as preceding action but as part of it. The key sources of this work connect back to the stream of pragmatist sociology (Dewey, 1938, cited by Journé & Raulet-Croset, 2008) and interactionism (Goffman, [1964]1988, cited by Journé & Raulet-Croset, 2008). These original streams branched out into different trajectories according to the importance they lend to discourse (the ethnomethodology approach, e.g., Suchman, 1987) or artifacts - ergonomy (e.g., Theureau, 1992),

cognitive ethnography (the notion of 'distributed cognition'; Hutchins, 1994; Hutchins & Klausen, 1998), or even artifical intelligence (Conein & Jacopin (1994) citing Clancey (1989)). The study of organizations includes management research aligned to the situated action stream, prominently *practice-based studies* (e.g., Nicolini, 2012; Whittington, 1996), as well as studies dealing with Managerial Work Behavior (MWB; Tengblad, 2012; Vie, 2010), *sensemaking* (Weick, 1995), and ways of constructing coordination (for example in extreme settings: Rix-Lièvre & Lièvre, 2010). Similar links also emerge in work psychology (e.g., Clot, 1999) and work sociology (Datchary, 2011). Below we set out the data collection methods employed in these streams of research, without systematically referencing which discipline they come from.

Naturalistic observation for capturing cognition in action

The SCI design is grounded in naturalistic observation, a method widely adopted in research adopting a situated action approach (Relieu, Salembier, & Theureau, 2004). Goffman advocated naturalistic observation (Cefaï & Gardella, 2012; Goffman, [1974]1991) as the most relevant method for capturing interactional dynamics. In contrast to indirect observation methods, which are mobilizable for experimental protocols, *in situ* observation methods can collect and compile richly informative contextualized data on actors' behaviors (Johnson & Sackett, 1998) and more generally on all the environmental elements capturable by our five senses (Arborio & Fournier, 2003; Journé, 2008). When they are mobilized as the core of the methodological design, the intention is to collect data on organizational processes and how they unfold (e.g., routines: Feldman, 2000), and the dynamics of actors in their everyday work setting (e.g., managerial work: Mintzberg, 1973, 2009) or in more exceptional settings (e.g., strategic change initiation: Gioia & Chittipeddi, 1991). Naturalistic observation can also capture certain features of cognitive phenomena at work. This is where research streams in situated action (Suchman, 1987) and distributed cognition (Hutchins, 1994; Hutchins & Klausen, 1998) reveal the way it is possible to study - trough observation - cognitive underpinnings at play *in situ*. These two approaches give clues to help "define the observables traces of cognitive features engaged through the *in situ* activity" (Journé, 2005, p. 70). They shift the focus from the observed actors toward situational elements surrounding them — particularly those actors and artifacts that shape the construction of action and cognition *in situ*. Suchman (1987) highlights the way individuals adapt their actions to situational features and rearrange their environments to support their actions and stage their inventiveness. Hutchins and Klausen (1998) show that information — the backbone of cognition — propagates through representational media (individuals and artifacts). Airline pilots' representations

of their in-flight situations are vectored through the information they receive from the cockpit instruments and the speech they share with the other pilots (hence the construct of 'distributed' cognition). These two approaches show that it is possible for a researcher to 'observe' actors' cognition through their discourse and through the actions they engage with the elements (artifacts and individuals) of their environment. Naturalistic observation can thus be mobilized to collect data on action-in-progress and capture cognitive underpinnings through observable traces (e.g., verbal, written, and attitudinal) in the environment.

Sedimented and emergent cognition

The cognitive underpinnings of action do not just emerge *in situ* — they also have structuring features that are trickier to capture purely through observation as they stretch beyond the framed specifics of the observed situation. These structuring features have a lasting influence on cognitive underpinnings and their articulation with action. This multifeatured structuring of cognition surfaces in both cognitive approaches and situated approaches. Here we are not positioned in a cognitive approach, but we do take a detour via cognitive psychology to get a firm grasp of what these cognition-structuring features may be. The construct of 'cognitive structures' comes from cognitive psychology. Cognitive structures are cognitive elements involved in the relationship individuals share with their environment and their perception of it. These cognitive elements are connected to an individual's experiences and knowledges (Beyer et al., 1997; Matlin, 2001; Noordegraaf, 2000; Ocasio, 2011; Walsch, 1988, 1995). They are "simplified mental representations" (Walsch, 1988, p. 873) that enable individuals to understand the environment around them. The notion of cognitive structure ties into a host of concepts, from implicit theories and cognitive maps to suppositions, thought patterns, and belief structures (Walsch, 1988). Fiske and Taylor (1984, p. 140) define cognitive structures as representing "organized knowledge about a given concept or type of stimulus. . . . It contains both the attributes of the concept and the relationships among the attributes". This definition shares overlap with Brief (1977) who asserts that cognitive structures are "defined from actions on objects, their properties and relations among the properties" (Brief, 1977, p. 197). These definitions from cognitive psychology may inform on how cognition finds structure through the link between perception and interpretation, but they say little about the link between these structures and *in situ* action. In situated approaches, as adopted by Goffman ([1974]1991), the rules play a structuring role (e.g., the traffic rules for pedestrians crossing the road), giving individuals a frame of action, guiding their cognition — and interaction — *in situ* (without precluding any adjustments that the actors may make). Situated approaches thus show that cognitive

underpinnings connect into frames that influence how we engage action but without crystallizing hard fast rules. For a concrete illustration, let us take the case of a person showing concern for animal welfare. As a rule, that person would never behave in a way that is liable to hurt an animal. Imagine now that he/she is driving a car with their newborn baby on board and that they suddenly see a hedgehog in the middle of the road. At that precise second in time, rather than risk swerving late and fast, which would be dangerous for both car and passengers, he/she decides to run straight over the little animal. In this situation, the drive to protect the baby outweighs any concern over the hedgehog's life. Therefore, the cognitive underpinnings that deploy *in situ* may – according to the situation encountered – be embedded in the features of the situation (run over the hedgehog to not risk having an accident with the baby on board) or sedimented deep within individual cognition and influence action in a more systematic way (care for animals and so try to miss the hedgehog when and where possible).

The underpinnings that lastingly structure cognition may well deploy depending on the features of the situation encountered, but they are not situation-specific, largely because they are embedded in the actors' tacit knowledge. This tacitness feature may be linked to an implicit interactional frame that is shared by all (Goffman, [1974]1991) or, more specifically in the professional sphere, connected to the knowledge that the actors accrue and develop through and at their work. The actors can thus draw on inside knowledge of the environment gained through progressively accrued experiences. They know what they need to take in or filter out to achieve their work objectives, and they use this knowledge to guide and readapt their actions (D'Eredita & Barreto, 2006). This tacit knowledge can be qualified as practical knowledge (Lièvre & Rix-Lièvre, 2009) in the sense that it directly serves and informs everyday action. The tacitness of these cognitive underpinnings leaves even the actors themselves unaware that they are mobilized for action. Even if certain empirical traces of these structuring underpinnings are capturable *in situ* (borrowing Goffman's example: seeing a pedestrian take a pedestrian crossing gives us a clue that they may be applying rules of highway code), they reach outside the frame of situations observed and thus cloud the effort to understand cognitive underpinnings exclusively via *in situ* observation. They add complexity either because they are not (or not readily) visible as they do not express directly from the focal situation, or because they cannot be interpreted with any real precision from the empirical trace alone. The crux of the methodological issue thus resides in extracting this tacit knowledge – the structuring driver of *in situ* cognition – that even the people themselves mobilize without actually realizing it (Polanyi, 1962). Effectively capturing all the situated and structuring facets of cognitive underpinnings is thus a very real methodological challenge for situated approaches.

Below we set out the *in situ* observation-based methods mobilized by research belonging to the situated action stream.

Methods mobilized for capturing cognition

First, we set out the *in situ* observational methods, the features of cognitive phenomena they serve to capture, and their limits. We then set out the methodological add-ons widely mobilized in management research to address the limits to using these observational methods alone, that is, video recordings, interviews, and potentially even conversations. We also set out the limits inherent to their methodological designs, which chiefly stem from the disconnect between data collection protocols deployed to capture action and to capture cognition. Finally, we expand on designs that we qualify as synergistic, with data collection protocols that articulate cognition capture and action capture, but that still fall short of capturing both the situated and structuring cognitive underpinnings of action.

In situ observation methods

In situ observation can capture cognitive underpinnings through their observable traces, such as actions and dialogues between actors (see, e.g., Garreau, Mouricou, & Grimand, 2015; Journé, 2005; Musca Neukirch et al., 2018; Noordegraaf, 2000; Orvain, 2014; Rouleau, 2005; Steyer & Laroche, 2012; Teulier & Rouleau, 2013; Vaara, 2000; Whiteman & Cooper, 2011). Journé (2005), for example, studies cognitive processes tied to decision-making and *sensemaking* among actors working in nuclear power station control rooms. His dynamic observation system with methodized note-taking on what the actors say served to collect all requisite evidence on situations encountered, artifacts involved, and the way actors make sense of undergoing actions. His research demonstrates that a flexible and adaptable observational design coupled with relatively structured note-taking around actions, artifacts, situational features, and actors and the dialogue between actors can all converge to collect meaningful data on *in situ* cognition.

Shadowing stands out as an on-the-move non-participant observation method that is particularly well geared to studying cognitive underpinnings whose observable traces move with the actors. The method consists of 'following selected people in their everyday occupations for a time,' which thus entails the researcher "to move with them" (Czarniawska, 2007, p. 17). It is also possible to shadow daily emergences of an artifact (see Bruni, 2005), but here, to facilitate readership, we will keep it simple and only talk about shadowing a person. The researcher conducting shadowing-type observation discretely follows the actor in their every move (like a 'shadow') blending into the environment (Czarniawska, 2007). Shadowing is a research method particularly well geared to capturing

micro-processes (McDonald, 2005) and tracking dynamics at work (Arman, Vie, & Åsvoll, 2012; Bruni, 2005; McDonald, 2005) as it helps contextualizing behaviors and attending the emergence of phenomena. It is thus possible to grasp *in situ* cognition. As shadowing involves fieldwork on-the-move with the actor, it opens scope for noting down the features of situations encountered, that is, contextual elements (social factors and artifacts, Suchman, 1987) involved in the expression of cognition, cues, and clues revealed through spoken (discourse) and written media (Hutchins, 1994; Hutchins & Klausen, 1998), and bodily moves (visible signals of cognition expressed *in situ*; see, e.g., Datchary, 2011).

However, *in situ* observation methods like shadowing do carry several limitations. First off, they remain heavily dependent on the researcher's capacity to take down exhaustive field notes on relevant elements when and while the action is quickly playing out. The first pitfall is therefore the gaps in field data on visible features of cognition. Second, while these methods can collect data on cognitive mechanisms that are readily accessible to the senses (i.e., that leave easily visible or audible traces[1]), they neither help understand the structuring cognitive underpinnings – those so deeply embedded that they do not directly express in the observed situation, nor those that leave interpretively ambiguous traces (e.g., when the actor in discussion with a colleague seems to be looking over at a chart: is he/she also reading the chart or is he/she effectively looking in that direction but thinking about something else?). Spontaneous utterances voiced by actors (whether to the researcher or not) being shadowed can help overcome this issue by giving the researcher cues on what is guiding the observed action (such as if a manager sitting at their desk gives a heavy sigh and says: 'I'm going to have to deal with this email first, because it's flagged as urgent.'). However, vocal utterances are never systematic evidence, which exposes the study to the risk of gaps in the field data on the situated cognitive underpinnings that are difficult to interpret and the structuring cognitive underpinnings.

In an effort to collect more exhaustive data on actors' cognition, research turns to methodological add-ons, typically video recording systems, interviews, and possibly also conversations (although conversation is rarely presented as a mode of data collection in its own right).

Methodological add-ons to *in situ* observation methods

Research can set up video recordings for observational fieldwork phases to collect exhaustive data on the action and the way it unfolds. This tool frees up the researcher's attention

during fieldwork and enables unlimited playback of scenes observed and even scenes that may have been missed the first time through (Vesa & Vaara, 2014). It can collect enormously detailed data on actors' *in situ* sociomaterial environment (spatial arrangements, artifacts, people, etc.) and their bodily moves (Meunier & Vasquez, 2008; Vesa & Vaara, 2014), thus circumventing the pitfall of gaps in field data on visible features of cognition. Video recording has been mobilized in management science by researchers studying the dynamics of action – including collective action – and how the actors make sense of it. Meunier and Vasquez (2008) study the multifaceted and hybrid features of the organizing using a video-shadowing method that enabled them to shadow different people at a time and compile deep data on their actions, on the surrounding material environment, and on the verbal and nonverbal communication between them. Note, however, that video-recording systems cannot be set up in every single field research site, which narrows the researcher's scope for studying cognition on such sites. These limitations stem from issues surrounding acceptability of the video-recording system (ethical and legal matters) and its intrinsic limits (technical and practical ones) (Journé, 2008).

Alongside observational methods (and the potentially allied video systems), research often makes use of interviews (whether structured, semi-structured, or open-ended; Gavard-Perret et al., 2008) adding access to the actors' subjective experiential perspective. For example, the researcher can use interviews to test gaps between observational data and collected discourse, especially when the actors have organizational constraints to adhere to in their routine work action (to illustrate this type of constraint, Eriksson and Kovalainen (2008, p. 87) cited being duty-bound to give employees positive feedback). They can also aim to inform understanding on the observational data collected, but the risk there is collecting additional data that are disconnected from the situations that had been observed beforehand. Dane (2013) drew on semi-structured interviews to round off his observational analysis of trial lawyers arguing their cases. The aim was to understand their attention, so he chose to question the lawyers directly on their attentional focus (Dane, 2013). Even if what lawyers say during interviews does inform the researcher on the way they thought they focalized their in-court attention, it does not capture the actual attentional focus that truly happened *in situ* while the lawyers were arguing their cases. The questioning is disconnected from the situations observed, so the researcher is uncovering the cognitive underpinnings at play in the interview situation rather than the ones that were actually engaged in the action which happened in the past (Nicolini, 2009; Silverman, 2007).

Some studies sidestep this risk of discursive disconnect by using informal questioning (conversations) deployed in parallel to the core *in situ* observation. This informal questioning

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[1] The other three senses rarely capture such traces.

process, involving brief exchanges between observer and actor observed, is a mainstay of anthropology and ethnographic field research (Murchison, 2010; Russell, 1998). In the wake of the actor's action, and if there is any doubt over how it should be understood, initiating a conversation with the actor being shadowed can help better understand the meaning behind their action. As this in-situation questioning generally happens straight after the action observed, a quick conversation can collect data on the cognitive drivers guiding action at a given point in time. However, studies do not always report this type of informal questioning as a mode of data collection in its own right. These informal conversations tend to come across as a subcomponent of observation work (see, e.g., the methodological roll-up table given by Stigliani & Ravasi, 2012, p. 1237), and the modalities surrounding how they are deployed rarely get covered in any substantial detail (e.g., see, Teulier & Rouleau, 2013; Whiteman & Cooper, 2011). Sometimes researchers fail to integrate conversations in the data collection modalities even though there were part and parcel of their methodological design. Illustrative of this point, Walker, Guest and Turner (1956) considered their methodological design as exclusively built on non-participant observation and semi-directive interviews, even though their observation work also made use of informal conversations with the managers – a fact that transpires when they assert that they completed their notes with input from the foreman collected through phonecalls and quick conversations (Walker et al., 1956). Other studies explicitly report in their method that conversions were held, but without expanding on it any further. Readers find out almost as an aside – Dane (2013) is a case in point, as the researcher took notes on his conversations with the judge but the reader neither knows how these conversation-notes were mobilized nor the complementary knowledge they added to the fieldwork observation. Furthermore, the studies fail to systematically mobilize conversations (we are not told exactly when, in the observational fieldwork, these conversations take place), which means there may be gaps in the collection of data on the cognitive underpinnings of action.

Studies commonly co-mobilize *in situ* observation and these three methodological add-ons (video, interviews, and conversations) as a triangulation strategy, juxtaposing different methods to produce a unique knowledge on the focal phenomenon (thereby ensuring its validity; Eriksson & Kovalainen, 2008). Rerup (2009), for instance, took advantage of observations led during a 2-day seminar as a way to check the validity and consistency of 28 earlier interviews. These methods are not mobilized together in a way that has been thought out ahead of deploying them, but instead are implemented relatively independently, one by one. Even when studies do underline that interviews were used to inform what was picked up during the observation phase (see, e.g., Dane, 2013; Stigliani

& Ravasi, 2012), they give few clues on the way the interview was conducted and articulated with the observational fieldwork. This means the methods were piled up, as a tactic to increase the data collected or compensate for the limits of another component method, without putting any substantial thought into how they join up and how joining them up can serve a purpose. The upshot is that these methodological designs tend to carry the pitfall of capturing action and capturing cognition separately, which means they fail to capture the cognitive underpinnings of the actions observed.

Some methodological designs reach beyond this stacking logics (*observation + video + interview + conversations*), and tightly intermesh the articulation between methods employed (*observation × videos × interviews*). These methodological designs, which we qualify as synergistic, tightly connect and couple their observational and interview methods with a video recording set-up as a strategy to capture the action–cognition tandem. Among these synergistic methodological designs, we begin by looking at those foregrounding what really happened and collecting data connected to the situated features of cognitive underpinnings: the self-confrontation interview (Theureau, 1992), the crossed self-confrontation interview (Clot, 1999), the explicitation interview (Vermersch, 1994), and the *subjective re-situ* interview (Rix & Biache, 2004). Moving forward, we go on to outline the interview to the double (Clot, 1995), a specific interview technique focusing on action possibilities and capturing the cognitive underpinnings that lastingly structure action.

Synergistic designs

We qualify methodological designs as synergistic when they capture the action in tandem with its cognitive underpinnings. These designs hinge on tight articulation between both the interviewing exercise and its contextualization in action, thus producing superior insight compared to the knowledge produced by independently collecting data on both (as is the case with a triangulation strategy setting observations on one side and *ex ante* or *ex post* interviews on the other). The self-confrontation interview (Theureau, 1992), the crossed self-confrontation interview (Clot, 1999), the explicitation interview (Vermersch, 1994), and the *subjective re-situ* interview (Rix & Biache, 2004) count among these designs[2]. They all mobilize a naturalistic observation method completed with a camera system, to which they conjugate a specific interview method that involves

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[2.] Here we have elected to restrict our analysis to the studies most heavily mobilized (see, e.g., Cahour & Licoppe, 2010; Rix & Lièvre, 2005) in disciplines tied to organizational psychology, ergonomics, and management science, and that have deployed intertwined methods and the reflexive situations they stage for the actors being observed (Cahour & Licoppe, 2010).

confronting the actor with (video-recorded) traces of their activity. The actor is questioned on the actions he/she has effectuated, in an effort to gain access to a more intrinsic vision of the activity, to emerge conflicts in how it unfolds, to gain access to the actor's *in situ* experience, or to gain access to the sense and meaning underpinning their action (Rix & Lièvre, 2005). The pivotal methodological articulation at the heart of these research designs makes it possible to discern observable traces of cognition (and even, via video, in deep detail) and other interpretively ambiguous traces (voiced during the interview). Interview delivery is dependent on the observations (and video recordings) completed, which thus avoids the pitfall of discourse decontextualized from action. It can also be "modeled" (Cahour & Licoppe, 2010, p. 245) to accommodate the aim of the research. This type of design connects into knowledge of the situated cognitive underpinnings of action recorded on video (Cahour & Licoppe, 2010). The difficulty in implementing these method formats is tied to the issues that we highlighted earlier surrounding video recording. Furthermore, while these designs are helpful for capturing situated cognitive underpinnings, they cannot capture the cognitive underpinnings structuring action in the way that the interview to the double can.

The interview to the double is a special interview technique that avoids the pitfall of having discourses reconstructed *ex post* by staging the context for the interviewee. We count this method among the synergistic designs because the way it deploys hinges on the tight interplay between cognition and action through a role-playing exercise to contextualize the actor's narrative. The interview to the double, a method mobilized by Clot (1995, 1999) and Gherardi (1995) and borrowed from the original method developed by Oddone (Oddone, Rey, & Briante, 1981) back in the 1970s, is an interview technique that involves an investigator questioning the actor on their activities in order to be ready to reproduce them exactly the same way. Organizational psychology reseachers (Clot, 1995, 1999) mobilize the interview to the double method to gain access to the real full picture (not just the effectuated dimension), that is, to gain access to features of action that are held back or not deployed (what the actor thought about doing but couldn't or didn't, and why). The method is therefore helpful for capturing the structuring features of cognition, as these features connect to people's tacit knowledge and have lasting influence on their actions. Below we spell out we way the method is implemented and the way it unlocks access to people's tacit knowledge.

The interview technique entails asking the actor interviewed to imagine he/she has a 'double' who looks exactly like them, like a doppelganger (but in this case, the researcher). The scenario is that the 'double' has to replace the actor at work the very next day and adopt the same behavior as the

actor would have – that is, to impersonate them without being suspected by colleagues. To get this done, the actor has to narrate all the information needed by the double to faithfully reproduce the actor's behavior patterns. Setting the actor this frame will guide the way they answer the researcher's questions – every time a question is asked, the actor needs to remember to give a fully comprehensive and explicit answer to enable their double to understand how he/she will need to adapt and adjust their action to the workplace situations that they are about to encounter and that the actor routinely encounters. This will lead the actor to transmit the tacit knowledges that they routinely mobilize in the course of their action and that will enable the double to understand what he/she needs to think and how to act in different situations encountered. Talk, especially when guided – what Tsoukas (2003) calls 'instructive forms of talk,' – is a vector of expression for tacit knowledge. The act of drawing attention to certain features (e.g., *couldn't we do this instead of that?*) of their action leads the person to reflexively 're-mind' their action and vocally translate the tacit knowledge underpinning their praxis (Tsoukas, 2003). The actor interviewed is led to express their primary concerns or things that are high in their consciousness (Nicolini, 2009) and that repeatedly underpin their everyday actions. This makes it a relevant method for studying cognitive underpinnings that escape observation alone as they run deeply on a level that stretches outside the situation encountered.

Table 1 sums up the substance of what we have set out so far, that is, the methods mobilized for studying cognition (*in situ* observation, video recordings, interviews, and conversations), whether they qualify as stacking or synergistic designs, the empirical features of cognition that they are able to capture, and their limits for commanding a firm grasp of the cognitive underpinnings of action.

The challenge is therefore to build a synergy-driven methodological design that, working up from *in situ* observation, is able to co-capture cognition and action and systematically collect data on both the situated and structuring features of cognition. How can we articulate the methods employing *in situ* observation to achieve this goal?

To address this methodological challenge, we propose a new methodological design that we have dubbed SCI, which co-mobilizes Shadowing as on-the-move observational fieldwork method along with Conversations and an Interview method borrowing on the interview to the double technique.

The SCI design

We present the key characteristics of the SCI design and its value for capturing both the situated and structuring cognitive underpinnings of action at work, and we report the broad spectrum of fieldwork settings in which it has been

Table 1. Roll-up of the methods mobilizing *in situ* observation, traits of the methods mobilized, and limits of the methods for capturing the cognitive underpinnings of action

Methodological design	Aim of mobilization to sense the empirical features of cognition	Method used	Limits for capturing the cognitive underpinnings of action
Stacking	Observable traces	*In situ* observation and shadowing	Gaps in field data on *in situ* cognition
	Observable traces (in deep detail)	Use of camera (video recordings)	No understanding of cognitive features when observable traces are ambiguous
	Observable traces that are hard to understand	Conversations	Nonsystematic deployment
	Observable traces that are hard to understand and cognitive features that are hard to observe	Interviews	Disconnected from action
Synergistic	Observable (in detail) traces that are hard to understand and cognitive features that are hard to observe	- Self-confrontation interview (Theureau, 1992) - Crossed self-confrontation interview (Clot, 1999) - Explicitation interview (Vermersch, 1994) - *Subjective re-situ* interview (Rix & Biache, 2004)	Access only to situated cognitive underpinnings without being able to determine the structuring features
	Cognitive features that are hard to observe	Interview to the double (Clot, 1995)	Access to structuring cognitive underpinnings

implemented along with selected empirical excerpts from different fieldwork sites illustrating its synergy.

The SCI design – How it works, and what it brings

The SCI design articulates shadowing as on-the-move observational fieldwork method along with conversations method and an interview method borrowing on the interview to the double technique. The shadowing method can collect data on action and on observable features that are cues and clues to in-situation cognition. Shadowing is an appropriate choice of observational method for gaining a sharp understanding of cognitive underpinnings, as it focuses on a single actor, who is followed in everything they do throughout the day. Conversations with the shadowee help to capture cognitive mechanisms that would otherwise be difficult to interpret and that shadowing alone would fail to grasp. These mechanisms underpin the shadowee's situated action and serve to understand why the person engages a given type of action in response to the situation. The interview method borrowing on the interview to the double technique serves to capture the cognitive underpinnings that lastingly structure the subject's action and that are liable to drive their reactions to a range of situations (not just those observed at a precise point in time). We do not advocate mobilizing the interview to the double technique as deployed by Yves Clot: the method we practice does not include the second part of Clot's protocol (confrontation to a recording of the interview during which instructions are given to the 'double'); we mobilize the method without transformative ambition (which Clot's approach allows through the confrontation to interview-evidence traces), and the method is deployed by a management sciences researcher who (in a vast majority of cases) has no

background training in psychology. This is why we have repeatedly taken the effort to state that the interview method adopted in the SCI design is borrowed from the interview to the double method. To successfully stage the situational strand of the interview to the double exercise, the researcher has to consciously ensure that the actor shares the same representation of the situational stage set and understands precisely which action the researcher is referring to. The field researcher must use every appropriate opportunity to ask for clarifications in order to confirm a shared understanding of the situation. For example, in the course of research studying managers' supervisory activity, we asked the managers to describe the very first activity they do in the morning (*Researcher*: "What's the first thing I do when I get to work in the morning?"). We re-checked that the manager had effectively understood that we were talking about the very first thing they do in the morning: "That's what you do when you get in at 7?" It is equally essential to command a firm understanding of the actions performed, so the field researcher should continually ask for clarifications whenever they harbor any doubt over the way the action is performed. A manager tells us that the first thing he does in the morning is "greet the teams." We ask for clarification – "I greet the teams… so, you mean I ask them questions or… I just say hello?" And he replies – "Hi, how are you, big smile, everything OK? A little joke, something friendly."

The SCI design is mobilized synergistically. This synergy is visible in the way it deploys (all three methods tightly articulated together) and in the knowledge it produces (connected – not disarticulated – knowledge of the situated and structuring cognitive underpinnings of action).

Deployment of the SCI design involves conversations with the actors throughout the shadowing phase, so the researcher needs to be mindful to stagger these conversations at

Table 2. Roll-up of the synergistic features of the SCI design

Method	Contribution of each method	Synergy in deployment	Contribution of their synergistic deployment
Shadowing	Capture observable situated cognitive underpinnings	Can be reoriented in response to conversations and rereads of shadowing notes as groundwork to prepare the interview borrowed from the interview to the double method	Reach an understanding of the situated and structuring cognitive underpinnings of action
Conversations	Capture observable situated cognitive underpinnings that are hard to interpret	Systematically deployed according to the shadowing	
Interview borrowed from the interview to the double method	Capture the cognitive underpinnings structuring action	Questions constructed from shadowing work and conversations	

appropriate intervals in the observation schedule (to avoid encroaching too much on the actor's work). Conversations draw back on past shadowing (questions to the actor are oriented toward what was perceived but not understood) and can influence the shadowing work going forward (answers given by the actor may reorient attention onto focal observable elements). Conversations are conducted systematically (questions asked as soon as possible whenever there is any doubt or misunderstanding). During the interview borrowed from the interview to the double method, the researcher does not get the actor to look back over his/her workdays from start to finish but instead funnels questions toward singular activity moments that the researcher observed in the shadowing fieldwork and wants the actor to pass on to the double. The right moments will depend on the overarching research question. The researcher therefore needs to reread his fieldwork notes in advance to pick up on patterns (Dumez, 2013) of action (i.e., signs or signals of underlying tacit knowledge deployed as behavioral sequences punctuating action) or actions for which they struggle to capture cognitive underpinnings through the shadowing and conversation methods only. The interview borrowed from the interview to the double method can also help understand whether the cognitive underpinnings are only situated or emerge from deeper sedimentation in the individual's cognition. This interview is therefore conducted at the close of the shadowing period. Regularly rereading the shadowing notes will help to refine the shadowing work or refocus specifically on certain features, to see whether patterns emerge during observational fieldwork days or whether potential avenues for questions in the interview to the double are actually blind alleys. In the SCI design, each component method is coupled tightly to the others and adapted to fit the other methods deployed and the data collected.

In terms of knowledge output, embedding and intertwining the three SCI component methods affords a knowledge of both the situated and structuring cognitive underpinnings of action. The SCI design synergy stands apart from any stacking approach involving a divorced juxtaposition of one method to capture action and another method to capture cognition in an effort to compensate for each method's respective biases. A strategy like that would fail to bring any incisive understanding of the underpinnings mobilized during the actor's action. Shadowing plus conversations can grasp the situated cognitive underpinnings and possibly emerge routes to structuring underpinnings that can be confirmed or disconfirmed during our interview to the double exercise. The interview can highlight the cognitive underpinnings structuring action in general and show whether they are engaged in actions observed or whether the cognitive underpinnings deployed are only rooted in the features of situations encountered at a given point in time. Let us go back to our example of the hedgehog in the road: I can use the interview to question the actor to learn why, at that precise point in time, I choose to not save the animal's life if I want to act like the driver. The researcher thus gets to the overriding cognitive underpinnings at that precise point in time (in this case, the situated ones not the structuring ones connected to his/her concern for animal welfare).

Table 2 summarizes the synergistic features of method deployment (intersecting methods) and outcome (knowledge output) afforded by the SCI design.

The SCI design has been mobilized in an array of different fieldwork settings, including to study managers' attention as part of research into managers' supervisory activity. It has been deployed to study the work of managers of a restaurant, a shop, and attractions in a theme park; production and development engineers in a cement work factory; managers of an online sales team in a company delivering energy-sector products and services solutions; a manager heading up a team of four project leaders at a company providing integrated technology and engineering solutions for a range of markets (e.g., installation of transport-network payment systems); and a manager of a team in charge of executing climate control engineering project contracts[3]. One variant between these fieldwork settings is the distance covered in the manager's typical day (between managers working in an open space and managers moving

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[3.] For confidentiality reasons, we cannot disclose the real names of the companies and their managers.

around an industrial site or between different buildings) and the team's spatial proximity to the manager's office (managers working in an open space are constantly around their team's co-workers, which is not the case with a theme-park attractions manager). Some fieldwork settings are particularly exhausting for the observer's senses, which become saturated by visual overload (crowds of customers making it hard to keep track of the manager being observed, such as inside a busy store) or embattled by sound (machinery noise in certain zones of the cement works, forcing the researcher to wear PPE earplugs). Note too that while some fieldwork settings comprise a huge variety of material artifacts (an array of objects sold in the shop, or an array of foodstuffs and cleaning supplies in a restaurant), others are more austere (work in offices where the material artifacts employed are basically a computer and a telephone). The fact that the SCI design has been deployed across such a range of fieldwork settings is testimony to its adaptability and its ability to capture how cognitive underpinnings are mobilized in a broad spectrum of contexts.

A synergistic design: Empirical illustrations

We illustrate the synergistic features of the SCI design (synergies in methods deployment and synergies in data collected) through empirical excerpts collected from three of the many fieldwork settings investigated. We have selected empirical excerpts (vignettes) from different fieldwork sites in order to contrast the work settings in which the SCI has been deployed and enable readers to picture the SCI design implementation in a variety of settings.

The first two excerpts show how the researcher discovers the cognitive underpinnings structuring the observed manager's action through the articulation between the three methods (S, C, and I) and distinguishes these structuring underpinnings from the cognitive underpinnings stemming from the specificities of the situations encountered. These first two illustrations also show that the SCI design can capture cognitive underpinnings in fieldwork settings offering overt observables (due to the variety of material objects encountered) as well as settings where cognitive underpinnings are more discrete (less amenable to senses-based capture due to a smaller number of material vectors for cognition). The third empirical illustration shows how, unlike in the first two illustrations, the researcher can discover an absence of cognitive underpinnings structuring action whereas they had suspected one was present.

ATTRA fieldwork case:

– A theme park in the family-friendly entertainment sector;

– Manager observed: Léon, a theme-park attractions manager, heads a team of 120 up to 230 staff tasked with day-to-day running of the attractions (staff numbers vary across the year due to seasonality factors).

In vignette #1 below, Léon spends time installing a post in place of a wastebin to hold a rope marking out the queue line to an attraction. The company, ATTRA, uses a very specific term to designate this retractable-belt stanchion post used to zone foot traffic. The vignette narrative explicitly designates this word by calling it 'post' in square brackets. We adopt this same policy for all other company-specific terms in order to make the

Vignette #1 – *Excerpts from observations on Léon*

It is around 1 p.m. Léon leaves his office to take his lunch break. We cross the attractions zone and head for the canteen. On the way over, Léon bumps into Flavien, a member of one of his teams, who tells him he couldn't find [posts] and had to call to ask for some. Léon replies by telling him "There's two [in the personnel-only area]." After this brief interaction, Léon stops again for a quick chat with two other members of the team about their lunch break, then he continues his way over to the canteen. [...] It is around 1:45 p.m. After the lunch break, we go back across the attractions zone. Léon looks across to one of the attractions and says: "I didn't tell them to do that, but it's just common sense." He tells me that the queue line to the attraction is zoned off by a rope that his team has just put in place. Léon heads over to greet the assistant who stood next to the rope. The assistant, uncued, quickly tells Léon that "the wastebin was installed because we were missing a [post]" and that he was "[holding] the wastebin because the set-up is unstable." The rope marking out the queue line is fastened to a stanchion post at one end and wrapped around a wastebin at the other. Léon turns his head and protests that there is a wastebin missing at a low wall where a crowd of people are eating. A girl on the team walks past us, says hi and swaps a few words with Léon, all without changing tack. She also informs him that his one-to-one interview with team member Stéphanie is at 2:00 p.m. and not 2:30 p.m. Léon sets off. I ask him where he's going, and he answers that he's going to look for a [post]. We enter the staff-only area, and Léon fetches a [post] from somewhere down in the basement. He hauls it back up the stairs on his own, telling me that "each [post] weighs something around 100 kilos." He carries it to the place where the bin is. As the queue has gone down, he tells the team member stood by the wastebin: "There's no big queue, so we can start by shortening the guide rope." Léon unties the rope from the wastebin, shortens the rope, hooks it into position on the [post], then turns to me and says – "It helps to have a good memory," as he had remembered where he would find this [post]. Léon then shortens the rope around the post some more while explaining that "if the rope's too long, it [looks bad to customers]." Léon tells me that "what's urgent is not the interview with Stéphanie, it's getting the rope held stable with the banner, otherwise it creates a hazard for [customers]." He then adds that "it's in the details – details speak volumes," alluding to a little banner hung on the rope: the banner flags where the rope spans, which helps prevent injury to small children ("otherwise it could hurt a kid's neck"). As we leave the attraction behind us, Léon comes across two members of his team, lets them know exactly where he found the [post], and adds "you need a good memory." Then, he gives them orally three phone numbers he knows by heart, so that they can call them if they need an extra [post] again tomorrow.

vignettes easier to read and to anonymize the company, whose trademark product terminology would make it identifiable.

This shadowing excerpt above reveals the importance Léon attaches to having a proper stanchion, not a wastebin, to hold the queue line control rope. His watchful eye, attentive to the attraction, quickly picked out the wastebin substituting for a missing stanchion post. His movements (heading over to the attraction to get a closer look) and discourse (telling me he has seen the rope) are cues that enable observation alone to understand how far he is attuned to this environmental element. Conversations with the researcher add further insight, chiefly into the reason behind his move to action ("I asked him where he was going, and he answers that he's going to look for a [post]"). A first analysis of the cognitive underpinnings of his action (replace the wastebin with a post) surfaces the problem perceived by the fact the wastebin is missing: people eating near the low wall have nowhere to throw their rubbish away. There is also evidence of another, visibly safety-related feature guiding his action ("what's urgent is not the interview with Stéphanie, it's getting the rope held stable with the banner, otherwise it creates a hazard for [customers])." Is this conscious effectivity on the safety issue simply triggered by the unstable wastebin or is it a key structuring element guiding the way Léon routinely engages his action at work? The interview borrowed from the interview to the double method delivers the answer by questioning Léon on the way the researcher needs to behave in practice to act like him (vignette #2).

This care and concern for safety is visible at other points in the interview to the double when questions touch on other actions, thereby revealing a recursive expression of this structuring cognitive underpinning that shows attentive attunement for people's (customers and coworkers) physical safety (vignette #3).

Here, the interview borrowed from the interview to the double method on the shadowing work done serves to help understand that his care and concern for safety is not situation-specific (the unstable wastebin) but reflects a wider overarching concern for all the safety issues on the attractions he is responsible for. Léon's past experience tells him that the unstable wastebin could be dangerous. This tacit knowledge has steadily grown over the course of many situations encountered and many years in the job as attractions manager. Mobilizing the SCI design thus helps to understand both the situated cognitive underpinnings (no wastebin for the people eating) and the structuring cognitive underpinnings (the unstable wastebin creates a hazard) of Léon's action (replace the wastebin with a post).

Vignette #2 – *Excerpt from the interview borrowed from the interview to the double method with Léon*

Researcher: My question was when do I need to get outside and on the ground, but you actually gave me the answer – it's if I don't have any urgent emails, any…

Léon: Any meetings

Researcher: Any meetings, and if there's some vital operational issue, then I go straight out to deal with it.

Léon: You've got it. There's loads of things I've been able to sort out thanks to my experience, my years in the job, you need someone who can see things right through to the end. You saw, just earlier, that the [staff] they pretty much knew what I expected of them. OK, it's a big day, so they needed to set up the queue line rope, and they found a [post]. But they used a wastebin at the end. Not something I would ever have done, for example.

Researcher: Why? Because…

Léon: Because I know what could happen, and more so because I cannot afford to expose anyone to a hazard, never, neither the [coworker], nor the customer, because the bin could topple and fall on someone's foot. And if it falls onto someone, it could cut them badly. OK, so what did I do, straight away?

Researcher: Go look for the…

Léon: A [post]. I came back and replaced the [post].

Vignette #3 – *Excerpt from the interview borrowed from the interview to the double method with Léon*

Léon: "I keep on telling them – you don't just stick to procedure, you can also think it through, realize there are 8 of us, we're going to take 8 cars, only 4 are going to get in, the other 4 are going to leave their cars halfway there for those who have left to get on, so when they come back they won't have to pass cars going out to pick people up but they can take the empty cars on the way – that way, everyone stays safe. That's old-timer reflexes. That whole learning curve brought me here, to become manager, and it's something that I'm going to pass on to them in everyday practice, something even he [coworker] has not yet managed to learn. So I can't delegate everything down to [the coworker]. Plus we're not on the same page, me and him. There's loads of times where me, I'll have that reflex – and, yeah, it really is a reflex – to keep everyone safe and sound. OK. I've got this young team leader who's all about efficiency – because he doesn't yet have that experience, so then I tell him 'okay, you know right now, my priority is our people, not your job efficiency'."

The excerpts from the TETRA fieldwork case (vignettes #4 and #5) also illustrate how the synergistic mobilization of the SCI design can surface a cognitive underpinning structuring the way the manager (Ludovic) manages interactions with his team members (namely by informally taking over an issue or organizing a meeting).

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TETRA fieldwork case:

– A company operating in various markets, supplying integrated technology and engineering solutions (e.g., turnkey installation of transport-network payment systems);

– Manager observed: Ludovic, head of department, heading up a team of three project managers, four product managers, and one support-role manager.

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In the following vignette, Ludovic is in a meeting that is about to close. Verbal dialogue aired during the meeting has enabled the researcher to understand that a problem situation had been discussed with the client (who had issued a change request that would likely mean moving the initial contract deadline). The meeting appears as scheduled in Ludovic's day-planner, and the conversation with Ludovic informs on the reasons that prompted him to hold this meeting, namely that the project was urgent due to another meeting scheduled with the client later in the afternoon (vignette #4).

Vignette #4 reveals that it was the perceived urgency that prompted Ludovic to organize the meeting. Projects led by Ludovic's team members frequently run up against problems. However, we observed in the shadowing phase that Ludovic also deals with these kinds of problems informally, in corridors on his way between meetings, whereas he sometimes takes the time to hold a meeting to talk things through, as illustrated in vignette #4. Our first interpretative reading of these informal in-corridor talks is to address urgent questions. However, Ludovic connects the urgency factor to holding a meeting, not a quick informal briefing. Is the urgency factor voiced by Ludovic specific to the Caracas project or is it something that gives general structure to the way Ludovic manages his interactions with members of his team? To find out, we questioned Ludovic during the interview borrowed from the interview to the double method (vignette #5).

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Vignette #4 – *Excerpts from observations on Ludovic*

Just as the meeting was set to close, I understand, practically through an aside, that he is the one who called this meeting ("…that's why I asked for this meeting to happen today"). The meeting is now over. Ludovic goes back to his office. He goes straight to his computer and checks his email and his day-planner. He punches in a call on the office phone. Nobody takes the call. He leaves a message on the answerphone and sends an email asking for a copy of a document that will be talked over in a meeting at 4 p.m. this afternoon (this meeting is effectively scheduled in the day-planner). He heads off to the printer to pick up a document, then comes back into the office and starts talking with me about the points he sees as pivotal to any project: the budget, the deadlines, and the resources. He explains that his ideal scenario is a nice long deadline, a nice big budget, and fully available resources, but that in real life you have to make compromises and optimize the cost–time–resources triad. Any subsequent change to one of these three constraints (as was the case in the point argued during the previous meeting) can prove tricky to manage. He explains that the crux of the matter from the budget/cost perspective is to manage to produce more, in a different way, and on-time. I jump on this opportunity to ask Ludovic for further explanation to help me understand why he has called the meeting that had finished just minutes earlier. Ludovic then explains that, in the wake of a meeting he had with Jonathan (a member of his team) yesterday, he "set up" the meeting to settle a problem that had emerged in the project. He tells me the meeting that just ended is "an emergency meeting – it was set up pretty much overnight, as there's a meeting scheduled for this afternoon in Caracas for negotiations with the customer, so it was vital to get decisions taken before we show up at this afternoon's meeting in Caracas."

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Vignette #5 – *Excerpt from the interview borrowed from interview to the double method with Ludovic*

Researcher: Let's say you're in a meeting. The meeting comes to a close. You exit the meeting and, as is so often the case, you are ready to go straight into another meeting. Let's imagine I'm in that same situation. I exit the meeting, and a project manager or someone else stops me to talk over a point, knowing that I'm already 5 min late for the next meeting. What am I supposed to do? Do I say I just don't have time to chat, I'm off to a meeting, that other meeting I have? Do I take the time to have that talk? Do I…?

Ludovic: So the first thing I do is I ask him, I ask him how urgent it is, what he's got to tell me. And depending on how urgent, I take it from there: either it's urgent right now, or I ask him to book a slot, to go check my day-planner, see whether we can fit a meeting in to raise the issue, and that's generally what happens, most of the time. So, urgency permitting, I generally ask for a scheduled meeting, because it's not in those 30 seconds jumping between two meetings that you can manage things properly. That said, if it's just a quick question, to ask "do I have to do this," or "can I do that," or "are you OK with me doing that"? If the answer's a straight yes, no, OK, well you can manage it pretty quick.

Researcher: Or if it's just a piece of info [information] or something like that?

Ludovic: Yes.

Researcher: OK.

</div>

The interview to the double reconfirms that problem urgency systematically underpins Ludovic's organization of meetings and is not specific to the observed Caracas-project problem. However, conversely to what were had initially suspected, the urgency trait that underpins Ludovic's organization of originally unscheduled meetings does not always underpin the informal briefs done between two meetings (that may be just for a quick question). In Ludovic's case, unlike in Léon's case, it is not so much his handling of prominent objects (like the post) that points the researcher toward a possible cognitive underpinning at work but more the recurring observation of patterns in the actions deployed (regular informal chats on the way between meetings).

These excerpts from the ATTRA and TETRA fieldwork settings illustrate cases where the interview borrowed from the interview to the double method emerges a cognitive underpinning of action as it unfolds *in situ*. This interview can also reveal an absence of structuring cognitive underpinnings where the researcher had suspected that one may be present, as illustrated in the example of Benoit, activity manager for CLIMA.

> **CLIMA fieldwork case:**
>
> – A smart building technologies and systems integrator, specialized in climate control engineering;
>
> – Manager observed: Benoit, activities manager, heads a team of four people.

Benoit works in an open space shared with his team. He takes one of two coffee breaks a day, which he uses to hold informal chats with members of his team. At this juncture, shadowing enabled us to learn that even if the focus of conversation starts out in the personal sphere, it very often ends up moving into the professional sphere. We wanted a deeper understanding of how Benoit engages these coffee breaks and the behavior we would need to adopt if we had to stand in for him. In particular, we enquired whether Benoit used the coffee-breaks as an opportunity to progress certain matters and handle ongoing issues (where the informal chats would play a highly specific role, that is, to deal with quick questions, as is the case with Ludovic). This is where we used the interview borrowed from the interview to the double to stage the scene for Benoit (vignette #6).

The interview with Benoit reveals an absence of any cognitive underpinning structuring the way he manages interactions around coffee with members of his team. Topics discussed emerge as conversation flows, without premeditation or orchestration from Benoit.

Discussion

Here we share our concrete thoughts on the SCI design implementation and its limits. We also discuss how the SCI design contributes to the observational methods traditionally mobilized for capturing cognition. We go on to present the value of synergistically intermeshing the three-component methods in the SCI design and its distinctive contribution for studying the cognitive underpinnings of action.

Hands-on implications and limits

In deployment of the SCI design, the actor being observed is aware they are being observed, but the people they encounter may not be – everything depends on the circumstances and on the way they want to introduce us to third parties. Depending on the cognitive underpinnings being studied and the preferences voiced by the people observed, the actors' insider knowledge of the research project and the observer's adopted role can sit along an overt-to-covert continuum, much like that proposed by Roulet et al. (2017).

The conversations take place throughout the whole shadowing phase. The hard part is to find the right moment to talk with the actor observed, that is, close to the action effectuated, but without disrupting how it gets performed. If you wait too long to ask questions, it creates a risk of accumulating questions and leaving the field with a list of unasked questions. The interview borrowed from the interview to the double method takes place after the shadowing fieldwork phase, which allows to pre-select which observation-work situations are helpful to stage for the actor. The recurrent action patterns picked up through shadowing can serve as material for further questions. If the interview to the double was staged ahead of the shadowing, it would surface the underpinnings structuring the action but would not help to understand how these structuring underpinnings articulate with situated ones according to the situation encountered (if the researcher has not yet observed the actions, their spectrum for enquiry into possible adjustments to the actions is narrower).

The shadowing mobilized in the SCI design ensures the researcher's attention does not get dispersed by focusing it

> **Vignette #6** – *Excerpt from the interview borrowed from the interview to the double method with Benoit*
>
> *Researcher*: That means I show up with a mental list of questions that I know I'm going to ask the person on the coffee break with me?
>
> *Manager*: No, no, it's on-the-fly, live, whatever happens. I don't go for a coffee thinking 'hey, this morning I'll go talk to whoever because I need to find out whatever. If that's the case, I skip coffee – I go to see them directly. And I tell him we've gotta check that, that, and that, it's urgent!

on following a single actor. This same tight observational lens also fosters more exhaustive note-taking on the actor-related cognitive underpinnings. Shadowing can dynamically track the dynamics of action. Even though the actor being observed may be less on-the-move at times (when in meetings or when completed desktop work in the office), the principle of the shadowing methods remains first and foremost to focus on the observee and stick with them even on short and small changes of place, rather than taking root in a single space to observe who comes into play.

The SCI design can be adapted to accommodate practical site-of-study constraints: typically by leaving a greater physical distance between observer and actor during the shadowing fieldwork if needed, and by adapting the number and length of conversations and interviews to the double. We have employed the SCI design to study the attentional processes underpinning managerial action, but it also lends itself to research into a host of other cognitive aspects, including decision-making and even memorization – both of which guide action and draw partly on selectively filtering information in the immediate environment (Styles, 2006). The SCI design is also mobilizable for various other research objectives related to action (studying a type of activity, a type of practice, and so on), to organizational actor cognition, or to the artifacts mobilized in organizational routines. It can be appropriately mobilized in *practice-based studies* (e.g., Jarzabkowski & Spee, 2009) in sociomateriality theory (e.g., Orlikowski, 2007) or in approaches addressing the concept of performativity (see, e.g., issue 20 of *M@n@gement* (Huault, Kärreman, Perret & Spicer, 2017) dedicated to these approaches). Furthermore, the SCI design hinges on a triad of methods that make it readily deployable across a broad spectrum of fieldwork settings.

The SCI design carries limits inherent to its component methods along with another limit that stems from the tight intermeshing of these methods. There are the limits inherent to most observational methods – that is, constraints like unity of place, unity of time, unity of actors, and unity of intrigue (Journé, 2005). There are also other issues tied to observation practice in general and the on-the-move shadowing in particular: feeling uneasy about being in the field, difficulty holding attention (Czarniawska, 2007), difficulty taking notes (and re-reading them!) while walking around added to difficulty taking down exhaustive field notes when and while the action is quickly playing out (which can be mitigated by narrowing the scope of note-taking, for example to the managers' supervisory activity in research reported above). Another more SCI-design-specific limit is the time investment burden for the researcher, especially for rereading the shadowing-phase material as groundwork to prepare the interview borrowed from the interview to the double method.

Design for synergy-driven deployment, not for triangulation

The SCI design uses a specific and articulated triad of methods to reach past the limits typically encountered when scholars set out to study cognition using an observational method alone or added with other methods following a stacking logic. The SCI design stands apart by mobilizing observation in methodological synergy rather than the methodological triangulation typically found in management science work. The triangulation strategy involves stacking different methods together – including participant observation – to validate data that have already been collected or gain increased knowledge on the focal phenomenon under study. This strategy mobilizes the methods one by one, deploying them independently – which also decouples the data collected and added up. This decoupling plays out visibly in the study by Orvain (2014) on organizational *qui vive*, where the interviews were completed by an observation phase (but only involving a small subsample of the actors interviewed) and an informal conversation phase (taking place outside the observations, in meetings, or in the staffroom). The methods deployed in this study capture the action and the attentional underpinnings at work separately. The SCI design is grounded in a different strategy – a strategy based on synergistic articulation, which plays out visibly in the tightly intermeshed deployment of the methods. Shadowing and conversations are implemented in tandem and their deployment is tightly interlinked (shadowing can be reoriented in response to cues collected through conversations, conversations hinge on cues perceived through shadowing). Both the shadowing and the conversations inform how the interview borrowed from the interview to the double method is put together, and the groundwork to prepare the interview can reorient the conversations and shadowing work (rereading the shadowing notes may prompt the researcher to reorient his/her observation and/or questions asked in conversations). Intertwining the methods like this produces a fine-meshed methodological net that can capture both cognition and action together, at the same time. The SCI design resonates with Nicolini (2009) who advocated connecting the interview to the double method with another method like *in situ* observation. It helps researchers avoid looking for evidence of cognitive phenomena in data that were not collected for this purpose. For example, in MWB-oriented research, Noordegraaf (2000) did not realize that attention can make a pertinent analytical lens until he had already begun preliminary observations. He then readjusted the focus of analysis onto this feature but without a methodological design that had been thought out specifically to capture it.

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A design for capturing both the situated and structuring cognitive underpinnings of action

The SCI design brings a fresh contribution to the synergistic designs outlined earlier. It serves to capture both the situated and the structuring cognitive aspects by coupling together two types of perspectives on action that other synergistic designs tend to keep apart. The first is retrospective – it can be found in the explicitation interview (Vermersch, 1994), in the self-confrontation interview (Theureau, 1992), in the crossed self-confrontation interview (Clot, 1999), and in the *subjective re-situ* interview (Rix & Biache, 2004). These interviews confront the actor with video-recorded traces of their past action. They "re-situate an experiential memory to get an explicit picture of the action effectively completed" (Rix & Biache, 2004, p. 384). The second perspective is forward-looking – it can be found in the interview to the double (Clot, 1995) where the actor stipulates what action to do, that is, to deploy by the researcher set to (fictitiously) stand-in for him. The actor's discourse thus touches on the scope of possible scenarios: what needs to be done in a given situation, and why. The SCI design articulates two types of perspective by intermeshing shadowing, conversations and an interview borrowed from the interview to the double method: the actor is asked to re-experience situations encountered in the past and re-explain what their double should do in the future. It is this powerful articulation that, with great effect, captures both the situated underpinnings (deployed in the past – retrospective approach) and the underpinnings liable to reactivate in various future situations (prospective approach). This tandem articulation hinges on proactive mobilization of the observer–observee relationship: the researcher follows the actor closely through the shadowing fieldwork and systematically poses questions in order to register and understand the situations encountered and any potentially related patterns in action, and the researcher also stands in as double to the actor when conducting the interview borrowed from the the interview to the double method. Where the observer–observee relationship is a key component in situated action studies, the SCI design systematically mobilizes this relationship and the differences between researcher and practitioner as fertile sources of knowledge and understanding. This observer–observee relationship is neither erased by the neutral-ground video interaction, nor by the actor's one-way discourse in certain forms of instructive talk (see, e.g., Gherardi, 1995). It also stands apart from studies that advance the minimal impact of the investigator as evidence of rigorously grounded quality research (see, e.g., Stigliani & Ravasi, 2012; Vie, 2010). By fully and systematically mobilizing the observer–observee relationship, the SCI design uncovers the 'invisible' features (Bidet, 2011) underpinning action, which enables stronger cohesion and consistency with the visible features. Commanding a sharp understanding of the underpinnings of action sets the stage for advancing beyond simply describing the action, which is a criticism often leveled at research into managerial work behaviors, including the seminal study by Mintzberg (1973). For instance, if we pushed beyond simply describing the work practice of actors, and especially managers, as fragmented (Carlson, [1951]1991; Mintzberg, 1973; Stewart, [1967]1988; Wirdenius, 1958), it would emerge the processes underpinning this fragmentation.

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Multi-Shadowing: A Gateway to Organizing? The Case of Hunting with Hounds

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Abstract

Organizations can be approached both as entities and as constantly evolving phenomena. The former are associated with the term 'organization,' while the latter are specifically associated with 'organizing.' In the second meaning, organizations, such as constantly evolving flows, can make observation problematic. Three of these problems deserve special attention. Many events take place at the same time, which poses a challenge for observation. Then there is a question of what to observe, especially for the researcher outside the organization. And finally, the coordination between the actors is not always directly observable. This paper shows how observation by means of multiple-researcher shadowing (Czarniawska, 2007) or 'multi-shadowing' makes it possible for the observer to tackle these three difficulties. For the observer, shadowing (McDonald, 2005; Mintzberg, 1970) involves physically following the actors of the organization as part of a weak or even nonparticipating observational approach. 'Multi-shadowing' combines simultaneous instances of shadowing different actors in the same unit of time but not of place. We compare shadowing and multi-shadowing with other approaches of solo and multiple-researcher observation. Then, we show the interest and the limits of using multi-shadowing to observe hunting with hounds, which involves activities that, while traditional, borrow a number of characteristics from modern organizations if considered through the prism of organizing.

Keywords: *Hunting with Hounds; Ethnography; Multi-Shadowing; Organizing; Shadowing*

Observation is one of the best ways to capture both individual and collective practices inside an organization. It offers a view, from the inside, of the shortcomings and successes – the real activities and practices. It also equips the researcher with a set of methods that meet the requirements of the comprehensive approach (Dumez, 2013, 2016) and clearly identify the actors and their action. It is undertaken in different ways to meet the requirements of the research objective, take account of the specificities of the field, and obtain the expected data. In this article, we focus on the shadowing method, which, according to several authors, allows access to organizing (Czarniawska, 2007, 2008, 2014, 2018; Vásquez, Brummans, & Groleau, 2012). In line with Weick (1979), we define organizing as processes inside the organization, which are continuously executed to create, maintain, and dissolve social collectivities.

Understood as a set of constantly evolving flows (Alter, 2016; Hussenot, 2016), organizations pose challenges to observation. Three of these challenges require special attention. First, many events take place at the same time but in different parts of an organization: capturing some of them simultaneously presents a problem for the observer. Second, there is a question of what to observe and what not to observe: this is the central issue for the researcher outside the organization. Finally, if the organization succeeds in generating action, it is because it produces coordination that may not always be immediately observable.

The goal of this article is to show how observation through multi-shadowing makes it possible to deal with these three challenges and, thus, offers better access to organizing processes. For the researcher/observer, the shadowing principle (McDonald, 2005; Mintzberg, 1970) involves physically following the organization's actors in order to engage in weakly participant (or even nonparticipant) observation. Multi-shadowing means simultaneously shadowing different actors, who are often involved in the same organizational action, over the same

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period of time but not in the same place. In this article, we show that multi-shadowing provides access to several flows inside an organization – flows that are concurrent and connect to each other. As a result, it grants greater access to organizing in its temporal dimension and to the ways in which the activities' multiple trajectories are interwoven.

We rely on a multi-shadowing approach deployed in the context of observing hunting with hounds, which can be considered extremely traditional activities but actually borrow many characteristics from modern organizations – in particular, the increasingly complex, fragmented, and dispersed forms of organization in terms of both time and space (Rouleau, De Rond, & Musca, 2014). Thus, with regard to space, there is a shifting and unstable nature of organizational boundaries, as well as the fragmentation of activities and the various forms of "mobility and interconnection" that characterize contemporary organizational life (Jarzabkowski, Bednarek, & Cabantous, 2015, p. 6). And with regard to time, the activities' simultaneous and often asynchronous character, as highlighted by Czarniawska (2007, 2014), as well as the unstable and ephemeral aspects of contemporary organizing (Van Hulst, Ybema, & Yanow, 2017), characterizes the way the hunt is organized.

Our work here is structured into four parts. First, we present elements from the literature regarding how different observation methods – shadowing, in particular – can help in gaining access to organizing. Second, we present the field, in which we undertook a multi-shadowing approach, namely hunting with hounds. Third, we detail our approach and the observations we were able to make. Finally, we discuss the scope and limits of multi-shadowing when it comes to the study of organizing.

The observation of organizing: Combining shadowing with multiple-researcher observations

We have structured our theoretical part into three sections. First, we will look at the specificities of shadowing, particularly how it allows access to organizing. Second, given that shadowing is a specific observation methodology, that is, both mobile and situated, we will compare this method with other solo (or 'lone ranger') observation methodologies, that is, when only one researcher is present in the field. And third, we will explore the literature methods on multiple-researcher observations. We will examine to what extent the simultaneous presence of several researchers in the field can provide access to organizing by enabling a multifaceted and simultaneous perspective that reveals 'synchronous' connections or, on the contrary, divergent trajectories that can lead to a disintegration of the organized.

Shadowing and organizing

Shadowing: A mobile, situated, and spatialized observation

Shadowing is a mobile observation: over a defined period of time, the observer follows someone performing their day-to-day activities. Often, the observer 'walks with' the person being observed.

The primary characteristic of shadowing is the observer's ability to access the activity of an individual in their daily life inside an organization (McDonald, 2005) without adopting an imposing position over the person who is being observed. On the contrary, by making the observed person's point of view the center of the observation, the observer takes a situated position (Vásquez et al., 2012). The researcher stands in the shadows; he or she follows the person, usually on foot, and looks through that person's eyes. In this way, a mutual relationship develops that helps to develop the research (Vásquez, 2013; Vásquez et al., 2012). Czarniawska (2008, p. 10) mentions a "peculiar twosome – the person shadowed and the person doing the shadowing – in which the dynamics of cognition become complex and therefore interesting." The specificity of this mutual relationship leads to a wide variety of approaches, according to the choices made regarding the positioning of the researcher, the degree to which the data collection is co-constructed between the observer and the observed person (Vásquez et al., 2012), whether the researcher allows themselves to speak or not, and what they permit themselves to say. There are a few key authors behind the method, and the theoretical sources of shadowing are multidisciplinary (see Appendix 2), that is why the method can take different forms. While acknowledging this variety, McDonald and Simpson (2014) nevertheless agree on several commonalities: the unit of analysis is an individual or, in exceptional cases, a nonhuman actor, a project or an object; the fieldwork takes place over several days; and the goal is to discover the ordinary life of the subject in its continuous unfolding inside the organization.

Organizing through shadowing

While McDonald and Simpson (2014) present and define the shadowing method as individual-centric and not focused on the organization, many discussions – in line with the perspective developed by Czarniawska (2008) – show that the shadowing method can provide access to organizing, in particular because it gives access to three central elements: its deployment in time and, therefore, its processual character; the situated point of view to which it gives access and that allows a perspective on the real activity; and this activity's relationship to space.

For Czarniawska (2008, p. 5), the study of organizing is "the study of what people do when they act collectively in order to achieve something." In this approach, organizing refers to organizing ' in the making' and *in situ*, and, in this regard, Czarniawska follows the perspective developed by Weick (1979), who defines organizing as the processes inside the organization, which are continuously executed to create, maintain, and dissolve social collectivities. Consequently, she emphasizes one of the first strengths of shadowing in terms of access to organizing, namely that it monitors the actors over time and, therefore, has an intrinsically temporal dimension (Czarniawska, 2007, 2008, 2014, 2018).

The second strength of shadowing which has been highlighted by some authors with respect to access to organizing, is the 'situated' point of view that is given to the observer. By mobilizing shadowing with an approach that they describe as subjectivist, Vásquez et al. (2012) explain that their goal, beyond observing an actor in their day-to-day activity, is to reveal the meaning that the organizational actors themselves ascribe to their activities in real life. These authors consider it "the most appropriate method for investigating aspects of *in situ* organizing" (Vásquez et al., 2012, p. 145) because it allows us to understand "how actors enact organizations through interactions in everyday situations" (ibid). Therefore, one of the strengths of shadowing is its 'situated' aspect, which provides access to the fundamental dimensions of organizing – in particular, interactions between members of the organization.

Finally, the third strength of shadowing regarding access to organizing is its relationship to space, which makes it possible to track people as they move, often on foot, and to observe the actors' and activities' relationship to space (Bayart, 1999; Raulet-Croset & Borzeix, 2014; Raulet-Croset, Collard, & Borzeix, 2013). This property is particularly interesting in the case of organizations that are firmly anchored in space (Dale & Burrel, 2008; Maréchal, Linstead, & Munro, 2013; Van Marrewijk & Yanow, 2010; Weinfurtner & Seidl, 2019). Thus, it is a question of identifying how space can be a resource for activity (Bayart, 1999; Lussault & Stock, 2009) and how the constituent spaces of the organization under study connect to each other.

Therefore, shadowing seemed to be particularly appropriate for an empirical study of organizing. Vásquez et al. (2012) highlight the importance of shadowing's contribution to the study of the organization of a science and technology week in Chile, the monitoring of doctors participating in a *Doctors without Borders* (Médecins sans Frontières) mission, and the influence of evolving work technologies on a small team of designers. Czarniawska (2008) cites the example of an IT company studied by Strannegård, Friberg, and Wilson (2001), in which the people being observed

are constantly "already elsewhere" (Czarniawska, 2007, p. 6) or freelancers of the new economy, like those studied by Barley and Kunda (2004). These fields are characterized by their evolutionary, changing character, which is linked to fragmented spaces and sometimes to strong technological developments and the rapid pace of evolution and mobility, as well as organizing processes that are not stable but continually adapt to the mobility of the organizational object being studied.

Shadowing versus other methods of solo observation: Specificities and access to organizing

To better understand the advantages and difficulties of shadowing in the study of organizing, we have chosen to compare it from different angles with other observation methods[1] and, first of all, with other solo observation methods (see Appendix 1, Summary Table 1). In particular, we distinguish between observation without interaction, an observation sometimes described as passive (Journé, 2008) or complete (Martineau, 2005), which can be expanded with feedback from the people observed (Journé, 2008); observant participation, in which the researcher plays a preexisting role in the organization (Martineau, 2005; Soulé, 2007); and participant observation (Lapassade, 2002), in which the researcher is present in the organization – the observed environment – but does not have a well-defined or preexisting role, and their presence is tailored to align with the expectations of the observed environment. We also identify different types of solo ethnography when the researcher participates in the observed environment over a long period of time (Van Maanen, 1991, 2006, 2011) and has access to the processes of enacting the social order, which are always negotiated by the actors (Beaud & Weber, 2019).

To identify how shadowing helps to access organizing, we will compare these different forms of observation with each other. First, we will inquire into the specificity of shadowing in relation to other recent ethnographic methods. Second, we will look at the researcher's relationship to the field, which varies according to the type of observation and contributes in different ways to the study of organizing. Finally, we will compare the methods with regard to the work on the data, that is, the specificities of the nature of the data and how they were collected, the work of reflexivity, and the goal of reaching theoretical saturation.

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[1] We will not revisit the contribution of shadowing compared to the interview method, a point that Czarniawska (2007) and McDonald and Simpson (2014) have already explored in depth.

The ethnographic dimension of shadowing: Similarities and differences in access to organizing

Recent work in the ethnography of organizations has looked into the ways of accessing organizations that are now more dispersed in terms of space and time (Grosjean & Vidal, 2017; Rouleau, 2013; Rouleau et al., 2014; Ybema, Yanow, Wels, & Kamsteeg, 2009). In particular, some ethnographies have considered their relationship to time and the organization's processual character, while others have sought to account for the wide array of spaces in which an observed phenomenon can take place. We highlight their specificities in the access to organizing and compare them with the contributions of shadowing.

First of all, it should be noted that the term 'ethnography of organizations' covers a set of methods that are characterized by a particular relationship to the field; what the researcher's writings contribute to the analysis is not what has been said to him/her but personal experience based on these statements and his/her own feelings. Citing Van Maanen (2011) and Jarzabkowski et al. (2014, p. 275) remind the reader that "ethnographic data is not like other qualitative data. Its 'truth claims' are not primarily based in what research participants have said to researchers, but rather on the researcher's 'personalized seeing, hearing, and experiencing in specific social settings'" (Van Maanen, 2011, p. 222). Shadowing is, therefore, close to classic ethnography, particularly because of the bonds formed with the field. But the two are not identical, especially because shadowing gives the observed person a greater role in constructing the research, choosing the paths that are followed, and highlighting certain aspects of the activity. Shadowing also differs from classic ethnography in that it gives more weight to the situated voice of the people being followed. Through the 'twosome' comprised of the researcher and the observed person, the word of the latter is integrated with the experience of the researcher.

Because of this proximity, it is especially interesting to compare certain ethnographic approaches with shadowing because they deepen our understanding of two characteristics of organizing: the temporal dimension and the spatial dimension. This is the case of process-centered ethnography (the temporal dimension) and global or multi-sited ethnography (the spatial dimension).

With respect to the temporal dimension, several authors hold that ethnography – because of its situated nature and proximity to micro-events – gives access to organizational processes, be they micro-processes or processes seen on a larger temporal scale (Jarzabkowski et al., 2014; Van Hulst et al., 2017; Yanow, Ybema, & Van Hulst, 2012). According to them, because of the observer's proximity and sensitivity to the context, ethnography can help in exploring "the twists and turns that

are part of organizational life" (Van Hulst et al., 2017, p. 223) as well as the processual nature of organizations, by following the actors, interactions, and artifacts in space and time (Yanow et al., 2012). "Ethnographers go along with actors, interactions, and artifacts on the move or stay in one place observing things that move around them" (Van Hulst et al., 2017, p. 224). These authors suggest that ethnography, when conducted to reveal processual dynamics, allows access to the "intersubjective processes" of the construction of social reality because of its "situated, unfolding, and temporal nature" (Jarzabkowski et al., 2014, p. 282). This perspective of an ethnography that can be described as 'processual' is close to shadowing, especially in the case of a mobile analysis, which follows 'micro-processes.' However, shadowing places the spoken word of the persons being observed *in situ* at the center of the analysis and endeavors to follow the individuals as they construct the organizing, without looking directly at the processes themselves but through the intermediary of the persons being followed.

The comparison of shadowing with multi-sited or global (Marcus, 1995) or multi-situated (Grosjean, 2013), ethnography also provides noteworthy insights, as these ethnographies focus on the connection between the different spaces where the phenomenon is present and where it is followed throughout its development. Jarzabkowski et al. (2015) recall the importance for Marcus (1995) of following (tracing) a phenomenon: "Marcus (1995) argues that tracing (or following) something is central to constructing the global in ethnography" (Jarzabkowski et al., 2015, p. 6). Mobile ethnography (Novoa, 2015; Sheller & Urry, 2006), for its part, studies mobile phenomena (travels, explorations, etc.) by drawing attention to the need for the researcher to move and, above all, take into account how mobility structures both the representations and the feelings of the actors observed. Global ethnography and mobile ethnography offer a different way of accessing organizing than shadowing does, insofar as access to the phenomenon prevails and not the points of view (situated and unfolding in time) of those who participate in the organizing.

Shadowing versus other solo observation methods: What is the relationship with the field? What expertise does the observer need to have?

What does shadowing require in terms of the relationship with the field and the necessary expertise to access organizing? Simple shadowing makes it possible to follow a person inside an organization and to have access to some parts of their activity. Unlike some ethnographic methods, it is not necessary (although it can happen and be useful) to develop a strong familiarity with the field nor to be an expert

in order to gain access to this understanding: as the observation continues, the researcher asks for clarifications, locates the connections made with other members of the organization, and constructs a situated viewpoint through the eyes of the person being followed. The researcher can follow while initially understanding little about what is happening because their understanding will increase as the shadowing continues. While the researcher's visibility can weigh on the organization and those who are being observed and create a certain amount of disruption in the field (Aumais, 2019; Quinlan, 2008), their relationship with the observed person or persons and the explanations obtained during shadowing can nonetheless make it possible to reduce the amount of time the researcher spends in the field. A trade-off has to be made between the time in the field and the amount and relevance of the data obtained.

Shadowing and other solo observation methods: Who speaks in the data? Who selects the data? How are reflexivity and saturation constructed?

We will now compare the specificities of shadowing with other solo observation methods in terms of data collection and selection, as well as their analysis and validation through reflexivity and saturation.

According to McDonald and Simpson (2014), shadowing differs from participant observation and ethnography in that it allows for a clear distinction between the researcher and the observed subject. The words and thoughts of both parties are distinct and can be the focus of specific analyses.

We also note that, depending on the modes of observation, the selection of the data may depend more on the researcher or more on the field itself. In configurations of passive observation, ethnography, and participant observation, the researcher decides when, where, and whom to observe, while recognizing that sometimes the data may depend on the researcher's positioning inside the organization, with potentially fewer opportunities to have multiple points of view. By contrast, some methods do manage to introduce diverse points of view into the observation. Journé (2005, 2008) proposes a method known as the 'flashlight strategy,' which is centered on a storyline (a problem, a management situation) and encourages the researcher to change the person being observed so as to remain connected to a developing storyline. In the case of shadowing, access to organizing relies on data access co-constructions. Vásquez et al. (2012) show that researchers 'frame' research by identifying and separating what will be 'in the foreground' of the scene from what will be 'in the background,' and that these choices are made through their interactions with others and, more concretely, in the case of shadowing, with the person being followed: "researchers co-construct foreground-background distinctions through their interactions with others (i.e., research collaborators, peers, and, most importantly, the people they are studying)" (Vásquez et al., 2012, p. 148). Shadowing leads to both parties continuously defining the object under study and jointly answering the questions 'when, where, and how long?.' This means, among other things, that they jointly decide which activities they observe, which events they stay with, and also which places they pass through.

Another source of the co-construction of research is related to 'walking with' (Raulet-Croset & Borzeix, 2014). The selection of data also depends on the movement (in both time and space) of the person being observed. The researcher and the observer may discuss choices regarding the route before the shadowing begins. The observed individual may wish to show this or that part of their activity, just as the observer may ask to follow them through this or that space. The choice of the space is not neutral because the co-construction of the data also occurs in relation to the stimuli linked to the environment in which the duo moves. A person, an object, a tool, and so forth that the observer comes across can spark a discussion, either because the observed person recalls an event or an element that they wish to share with the researcher or because the researcher asks for an explanation on the spot.

Finally, the construction of the data relates to the conditions of reflexivity and saturation choices. Regarding reflexivity, Vásquez (2013) indicates that it can occur, in part, during observation within the framework of the observer–observed duo. For its part, saturation is very often linked to the length of time the researcher has spent as an observer in the field, as well as the number and variety of situations and/or actors observed. In the context of access to organizing, different saturation paths seem possible and may even complement each other to increase access to the various connections between actors; thus, a researcher may wish to extend the duration of shadowing for the same actor or choose to follow – in their shadow – a greater variety of actors.

Organizing as seen through multiple-researcher observation

In their consideration of so-called multi-situated approaches, Grosjean and Vidal (2017) reflect on the richness of following a variety of trajectories but ask themselves "how do these trajectories form a story?" and contemplate the relationships that are established between "actors, objects, situations, and temporalities" (Grosjean & Vidal, 2017, p. 3, our

translation). This same issue applies to access to organizing. The relationship to time, through connections and disconnections, simultaneity and non-simultaneity, is also central to organizing. What are the advantages of multiple-researcher observations, which can definitely make use of the simultaneous nature more easily, when it comes to apprehending organizing?

Multiple-researcher observation refers to different research methods and practices that appear to be much more emergent and less developed in the literature than solo observation (Jarzabkowski et al., 2015). We have selected several observation configurations found in the literature (see Appendix 3, Summary Table 2): team-based ethnography (Creese, Bhatt, Bhojani, & Martin, 2008; Erickson & Stull, 1998), team-based global ethnography (Jarzabkowski et al., 2015), and approaches that combine various solo observation methods, such as the 'observatory of the organizing' (Rix-Lièvre & Lièvre, 2010; Lièvre & Rix-Lièvre, 2013) and multi-event ethnography (Aguilar Delgado & Barin Cruz, 2014). We also propose to consider the method of 'diary studies' (Czarniawska, 2007, 2008; Journé, 2008) in the 'multiple-researcher observation' category, since the researcher is alone as researcher but creates a collective by mobilizing actors in the organization to simultaneously collect data for him/her.

Global and team observation mechanisms

For team ethnography (Creese et al., 2008; Erickson & Stull, 1998), different researchers are present at the same time and in the same place. The so-called global and team ethnography, referring to the globalization of the economy and societies, develops at several sites because there is a need to understand a global research object, that is, a phenomenon that goes beyond a circumscribed place (Jarzabkowski et al., 2015). Thus, the different researchers are present at the same time but not in the same place. The aim is to analyze multi-faceted phenomena that can only be understood by accessing distinct spaces. The researchers, who are fully in charge of collecting and selecting the data, wish to reach saturation by accumulating data within the team. However, simultaneity is relatively overlooked; it is not a question of precisely following (which is what detailed access to organizing requires) the temporal connection between what happens at the same time at each site.

With regard to the relationship with the field, it is worth noting that team observation methods, insofar as they combine different types of solo observation or individual ethnographic immersion, refer in part to issues similar to the latter, such as being more or less familiar with the field or having the expertise required to access the field. However, the fact that several researchers are present in the same field creates

methodological particularities, including issues relating to the division of labor within the team (Jarzabkowski et al., 2015), relating to data sharing, particularly through writings that are characteristic of ethnography (Creese et al., 2008) and relating to reflexivity within the team (Barry et al., 1999). Global and team ethnography relies on distance communication between researchers at scheduled times: exchanges at the end of the day, for example, via videoconference. Observation notes not only help to refresh the researcher's memory but often facilitate collective discussion and idea generation (Creese et al., 2008). Reflexivity is also specific. The researchers participate, through collective discussions, in regular debriefings (Jarzabkowski et al., 2015) and gradually and collectively develop the meaning given to their observations.

Situated forms of multiple-researcher observation

In more narrowly focused contexts, other forms of observation are developed to access the actors' situated points of view, often to better understand distributed organizations that require strong coordination between the different activities. This is the case of the method that Rix-Lièvre and Lièvre (2010) and Lièvre and Rix-Lièvre (2013) call the 'observatory of the organizing.' The explicit objective of this method was to gain access to organizing on a polar expedition project by linking the observation of each individual in a project team with that of their collective. They combine a multimedia logbook, made up of videos recorded at meetings or other key moments and kept by one of the researchers, who is in an observant participation position; the other researcher, who was in a participant observation position, conducted retrospective *in situ* interviews. For the analysis of multi-faceted and ephemeral events such as a sports competition or an international conference, Aguilar Delgado and Barin-Cruz (2014) propose a multi-event ethnography that combines simple shadowing with data collection by actors in the field (practitioner's diary) and with reflexive notes. In another context, Roberts (1990) mobilized several observers to study the organizing of a nuclear-powered aircraft carrier: one positioned on the bridge, one on the deck, and one in the control tower. This type of method combines the positions of different observers to produce a multi-situated perspective on organizing.

As for diary studies, although the researcher carries out their observation alone, the method also seems to allow access to simultaneity and a rather detailed synchrony, since the different actors in the field time stamp their notes on actions/events in diaries or on schedules. Even though the research is conducted at the initiative of a solo researcher, the diaries kept by the actors in different locations inside the organization represent one of the methods to collect data

simultaneously from actors other than the researcher alone (Czarniawska, 2007, 2008; Journé, 2008). This method also limits the intrusion of the researcher, who is not present during the note taking but will be able to make use of the diaries written by the actors.

Pros and cons of multiple-researcher observation methods for access to organizing

Access to organizing requires multiple perspectives, including from the inside, for the researcher to analyze the activity in its multiple facets and regarding the connections between the actors.

In their own way, each of these multiple-researcher observation methods is different from and similar to what would be multiple-researcher shadowing. In some of these methods, the researchers are present at the same time and in different places but focus is neither on the situated approach nor on the simultaneity of the different activities with a detailed and time-stamped description of the observation. This is the case of global ethnography in teams, which allows this multiple access but prioritizes the researcher's viewpoint over that of the people observed and does not emphasize the synchronous nature of the collected data. By contrast, other methods such as the observatory of the organizing (Rix-Lièvre & Lièvre, 2010; Lièvre & Rix-Lièvre, 2013) have both a situated character and a simultaneity in the collection of data and, therefore, seem appropriate to study organizing *in situ*. They require that the observers have a strong presence within the organization. To the best of our knowledge, there has been little previous methodological reflection on shadowing conducted by several people, which would combine the considerations of shadowing with those of ethnographies or observations that are conducted by several people.

Our knowledge project focusses on the dynamics of organizing, and we show how observation by means of multi-shadowing can help to understand it in terms of both spatial and temporal dynamics. Using a comprehensive approach (Allard-Poesi, 2019; Dumez, 2013, 2016), we seek to access the constructions and meanings that actors attribute to their environment. Thus, we consider social reality from an interpretative perspective – from the perspective of the actors' interpretations and practices, which leads us to consider organizing as a 'situated production.' Our goal is to contribute to the understanding of an organization that is difficult to access as a result of its distribution in space and its dyschronies (Alter, 2003, 2016) by considering it from the angle of the interwoven flows it consists of. Therefore, we take a processual perspective on organization (Chia, 2002; Hussenot, 2016), according to which an organization is in a state of perpetual becoming (Tsoukas & Chia, 2002), in motion, and

can be considered as "interwoven processes, occasionally stabilized in the form of structures but never in a sustainable way" (Alter, 2016, p. 32, our translation). With the multi-shadowing method, we propose to apprehend organizing in its spatial and situated dimension, which is already specific to simple shadowing, as well as its temporal dimension, by considering the different flows that comprise it both dynamically (the flows' evolution over time) and simultaneously (connections between the flows at a given moment).

Field access, context of hunting with hounds, and data collection

We use a conception of organizing related to the specificities of our research field, hunting with hounds, which constitutes an organization that is, in some respects, very traditional but includes elements echoing modernity, as described by the authors cited above (Czarniawska, 2008; Grosjean & Groleau, 2013; Rouleau et al., 2014). These elements include: the shifting and unstable nature of the organization's spatial boundaries; the multiplicity of places and their character as resources for situated action; an openness to multiple stakeholders; the importance of coordinating of time scales, which is associated with the often asynchronous nature of activities; and the coordination that takes place around an object limited in time. In our case, this object is a performance – a kind of show that is repeated with regularity and requires an ad hoc management method (Beaujolin-Bellet, Boudes, & Raulet-Croset, 2014) and a specific organizing.

Here we will present some elements relating to the context and how we, engaged in shadowing approaches, gradually built a methodological scheme based on multi-shadowing. This multi-shadowing consists of several instances of shadowing carried out at the same time to access the organizing's temporal dimension. We used the actors' situated points of view to look for moments of 'synchrony,' when the nodes are knotted, or 'dyschrony' (Alter, 2003, 2016) – sometimes even disintegration. In particular, we describe our point of entry, the followers of the hunt, whom we show as participants and, thus, as points of access to the organizing.

Field access

Our project of observing hunts with hounds was born out of an opportunity to access the field and to engage in theoretical inquiry. The opportunity for access arose through a personal connection that one of the researchers had with a hunting crew. This connection allowed the researchers to get to know the world of the hunt and to create relationships that made it possible to conduct an initial observation *in situ*, from which two surprising findings emerged. On the one hand, the hunt

takes place in a setting exposed to various contingencies and disturbances: among others, the forest is accessible to the public, the prey does everything to escape the hunters, including crossing the roads, and hunting with hounds is the subject of controversy and has its detractors. There is a permanent risk of the hunt being disrupted. On the other hand, these hunts attract many participants. In addition to the hunters, many 'followers' experience the hunt as an open-air spectacle. Depending on the moment, there may be a handful, a few dozen, or even several hundred followers. However, we do not regard the followers as mere spectators of a codified tragedy taking place in an open-air theater (Beaujolin-Bellet et al., 2014): many of them actively contribute to the organization of the hunt as volunteers, even though they are not members of the crew.

Building on the relationships that had been forged with four deer and roe deer hunting crews situated in the same geographical area, a research project was launched to understand how these hunts can generally be carried out smoothly despite many uncertainties. The researcher formed a team to increase the capacity for interaction with the field.

The hunt takes place on horseback and in a formal setting: the hunters belong to an association, and there is a protocol, as well as numerous customs and codes. For these two reasons, it soon became apparent that the researchers would have neither the legitimacy nor the skills to conduct participant observation: they were not part of the hunters' association, and they lacked the expertise to ride a horse as required. However, given the research question, our approach needed to enable us to observe both the hunt in progress and the underlying organizing – in an open space. This is why the methods of shadowing and then multi-shadowing were chosen: the idea was to observe the hunt via the followers and to gain access to the organizing and, thereby, other actors through them and their point of view.

Hunting context

In France, hunting with hounds is legal, and such hunts take place twice a week between 15 September and 31 March in forests in rural areas. Two types of actors participate in the hunt: the hunters (known as the crew) and the followers. The hunters are organized hierarchically. At the top of the pyramid is the master, supported by the huntsman who manages the pack and can be assisted by a kennelman, who takes special care of the dogs. Next come the hunters, who are on horseback. Some of them are permanent members of the association that manages the hunt. Others are invited and only attend because of the hunt. The followers, whether on foot, bicycle, or in a car, are not hunters but live the hunt to the fullest. Some followers are present on a very

regular basis and have a specific role assigned to them, for example, securing road crossings, looking for stray dogs, etc. The hunt takes place on public land rented for the occasion by the association: anyone can be an occasional or a regular follower. The crew specializes in a particular animal, for example, red deer or roe deer, and hunts only this type of animal. The annual subscription paid by the association to the State provides for a maximum number of catches (purchase of 'rings'). France's national association for hunting with hounds (la Société de Vènerie) lists 400 crews, 7,000 horses, and 30,000 dogs for about 10,000 hunters and 100,000 followers.

A hunt is conducted as follows. After greeting each other, all the actors meet up with the hunt master: dogs, riders on their horses, and followers of all kinds. In a very coded protocol that Pinçon-Charlot and Pinçon (2003) lay out in detail, the master confers with those individuals who have been to the wood early in the morning to check the presence and location of possible preys. After this ritual exchange, the huntsman chooses which animal to hunt and gives everyone instructions, which are mostly safety rules. The hunt begins. It is the dogs that hunt. The master guides the pack on the track and ensures that the group of dogs and riders stays together. Sometimes, riders can get lost or injure themselves, and some dogs can run in the wrong direction or even lose interest in hunting and go off on their own marauding adventures! However, a hunt only targets one and the same animal at a time: the one whose line of scent is being followed, also known as the quarry. The risk is to have the group scattered across several hectares. The hunt alternates between moments of lively agitation and moments when nothing happens. It ends with the capture and killing of the quarry or when the decision is made to abandon the chase because the scent is lost or the quarry has taken refuge on a property where hunting is prohibited. In both cases, it is the master who decides. Once the hunt is over, the whole group of hunters and followers gets together for a picnic. A hunt lasts 3–4 h.

We gained access to seven hunts (see Appendix 4, Summary Table). For each hunt, we were informally introduced to different hunt masters and presented them with our project to understand how a hunt in progress is organized.

Data collection based on the type of shadowing

Masters, huntsmen, and sometimes hunting association presidents were systematically interviewed before the observation sequences. On the day of a hunt, we came to the forest when they had invited us and headed to the meeting point. We were briefly introduced to the hunters and followers at the first meeting, and we were introduced by crew members to the followers, who agreed to take us along in their cars. In

this operation, the members of the crew introduced us to followers who served as 'volunteers' and, thus, were actively working in the association, or 'regulars,' who attended very regularly and had already followed this crew around on hunts for a long time. It happened that we had to ask several people before they accepted; it also happened that we had to change vehicles, and, thus, the person being shadowed, during the hunt.

Depending on the circumstances, we carried out simple shadowing with one observer, multi-shadowing with two observers, or multi-shadowing with two observers and simultaneous timing of their observations on all occasions throughout the entire hunt. Each hunt can be considered an episode during which an organizing dynamic is built. Every time at the end of the hunt, we held debriefings between the observers. However, the data collection and debriefing methods varied according to the type of shadowing carried out.

Data collection methods during simple shadowing

We aimed to observe how the hunt unfolds from the point of view and the path taken by the followers who regularly follow along or even become involved in the organization of the hunt itself and contribute to the organizing. In fact, during our first immersion in the world of the hunt, we were struck by the number of followers, their many interactions with the hunters, our perceptions of their roles during the hunt, and, generally speaking, their involvement in the hunt. Following them, their journey and their actions allowed us to share their impressions right then and there and to fully understand their interactions with hunters or other followers or even people outside the hunt. Furthermore, we were able to grasp their roles and their choices, such as staying in place and observing nature, getting in and out of the car, walking in the woods, waiting in the car with the window open or near the car, listening to the sound of the horns, leaving for another spot, talking with other followers, exchanging information with other protagonists, getting out from the epicenter of the hunt, etc. We let ourselves be guided by them during the hunt and did not interfere with the choices they made. However, we did not remain silent, nor did we refuse to be involved, but asked questions as we went along to clarify and figure out what was happening. Moreover, while we were following the followers, we also met others, introduced ourselves again, and took part in their exchanges. It was an opportunity to get to know other followers, collect their opinions and impressions regarding (and the analyses they made of) the hunting process, and observe the interactions between the followers and between the followers and the riders. It was also an opportunity to observe their interactions with other people they crossed paths with during the

hunt, for example, a horse renter, people taking care of the horses, photographers, etc.

As we were constantly on the move or attentively observing, taking notes was a complicated and unreliable endeavor; in addition, during our first observation, we had been struck by the multitude of sounds in the forest at the time of the hunt, which also serve as markers for its protagonists. Therefore, we chose to leave the microphone switched on for almost the entirety of every hunt and record all the dialogues involving the followers. These recordings captured not only the discussions but also all the noises in the forest during the hunt: horses' hoofs, the dogs hunting, car engines, rustling of dead leaves, sound of the wind, etc. Sometimes, we included commentary during the recording to explain what we saw or heard, adding to the Dictaphone that we were making a clarification or a comment. These recordings were subsequently transcribed in their entirety, including not only the words but also the sounds. One of us also took pictures throughout one of the hunts.

Data collection methods during multiple and timed shadowing

After our first experience of shadowing a hunt, we decided to observe the hunts with two researchers. The factors in this decision included: the perceived complexity of the organization of the hunt; its moments of acceleration and dispersal; an environment that was not at all familiar to us; the large number of codes that we did not know; the variety of roles the followers could play; and the multitude of exchanges between the actors that had to be grasped. However, it also seemed rather unrealistic for three of us to be present at the same time at all the hunts because of scheduling conflicts and the challenge of placing three researchers with three different followers at the same time. Therefore, we adopted a principle of simultaneous observation by two researchers, each following one or more followers as the hunt progressed. Observer #2, who had a prior connection to the crews, was always there to introduce their teammates and remind them, if necessary, of the overall reasons for our presence on the ground.

At the end of the multi-shadowing observation sequences, whether timed or not, a collective debriefing session was always held the same evening. It often took place on the way back from the hunt, by car or over coffee, and allowed us to freely discuss the feelings we had during the day and the moments when we had crossed paths with each other or looked on the map to find our respective routes. This post-observation session was necessary not only to take a step back and share the emotions we had experienced but also to compare the activities we had

observed and the different emotions and forms of engagement we had had at different times during the hunt. These debriefing sessions were recorded and transcribed. A second collective debriefing session was organized after receiving the transcripts of the recordings. The goal with these sessions was to go back more precisely over the facts, the progress of the hunt, the actions carried out by each person in parallel, the times we crossed paths, and how and where we were positioned.

The first few tries with multiple shadowing and the debriefings that followed revealed a difficulty: although we could share in detail what was happening from each follower's point of view during the main parts of the hunt, we did not have enough reference points to understand what was happening at a specific time with each of the followers we were shadowing. This was all the more true because we had very few spatial reference points, as the hunt was taking place in the open air and, more importantly, without any real spatial markers.

Thus, we decided to time our observations so that we could later better situate in time the observation sequences that we examined. In concrete terms, we started recording at the same time, indicated the time on the soundtrack, and stopped the recordings at the end of the hunt. In addition, we frequently reported the time on the Dictaphone to anticipate possible recording problems. We also marked out each 10-min time sequence on the transcription. The idea was to follow several people by identifying time sequences so that we could then, sequence by sequence, analyze the data obtained by each researcher. We chose 10-min sequences and compared the hunting experiences within these blocks with each other.

Empirical analysis: From shadowing to multi-shadowing the hunt

We consider the hunt as our unit of analysis. It constitutes a temporal episode during which an organizing dynamic is built. There are key moments in all the hunts observed and analyzed: the moment when the hunt starts; the moment when there is a change in hunting location (each area is surrounded by roads, which the quarry can cross, thus producing special moments enabling people to 'view' the animal); the moment when there is a change in lines (dogs start following another animal, it means that they 'change,' which is not allowed) the moment the hunt is stopped, either because the animal has been caught or because it has not been caught but the hunt has already lasted long enough or because it may have escaped and gone to an inaccessible area. But there is no way of predetermining the pace at which these moments will occur, where they will happen, or even who among the

riders, the followers, or the other actors involved in the hunt will participate in such an action. The risk of the hunt becoming desynchronized or even disintegrating is almost constant: the dogs and the riders may be injured, get lost, and/or lose track of the quarry; different actions may take place in different places, thereby scattering resources and steering the hunting action away from the prey; lastly, since the action does not follow a predetermined course in time but unfolds depending on the opportunities in play and the obstacles along the way, the various protagonists may also become lost or confused – particularly as to whether the hunt is over or not. We were told during the introductory interviews that one of the fundamental rules of the hunt is to focus on a single preidentified animal toward which the crew must direct the pack; therefore, one of the crew's missions is to ensure that the pack is always united and moving toward the prey of the day.

Simple shadowing: Quickly getting used to an unknown environment

Simple shadowing allowed us to become more familiar with the field by interacting with the followers we accompanied during the action, seeing what they showed, and learning what they explained to us.

While using simple shadowing to observe a red deer hunt, we shadowed Henri, a photographer whose passion is to chase after pictures of wild animals in the forest. Following the hunt is an opportunity to see them in action, and he has been coming every week for over two decades. He explained to us that the likelihood of capturing such a quality image is rare: "You have to be in the right place at the right time, be ready, not leave your camera in the car, not argue with your neighbor, stay focused. A beautiful picture is the one in which the deer does something interesting, for example, when it makes a sudden jump while still gaining momentum. That happens once every five years, maybe even more seldom." He told us about what seems to be a shared pursuit among the followers: to see the work of the dogs and to see their prey, or more precisely, to admire these animals during the actual hunt. While we followed him, he explained a few times how he chooses his path and activity in order to 'see it/them.'

In our interactions with the followers, Henri showed us what it means to hear and understand the sounds generated by the hunt, in particular those of the pack and the horn, which serve to situate the hunting action and help understand what is happening. Being able to interpret the sounds and identify the tracks is necessary to increase the odds of seeing the prey, and a 'good' follower, in his opinion, is a follower who does not hinder the hunting action.

Henri: So, to stop them, if they see the big dogs are lagging behind a bit – that means they're following like that, but they're not hunting. If the good dogs are not hunting, it means… we're not on the tail of the right animal. And you even have to know how to recognize the dogs' voice, their true sound. They don't bark, uhm, while hunting, you mustn't forget that. They give tongue…

Researcher: They give tongue.

Henri: They're giving tongue, and they bay when they reach the deer, when it is at bay. And besides, the music of a pack that hunts is completely different from that of a pack that has a deer at bay.

[4 seconds of silence]

Henri: So, the 'bàt-l'eau', that's b, a with a grave accent, t, hyphen, l, apostrophe, e, a, u, that means the animal is about to hit the water or is in the water.

Researcher: Oh.

Henri: It can be, uh… Often it's at the point when it's caught, but it can mean that it's crossing a stream, there aren't any over there, or a pond. And there are some there.

[3 seconds of silence]

Henri: But that would be surprising. That would mean the deer is wounded. Or sick. If it's really the bàt-l'eau, but I'm not completely sure.

Researcher: It's not easy to know the music. The hunters have to know it, right?

Henri: Well, yeah! You have to know the fanfares…

Researcher: The fanfares, yes.

[14 seconds of silence]

Henri: So… it's this way, I think.

Henri: And, well, there are several kinds of fanfares. There are the so-called circumstance fanfares, which are sounded during the hunt. There is the bien-aller, a classic, which confirms that everything is going well, just as the name indicates.

There's the débuché, there's the bàt-l'eau, there's the compagnie, when the deer being chased is with other deer… Uh… I mentioned the débuché. The deer's head is also sounded sometimes. The dagué, as well as the second head, and so on.

On this hunt, each time we came across other followers, sometimes even isolated riders, everyone seemed rather lost, like they were trying to find where the hunt was; this allowed us to meet a whole range of followers who were able to share with us their reasons for coming to follow the hunt every week.

At the end of the hunt, the hunters explained that the hunt had been stopped because "there were two hunts in one": one part of the crew was hunting in one place, and the other in another place. Part of the pack had followed and attacked a boar and, thus, lost track of the deer's scent. We asked them how this happened, and they mentioned a "problem in the crew": the master did not succeed in holding the pack together and followed a track with only part of the pack, while the huntsman followed another track with the other part of the pack. When, finally, the one part of the pack got very close to the deer and was able to catch it, there were not enough dogs to go at it, and it escaped. One hypothesis emerged for our analysis, that of a kind of two-headed form of governance (bicephalism) of the hunt, which in this case led to a divergence in the organization, which the actors referred to as "two hunts in one." On this occasion, however, the way that we were shadowing the followers did not allow us to fully understand the action as it was taking place.

The followers we shadowed rely on their expertise in sound, tracks, weather, animals, and the forest to imagine the hunt as it unfolds, deduce what might have happened, and make predictions about what could happen. Looking for tracks and interpreting them is at the heart of discussions between followers who share what they have seen/heard/felt with each other and with the people they meet (occasionally with riders whom some know very well) and make a diagnosis, always provisional, of the situation. By sharing these clues and their analyses with us, they introduced us to the vocabulary and even the way of speaking about hunting; they facilitated our access to the complexity of a visual, auditory, and olfactory reading of the hunting action. In so doing, they helped us to penetrate the uniqueness of the hunting world and to follow it by being a little more 'inside' and less 'outside.'

Multi-shadowing: Identifying a variety of phenomena at work

Multi-shadowing allowed us to grasp the diverse facets of a hunt according to the location and the concerns of the followers we were accompanying and to access several flows that make up the organizing: in the following example, for one follower, the hunt means following the pack, while for another follower, the hunt involves finding dogs that went astray. Everyone is connected to the hunt in a different way, has a particular activity, and is linked to the other actors in their own way.

During a roe deer hunt that we followed using two observers at the same time, the same scenario played out: while hunting, part of the pack and crew had headed toward a doe, leaving few riders and dogs to pursue the deer being hunted. But the situation played out differently: after half an hour of

splitting and diverging action, those who had gone off on the wrong track realized their mistake and managed to hit the main line of scent again. At the end of the hunt, during the debriefing, the two observers compared what they had grasped of the course of the hunt by reconstructing the sequences of the hunt which were happening in parallel and the followers' interpretations of the events.

One of the observers (#1) shadowed Julie, who is usually a rider but was pregnant at the time and had decided to follow the hunt by car. The other observer (#2) shadowed Sabine, the kennelman's companion, who drove a van and was in charge of recovering any dogs that may have got lost that day. Comparing the two hunting observations with each other made it possible to identify several phenomena that contributed to the temporary split in the hunt. Moreover, through meetings with other followers or hunters, we gained a better understanding of the dangers threatening the organization in terms of safety and how members try to prevent them.

Let us start by taking the point of view of Sabine, who was shadowed by Observer #2. Sabine was away from the center of the action for quite a long time because she was looking for a dog that had gone astray. In so doing, at one point, she clearly identified that several dogs were following a line of scent and that a few riders were following them. It was obviously not the whole pack, and this piqued her interest. She decided to return to the hunt's starting point to find out, going by the sounds, where the action was and understand what was going on. There, we came across another follower, on a bicycle, whom she spoke to, mentioning beforehand that he was very competent and often goes to the woods the morning of the hunt to check for deer. He said he had seen part of the pack heading for the "wrong deer" but had not told the riders because otherwise "it undermines the rules of the game of venery." Sabine, however, decided to look for the riders to inform them of the situation. Then, without mentioning anything else or following the riders, she said we had to go back to look for Coyote, the dog that had gone astray, and we moved away from the center of the action again. So, she set out to search for it in the woods by car and on foot, asking other followers as she went on her quest. While searching for Coyote, she stumbled upon two other dogs and ultimately brought back a total of three. During this search operation, which lasted more than an hour, Sabine spoke about her passion for dogs and how she regularly goes to see them at the kennel. She also explained which clues she used to look for the dogs in a particular spot.

When we returned to the meeting point, with Coyote having been found, the hunt had been over for some time already: the 'honors' ceremony was taking place, which meant the deer had been caught by the pack.

Now, let us take the point of view of Julie, who had been shadowed by Observer #1. While following Julie, Observer #1 was always close to the part of the crew that had stayed on the 'right' track. Julie was following her usual crew from a distance and knew their hunting practices and this part of the forest well. She took the time to tell Observer #1 about the history of the crew, its internal organization, how it operates, and the relationship they have with their followers, which allowed us to increase our knowledge of the context in which the hunt takes place. At one point, she met Sabine, who was accompanied by the other observer, and both (quickly) shared the information they had:

[Discussions in the background]

Julie: But apparently they're pulling back, uh… back to the road, uh…

Sabine: I'm sure they're not going through there… Sébastien, his dogs are crossing the road, and then uh… and then, well […too far away to be understood…] doe, I think they're going through there.

Julie: And … and I have information that says they're pulling back to the road…

Sabine: Well now.

Julie: …that says they're going back again… they could have crossed the road, gone around and come back.

Sabine: Exactly.

Julie: Uh… this is the info I got from Alain.

Sabine: There you go. Alain, in front, he has, uh, three animals, including one […]

Julie: Including one…

Sabine: … that's tired.

Julie: That's it. We've got the same information.

During this hunt, Julie was frequently worried about the way some of the followers were taking risks with their cars and, from her point of view, prone to endangering other followers or dogs: she spoke to them on several occasions to ask them to be more careful. She noted: "The risk is that the deer crosses the road and the cars hit the dogs; that can be very dangerous … The horses can also get smashed up by the cars; it's happened in the past." She explained that this is one of the reasons why the master often gives instructions at the start of the hunt. She further explained that some followers are designated to intervene as far ahead of these situations as possible by placing their vehicles in such a way as to alert other vehicles passing by. In fact, during our observations, we passed the cars of followers who had parked on the side of the road, put a flashing light on the roof of the car, and went out along the road to signal to cars on the road.

At one point, Julie reported that everything had been quiet for almost half an hour, wondered whether the hunt was over, and returned to the starting point. There, we found all the riders, still on horseback. They had caught the roe deer. Julie called out to a rider, who told her: "part of the pack changed lines at one point, but we managed to get them all together again, and the deer that we were hunting was already very tired, so it was over pretty quickly." Julie tried to find out more by asking around. Based on what she found out, along with her earlier observations, she concluded that there was a split along the way between the two crews, who did not interpret the sounds of the horns in the same way.

During the debriefing, after cross-checking the information collected by the two observers on this same hunt, we identified several phenomena influencing the dynamics of divergence and convergence during the hunt: the unicity (or not) of the way the hunt is managed; the shared competence (or not) regarding one of the elements that are a crucial marker in open-air hunting, namely how to interpret the sounds of the horns, which are the only means of remote communication; the followers' choice to share (or not) information with the riders; the coexistence of several circles of the organization with, in the center, the riders and the pack, and around, the followers who are invested (or not) in preserving the key resources of the hunt. We were able to observe different methods of co-constructing the hunt that link the followers and hunters to each other. We saw the different ways in which the followers contribute to the organization of the hunt. However, the observation methods did not allow us to record the actions of the followers over time and, therefore, throughout the hunt; we were not in a position to assess whether particular actions, for example, sharing information here and going to look for a dog there, happened at the same time or not. Based on this experience, we decided to time our observations going forward in order to better situate in time the observation sequences when shared after the fact.

Timed multi-shadowing: Accurately reconstructing the different sequences

Doing simultaneous timed two-person observations allowed us to have a common reference point in time, as we were aware that we had been operating in a space where we had no such reference point. After observation sequences, we were able to share our data by saying, for example, "at that moment, where I was, this is what was happening to the followers that I was shadowing." In this way, we could precisely identify the sequences within the action as a whole and better understand the various roles that the followers play. This allowed us to connect the data collected while preserving the dynamics of the hunt.

In the case of the red deer hunt, Observer #1 shadowed Bernard, an experienced follower whom the crew has assigned many of the attributes of a hunter, despite him not being a rider. He carries a whip and a horn and has a 'pass' authorizing him to access by car the unauthorized roads. He explained to us that the 'pass' grants him access to roads that are usually closed by the order of the National Forests Office. It is a precious permit handed out at the beginning of the hunting season and taken back at the end of the season. It allows some followers to move around much more freely inside the forest to improve their conditions for following the hunt and to increase their odds of seeing animals. Bernard is presented to us as one of the pillars of the hunt, especially because of the help he provides to the crew not only before, when he goes to the woods in the morning to spot and locate potential prey, but also during, when he can sound the horn and, thus, share key information with the hunters, and after the hunt, when he helps in the kennel. Observer #2 shadowed Emilie and Michel, a retired couple who have been following the hunt as a family for more than three decades, regularly organize meals with other followers, and make an effort to maintain the social bonds between the hunting enthusiasts.

The hunt started a little over an hour ago, but it does not seem like the dogs have started yet. Then, around 11:00 a.m., Bernard exclaims "the hunt is on!" by cross-checking several pieces of information he has just gathered: the riders are at such and such a place, the bikers have heard the starting sound, he sees the bramble moving. It is 11:20 a.m., and the hounds have been going for 10 min. Emilie and Michel draw the same conclusion but without witnessing it directly – another follower has passed the information onto them.

On both sides, everyone moves gradually to be in the right place at the right time, to see the deer and the pack at work. To this end, Bernard has taken somewhat roundabout routes; the forest is dense, and he follows the track by ear, sometimes cutting the engine to hear better. At 11:45 a.m., he stops and gets out of the car and shouts "tally-ho," while Observer #1 exclaims "that's it, I saw it!" So, Bernard managed to get close to the prey, and by shouting "tally-ho," he informed the crew where he was, in a place that looked deserted. The excitement is at its peak and shared by the researcher who 'saw it.' In the meantime, the dogs cross the path, and Bernard responds to a rider's question by saying that the prey is only 2 min ahead. During this time, Michel is on a paved road with many followers around: after having turned around quite a bit, he concludes that "it's gonna be over soon." He then decides to take a break, and a certain boredom sets in because the action of the hunt is not particularly visible.

Between 11:35 a.m. and 11:45 a.m.: being in the right place at the right time, or not…	
Observer #1 (shadowed Bernard)	Observer #2 (shadowed Emilie and Michel)
[Sound of a car door opening]	Michel: Yeah, well, let's get out, it's gonna be over soon.
[20 seconds of silence]	[Seat belts unbuckled]
Bernard: Tally-ho	Michel: OK, you'll have to be on the lookout over there… we're gonna have something to eat [laughs] We've got what we need.
Researcher: Oh, I saw it!	
Evelyne: That's it	Researcher: They're setting up the picnic.
[The engine starts]	[Cars passing]
Researcher: I saw it! [laughs]	[Bike horn]
[Dogs baying]	[Sound of hoofs]
Researcher: Him, too!	Woman #7: If there aren't too many people, it will go through there.
Bernard: Oh!	Researcher: There are 7, 8 bikes and a few cars side by side on the road and blocking the way, so some followers say it's not clear that the deer will pass because there may be too many cars [Dogs baying] the dogs are coming … some of the riders in the forest …
[The engine stops]	
[Noise of car doors]	
[Dogs' baying continues]	Woman #8: You're in the way! You're in the way!
Researcher: So, actually, I saw it crossing the road… we'll park a little further…	Researcher: A follower is being yelled at for having her car in the way.
[The horns sound]	[The horns sound in the distance, dogs baying]
Researcher: So, my fellow crewsman is sounding his horn	[Hoofs]
[The horn sounds continuously]	[Horse breathing]
Bernard: [shouting] theeeeere… we have to get over there!	[Dogs' baying continues]
[baying]	Researcher: Everybody's staring at a place in the forest, oh yes, indeed, we can see the dogs in the distance.
[shouts ring out several times: theeeeere]	
Men, shouting: up there!! up there!! we have to go through the back!!! there! there! go go go go go!!!!	[Men shouting]
	[Background chatter]
[car door slams]	Man #31: The dogs are coming back.
Man #3: I got it, I got it.	[Sound of hoofs]
Men: Let's go!	[Dogs baying in the distance]
Bernard: Yeah! Bigoré Bigoré Bigoré Bigoré Bigoré Bigoré… no, he's got two minutes!	Researcher: Looks like it's going the other way; at least, the bikes are going the other way. The riders are going the other way, too.
Man in the distance (a rider): Did you see him?	[Sound of hoofs fades away]
Bernard: Y'know, I saw him very quickly… he's gorgeous!	Woman #9: Well, we got here early, we got here, I told you we didn't have to, uh, go to the fountain, he'll come there; well, you see, he came there, didn't he?
[dogs baying]	Michel: He's over there now, OK, he didn't cross the road.
Researcher: So, now all the dogs are crossing the road, the rider asked if it has a head start, not two minutes, I saw him real quick.	

Bernard continues his search, mostly staying close to the hunt, while Michel and Emilie converse for about 30 min with their fellow followers before deciding to move on. Then, while trying to park along one of the roads, Michel is stopped by a follower on foot, Florence, who signals for him to stop. When we get out of the car, she explains that the deer has just crossed the road, but the dogs have not arrived yet. Florence is looking for a 'volcelest,' a fresh hoofprint that the dogs can sniff when they arrive, to help them stay on track. As we look up, we see several followers are actually bent over on the side of the road looking for the deer's track and moving cautiously to avoid erasing it with their shoes. They look, but they do not find any. Grumbling, Florence comments: "The cars drove past here and cut the track."

At 12:25 p.m., Bernard exclaims "Well, come on, we're packing up, it's over!" and explains that the deer has entered a private property. The crew is not allowed to enter, so we have to bring the dogs and the riders back to the starting point. A few minutes later, the information reaches Michel and Emilie, but Michel thinks we still have to wait because the deer could come out on the other side of the field. Actually, the hunt is over.

By having several people follow while tracking the exact time of their activity, we were able to identify: the different places involved in the hunt and the connections between them; the diversity of the roles and how they fit together; the strong moments around which the core of the action is defined and how the different participants connect to it or not. This allowed us to show the great heterogeneity of the different participants' involvement in the hunt, linked, in particular, to their distance from the action and to the fact of not being able or not knowing how to interpret the sound signals and not having the information required to know how far along the hunt is. This makes it possible to highlight the great range of obligations and expectations regarding the same organization and, ultimately, to identify the different flows in the organizing, their dynamics, and the moments when they cross and link with each other, thereby contributing to the coordination of the organization of the 'hunt.'

Contributions and discussion

In this section, we will highlight our contributions concerning the multi-shadowing and timed multi-shadowing methods that we have proposed in this article. We will discuss their specific contributions to helping gain access to the spatial and temporal dimension of organizing, the advantages they offer regarding access to organizing compared with other observation methods (from the perspective of the relationship to the field and to the data), and the specific modes of reflexivity and access to saturation that they require.

Multi-shadowing to capture organizing in time and space

Through the simultaneity of the flows

The 'ethnographic turn' highlights the growing importance of observation and ethnographic methods when analyzing modern forms of organization, which are characterized by their temporal and spatial fragmentation (Grosjean & Groleau, 2013; Rouleau et al., 2014). Access to simultaneity is a key to understanding organizing in such contexts (Czarniawska, 2007, 2008, 2014, 2018). Multi-shadowing, such as we propose, fits into this context since it mobilizes several participants' situated points of view via several observers simultaneously carrying out the observation – sometimes even by timing themselves, which later enables them to work on sequences that happened at the same time.

We have shown that multi-shadowing allows access to the synchronous or nonsynchronous character of actions, especially in the timed version, and to the connections between the different processes that make up the organizing. Our approach to multi-shadowing focuses on the situated perspective, in line with the work of Vásquez et al. (2012) and Vásquez (2013), but multiplies it, since the goal is to understand different actors' contributions to organizing and to establish the connections between these contributions by observing the different flows and the possible connections between the data.

Through the spatial dimension

Regarding the relationship to space, shadowing by its very nature emphasizes mobility (McDonald, 2005) and, thus, movement through space. However, the importance of the spatial aspect can vary depending on the different forms of shadowing. Some shadowing approaches draw on a tradition of research in urban sociology and geography (see Appendix 2) tied to the inhabitant's or the traveler's relationship to space (Augoyard, 1979; Raulet-Croset & Borzeix, 2014; Thibaud, 2001; Thomas, 2010). They seek to capture the crossing of invisible borders when there is movement from one place to another because of the way the observed person is moving through space. Multi-shadowing allows simultaneous access to several of the organization's constituent spaces and puts the connection between the participants, their positioning in these spaces, and the way they are mobilized as resources for the activity at the heart of the analysis.

For other multi-sited methods such as multi-sited and global team ethnography, space is only one component – the spot where the activity takes place. These methods, whose goal is to locate a phenomenon spread out over several spaces, help researchers position themselves in these spaces to gain access

to the entire phenomenon. Multi-shadowing goes further: through the detailed and mobile observation that it enables, it puts the participants' very relationship to space, as well as the way in which this multi-situated relationship is a fundamental part of the organization, at the center of the analysis. In the search for even more detailed insights, timed multi-shadowing makes it possible to identify the temporary connections that are created – thanks to the actors – between the organization's fragmented spaces as the action unfolds.

These contributions of multi-shadowing are particularly relevant when it comes to gaining access to organizing in organizations that develop a strong link to spaces or include fragmented spaces. This dimension is particularly important for the analysis of territorial (Maréchal et al., 2013) and spatially anchored organizations (Dale & Burrel, 2008; Van Marrewijk & Yanow, 2010).

Multi-shadowing and the researcher's relationship with the field: Gaining access to organizing by increasing the number of situated observations

Observation methods can sometimes create strain and fatigue on the field, especially when observation takes precedence over participation (Soulé, 2007) and it is not possible to blend into the role of participant. Compared with other solo observation methods that also weigh heavily on the field because they are visible, it seems that multi-shadowing has the advantage of allowing the speedy collection of several pieces of information from different points of view, which makes it possible to follow several flows of the organizing. The enhanced collection of information in a limited amount of time has the advantage of making the research more sustainable for the field. From the researcher's point of view, this limits the risk, as the researcher perceives it, of not shadowing the 'right' actor and, therefore, not being able to 'see' the activity in depth. By contrast, however, researchers do not blend into the setting as in the case of participant observations or ethnographic approaches. Thus, the visible presence of an entire team of researchers may prove to be too much, especially for a field that is limited in size.

The relationship with the field can also be considered in terms of how the research is co-constructed. Shadowing methods, from the moment the researcher depends on the people being observed and is guided by them to unknown spaces and to understand what is happening, give the observed person a certain amount of power in the construction of the research. The status of the researcher is different in participant observation, or observant participation, when the researcher becomes or is already an expert, which increases his/her power when interacting with those being observed. Vásquez et al. (2012) call to mind the '[peculiar] twosome' specific to shadowing, which was first put forward by Czarniawska (2008) and emphasize that this

method places the observed person's point of view at its center. Understanding the connections between the actors, which is fundamental to understanding organizing, also depends on the observed person's explanations. They are the experts in the field: what is at stake? What is transmitted when a follower crosses paths with a rider? This can take the form of a few gestures, a few indications that are then explained to the observer, but he/she would not have understood them without assistance from the person being observed. The observed person, therefore, co-constructs access to organizing, as well. In this respect, by increasing the number of people observed, multi-shadowing also has the advantage of reducing the dependence of an ill-informed researcher on a single actor: co-construction is based on a multitude of peculiar twosomes.

Finally, it is important to analyze the role of the affective dimension in the relationship between the observer and the person being observed during shadowing and, therefore, during multi-shadowing because this relationship is a central component of the method. Whether we are talking about the search for 'sympathetic proximity' (Gilliat-Ray, 2011) or almost intimate proximity (Vásquez et al., 2012), the act of following the same person for several days – during nearly all of their professional activities – creates a bond and allows even greater access to the situated point of view. Several researchers being present on sometimes complex terrains makes it possible to take a step back and reflect during the observation. It also allows for each other researchers to be more detached when comparing their understanding of the actors' different contributions to the organizing. As in any team ethnography, another role played by the presence of the collective under observation is to reassure each other and to discuss difficult moments in their relationship with the field, even when the action is in progress. Jarzabkowski et al. (2015, p. 19) stress the importance of 'emotional sharing,' which enables the researchers to feel less isolated and to share experiences, including negative ones, about their relationship with the field. These emotional moments can also be useful for analysis, insofar as they sometimes allow to identify connections or contradictions in the organizing. We will return to this point during the discussion of data processing in the following subsection.

Multi-shadowing and the relationship to data: Gaining access to organizing by observing the flows and how they are intertwined

Multi-shadowing makes it possible to collect very large amounts of data, but are these data relevant? Is the goal simply to collect a lot of data or to collect data that are relevant to the research? How does one strike a balance?

Because of the large amount of data that is collected at such a quick pace, multi-shadowing is prone to face the same criticism often leveled at qualitative methodologies providing material

that is certainly valuable but sometimes incomplete and hetero-geneous (Dumez, 2013, 2016) or collected in a way sometimes described as impressionistic, for example, collecting what seems interesting at the time but not in a systematic way.

It seems to us that multi-shadowing, especially when it is timed, avoids these pitfalls, at least in part, thanks to the use of data series (Dumez, 2013, 2016), which have a certain completeness and homogeneity to them. By creating these series, the researcher conducts the observation throughout the planned duration and can produce very comprehensive data. The researcher does not halt the observation but is able to collect the data according to a time-based connecting thread in a given episode. The different trails followed by the team of researchers form a series of data that is complete because it covers the planned time episode and is homogeneous because it follows the time-based connecting threads of the organizing. The data are first processed by comparing the written notes from the 10-min sequences, which are different instances of shadowing that were carried out simultaneously. Doing so makes it possible to identify passages that fit together. These passages will be worth considering because they help to identify moments when different actors inside the organization act synchronously or not and converge toward the same goal or not, thus making it possible to shed light on the organization's processes of cohesion or disintegration.

In addition, McDonald and Simpson (2014) point out that data collection includes selectivity. They liken shadowing to a method that involves pointing a light, such as a miner's helmet light: the researcher sees what the observed person/the miner, who is a very good data selector, shows him/her. According to them, "[s]electivity is determined by the actors' movement through time and space" (McDonald & Simpson, 2014, p. 11). From a similar perspective but specifically focused on tracking the storyline and not the actors, Journé (2008) explains that this kind of following prioritizes the data's 'relevance' rather than their completeness and says the choice is up to the researcher. Multi-shadowing produces a sort of in-between situation. Each researcher explains what interests them and can ask questions, and the observed person decides about the path and which elements of the activity he or she wants to show. The researcher and the observed person share a desire for the data to be relevant and for the data to be complete. Sometimes, some of the choices are made by the observed person, such as the paths to be followed, while others are made together with the researcher by jointly deciding what should be highlighted in the research (Vásquez et al., 2012). Thanks to multi-shadowing, one can then compare different points of view with each other and, thus, observe the organizing through connections or nonconnections over time.

Multi-shadowing, especially if it is timed, makes it possible to combine several simultaneous data collections from the same organizing episode. Comparing them with each other sheds light on observations that might remain invisible in a more classical multi-ethnography that does not try to look at the data by closely following a time-based connecting thread. Thus, our approach made us realize that the dogs get lost *during* the hunt and that there can be a difference between the official end and the real end of the hunt. In the analysis of the data, we can also look to the emotions experienced at the same time, which the researcher can verbalize and are recorded. This sometimes reveals that the spaces are not connected: for example, one researcher shows a strong emotion because he/she is in the middle of the hunt, while at the same time, another researcher seems completely disconnected from the main action and does not show the same kind of emotion at all. Thus, the proximity to or distance from the center of the action is identified, which helps to better understand how each actor contributes to the outcome.

Finally, it seems to us that multi-shadowing makes it easier to frame the data collected in time and space when the terrain offers no *a priori* frame of reference, such as walls, procedures, plans, etc. In the case of the hunt, which takes place in a very open environment, multi-shadowing helps to 'frame' the observations by providing reference points in terms of space, that is, from the paths of the people being shadowed, in terms of time if shadowing is timed, and regarding the connections between actors through their exchanges or even disagreements. Multi-shadowing yields paths that serve as reference points to represent the action in these three dimensions.

Reflexivity and saturation in multi-shadowing: Gaining a better understanding of organizing by combining reflexivity in the observer–observed duo and reflexivity inside the team

Reflexivity in multi-shadowing involves not only methods of reflexivity specific to simple shadowing but also those pertaining to team ethnography.

In simple shadowing, reflexivity is essential when it comes to the method and the data collected, especially because of the empathetic nature of the link between the researcher and the observed person (Vásquez, 2013). It develops, in part, during the observation, thanks to the interactions between the observer and the observed person – for example, when the observed corrects a misunderstanding or provides additional information. In multi-shadowing, reflexivity uses the peculiar twosome of simple shadowing (Czarniawska, 2008; Vásquez, 2013), where discussions between the observer and the observed person produce a first round of reflexivity.

Moreover, as with team observation methods, simultaneously having several researchers in the field makes it possible to have reflexive sessions at the end of multi-shadowing episodes or even later to compare notes and recordings. This can also be done by using time sequences as part of timed

multi-shadowing. Thus, researchers rely on methods of reflexivity similar to those identified by Erickson and Stull (1998) in team ethnography: having collective discussions on the same issue in which everyone is involved, sharing and working on individual observation notes, or even holding regular debriefing sessions. Jarzabkowski et al. (2015) point out that reflexivity in team research leads to collective sense-making processes that are very different from those obtained through solo research. Beyond validating the data collected and interpreting them, we observe the emergence of a first collective analysis. In the same way, in multi-shadowing, there is not only a discussion about interpreting the data in a reflexive form but also the preparation of the first analyses.

For different observation methods, the traditional view has been that saturation occurs when adding a new observation no longer provides interesting elements for the research problem, in line with the proposal by Strauss and Corbin (1990). Depending on the observation method, saturation can be reached in different ways: by extending the observation's duration in the case of participant observation, observant participation, solo or team ethnography, by increasing the number of shadowings, or by increasing the number of spaces where one is present in the case of multi-sited and global ethnography. With regard to timed or untimed multi-shadowing, saturation may be reached by increasing the number of researchers present during an observation sequence, which would increase the odds of finding links between spaces and connections between actors that reveal how the organization works. However, this method of reaching saturation seems unrealistic because there would be too many researchers out in the field. It seems preferable to reach saturation by increasing the number of multi-shadowing episodes and by modifying the types of actors who are followed, which might lead to access to more of the flows that make up the organizing process.

Conclusion

In this paper, we laid out how we used the multi-shadowing method by having more than one researcher shadow several actors on the same field. We studied the contributions of this method in depth by comparing it with other better-known methods of observation, including having a solo researcher conduct the shadowing.

Shadowing is known both for providing access to organizing (Czarniawska, 2008, 2018) and for its situated aspect – by 'seeing' from the point of view of the actor being observed, it provides access to sometimes unexpected realities (Gilliat-Ray, 2011; Vásquez et al., 2012). Multi-shadowing makes it possible to penetrate the heart of organizations from different angles and to observe connections and disconnections between the organization's different actors by giving access to an understanding of how events unfold in space and time. Timed multi-shadowing also makes it possible to combine several

simultaneous collections of data during the same organizing episode and then to compare points of view with each other without having to return to the field too frequently and thereby potentially putting a strain on the field.

Rolled out in the context of hunting with hounds, this method allowed us to grasp and understand the mechanisms that can contribute to synchronizing or desynchronizing the hunt. The context is marked by uncertainty and the absence of reference points, in particular for spatial orientation. We were also able to explore the difficulties regarding implementation. For example, because of the availability of the actors to be followed and the researchers' choice of situations to observe, it was impossible to always shadow the same followers from one hunt to the next. We also mostly conducted multi-shadowing in pairs. Thus, multi-shadowing requires a sufficiently large team of researchers and that the observed individuals are either always the same ones or at least relevant to the purpose of the observation.

The multi-shadowing method also offers access to the relationship between activities and the different spaces in which they take place. This is particularly important in the case of distributed organizations spread out across several spaces, as well as organizations that develop a specific relationship to space, which becomes a resource for their activities. Thus, multi-shadowing links the temporal and spatial dimensions with each other, since it allows synchronies and dyschronies (Alter, 2003, 2016) to be seen through the situated points of view of the actors being tracked.

In the case reviewed here, we used a multi-shadowing approach to study organized collective actions that lasted a few hours, were subject to precise rules, and coordinated many identifiable players within a given space in a situation that repeats several times a year. To us, this field seemed to be close to organizations that have to manage unforeseen events (unique situations inside a given perimeter) and recur constantly, such as situations handled by the police or emergency services, where it is a question of understanding, from a situated point of view, what each actor brings to the collective and how he/she connects to others (where and when). For this type of organization, the multi-shadowing method can be particularly useful to apprehend the organizing. These organizations can be characterized as ones where the joining/sharing of space and simultaneity plays an important role in reaching the performance. We also think that this type of method is worth considering in the case of organizations that are not easily approachable. Multi-shadowing can be done with all types of actors, including those who have a weaker voice than others or are more marginal but provide access to the center of the action because they may coordinate with actors who play a more central role. They do not feel threatened or destabilized by the research – on the contrary, they may even feel valued. They offer a point of entry into the organizational

phenomenon by giving a peek behind the scenes, and in so doing, provide access to their own perspective on 'their' action, and possible access – even if it is partial – to the actions of others.

Lastly, we note that while multi-shadowing allows detailed access to the threads of organizing, it comes at a heavy cost in terms of the number of researchers mobilized, time spent, and burden on the field. These factors limit the organizational scale at which multi-shadowing can be used, whether it is the spatial scale of the organization or the duration of the observed organizing episode. One avenue for methodological innovation could be to consider how to combine the finesse of a multi-shadowing analysis with its use at a broader organizational scale. This would allow the analysis of organizing for cases of multi-sited organizational functioning or organizational transformation on a larger scale.

Acknowledgments

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Appendices 1-4

M@n@gement

Observing to Coproduce a Collective Narrative: Emplotment of Multiple Parallel Stories

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Abstract

Observation captures complex organizational phenomena *in situ*. The literature on this method explains the possible data collection methods but says less about the use and organization of the data collected. As a result, the question of the meaning of observation data remains open. This article explores that question with the focus on a specific form of observation, dynamic observation, which can grasp indeterminate situations whose meaning is elusive for both practitioners and the researcher. Drawing on the work of Ricœur, we propose a conceptual tool kit founded on *mimesis*. We show that organizing observation data into a plot and narrative, through an inquiry conducted by researchers and practitioners together, can shed light both on the observation data and the situation observed. We embody our method by applying this tool kit to a dynamic observation conducted in a high-risk industry. We discuss the methodological issues of this co-construction of shared meaning and its role in restoring centrality to observation in the management sciences, and resituating the situations and the actors as core concerns.

Keywords: *Dynamic observation; Co-construction of meaning; Narrative; Emplotment; Ricœur*

This article looks at the key role of observation in management sciences to capture complex, indeterminate situations. The methodological literature on this topic proposes a 'dynamic' data collection strategy (Journé, 2005, 2012), but says very little about the use and organization of the resulting data. To break the silence, we propose a way of using and organizing data collected by dynamic observation, to make them meaningful and co-construct a shared narrative. This widens the potential of dynamic observation, and an illustration of that potential is provided.

Observation is a data collection technique in which the researchers themselves personally observe processes or behaviors taking place in an organization during a defined time period (Baumard et al., 2014). More broadly, it is a specific strategy for interaction with the field of study (Journé, 2012). It is part of a protocol for collection of qualitative data that are rich and complementary (Cunliffe, 2011), allowing discursive data to be contextualized and embodied in action (Bardon, Brown, & Pezé, 2017). Various forms of observation exist, able to capture many organizational phenomena *in situ*. Examples include participant and nonparticipant observation (Bastien, 2007; Journé, 2012), and covert or overt observation (Roulet et al., 2017). Despite these promising perspectives,

few management research articles use observation methods as the central data collection method (Barley & Kunda, 2001). This is partly explained by the complexity of data collection during long or short observation phases, and also by the difficulty of reporting those data (Journé, 2005). Yet, several authors stress the key role of observations to capture work activity (Journé & Raulet-Croset, 2012; Mintzberg, 1970; Orvain, 2014; Théron & Pezé, 2014), processes (Baumard, et al., 2014), corporate strategy formation (Johnson, Melin, & Whittington, 2003; La Ville (de) & Mounoud, 2004), and complex, indeterminate situations that require work to (re)construct meaning, that is, an inquiry in the pragmatist sense (Dewey, 1938[1967]; Journé & Raulet-Croset, 2008). The richness of observation should cease to be an obstacle to its use, and instead be considered a good opportunity to clearly grasp contemporary organizational issues and bring the situation and the actors back to the core of the analysis.

The methodological literature proposes a form of observation called dynamic observation (Journé, 2005, 2012) that is able to capture those issues through a proposed data collection protocol built on four strategies. This literature states that dynamic observation can obtain 'plot-rich narratives,' but how? More broadly, the question remains of the meaning of data

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collected. Ethnographers, who are the great specialists of observation research (Jarzabkowski, Bednarek, & Cabantous, 2015; Musca Neukirch et al., 2018), have underlined the importance of the way the material collected from field studies is organized, generally into narratives (Van Maanen, 1983). The aim is to 'stick' as closely as possible to the notes taken as things were happening, and succeed in giving them meaning. Narratives can make connections between concepts and bring out the shared meanings (Fenton & Langley, 2011). This question of bringing out/producing meaning is all the more salient when the observed situations are complex. The first work required is thus to transform the raw observations into narratives able to present the plot of the indeterminate situation and the different ways of acting involved. Elaboration of those narratives can be done by the researcher, who may report on inquiries resolved by practitioners. The narratives aim for plausibility and are acknowledged as plausible by the principal actors they include (Journé, 2005). But this elaboration becomes more complex when the practitioners are unable to remove the uncertainty: the events collected remain poorly organized and at first sight make little or no sense.

This article proposes to adopt Paul Ricœur's concepts of emplotment and narrative, and to explore them as methodological and conceptual tools that can make sense collectively, working together with practitioners, of observation data. Paul Ricœur defines the narrative as a "mimetic activity," the "creative imitation, by means of the plot of lived temporal experience" (Ricœur, 1984, p. 31). Some research has used narratives as a source of data: the narrative is often produced by the organizations, and then collected and analyzed by the researcher (Boudès & Browning, 2005; Daiute & Lightfoot, 2004; Dion, 2012; Mercier & Deslandes, 2017; Robinson & Kerr, 2015). Few articles to date, however, have emphasized the methodological contribution of Ricœur's thought to transforming observation data into narratives that are rich in shared meaning. This article therefore proposes to answer the following question: how can a Ricœurian approach to emplotment and narrative help to make sense collectively of dynamic observation data by enabling analysis of that data, and in doing so, clarify the complex situations observed?

This article comprises two major sections. First, we show the relevance of dynamic observations (Journé, 2005) to grasp complex situations and give them meaning through 'plot-rich' narratives. To enrich the potential of dynamic observation, we provide more details of data organization by reference to the Ricœurian approach to narrative and emplotment. In the second section, we illustrate this potential by 'giving voice' to our observations conducted at a nuclear power plant – observations that led to collection of conflicting accounts, and their emplotment during an inquiry involving both researchers and practitioners. We present the key role of such collective emplotment and discuss the contributions and limitations of this methodological reflection.

Making sense of data collected by dynamic observation: A proposed Ricoeurian perspective

After highlighting the questions and challenges posed by observation, we consider the issues associated with dynamic observation when capturing complex situations and resituating the actors at the center of management science analyses. The methodological literature sets out data collection strategies, but says less about how to use and organize the data collected, even though that relates to the crucial question of the meaning of observation data. Having stated the possibility of organizing data into 'plot-rich narratives,' we propose to take a detour via Ricœur's work to define the emplotment and narrative dynamics and put them forward as methodological tools for creating collective meaning from observation data. We set this proposal more broadly in the narrative stream of management science research, which defines the established links between narrative and construction of meaning, notably through the inquiry process in which emplotment plays out.

Dynamic observation: Grasping complex situations and producing plot-rich narratives

Questioning, critiques and the issues raised by observation

Observation is defined as a data collection technique, and more broadly, as a special strategy for interaction with the field of study (Journé, 2012). Observation raises many questions about (1) the observation methods and subjects' consent (Roulet et al., 2017); (2) the practices, for example, concerning the observation recording techniques, relations with the people observed, use, and organization of the observation data (Bruni, 2006; Langley & Klad, 2019; Roulet et al., 2017); (3) the researcher's identity: role, stance and involvement (Anteby, 2013; Silverman, 2006). The method has numerous pitfalls: trying to report too much, getting swamped by data, and the difficulty of observing 'at the right time' (Pezé, 2012). Its 'immediacy' (Journé, 2012) generates difficulties that explain the limited use of this method, and the limited analysis of data collected. Due to the questions and critiques associated with observation research methods, they are often abandoned (Barley & Kunda, 2001) in favor of semistructured interviews, or secondary data, for example, from archives (Banks, 2007; Leonard-Barton, 1990). When the observation method is chosen, it is generally used as part of a broader research 'design' such as a case study; research articles making this method the central topic are more unusual and in those articles, the authors focus less on the technical details of direct observation of work and situations (Journé, 2005) than on the relations with the field of study and the people observed (Anteby, 2013; Langley & Klag, 2019; Roulet et al., 2017). The technical details supplied shed more

light on the question of collection strategies (Journé, 2005) than the use and organization of the data collected.

And yet observation appears to be a key approach for understanding and studying organizational and managerial phenomena (Bernstein, 2017), particularly indeterminate situations that call for an inquiry in the pragmatist sense of the term (Dewey, 1938[1967]; Mead, 1938; Peirce, 1903[1998]). Dewey (1938[1967], p. 169) defines an inquiry as "the controlled or directed transformation of an indeterminate situation into one that is so determinate in its constituent distinctions and relations as to convert the elements of the original situation into a unified whole". It begins with an indeterminate situation that disturbs the normal course of action (Lorino, Tricard, & Clot, 2011). Observation can capture these inquiries and thus restore the actors and the concept of the 'situation' to the core of organizational analysis (Journé & Raulet-Croset, 2008). The observation method provides a solution to the need, in management sciences, to consider situated action "as a central object of study, taking seriously the disruptive power of situations and the complexity of collective meaning-making" (Lorino, 2018, p. 324).

Dynamic observation as an opportunity to capture complex situations: Collection strategies and production of narratives

One specific type of observation, called dynamic observation (Journé, 2005), has been described to detail the way the observer can, concretely and technically, capture these inquiry processes (Journé, 2005, 2012). Based on the principle of methodological opportunism (Girin, 1989), dynamic observation combines strategies that are flexible enough to evolve in response to developments in the situation. The first of these strategies consists of undertaking long, systematic observations within a specified physical perimeter (unity of place) so as to build familiarity with the field of study. The second consists of intense but short-term observation of a specific point (unity of time and place) so as to collect detailed data, for example, relating to individual or collective microactivities. The third strategy focuses on the actors engaged in a particular process, systematically monitoring all the activities of one actor in the course of 1 day (unity of actor). The fourth strategy concentrates specifically on unforeseen problematic situations, plots that develop, play out, and evolve as the action advances and the actors' thinking progresses (unity of the problematic situation). Strategy no. 4 takes precedence over the other three strategies, but needs them for the collected data to be analyzable and meaningful. At any time, the first three strategies can be replaced by the fourth when an indeterminate situation emerges that is sufficiently disturbed to require the actors to work on definition and interpretation of the situation, in other words to conduct an 'inquiry.'

To report on and analyze observations while preserving the 'situated' nature of the data, Journé (2005) states the need to turn raw observations into narratives able to reflect the plot of the situation and the differing ways of acting involved. The first three strategies can describe the pace of activities, and at best, write individual stories (Journé, 2012), but most of the fundamental material needed to write 'plot-rich' narratives (Journé, 2005) is supplied by the fourth strategy. However, Journé remains vague about the concept of "plot-rich" narratives (Journé, 2012, p. 195) and how they are produced. He also observes situations whose future developments cannot be known by anyone, and have an unforeseeable outcome. Writing a narrative is generally considered feasible when the outcome is observed in real life; but what if that is not the case? What should we do when the dynamic observation data give rise to incomplete stories, possibly containing contradictions (Journé, 2005) – stories that reveal the difficulty of making sense of a situation, and thus making sense of our observation data?

This article considers the possibility of seeing how collectively researchers and practitioners can give observation data a plot and organize them into a narrative to inquire together. The concepts of 'story,' 'narrative,' and 'plot' are presented below, drawing on the writings of Paul Ricœur, and their use in management sciences is discussed, particularly in the processual and pragmatist approaches to organizations that closely link narrative, plot, and inquiry.

Story, narrative, and the emplotment dynamic in Ricoeur

With the exception of some authors who attempt to differentiate them (Czarniawska, 2004; Gabriel, 2000; Küpers, Mantere, & Statler, 2013), the terms 'story' and 'narrative' are generally used interchangeably, but the writings of Ricœur (1984) clarify their differences. A story is a sequence of actions and experiences, an enumeration of events: each individual 'tells' a story, their version of events. A narrative, in contrast, organizes the action via a plot, arranging the events accordingly. Ricœur defines the narrative more precisely as a "mimetic activity," the "creative imitation, by means of the plot of lived temporal experience" (Ricœur, 1984, p. 31). A distinction must thus be made between the narrative – Aristotle's concept of *mimesis* – which is an imitation or a representation of action, and emplotment – *muthos* – which is an arrangement of the events.

Ricœur (1984) develops a connection between three mimeses, and proposes that the narrative, a creative imitation of action, should be considered as a mediation between:

- *mimesis I*, a preunderstanding of the action by identification of its structural features, symbolic connections, and temporal natures;

- and *mimesis III*, a postunderstanding of the action, the intersection between the world of the text and the world of the hearer or reader;
- via *mimesis II*, an emplotment that "brings together" the variety of action in the universe of the plot: "the configurational arrangement [that] transforms the succession of events into one meaningful whole which is the correlate of the act of assembling the events together and which makes the story followable" (Ricœur, 1984, p. 67).

According to Ricœur (1984), questioning the emplotment dynamic is the key to the problem of the relationship between time and narrative. He proposes to "show the mediating role of the time of emplotment between the temporal aspects prefigured in the practical field and the refiguration of our temporal experience by this constructed time" (Ricœur, 1984, p. 54). As noted earlier, narration is thus a 'mimetic activity,' the "creative imitation, by means of the plot of lived temporal experience" (Ricœur, 1984, p. 31). Given the 'discordant' nature of lived temporal experienced, narration rearranges events creatively to make the action intelligible: "this mimetic reproduction is therefore not a passive copy, but a rearrangement of events and time" (Lorino & Nefussi, 2007, p. 80, our own translation). Ricœur (1984) considers the plots we invent as our primary way of reconfiguring our confused, unformed, sometimes even mute temporal experience. By freeing us from chronology, the narrative reconnects us with the very essence of temporality that underlies the meaning of action (Lorino, 2005). This mimetic activity finds completion in the hearer, the reader or the spectator, *in situ*, and in the actions taken: "who is telling the story, when, in what circumstances, where, to whom, for what purpose, with what effects?" (Lorino, 2005, p. 205, our own translation).

This Ricœurian perspective is mobilized in a certain management science approach considering narration as a process, in which the narrative is a way to link meaning and action, and can be used as an instrument for intervention.

Mobilization of the Ricoeurian approach in management sciences: The narrative as an instrument for intervention and inquiry

Ricœur's reflections have been used in management sciences to define what a narrative could be in a firm (Boudès & Browning, 2005; Dion, 2012). Mobilization of the Ricœurian approach in a narrative 'stream' or 'paradigm' of management science research (Cunliffe, 2002; Czarniawska, 2004; Giroux & Marroquin, 2005) takes us out of the 'narrative object' approach that sees narrative as a fixed representational object (Lorino, 2005), and consequently, the narrative ceases to be a

way to draw conclusions about the organization, its structure, culture, and practices (Boje, 1991; Boje & Rosile, 1997; Ott, 1989). Under the Ricœurian approach, narration can instead be conceived as a process in which the narrative is a way to connect meaning and action (Lorino, 2005). In this dynamic approach, the narrative is a situated, socialized, socializing, and dialogical process. The narrative, particularly the organizational narrative, thus becomes the outcome of an inquiry in the sense of the approaches developed by the pragmatist philosophers (Dewey, 1938[1967]; Mead, 1938; Peirce, 1903[1998]). It is born of an inquiry triggered by a surprising, indeterminate situation that requires many practitioners to convert "the elements of the original situation into a unified whole" (Dewey, 1938[1967], p. 169).

The inquiry is a place for emplotment, that is, the search for order and an explanation for disordered, enigmatic events. Listening to the narrative is also an inquiry: "when listening to the narrative, I look for elements that will enable me to project the plot onto my own experience, or to recognize my own experience in the plot of the narrative, at the risk of destabilizing the view of it I have held so far" (Lorino, 2005, p. 205, our own translation).

The inquiry, in turn, leads to a collective narrative. The function of that narrative is to make experiences – past, present, and future – intelligible to subjects engaged in an organized action (Lorino, 2005); it is central "to meaning-making and re-interpreting the relationship among actors, events and contexts" (Ripamonti et al., 2016, p. 56). As Journé (2005) shows, dynamic observation can help to collect this type of 'plot-rich' narrative; it is important to observe how the actors inquire together, starting from an indeterminate situation.

But the events collected can remain in disorder, and the stories may remain parallel if the actors are unsuccessful at inquiring jointly, or achieving emplotment of the situation encountered. In the latter case, dynamic observation can collect multiple parallel stories and emplot them with practitioners in order to 'inquire together.'

Practitioners and researchers create meaning and make sense of their experiences in their narrative discourses with others (Cunliffe, Luhman, & Boje, 2004). Narration is thus not only a source of data, but it also becomes an instrument for intervention (Giroux & Marroquin, 2005).

This methodological article seeks to show the key role of dynamic observations to collect narratives, but also and most importantly, disordered events, parallel stories that cannot make the action intelligible: the plot still needs to be developed. These undeveloped plots could be constructed in a collective inquiry that sheds light on the following question: how can a Ricœurian approach to emplotment and narrative help to make sense collectively of dynamic observation data by enabling analysis of that data, and in doing

so, clarify the complex situations observed? How can we make the research material derived from our observations 'speak' and co-construct a collective narrative from narrative fragments that are partial and initially discordant? That is precisely what we propose to illustrate in the following paragraph.

Narrative construction and emplotment from dynamic observation data collected at a nuclear power plant

This section describes our emplotment of the traces of our observations, and how we co-constructed a collective narrative with the actors in an inquiry.

Research setting

The research took place at a nuclear power plant in Europe during 'on-line' periods, that is, times when the plant's two units of power generation, each unit including a nuclear reactor, were in operation. We completed five periods of observation, each lasting between 7 and 10 days, in November 2014, March 2015, June 2015, December 2015, and February 2016, timed to coincide with our availability.

The initial invitation came from the head of the Plant Operating Department, who wanted to restore some margin for maneuver to the Shift Superintendents (SS) and Deputy Shift Superintendent (DSS) in his teams. Long phases of observation in the Plant Operating Department and other departments, and the possibility of participant inquiries, were negotiated and agreed at the outset. It was thus possible to conduct overt observation, in which "the observer is accepted as such in an organization governed by formal, hierarchy-based rules; he stays among the participants in full knowledge and sight of everyone, or nearly everyone. He can take simultaneous notes, circulate freely, consult documents" (Peretz, 2007, p. 69, our own translation). Before further consideration of the observations, we provide some details of the departments studied and the actors mentioned throughout this article (using quotation marks and italics for the departments and actors most frequently mentioned in what follows).

The departments and actors observed at the nuclear power plant

Plant Operating means the real-time running of the plant to execute the electricity generation program in accordance with security and safety rules, and environmental standards. The members of the Plant Operating team are "at the centre of a very heterogeneous torrent of activities (…) that deal in real time with the very varied problems caused by the normal day-to-day operation of a power plant (…) operating a unit

means striking a balance between two essential goals: safety and capability (…) and coordinating (immediate or later) work by specialists called in from very different disciplines (chemists, boiler engineers, automation experts, etc) whose services are vital for the plant to operate properly" (Girin & Journé, 1997, pp. 2–3, our own translation).

The Plant Operating team studied is led by a head of department who has support from the technical, safety, and human resource functions and specialist hubs, particularly the *Planning Unit* that is in charge of documentation (technical drawings and test procedures). The head of department works closely with the SS who manage two teams (one for unit 1 and one for unit 2) that work shifts to ensure continuous operation: a morning shift from 6 am to 1.15 pm, an afternoon shift from 1pm to 9.15 pm, and a night shift from 9 pm to 6.15 am. Each shift team has a DSS, who is the technical supervisor, a Tagout Officer (TO) in charge of preparation and safety of tests and work, Operating Staff (OP) in charge of real-time monitoring of installations from the control room, and Site Staff who are the Operating Staff' 'eyes and ears,' the people who are closest to the installations and perform regular rounds.

To fulfill all these missions, when the reactors are in operation, the Plant Operating Department is assisted by the *On-line Maintenance (OM) project*. The OM team involves the actors in charge of preparation of preventive maintenance (9 weeks ahead) and unplanned maintenance activities and the actors responsible for performing those activities in liaison with the available 'Work and Maintenance' resources. A special team called the *Facilities Team* prepares and applies the 'modifications' decided at national level by the Engineering Division for continuous improvement of plant safety and security: for example, post-Fukushima safety improvements, or more recently, changes required to extend the plants' operating lifetimes.

Figure 1 summarizes the general organization of Plant Operating activities.

The dynamic observation conducted at a nuclear power plant

The observation system proposed by Journé (2005) was chosen from the very first week, to (1) develop familiarity with this complex field of study (strategy 1), and then (2) gain an indepth understanding of the collective microactivities, particularly shift handovers, management of control room alarms, daily meetings, and scheduling meetings involving the Plant Operating Department and the OM project team (strategy 2), and (3) observe the actions of different actors in the Plant Operating team, and also of actors who interact with them during the day: OM project actors, specialists from very different disciplines, etc.
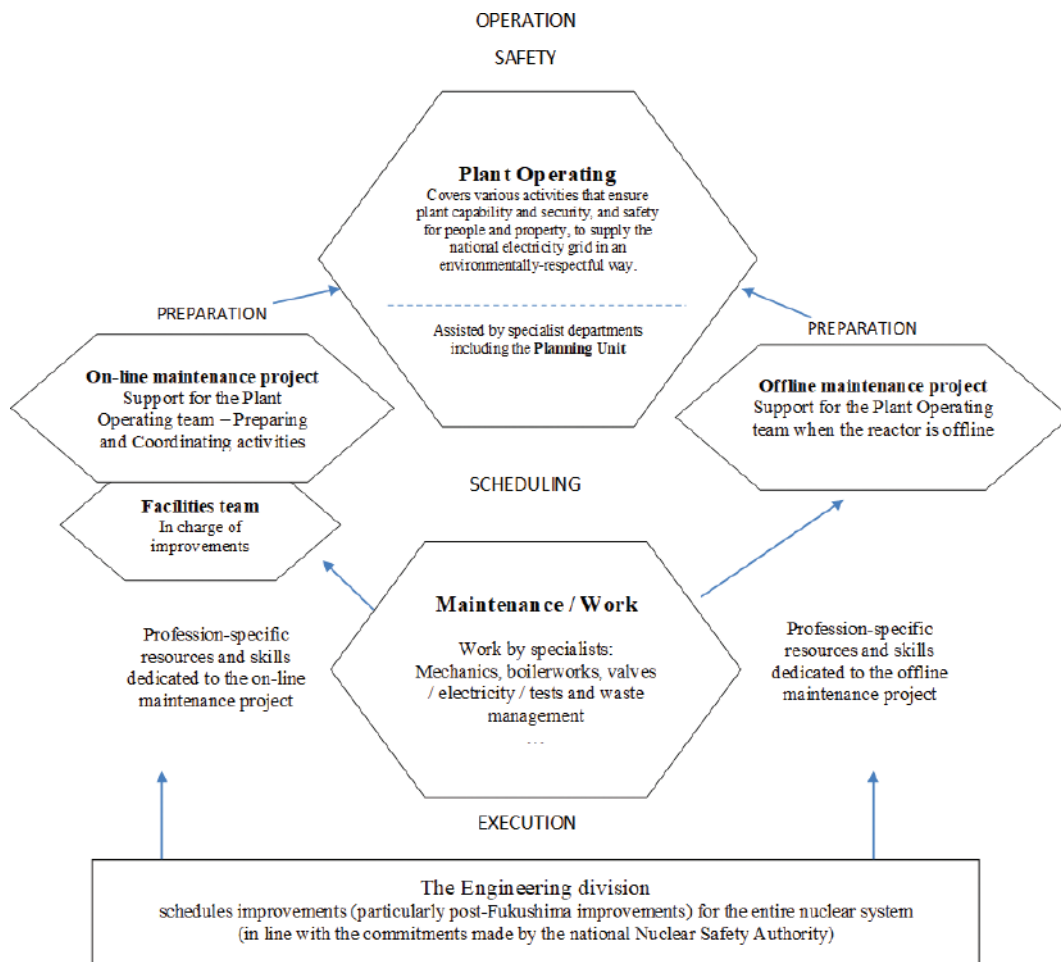
Figure 1. Diagram illustrating the Plant Operating Department and its interconnections (diagram codeveloped with the head of department and his HR unit).

We repeated the first three observation strategies several times until we encountered an indeterminate situation: the introduction of new, specific modifications to extend the power plants' operating lifetimes. The Engineering Division had asked all power plants to apply changes (reorganizations, work, etc.) that had never been done before, were complex, and took longer than the normal work projects. The power plant studied was the first plant to bring in these modifications and could not therefore benefit from the experience of other plants. The members of the Facilities Team were in charge of the modifications, with the assistance of the OM project team and the Planning Unit, which was called in to compile the documentation and act as an interface between Plant Operating and the Facilities Team.

Using the terms 'Plant Operating,' 'Facilities Team,' and 'Planning Unit,' the rest of this article illustrates – in a present-tense account – how the first stories collected were gradually emplotted and turned into a meaningful collective narrative.

Mimesis 1 or the preunderstanding of the world of action

As Ricœur notes (1984, p. 55), "to act is always to act 'with' others": in the situation studied here, the new interactions are complex and can take the form of battles or tensions. The symbolic connections of this collective action are new and seem meaningless to the actors: members of the Plant Operating team ask, "Why doesn't the Facilities Team respect the way we're organized?"; the Facilities Team wonders, "Why are Plant Operating always obstructing our work?" The Planning Unit tries to create meaning and reconcile the members, with some difficulty. The action is consequently unclear.

The practitioners find themselves facing challenges to the usual frames for understanding their activity, and the stories they usually use to make sense of their cooperation fail. In such a setting, our dynamic observations can collect enigmatic, disordered events for both the researchers and the

practitioners, who cannot get a general grasp of dispersed elements able to pull them all together into a coherent whole, a narrative with an 'ending'. We do not observe any collective inquiry, and emplotment must still be developed.

Mimesis II or the collective arrangement of disordered events: Collective emplotment

Disordered events

Organizing our observation notes reveals a series of events that mainly took place during our observation period in December 2015. These events particularly relate to 'PNPP 2311', an acronym designating the first work done on the 'Modifications' required by the Engineering Division, which are a source of complication and tensions. Panel 1 below presents an extract from the disordered events collected chronologically during our observations of Plant Operating actors and various collective activities, including handovers and meetings (strategies 2 and 3).

These events are submitted to three actors from the Plant Operating department, one person from the Planning Unit and two from the Facilities Team, initially to guide our understanding of the problem and the stalemates observed. The conversations soon show that the plot still remains to be developed for the practitioners themselves: the PNPP2311 problem is still unresolved, and a lack of understanding persists, particularly regarding other activities that are being held up. When the practitioners observed are confronted with these dispersed events, individual, parallel, noninterconnected stories are collected: everyone tells the story as they understand it,

particularly the reasons for the PNPP2311 problem, and the actors tend to see the problem from the point of view of their own activity and put the blame on the actors belonging to the other activities.

Collective emplotment, and rearrangement of the events

In February 2016, we decide to contact members of the Plant Operating Department, the Planning Unit and the Facilities Team whom we had previously observed, to begin an inquiry: an initial conversation takes place, lasting 3 h and involving seven volunteers from those teams. We ask the participants to draw the way 'Modifications' are currently being handled, stating for each stage concerning them 'what I do, the difficulties I encounter, and who receives the output of my work…' When the disordered events are not spontaneously mentioned, we return to the events collected via our observations with the participants.

Constructing a drawing is a way to involve all the actors, each one having a specific role in the situation, and to describe a sequence of activities in chronological order; everyone tells their 'own' story, but this time it is addressed to the other actors present in the same place, and the stories connect to each other such that a certain ordering is possible: 'we [the Facilities Team] are just about to start when I get the complete file, but it comes from the Engineering Division that isn't on site (…) it's a computer file (…); So then, we [the Planning Unit] get a scan from the Facilities Team…', etc.

Panel 1. Collection of disordered events in relation to the PNPP2311 modifications

Event 1: During an informal conversation between Plant Operating department actors on 2 December 2015, there is talk about PNPP2311 being "not properly prepared" and the Facilities Team "bypassing the organization procedures, they don't even know how we organize our work (…) they don't fit into our way of organizing things," and concerns are expressed: "if things carry on like this, it's going to be awkward, especially as there are loads of other PNPPs after this one…"

Event 2: Given the difficulties created by the work, the members of the Facilities Team are hastily called to a meeting on 7 December 2015: "the Facilities Team has to come and see us, they should come and look at the block diagram with us rather than doing it all by phone and paper!" Three members arrive the same day, and a discussion about a diagram takes place. At the end of the day, the Plant Operating Shift Superintendent calls his counterpart at the Facilities Team: "I wanted you to say thank you to your guys who came to see us, it defused the tension, that's a good thing."

Event 3: On 8 December, we observe conversations about modifications needing further work at a handover between DSS.

Event 4: On 10 December, we observe the TO questioning a specialist who has been called in to do work, and refusing him permission to make modifications even though they were planned.

Through observation, we are able to identify these events that reveal dysfunctions in an unusual, complex situation. Individual actors try to find a solution, but cannot organize the events in a way that finds one. The collective meetings organized reduce the tensions, but do not lead to collective reflection on "how to do things and do things better together." Other events observed during our February observation further illustrate the stalemate over the modifications to be made. The actors are unsuccessful at inquiring together into this indeterminate situation concerning the changes to be made to extend the power plants' operating lifetimes.

Panel 2. Collective narrative of the PNPP2311 problem

Researcher – perhaps we can come back to the problem observed, PNPP 2311…

(Everybody laughs)

Facilities Team (participant 1) – Well the fact is, regarding that project (…) we didn't necessarily feel very concerned by it, because it was something that had been worked on by the Mechanics specialists and the Plant Operating Department months in advance, to do the tagout[1] (…) it was a really big job, with pipes to be emptied and so on. (…)

Planning Unit (participant 1) – The sticking point was the tagout…

Plant Operating Department (participant 1) – There was the tagout, there were services done on the circuit that didn't go well…

Facilities Team (participant 1) – So then, anyway, to finish on the PNPP2311, if we had to do it again… I think that for the specialists called in, there should have been (…) a document where you could see the whole sequence of operations, that's where maybe we should have done something, but in fact we hadn't realized the complexity of the operation, clearly… In my case it was the plug, I didn't expect it to…

Facilities Team (participant 2) – Look, the key thing is still that the other equipment was no longer leaktight, that's the key thing, without that risk of leaks, we'd never have heard of this PNPP problem…

Plant Operating Department (participant 1) – There were still plug removals that weren't always spotted by the teams from….

Facilities Team (participant 2) – Yes, in the tagout…

Planning Unit (participant 1) – What's more, the program dates back a bit, it started in spring and then got suspended… It was deferred three times (…) and it never went through us, at least…several people involved, communication problems… I mean…

From the discussion, launched by the researcher, of observed events in connection with the PNPP2311 modification problem, each participant tells their story: "The sticking point was the tagout"; "the key thing is…," but here, the stories are addressed to the others and gradually lead to a rearrangement of the events, with new suggestions: showing the sequence of operations, support for the specialists called in… The events collected by our observations are emplotted; the narrative reorganizes the events creatively to make the observed situation intelligible.

This description is intercut with narratives that can be called 'diagnostic' or 'utopian,' in line with Lorino and Nefussi (2007, p. 81): 'this is how, collectively, we are prepared to describe the explanatory origins of the current situation…' and 'this is what we're going to do….'The reminder of the PNPP 2311 problem triggers this kind of narrative, giving meaning to what has happened (insufficient support, unforeseen difficulties, a communication problem, etc.) – while also projecting into a future present: 'if we had to do it again….' Some extracts are presented in Panel 2.

Collectively, the actors begin to recount an explanatory origin of the situation regarding the initial work. Listening to the narrative, other participants project this plot onto other lived experiences, particularly the experiences that resulted in work being held up. The panel below illustrates one of these narratives, which were frequently inspired by true stories that enable individuals to *recognize their own experience or a lived experience in the plot of the narrative*… For example, the Facilities Team tells the story of an operator who for the first time in 20 years is faced with a request to 'cut two leads': this is an unusual request and raises questions that need to be clarified (cf. Panel 3).

This narrative combines 'diagnostic' and 'utopian' narratives; the actors progressively try to find ways to collectively construct meaning, in order to apply the modifications together.

Mimesis III or the intersection with the world of hearers and readers

At their own initiative, the practitioners take a photo after 3 hours of discussion and posted a statement on the intranet about the content of their conversations. They thus turn their meeting into an internal narrative. Observation facilitates production of this narrative by emplotment of discordant events, giving rise to a collective project and an action plan: the Facilities Team want to provide better support for the

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[1.] Tagout concerns the management of equipment being put offline or online. It defines the approved methods for organizing work permits, that is, special instructions to protect the personnel doing the work. If the equipment cannot be put offline, a 'special' work permit is required with very strict formal instructions for the operators concerned.

Panel 3. Cutting 'two' leads? The collective narrative about a 'sticking point'

Head of the Facilities Team – (…) there was one operator who'd worked there for quite a long time. He said, in 20 years this is the first time I've seen both leads being cut. So he didn't know what the temperature behavior would be (…) it was a Thursday, we went to tell the Shift Superintendents, look this is what'll happen with the temperature, you'll have a sudden jump, then afterwards it'll go down little by little. So then we went into more detail, because they didn't know what they were going to have to deal with. In the end that's where we ought to do more work, when the specialists come to get a work order, to start the work they need to be able to explain the background to their intervention and how they're going to do their work. And in many cases, they aren't equipped for that (…)

Plant Operating Department (participant 1) – Absolutely. Often, when we ask questions, we don't get an answer… it's not very reassuring…

Planning Unit (participant 1) – The idea is that the answer to those questions, obviously, you should have those answers beforehand, that's exactly what we're working on, you know…

Facilities Team (participant 1) – Yes, that would be good… (…) My own feeling is that, well, when they turn up and they say, we're going to cut two spent fuel cooling cavity leads, of course that's scary (…). I remember the discussions we had during the plant outage, loads of discussions (…) everything was in place, the only thing was that you get to a point where people need reassurance. And to do that, you sometimes have to spend half an hour or an hour with them to reassure them.

Plant Operating Department (participant 1) – That's right, yes, physical meetings, I think they're really important (…) explaining what's going to be done, how it's going to be done, etc, that often clears up a lot of stuff and helps to simplify the representations we have (…). And in real time, you don't necessarily have half an hour or an hour to spend explaining one modification, you know…

In the plot of this narrative, all the individuals recognize their own experience or a lived experience, and these experiences help to construct a plausible narrative in which the modifications situation is acknowledged as unusual and requiring new actions. Telling the story of the 'two leads' makes it easier for researchers and practitioners to perceive the origins of the problems encountered in connection with the modifications to be made; this event complements the first events observed and is gradually integrated into a complete narrative, leading to an intelligible meaning for the situation and paving the way for new action.

specialists called in, and are considering drawing up a document showing the sequence of operations; there is agreement on the usefulness of spending time with the teams to reassure them, and facilitating face-to-face meetings; and more broadly, on the need for a new organization of work incorporating these new changes. The events collected are turned into narratives that then become events (Gabriel, 1991). The researcher, meanwhile, can analyze the observation data emplotted with practitioners: for example, by recording and transcribing the conversation and preparing a report, or by putting an arrangement of the events into writing and submitting the resulting narrative to the participants and the academic community. A new emplotment is thus developed by this arrangement of events and the writing of this article, which has the potential to influence academic practices, even if only by shedding light on one form of collection and use of events collected through observation. The collective inquiry was triggered thanks to these observation data, and the inquiry clarified our data, making the initial material analyzable.

Discussion

Our dynamic observation at a nuclear power plant shows how emplotment of our observation data and organizing them into a collective narrative can confer meaning on them and clarify an indeterminate situation. This study is one response to the call for a diversity of qualitative approaches in management sciences (Cunliffe, 2011) and the call for more frequent use of observation (Barley & Kunda, 2001; Journé, 2005). The discussion clarifies how a conceptual tool kit founded on the work of Ricœur can meet the need to construct meaning in a dynamic observation approach. The limitations and extensions of this methodological reflection are also considered below.

Dynamic observation and construction of collective meaning

Observation is an immersive approach whose principal contribution is the richness of the data collected: in addition to words – and the risk of recreating sense – the researcher can observe interactions and the implicit mechanisms inherent to organizing: "most work practices are so contextualized that people often cannot articulate how they do what they do, unless they are in the process of doing it" (Harper, 1987; Schon, 1983; Suchman, 1987 in Barley & Kunda, 2001, p. 81). One difficulty with observation, identified in the literature review, is that it is often difficult to make sense of all the material collected (Allard-Poesi & Perret, 2004; Czarniawska, 1998; Robinson & Kerr, 2015). In such cases researchers may: (1) be tempted to exclude observation from their methods;

(2) simply collect observation data that make immediate sense to them; and (3) reconstruct/overinterpret the meaning of the data collected, individually and with hindsight. We discuss how Ricœur's mimeses offer a way to make sense of dynamic observation data and avoid these pitfalls.

Mimeses, a conceptual tool for making sense of observation data

Mimesis I: Capturing stories that do not appear to make sense. Mimesis I, a preunderstanding of the world of action in which emplotment is rooted, enables the researcher to contextualize the organizational phenomena observed and thus bring out their richness and complexity (Prasad, 2002). The researcher can organize the data collection in relation to the three structuring features of *Mimesis I*, and thus, capture the whole experience in all its complexity, shedding light on the related interactions, and their purpose and context. In a similar vein to phenomenological studies, the researcher can then identify signs, rules, and norms of action. By identifying the symbolic conventions that shape the interactions, he/she can refocus on the experience as the starting point for constructing a collective narrative (Gill, 2014). This first stage structures the dynamic observation so as to capture the practitioners' experience and study the situations, in order to generate meaningful narratives (Easterby-Smith, 2005). This experience is often complex to observe and instead of narratives can generate parallel, coexistent but nonconvergent stories, revealing the difficulty of inquiring and constructing meaning – inquiries being defined as collective narrative processes (Lorino & Nefussi, 2007) and narratives as "spontaneous acts of meaning-making" (Cunliffe et al., 2004, p. 262). In such cases, the researcher collects stories (Rosile et al., 2013) that initially make little or no sense to him/her. By combining and crossing those stories, he/she can emplot them and configure his/her own arrangement of events. Awareness of the risk of derationalization and overinterpretation of the meaning attributed to those stories should lead a researcher to prefer to work with the practitioners, and instigate a collective inquiry to emplot stories in a rearrangement that gives rise to a narrative with shared meaning. What plays out in the collective inquiry is emplotment, that is, the quest for order and an explanation for disordered, enigmatic events (Lorino, 2005, 2018).

Mimesis II: Emplotment to make meaning. Emplotment arranges previously disordered events collected into a 'meaningful whole' (Ricœur, 1984). The researcher questions the events observed and plots them, with "the active sense of organizing the events into a system" (Ricœur, 1984, p. 33 in Cunliffe et al., 2004). Dynamic observation thus involves two key issues when parallel stories are being collected. By observing ongoing inquiries conducted by practitioners, the

researcher can identify collective narratives, or conversely the actors' difficulties in inquiring together. Observation also makes it possible to trigger and conduct inquiries. The inquiry then becomes a methodological approach that gives meaning to the observation data and the indeterminate situation. This transforms the inquiry from an observable 'organizational practice' to a 'methodological research practice,' enabling emplotment and narrative-building from the dynamic observation data obtained in connection with an indeterminate situation that remains unresolved. The expected outcome of this inquiry is a collective narrative through which practitioners and researchers can make the situation intelligible. The inquiry makes it possible to make a meaningful whole out of a succession of configurations, as called for by Ricœur in defining his *Mimesis II* (Ricœur, 1984).

Mimesis III: Co-producing and sharing the created meaning. Mimesis III relating to the interaction between the text and its receiver offers an opportunity to produce a meaningful artifact for the teams and a narrative for researchers and the academic community. As Ricœur notes, the reader completes the work. A new configuration thus emerges: the practitioner (the 'reader' in Ricœur's writings), faced with parallel stories, fills in the gaps, clears up the uncertainties, and ultimately contributes to the emplotment. This configuration varies in its sensitivity: taken to extremes, "it is the reader, almost abandoned by the work, who carries the burden of emplotment (…)" (Ricœur, 1984, p. 77). Practitioners are thus both producers and receivers of plots. As Prasad (2002) stresses in a reference to the philosopher Gademer, the text produced, whether oral or written, and then becomes a conversation. Like the conductor of an orchestra, the researcher can put the practitioners' improvisations to music, to borrow the organizational metaphor developed by Weick (1987, 1993, 1998). There may be some difficulty in making a coherent whole of the narrative, but the purpose of the inquiry, the shared feeling of 'we can do better together,' leads to a convergence of meaning that provides an opportunity to go beyond the unusual nature of the action and thus propose a partial solution. Partial, because it belongs to temporality as defined by Ricœur (1984, p. 21): "the present of the future, the present of the past, and the present of the present". Construction of the collective narrative is only valid in a given unity of place and time. The meaning created is only arrived at through interaction between the practitioner community and the academic community. Resolving the inquiry by emplotment is therefore also temporary, and opens out onto new inquiries.

Towards a new epistemology of dynamic observation

Staying close to hermeneutic approaches and placing experience at the core of the analysis, the researcher must always

move forward in doubt, while creating a trusting relationship (Prasad, 2002). Langley and Klag (2019) note that academics' involvement in qualitative research must meet the contradictory aim of taking advantage of close proximity with practitioners while keeping a professional distance and retaining a researcher's stance. Emplotment and narrative-building from the data collected by dynamic observation, and the insistence on the transparency characteristic of *mimesis III*, lead to production of credible, confirmable narratives that are up for discussion (Gill, Gill, & Roulet, 2018). Transparency needs co-construction of a narrative. The fact of involving the actor observed in the whole meaning-making process, together with the researcher-inquirer's stance, produce a break from the supposedly 'objectifying' nature of observation. A trusting relationship is created (Prasad, 2002). As Bonnemain, Perrot and Kotulski (2015, p. 104, our own translation) observe: ''we also try, through the observation phase, to reverse the status of the professionals in the research-intervention: from an intervention 'about them' to an intervention 'for and with them'''.

Through this intervention for and with them, stories can be collected and a narrative emerges (Boudès & Laroche, 2009). Dynamic observation makes co-construction of this shared narrative possible. While observation is often associated with the search for truth, the meaning created through emplotment and narrative-building reveals a new relationship to the field of study by the search for shared meanings. Researchers can, for example, collect data that initially make little or no sense to them, opening up a broader spectrum for their observations. Dynamic observation, as well as producing rich data, can thus limit the risks of reconstructing a phenomenon with hindsight: observation avoids the ''deceptive phenomenon of retrospective coherence'' (Snowden, 2002, p. 106), particularly because practitioners are themselves actors in the process. This constitutes a shift away from a form of epistemology of truth to a form of epistemology of meaning and experience.

Limitations and extensions

Which voice(s) for which narrative

Our experience confirms the essential role of immersion and observation to collect several stories carried by several different voices (Allard-Poesi et al., 2014). Considering the 'unheard' (Easterby-Smith, 2005) becomes a possibility due to dynamic observation (Journé, 2005, 2012): strategy 4 facilitates a meeting of many actors concerned by an indeterminate situation. Also, immersion and *mimesis I* encourage us to not only look at the change from the strategic actors' point of view. This approach encourages us to look at everyday actors in their interactions. In the words of Easterby-Smith (2005, p. 345), it ''(is) both for looking at social process over time and for looking

at the experiences of those lower down the organizational 'food chain'.'' It is often difficult to hear the voices of nonstrategic actors (Asmuß & Oshima, 2018). Dynamic observation will be the starting point of emplotment, and enables us to integrate a group of actors into inquiry processes. Nonparticipants in the inquiry can also, through *mimesis III*, participate in the common narrative even if they are unwilling or unable to contribute to emplotment of the indeterminate situation. Through their reception of the resulting text, they take part in the construction of meaning and the collective narrative.

The question of an integrating narrative

The transition from several stories to this integrating narrative raises questions about the role played by the researcher in the convergence toward the narrative. There may be concerns about the dominant or potentially overbearing nature of this narrative. It is important to remember that we are conducting research *with* practitioners, not *about* practitioners (Heron & Reason, 2001). Here, this is defined more as a process in continuous construction and questioning. New events appear, giving way to new plots. The researcher's intervention with practitioners thus enables construction of meaning in a given space time. *Mimesis I* enables us to contextualize the experience in its temporality. In reconstructing this temporality, the researcher, like a midwife, receives the events and sets them in a constructed temporality. The collective narrative is only unique because the participants give it a shared meaning. For the practitioners, this collective narrative helps to construct a new actionable situation, which will be subjected to later inquiries when a new doubt sets in; for the researchers, it gives meaning to the observation data and thus increases the relevance of the research.

Conclusion

Through this reflexive report of a dynamic observation, we have presented a meaning-making exercise based on observation data, while highlighting the pitfalls and potentialities of such an approach. The Ricoeurian approach can take us beyond an epistemology of truth with which observation is rather facilely associated – the researcher's immersion in organizational life, the immediacy of observations – to an epistemology of meaning, relating to the meaning of situations, but also the meaning of data. Reinterpreting dynamic observation by the connective movement between Ricoeur's three mimeses questions the meaning lost and given by actors to their activity, and reveals its richness while proposing a conceptual tool kit that enables the researcher-observer to make sense of the observation data, providing encouragement to adopt this currently still underused method.

Acknowledgments

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Observation as photography: A metaphor

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Abstract

From its invention in the middle of the 19th century to the present date, photography has generally been considered as a highly reliable means for capturing data about a wide range of objects and for a huge variety of purposes. Though debated, photography's relationship with reality is specific and powerful. Because of its long and rich history, photography has encountered many problems and challenges observation methods and practices in management studies. Taking photography as a metaphor for observation in general, this article explores the successive steps of a research project relying on observation. Taking photographs is capturing data; reading photographs is analyzing and interpreting data; and showing photographs is presenting the findings in publications. For each stage of the process, various issues are discussed, drawing on the scientific, forensic, artistic, or vernacular uses of photography. Particular attention is accorded to key examples in the history of photography. This article is an invitation to reflect on observational methods and practices in a non-demonstrative, heuristic manner.

Keywords: *Observation; Photography; Methods; Publishing; Forensics; Art*

Photography is roughly 200 years old. Henry Fox Talbot (1800–1877), one of its pioneers and inventors, called it the 'Pencil of Nature.' The French astronomer Jules Janssen pictured the photographic surface as the ''scientist's retina'' (cited in Geimer, 2018, p. 281). Photography was born as a process believed to produce a reliable capture of reality. It was thought to be far more reliable and informative than drawing, for instance. ''When a zoologist makes a drawing, he only represents what he notices from his model, and, consequently, the picture drawn by his pencil only translates the more or less comprehensive idea that he has gathered about the thing to reproduce …. (…) A photographic image, when correctly made, provides not only what the author himself has seen and has wanted to represent, but also all that is really visible in the reproduced object.'' (Rousseau et Devéria, 1853; cited in Méaux, 2019, p. 7 – my translation). Of course, today, we are no longer so naively enthusiastic. We all know that photos can also hide or lie (or support lies). Yet photos are still considered as a powerful way to observe reality (all kinds of realities, including social ones) and to account for it. Photography, as an extension of human vision and as a device to retain what can be seen, is probably the archetypal instrument of observation. It often comes in spontaneous metaphors when an inquiry is presented or commented upon, whether the inquiry is scientific or not. And this is implicit in the most mundane uses of photos: when you send an Instagram picture of a marvelous dessert to your friends, you are relying on the trust that your friends have in the medium as a way to convey a 'true' account of what you have on your plate.

This article is an invitation to take photography as a metaphor for observation. Of course, many forms of inquiries truly use photographs as a tool for observation (for a discussion of some practices, see Royer, 2020). These inquiries will be included within the scope of this article, but I will not specifically focus on them. What I suggest is that we might benefit from heuristically considering any kind of observation as analogous to a photographic process.

To explore this idea, we will follow the standard process of a scientific inquiry using observation. First, there is the fieldwork: you have to capture the object of your inquiry and collect the data. In photography, this is the shooting part. Photography here is taken as a method, partly incorporated

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into the camera and partly implemented by the photographer. Second, you have to analyze and interpret the data. How do we read photographs? What do we see (or fail to see) in them? Third, you have to write about your findings, a doctoral thesis or a scientific article to be published (hopefully) in a well-ranked journal. Scientists using photography do exactly that. Artists show their work in exhibitions or publish books, trying to please their audiences or otherwise offer them an interesting experience. Ordinary people send pictures via social networks, hoping to share an emotion or spur a laugh. Scientists, artists, you, and me: we all want our photographs to be, in some way, convincing. Shooting (collecting data), reading (analyzing data), and showing (publishing) – but before we really start the metaphoric exploration of photography, we have to get back to the key issue of the realist assumption that infuses photography. As stated before, things are not that simple. Photos do not just appear: they are made, and this matters.

Real of fake? The epistemology of observational data

Real!

In photography, the confused war between positivism and constructivism also rages. As mentioned earlier, photography first appeared as the perfect witness of reality. Scientists marveled over this prosthetic eye blessed with far more abilities than the human eye. Painters used photos as documents to avoid the pains of traveling or paying models. Soon, reporters caught images of scenes never before seen by wide audiences: battlefields with scattered cannonballs (e.g., Crimea war by R. Fenton), destroyed houses, and dead bodies of soldiers (e.g., US Civil War by M. B. Brady). Successful press outlets developed around the publication of extensive photographic coverage of events all over the world (e.g., *Life* magazine). The police quickly relied on photos to document crimes and identify offenders. The military deciphered the capabilities and intentions of the enemy on the basis of aerial photographs. And everywhere people took snapshots to stall the passing of time and retain images of what once was. Even Roland Barthes, who worked hard to kill the referential illusion in literature, surprisingly took quite the opposite stance on photography. He saw the power of bringing the past into the present as the true nature of the photographic image (Barthes, 1980).

Photographs are traces of what is or was: this is called *indiciality*. The light that came from the object and struck the sensitive surface creates a direct link – a complex one, but a physical one – between the object and the image. This is why photos are 'true.' As noted in telling terms by the artist photographer Hiroshi Sugimoto, this truth draws the line between pictures and photographs: "A picture is a picture because it is

a fiction. A photograph is a photograph because it appears *not* to be a fiction." (Sugimoto, 2016, p. 4).

Fake!

Sugimoto is famous for playing with the limits of the photographic medium. Depending on how you understand the ambiguous word 'appear,' his statement may also mean that photographs are, in fact, fictions that are mistaken for the truth. It is true that photons have traveled from an object to a light-sensitive surface that kept a trace of this event. Is this enough to take this trace as proof of the object? So, much else is involved in the making of a photograph: photographs are taken by photographers equipped with a complex apparatus and who have more or less clear purposes; photos are edited, published, and circulated through numerous media to different audiences; they are received and consumed by people who have varying degrees of cultural knowledge about images; etc. Thus, if a photograph appears *not* to be a fiction, it is only an appearance. For at least 50 years, most academics and critics have insisted on the socially constructed, coded, conventional, and artificial character of photographs. No photograph should be read without taking into account its social, economic, or ideological context. No photograph is innocent. So much for the 'Pencil of Nature.'

Eager to differentiate themselves from reporters and laypeople, artists proved highly receptive to this idea. Some claimed that photography was just another way to make pictures, just like painting or any other technique. They pushed the idea of 'truth' out of the picture with staged photographs or digital manipulations. Other artists turned to the exploration of the medium itself. The materiality of photographs became a focus of attention. Old, complex techniques became trendy. Finally, still another group of artists engaged in the philanthropic, moral, and political project of opening the eyes of the layperson about the illusion provided by photos. Emancipating the spectator implied displaying the ambiguities of photography. For instance, photographer Simon Vansteenwinckel described in his latest book as a 'documentary of fiction' (Vansteenwinckel, 2019).

It is complicated

This oxymoron can be applied to an important trend in contemporary photography: documenting various aspects of the world, mainly social and urban realities, by using the procedures, techniques, and codes of the documentary photography while simultaneously distancing oneself from any claim of 'truth' (Méaux, 2019). Rather than deliberately and ironically deceiving or confusing spectators, these 'new documentary' photographers open the black box of picture-making and side with spectators to help them reflect both on the results and on the process.

They still have a long way to go, though. Unconscious of the conspiracy of conventions, people still take pictures at weddings and parties. Scientists analyze incredibly accurate photos of tiny cells or huge galaxies. While academics, artists, and critics endlessly debated whether photography was real or fake or in between, society at large ignored much of their questioning and stuck to a down-to-earth, positivist notion of photography as picturing what really is. Very convincing proof of this are the countless scandals and trials that have occurred over photographs in history (Girardin & Pirker, 2003). Scandals, fights, and trials would make no sense if people believed that photos do not matter. Today's obsessions with fake news and fake documents only emphasize this. There are fake photos because there are true photos.

'The raw materials of truth'

A good summary of the current situation can be found, I think, in the following quote:

> "There was a time where one no doubt made excessive use of the 'indiciality' criteria and of the barthesian 'it-once-was': each time one looked at a photograph, ontology was brought in, without any mention of the specific formal procedures of this medium. But falling into the diametrically opposite viewpoint amounts to trading all for nothing. It means losing sight of true photographic power and of the point – a problematic one, it goes without saying – where the picture *touches the real*." (Didi-Huberman, cited in Geimer, 2018, p. 320 – my translation – emphasis in the original).

Now, how exactly does photography "touch the real?" This is 'problematic,' yes. Suspicion is required. Yet, photographer Wright Morris wrote on an exhibition's wall:

> "Although we might describe this as the photographic century, the nature and singularity of the photographic image still eludes us. In the face of all evidence of the contrary, we persist in feeling, if not in believing that facts are what photographs give us, and that however much they lie, they do so with the raw materials of truth." (Morris, 2019).

The raw materials of truth: is not this what good observation provides, what good data are made of? As researchers, it is up to us, then, to extract, interpret, and arrange these raw materials as truth – even if we do not all agree on what the truth is, we certainly do not want to lie.

Shooting: Collecting observational data

Collecting data through observation implies solving many problems. Ideally, I want to capture all relevant data and certainly not miss any. This is all the more difficult when I only have a vague idea of what exactly 'relevant' means, because I am not sure yet about what I am really looking for… so, I might try to

collect a lot of data and sort them out later. More numerous data are better, and more detailed data are also better. When this problem arises, photography seems to be the perfect instrument. It provides both width and depth. It records everything, even what you have not seen. Moreover, you can focus on details, go deeper into the exploration of what you have recorded. If you cannot see clearly, just enlarge or zoom. It is all in there!

Forensic photography will help us to illustrate the relevance problem. Scientific photography, along with conceptual and vernacular photography, will provide material to discuss the detail problem and its pitfalls.

The crime scene

At the end of the 19th century, it occurred to some people that police work could benefit a lot from methods inspired by various scientific fields. Photography appeared to be a most interesting tool. Alphonse Bertillon (1853–1914) is considered as the pioneer of forensic photography. He designed and developed a whole methodology for documenting crime scenes (Lebart, 2015a). What is striking in Bertillon's method is the aspiration for metric rigor and exhaustiveness (Figure 1). Crime scenes contain crucial clues along with myriad details that are insignificant. Photography is conceived as a tool that will retain relevant clues until they are sifted out from irrelevant details. The ideal way of doing this is capturing as much data as possible in such a way that at any time in the investigation process, it is possible to get back to the crime scene photographs to make sense of one particular detail. It is important, also when taking photos, that no detail should be given a particular salience. The photograph should present all details in the same neutral way. Bertillon thus designed special photographic devices (camera, lenses, lighting, etc.). Operated through a very thorough protocol, they produced a bird's eye (or god's eye) view of the scene. Standardized scales and abacuses enabled investigators to turn the picture into a strictly defined geometrical space, where anything (object, distances, etc.) could be precisely measured.

As a result, the photos taken with Bertillon's method never reflect the view of a human observer. In fact, they carefully depart from any human point of view. The photographic eye becomes much more than a way to retain what the human eye sees but is unable to record except in the fleeting, messy, and unreliable storage device of human memory. It is rather an all-seeing eye: flawless, distracted by nothing, and focused on everything. It is a mathematical eye or at least an eye that fully abides by the laws of physics. In short, it is closest to an objective eye. In the words of Sandberg and Tsoukas (2020), Bertillon's photographic eye is the paradigmatic example of the *detached, representational* position. Of course, this eye does not see by itself. It equips the investigator by replacing the

Figure 1. Alphonse Bertillon. Metric photographs of crime scenes. Source: Lebart (2015a).

investigator's limited and unreliable human eye, thereby enabling him to access this detached position that is necessary for the search for truth (or so it is believed).

The underlying conception of police work is, obviously, very different from what popular descriptions suggest (e.g., think of Simenon's *Maigret* or Chandler's *Marlowe*). At the time, it was indeed in strong contrast with usual police practices, which were mostly tricks of the trade, often implying a close proximity between policemen and criminals, and in any case requiring a much more engaged position from the investigators: gathering clues from informers, surveilling places, tailing suspects, confronting them in interrogations, etc. These traditional police practices did not disappear. Still, with the use of photography, Bertillon had successfully promoted an ideal conception of police investigation, based on a very specific type of observation and data collection.

There is undoubtedly a strong flavor of positivism in Bertillon's method. It is grounded in observation without any observer and replication of the object in an artifact that can be retained and manipulated at will. In many ways, it is what spontaneously comes to mind when we design or discuss an observation protocol. Who does not secretly dream of a device or method so powerful that it would do the job by itself and provide such a reliable replica of the object? Digital technologies repeatedly offer opportunities to revive this dream. Even when we are more skeptical, Bertillon's ideal still provides the template against which we compare our methods and outline their flaws (and then try hard and make them acceptable).

Bertillon's ideas received much attention outside France. One of his disciples was the Swiss Rodolphe Reiss, who wrote the first comprehensive book on forensics. Just like his master, Reiss stressed the importance of exhaustive observation and accumulation of details through thorough photographic practices. Yet he also advocated a progressive, narrative approach (Figure 2). Photographs should first set the scene from a distance, as it appears to the investigator arriving on the premises. Varied views should be taken, gradually progressing toward the crime scene, still following the investigator's steps. Only then should close-ups be taken, focusing on specific details that could carry some importance (Lebart, 2015b; Méaux, 2019). Just as in Bertillon's method, Reiss used photography to collect and retain a maximum amount of data. Yet the profusion of data is also a profusion of documents, angles, scales, and levels. The analytical work that is left to the investigator's eye (and brain) is not so much a kind of calculus from a geometric, abstract space, as an interpretive work combining different kinds of data through undefined cognitive processes.
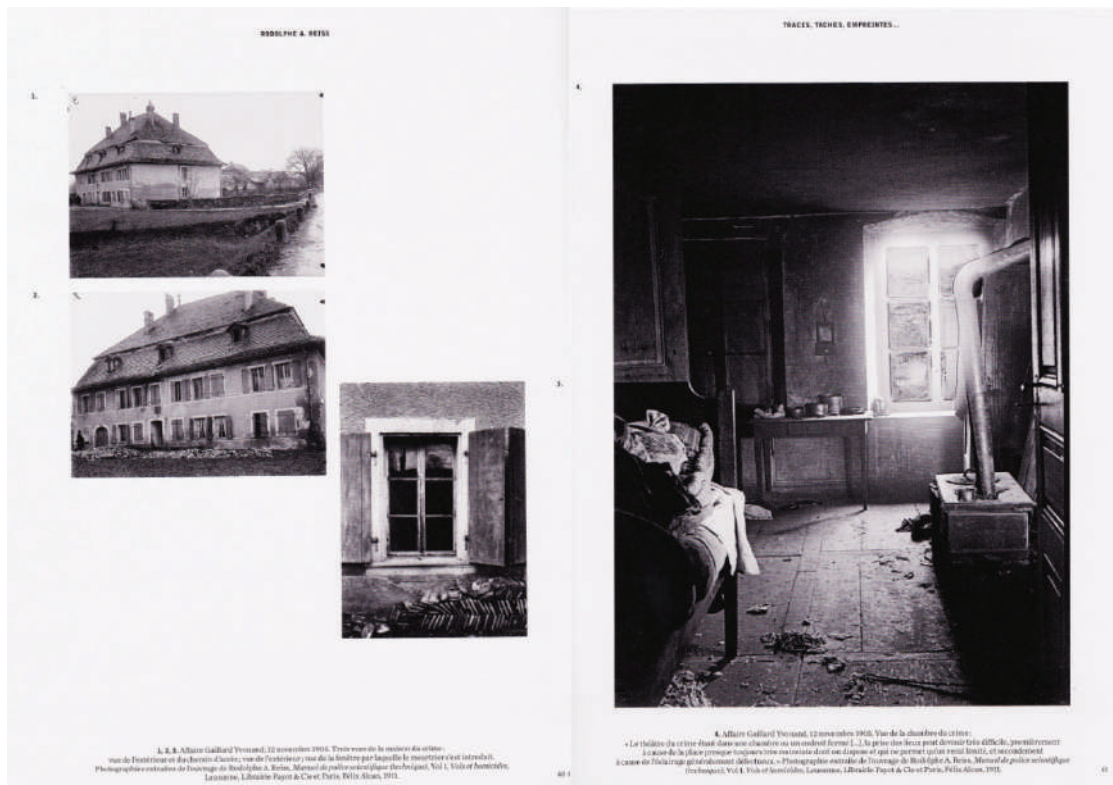
Figure 2. Rodolphe A. Reiss. Photographs of a crime scene. Source: Lebart (2015b).

Let us not make Reiss a precursor in post-qualitative inquiry (St. Pierre, 2018), though. He still insisted on rigor, accuracy, and analytic clarity. Yet his work provides an interesting metaphoric alternative to the abstract, ideal model of observation that Bertillon proposed. Reiss was deeply aware of the cognitive limitations of the investigator. He wrote:

"It is necessary to retain the image of the observed scene not only to correct interpretations due to errors and oversight, but also to repair a purely psychological process. It is obvious that a member of the judiciary called for a forensic examination will very quickly form his opinion about the nature of the crime or accident, etc. Once he has formed his opinion, he will carry out his investigation on the premises in the same direction. He will naturally look for typical clues, often without worrying about other little details. He does not even see them because he does not want to see them. Here again, the camera sees everything and records everything." (Reiss, 1903, cited in Méaux, p. 194 – my translation).

This is a strikingly acute description of the 'confirmation bias' that psychologists consider as one of the most pervasive of cognitive biases (Nickerson, 1998). Reiss conceived photography as a way to counter this bias, rather than an instrument prone to favor such a bias.

It is only ironic that, despite his obsession with rigor, Bertillon stubbornly supported the accusation of Captain Dreyfuss,

ignoring obvious contradictions in his own analysis of the handwritten note that was at the heart of the case (Mercier & Sperber, 2017). Bertillon himself was also an exemplary case of analytical failure and confirmation bias. This failure was not about a photograph, but nor is it very comforting.

Definition

Photography, it is believed, records everything and any detail can be picked up from the photo and enlarged for deeper examination. Stunning discoveries can be made this way, unveiling unsuspected aspects of reality. Antonioni's award-winning movie *Blow Up* (1966) precisely puts this idea to the test. A professional photographer wanders into an almost deserted London park and takes pictures of what looks like a charming couple meeting for a romantic affair. But the woman loudly resents his photographing. To calm her down, he gives her a roll of film – only not the one he shot. Later, when printing the views, the photographer is puzzled by some aspects of the woman's behavior. After more printing and searching, on one of the enlarged prints, he spots a man armed with a gun, hiding in the bushes. On another print appears what looks like a body lying on the ground behind a tree. At night, the reporter goes back to the park and finds the dead body of the man he photographed a few hours

earlier. The love story he witnessed has turned into a trap: the woman was luring her lover toward the bushes where a killer was hiding. When the reporter gets back home, the negatives have disappeared, as well as the prints, except one, a fully blown up image of the body. He shows it to a friend who fails to see anything more than spots of various shades of grey. In the morning, the reporter goes back to the park again. The dead body has disappeared.

Photography does not record everything and cannot provide details on everything. This is partly a technical issue. The digital camera that Antonioni's reporter would use today instead of his semi-automatic reflex with black and white film would probably offer a better definition and thus, greater details. Sophisticated equipment, such as the devices used in astronomy, for instance, can pick up incredibly small details. Still, there is another more important side to this. What photography and *Blow Up* suggest is that an observation method, however powerful, has some degree of optimal definition that should be thought about (or designed) in accordance with the object and purpose of the research. Beyond this limit, what was information turns into noise. Note that it is not a matter of separating information from noise (as we previously examined with forensic photography). On the contrary, in the *Blow Up* story, noise and information are built from the same material. Changing scale, or trying to grasp multiple scales, is risky and perhaps pointless. If a method is designed to study an object (e.g., romantic encounters in public parks), its reliability for a different (e.g., 'smaller') object is questionable, even if the objects are strongly related (i.e., there is a continuity between them).

Let us push the issue even further: going beyond the limits of a method may produce artifacts that will be confused with information about the object. One key point is that these limits are unclear. A fascinating illustration of this point is provided by conceptual artist Hugo Mulas (Chéroux & Ziebinska-Lewandowska, 2015). Mulas photographed a perfectly blue sky in black and white. He then printed the negative up to the size where the photographic grain (the tiny light-sensitive silver crystals that compose a film) became visible. Finally, he took a picture of a small portion of this print and blew it up into a huge print of a 100 times the size of the portion he photographed. What he ended up with was a picture where the piece of sky had turned into what looked like a wall but was in fact a picture of the sensitive photographic surface. Or, in other words, a picture of nothing.

Artifacts

Scientists marveling at photography in the 19th century encountered similar problems, only they were unaware of them. On the one hand, photographic processes at that time were complex and unreliable. They often failed for unclear reasons.

Pictures often showed patent flaws or weird artifacts (Geimer, 2018). On the other hand, unsuspected physical phenomena, like X-rays, had been serendipitously revealed by photography. The photographic process had proven able to "see" the invisible. As what is invisible obviously cannot be identified before it appears on photos, there was considerable confusion when some strange form showed up on a photo: was it an insignificant artifact of the process itself? Or was it the trace of a mysterious reality? Discoveries like X-rays strongly suggested that many other fluids may float unnoticed around us. After all, X-rays were not light, at least not ordinary light, and yet they had an effect on photographic plates. It was quite plausible that photographic plates were able to detect not only light but also other kinds of fluids. It was not unreasonable to suspect that thinking, for instance, produced some sort of invisible fluids that could be registered on photographic plates (Geimer, 2018). Spirits and ghosts being a popular fad among the well-educated population, a host of photographers produced pictures of nebulous forms (Chéroux, 2003). The infamous Turin Shroud was photographed and analyzed in a great depth (Geimer, 2018; Lebart, 2015c) (Figure 3). Very serious forensic physicians tried to analyze pictures of victims' retinas in the hope that their eyes had retained the last picture of their murderer (Dufour, 2015). It was unclear that what kind of invisibility could be made visible.

Photography thus proved to be a marvelous instrument for seeing what you wished to see (for additional development of this idea, see Morris, 2011). Its power works both ways: seeing what exists that you did not know about (like X-rays) and seeing what you know about but does not exist (like ghosts). Epistemic implications for observation methods are obvious: if the method is not fully reliable (which one is?) or if the
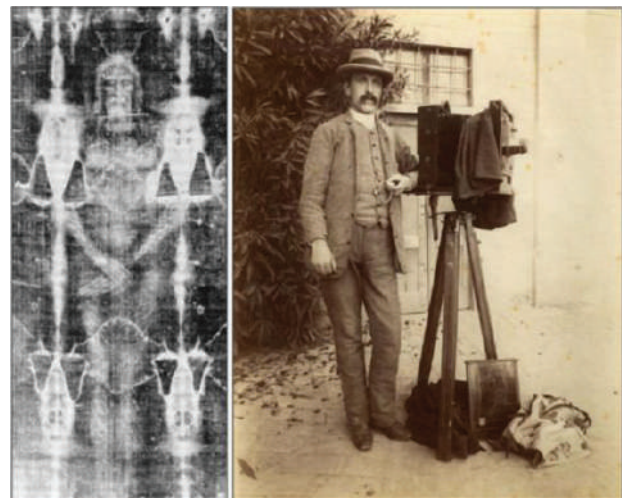

Figure 3. The Shroud of Turin and the photographer Secondo Pia in 1898.

observer is not aware that the method is not fully reliable (and in which way), artifacts can be mistaken for significant data.

High dynamic range

Seeing too much in overly detailed pictures is an issue. The reverse is also true. The abundance of details can blur the vision. Again, we generally take it for granted that more information (more details) is good for research, provided that we have the time and resources to analyze the data. Photographers also tend to favor very high definition (asking for ever more pixels, for instance, on the captors of their digital camera). Yet counter-examples invite us to moderate our eagerness for more details. High dynamic range (HDR) provides a first one. Not to be confused with the academic French diploma of *Habilitation à Diriger des Recherches*, HDR is short for high dynamic range. This function is now a standard feature not only of digital cameras in the 'expert' categories but also of many smartphones. Its purpose is to remedy a tricky problem of photographic devices. Indeed, in many respects, cameras do worse than the standard human eye. The human eye is extremely apt at simultaneously dealing with light and obscurity. Plus, we have a brain that is incredibly good at picking up shapes and forms from a few details. Cameras, in comparison, have a very limited ability to withstand high contrasts ('dynamic range' in the photographic parlance). When part of a scene is in the dark and another part is in the light, usually the photographer cannot hope to obtain a detailed image of both areas. He has to make a choice: if the bright zone is correctly exposed (thus giving a detailed image), the dark zone will be almost black (thus hiding details); conversely, if the dark zone is correctly exposed, the bright zone will be 'burnt,' that is, white as a flashlight. Making correct choices used to be a significant part of photographic skills (and a significant part of photographic failures). Modern, automatic cameras can, of course, make the choice instead of the photographer. But this is still a choice and the outcome will be less detailed than what the eye perceives.

This changed recently. Today's cameras, which are in fact computers with lenses, are equipped with powerful software. The HDR system, when activated, instructs the camera to take a series of pictures of the scene (e.g., 10 pictures very quickly) with, for each picture, a different choice of exposure. On a given picture, some parts are correctly exposed and show many details, while others are left in the dark or are violently white. The software then picks up the best parts of each photo and combines these parts to produce a well-exposed, highly detailed picture of the scene.

The trick is a delight for many photographers and offers opportunities for abundant technical advice in specialized publications. In one of these, however, we read this unexpected statement:

"(…) in practice one can end up with pictures that look very artificial and resemble a painting much more than a photo… The paradox is that, with its nearly two centuries of history, photography has taught our eye to adapt to the overly short dynamic range of photographic outcomes and to the esthetics they have produced." (Réponses Photo, 2017, p. 38 – my translation).

In other words, a photographically educated eye is happy to see less than it can see. When the photo provides all the details, it usually sees by itself, it does not seem realistic. When I look at a photo, I expect reality to look different from what I expect when I see it with my own eyes.

More is less

Two other examples (or, rather, counter-examples) caution against the abundance of details. Ugo Mulas, again, comments on a double picture of Victor-Emmanuel II, King of Italy (from 1861 to 1878) (Figure 4). The photographers used a camera with two lenses. It simultaneously took two images. This was a trick (in some way, a primitive ancestor of the HDR system) that allowed two different exposures, so as to have a bigger chance of obtaining a good photograph. Again, in the 19th century, reliability was low. The photographers probably did not want to detain their royal model for too long. In fact, the two photos are technically correct. They are almost identical, with only a slight difference in lighting and a slight difference of angle (because of the two lenses photographing from close yet different spots). However limited, Mulas notes, the differences result in two completely different pictures. On the first one, we see a king in full apparatus, a true picture of majesty and power. In the second one, we see an old, tired man in uniform (Chéroux & Ziebinska-Lewandowska, 2015, pp. 148–149).

As a researcher, would you really be pleased with having this second picture in addition of the first one? It might seem a

Figure 4. Victor-Emmanuel II – Fratelli Alinari. Source: Chéroux & Ziebinska-Lewandowska, (2015).

good idea to have multiple 'takes.' This sounds like a good method that would please the reviewers. Only, the second take, rather than confirming or complementing the first one, provides information that is not consistent. Had you only the original, you would be happy with the result, you would know what to make out of it, and you could move on to the next step. Now you have a serious problem: which one is telling the truth? Can you pick one and decide that the other is nonsignificant? Should you tell the reviewers? Too much detail can cause confusion.

Finally, too much detail can simply prevent you from seeing. The German artist Thomas Ruff went on a crusade against the commonsense idea about photographic portraits (and, historically, their usual artistic purpose) that they opened up the 'true' personality of people. He thus took a series of portraits of people of the most ordinary kind with blank facial expressions (Figure 5). He did this with a camera that provided an extremely high definition (in plain words: very detailed photos), and he printed these high-quality pictures in a huge format. The spectator can thus see all there is to see about the portrayed persons. Yet they give no clue as to who these people are or what they feel or do (Méaux, 2019). We see everything, yet we see nothing. Lost in detail, all we see is a blank face

Figure 5. Portrait (Ruff, 1987).

devoid of expression. The photos are meaningless in psychological or sociological terms. We are unable to draw any kind of generalizing inference (whether a theory or an opinion) from this abundance of analytic data.

More numerous data are better. More detailed data are also better. Yes, to some extent. Photography reminds us that, however powerful, an instrument only gathers data, and gathers only data. Put differently: an eye needs a brain to see what the eye captures.

Reading: Interpreting observational data

The earlier examples about disturbing details are, of course, a case of analyzing data as well as a problem of capturing data. Most of the time, collecting often implies making choices that require some kind of quick pre-analysis. I have to orient my collecting strategy, select targets, points of views, etc. Complementary strategies are welcome, but they are costly (Journé, 2005). I will come back on the detail issue and examine the importance of salient details in the interpretation of data, firstly for making choices about which data to collect and secondly for a more detached interpretation of data. I will then turn to the importance of non-salient details. Reading photographs may require an educated eye to extract significant details and confer meaning to the pictures. Educated eyes still only see what they have been educated to see. At the end of the day, how do we, researchers, navigate between the attraction of salient details and the discretion of silent ones?

The uncommon detail

Choosing what to shoot supposes that I make choices regarding not only the target but also key parameters (frame, distance, depth, light, etc.) that will determine what data will be available in the end. I have to make up my mind about what might be interesting. This means I have to anticipate the analysis by means of an interpretation, however cursory, of the scene.

Let us take an example. Stephen Shore is a world-famous photographer and an artist. His most acclaimed series, 'Uncommon Places' (Shore, 2004), documents ordinary US urban spaces in the 1970s: mostly in small- or middle-sized cities or at the periphery of big cities (Figure 6). Most of the pictures are devoid of human figures. The carefully composed, detailed pictures systematically avoid any picturesque element, any chance of a possible story. They discard salient details in favor of a general, distanced view.

On one of the pictures in the series (Shore, 2017), taken in Seattle in 1974, I noticed a car of an unusual type: among the huge, square-shaped, American cars, was a Renault 16 (Figure 7). The odds of coming across an R16 in the American streets in those years were extremely low. Finding one on Shore's pictures is a true event in statistical terms. Of course, it is an event only

Figure 6. Uncommon places (Shore, 2004).

Figure 7. Shore, S. (2017), Pine Street, Seattle, Washington, August 27, 1974. *The Selected Works 1973–1981*. Aperture.

for those who are able to notice it, that is, the very few people interested in old cars *and* American photography. For those people, this tiny detail gives a specific meaning to the picture. For me, the plate is no longer a photo of a Seattle junction; it is a photo of an R16 at a Seattle junction. If I try my best to 'un-no-tice' the detail, perhaps I can make it a photo of a San Francisco junction with an R16 (more likely, *the* photo of a Seattle junction with an R16). In any event, the photo has turned into something else than the intended picture, all by the power of one single detail. Just like with the duplicate of King Victor-Emmanuel II, the salient detail is disturbing. Note that it is not salient in itself: *I* made it salient (but I cannot help it).

Let us suppose now that I am Stephen Shore when he took this picture. My project is in all aspects identical to Shore's. The only difference between Shore and me is that I like foreign

Figure 8. President Raymond Poincaré 'The man who laughs in graveyards'. Source: Humanité, (1917).

cars. I install my big camera on the tripod, pick up a frame, and decide on the settings. Then I spot the R16. I go and check it, perhaps take a picture with my Leica. Then I get back to the tripod and wonder: should I change the framing so that the funny little French car is not visible? At first sight, why bother? It is likely that nobody will notice it, and my project is to record reality. But what if someone does notice it? I do not wish to provoke any subtle analysis from some critic, going into wild theorizing about the small *uncommon* detail that gives all its meaning to the picture, then generalizing this brilliant idea to the series with multiple examples of marginal-yet-significant details that demonstrate my intentions and my genius (and, incidentally, his). You never know how people, especially edu-cated ones, may interpret your pictures. So, to be on the safe side, I take my tripod a few yards aside and change the framing.

Changing the meaning of a picture with a single detail is a basic technique of propaganda and manipulation. In 1917, President Raymond Poincaré was vilified as 'The man who laughs in graveyards' (Figure 8). During a ceremony in a ceme-tery, Poincaré was photographed with a strange facial expres-sion, probably due to too much sunlight. Published in *L'Humanité* with the caption 'The laughing man', the photo caused a scandal. .

Analyzing a more recent exhibition of smiles in the pres-ence of dead people, Erroll Morris gives a powerful demon-stration of the subtle use of this effect (Morris, 2011). Among

M@n@gement

Figure 9. Abou Graib, 2003. Source: Morris, (2011).

the many shocking pictures taken by soldiers at the infamous Abu Ghraib prison in Iraq after the 2003 invasion by US forces, one shows a young woman bending over a dead body with a wide smile (Figure 9). The woman is a soldier from the Military Police (MP), guarding the prison, and the dead body is one of the prisoners. The picture was published in the US press with the caption 'The Ghoul.' In his investigation, Morris notes: "We don't understand what the photograph *means*, nor what it is about. Instead of asking: 'Who is that man?' 'Who killed him?' the question becomes: 'Why is this woman smiling?'" (Morris, 2011, p. 118). The Military Police soldier was just supposed to take care of the body, a very ordinary task for MPs at Abu Ghraib. She had been told that the prisoner had had a heart attack. In fact, he had been tortured to death by special agency investigators. Though she herself participated in maltreatment of prisoners (and was later sentenced to 6 months), she was never involved in the torturing or disposing of prisoners. Indeed, that night, suspecting the cause of the prisoner's death, she conducted a private, covert investigation, because she felt bad about the generalized deviance happening in the prison. As for the smile, which in any case is not in itself a maltreatment, the analysis of the facial muscles shows that it was not a 'genuine' smile, a smile of pleasure, but a social smile, the one everybody puts on their face when photographed by a friend or a colleague. Morris suspects the US government of having released this picture to divert public attention away from torture and killings committed by the CIA (Central Intelligence Agency) and other agencies in Abu Ghraib toward marginal misconduct by low-ranking servicemen and servicewomen.

The R16 is a tiny detail that would go unnoticed by most, whereas the soldier's smile is so salient nobody can miss it. In both cases, though, they exert an influence on the reading of the photo – the researcher's reading, firstly, and the spectator's reading, secondly. I will develop the second point later. Before

that, I will turn to quite the opposite problem: how to extract significant details from the undifferentiated mass of information?

The educated eye

Observation is one of the methods used in the military to collect information about the enemy, especially at war. When photography became reliable enough and cameras relatively easy to operate, the armed forces adopted the medium. During World War I, they sent photographers up in air balloons and, later, in planes, to collect intelligence on a variety of topics: how many troops, guns, tanks, and planes?; where were they?; how were they protected? the states of roads, bridges, and railways; etc. Damage assessment was also a key concern: if you bombed trenches, for instance, you wanted to know if you hit the targets and how badly you hit them. On the prints, though, people like you and me would see little more than various shades of grey (Figure 10). No troops, no guns, etc., and even less damage to things you cannot see in the first place. It took specially trained experts to decipher significant information amidst this sea of grey (Petiteau, 2015).

Though today's technology is incomparably more powerful, the need for experts remains. In February 2003, at the United Nations, Secretary of State General Colin Powell exhibited photos that supposedly identified sites of weapons of massive destruction (WMD) in Iraq (Figure 11). They came from satellites and sophisticated aircrafts, yet they were the same kind of pictures that observers took from planes made from canvas and wood almost a century earlier. Similarly, the rough prints would have shown nothing to the UN diplomats if experts had not heavily underlined some details, turning them into easily recognizable shapes, and adding telling captions. It turned out that the captions were wrong, which only demonstrates the magnitude of the issue at stake: in most circumstances, reading observation data requires an educated eye.

Educating the eye is demanding and sometimes means overcoming unpleasant emotions. In 1882, Etienne-Jules Marey, equipped with a 'photographic gun' of his own invention, photographed an ordinary man saying 'Je vous aime' ('I love you'). At that time, no one had seen a human face talking and frozen into a picture. Usually, when being photographed, people were instructed to stop talking and stay still. Marey's 20 photographs are strange, ugly, unpleasant pictures of a deformed face (Geimer, 2018) (Figure 12). The spectator has to accept the fact that it takes a monstrous face to say 'I love you.' Seemingly, inhuman acts produce the most human act.

A few years later, in England, where there were paintings of horses in almost every house, Eadweard Muybridge produced incredible pictures of galloping horses (Figure 13). They showed
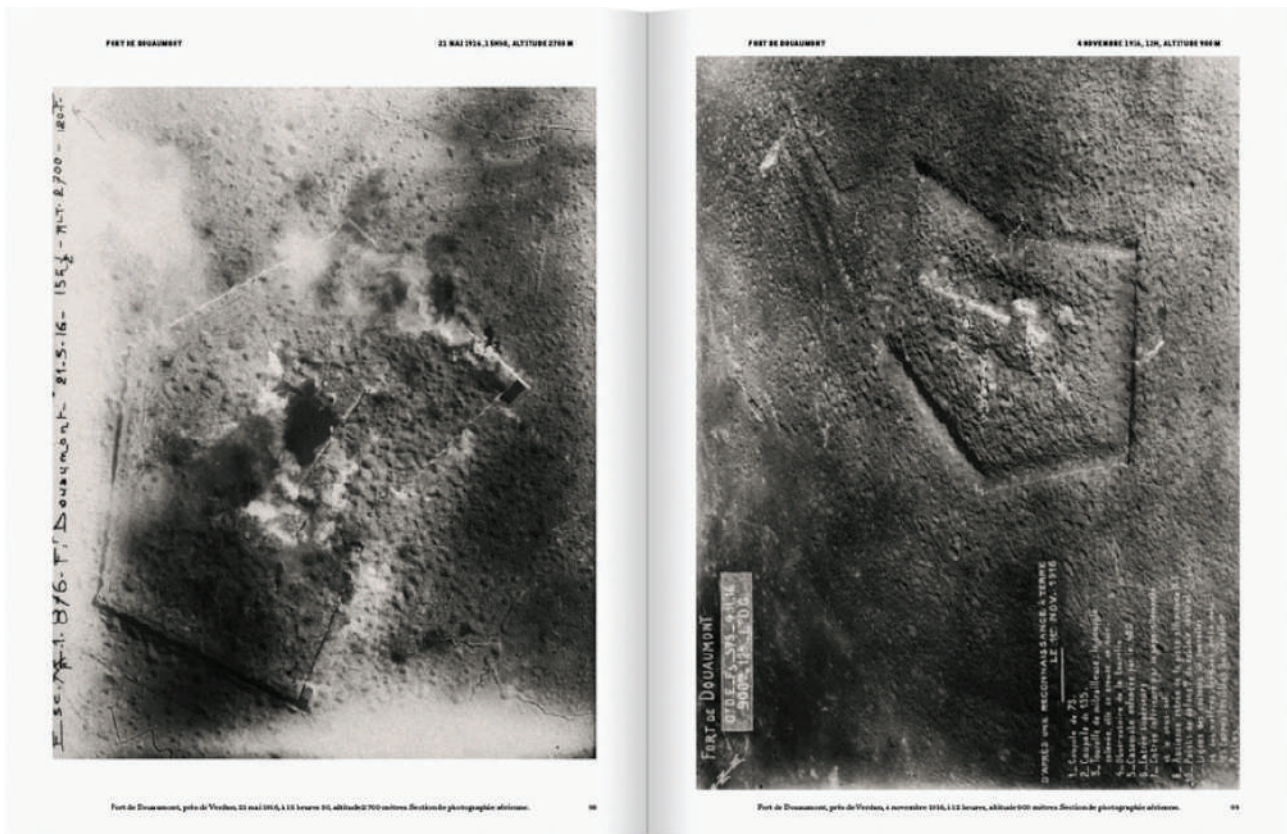
Figure 10. 1914 – The war from the sky. Before and after a bombing. Source: Petiteau, (2015).
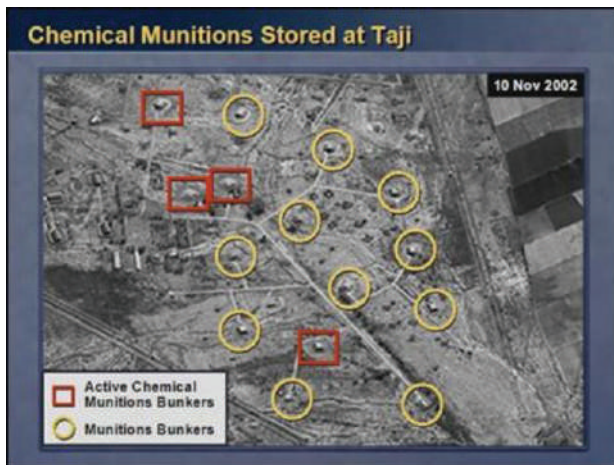

Figure 11. Colin Powell's evidence of WMD at the UN, 2003. Source: https://www.cbsnews.com/pictures/powells-photos/2/

that there was never a moment when all four hooves left the ground. The implication was that most paintings depicting galloping horses were wrong. It must be remembered that, in those times, long before Picasso, paintings were supposed to be strongly rooted in reality. Photographers won the day and

eyes became educated: ever since, no realist painter has portrayed a horse flying above the ground.

Later again, in 1908, Arthur Worthington took pictures of a drop of milk bursting into an elegant corolla when it hit the surface of a bowl full of water (Figure 14). Nobody had seen this before. Nobody has since, except on pictures, but everybody knows. Similar images have even been used as a trademark for a dairy company (Geimer, 2018). Everybody's eye has become educated. "Photography is right: the eye still has to learn what the camera already knows. The image provided by the camera – even if its information seems implausible and puzzling – is consequently closer to the nature of things than ordinary, sensory perception." (Geimer, 2018, p. 274 – my translation).

When our eyes are uneducated, they may be lured by salient details (a smile – Figure 9), miss the point (damage assessment – Figure 10), or refuse to believe what they are seeing (horses galloping – Figure 14). When they are irrelevantly educated, they may pay attention to irrelevant details (the R16 – Figure 7). Educating the eye is key. Educating the observer is key. Traps abound.

And we management researchers, how are we educated? Just as experts in damage assessment or in forensic

Figure 12. I love you – Etienne-Jules Marey, 1882. Source: Geimer, 2018: 244

photography are trained to see what an ordinary eye would not see, we are trained to point our gaze in specific directions, onto specific objects. Graduate school, Ph.D. thesis, seminars, and tons of readings train our eye, so we can see the visible that uneducated eyes (outside our field) cannot see. This is a real accomplishment, certainly, but our job as academics is to do more. We are supposed to unveil what is invisible to our peers' educated eyes. This is how we can make a contribution to knowledge. The interesting question, then, is how the invisible *in our field* can become visible. In other words, how do we expand the visible? There are several sides to this question, and most of them will be addressed in the last section of this article (*Showing*). Here, I will examine the empirical level only: how do we make empirical objects visible to ourselves?

Where is the forum?

Forensics provides a good starting point to discuss how the invisible may emerge from the visible. Weizman describes

the process in the following terms: forensic practices organize the presentation of 'fields' in 'forums' (Weizman, 2015c). A field is typically an event setting (e.g., a crime scene, with all objects attached to it). A forum is a place where the investigation is presented and discussed (e.g., a court of justice). A 'translator' has the mission to 'translate the language of things' that come from the field to the members of the forum. This is a form of *prosopopeia*; according to Weizman: "When presented to the forum, objects are talked about and animated as if they were human subjects. (…). The field is not an isolated, distinct, independent object; neither it is the neutral background on which or against which human action occurs. On the contrary, it forms a dense fabric of corollary links, associations and causal chains between material things, vast environments, individuals and collective actions." (Weizman, 2015c, p. 233). Causalities are not linear but multiple and simultaneous.

Speaking the language of things can be surprising. Investigating a drone attack in Waziristan (Pakistan) in 2013
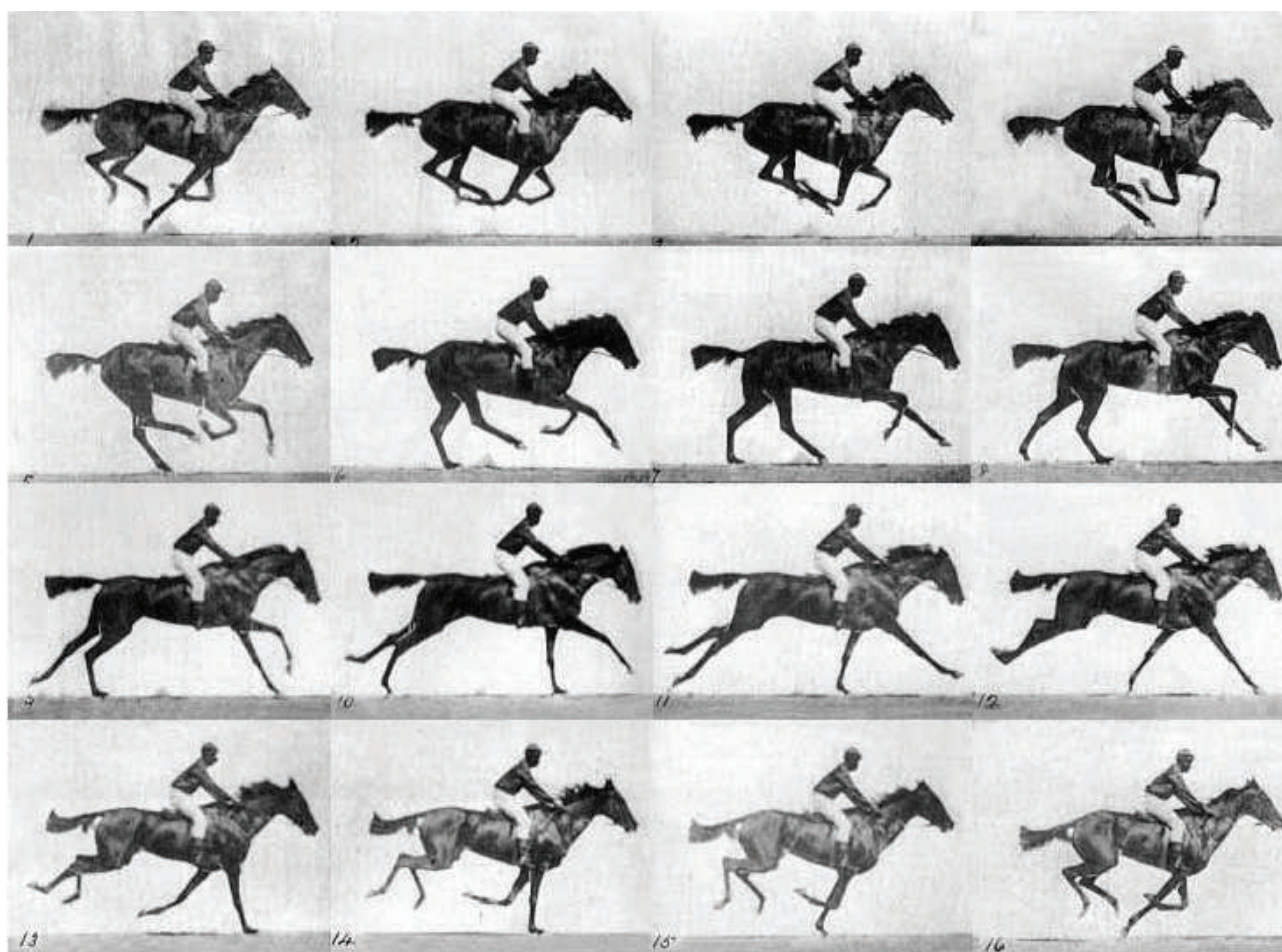
Figure 13. Galloping horses – Eadweard Muybridge.

required careful analysis of amateur video footage for a thorough reconstitution of the location where the (alleged) missile struck (Weizman, 2015b). What was at stake here was to demonstrate that the damage could be attributed to a missile and that the strike had killed innocent people. Stills were extracted from the video. Maps of the premises were produced. Damage was assessed. What appears on the pictures is this: behind the hole in the ceiling, walls are dotted with impacts from fragments of the missile (Figure 15). There are no human bodies. Victims appear as uncertain, phantom areas where no fragment hits the wall, because the bodies absorbed the fragments. The investigation was later presented at the United Nations.

What one needs to look at is where there is nothing to look at. Observation can reveal what it does not show.

Observation in management studies often produces huge quantities of data that need to be analyzed with proportionally huge efforts. In this sense, observation is the constitution of 'fields,' just like in forensics. It is, however, striking that the data are mostly left to analysis by a single person, the researcher who collected the data. Our publication practices guarantee, in principle, that the analysis will be thoroughly examined. Yet the data themselves are entirely left to the researcher (seldom assisted by coauthors). There is no forum to discuss the data, to "translate the language of things," whatever these things may be. It is true that reviewers and editors (and supervisors) are not shy about searching for all kinds of biases that may have plagued the analysis. In our perspective, biases are only a secondary issue, though. What matters first is did the author really manage to get the best out of the data? In forensics, forums are primarily about this issue, though preventing biases is obviously also a concern. The organizational and institutional arrangements that structure our behavior in management studies leave almost no place for forums. We discuss many things, but not data, except when "rigor" is at stake in the late phases of the research project. What is made visible in the data is thus, primarily, what appeared to a single pair of eyes (or only a few pairs).
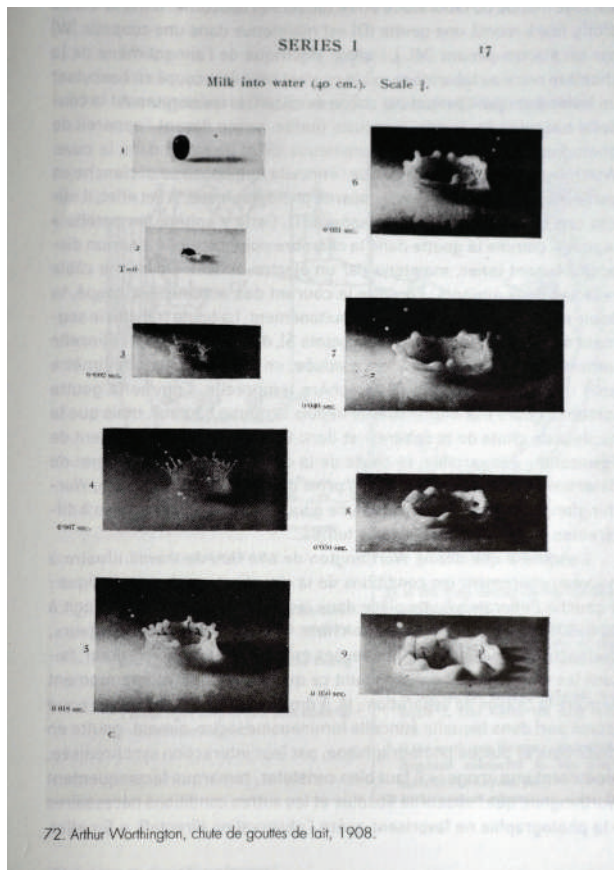
Figure 14. Splash of a drop of milk. Arthur Worthington, 1908. Source: Geimar, 2018: 305.

Mentioning reviewers and editors means that we have arrived at the last step of the process: showing the outcomes of our observation.

Showing: Presenting observational data

You have observed. You have analyzed your data and found something new and interesting. You have ideas about how it can support a theoretical contribution. You are now ready to write an article and submit it. You will have to demonstrate that you have successfully seen something that was previously invisible and that it is worth being made visible. You will have to convince the editor, the reviewer, and, in the end, the reader. As a management scholar, you have to draft a paper and submit it. If you were a photographer, you would have to convince a curator to organize an exhibition or a publisher to publish a book. The photographic metaphor suggests three complementary strategies to be convincing with observation data: (1) visualize your data so that they look good; (2) nip any methodological objection in the bud by making your methods transparent; (3) prepare the reader for the invisible by structuring obscurity.

Visualizing data

Remember how 19th-century scientists saw the difference between drawing and photographing. In fact, the difference went much further than retaining "not only what the author himself has seen and has wanted to represent, but also all that is really visible in the reproduced object" (Rousseau & Devéria, 1853, cited in Méaux, 2019, p. 7). When drawing an object (e.g., an unknown animal), scientific observers did not seek to draw an exact picture of the real object. They were not interested in the specific specimen they had in front of them. They more likely aimed at rendering a typical specimen (Figure 16). Of course, they did not know what 'typical' meant exactly. To know that, they would have had to observe a great number of animals, analyzed the similarities and differences, and built a 'theory' (or at least an abstract representation) of what the typical animal might look like. Instead, they relied on their abilities to imagine the typical animal from the real, imperfect, perhaps fleetingly and partially visible animals they had observed (or the dead ones). "Seeing – and moreover drawing – was altogether an act of esthetic appreciation, of selection and of accentuation. These images were created to serve an ideal of truth – and often also of beauty – not an ideal of objectivity, which did not exist yet." (Daston & Galison, cited in Quintard, 2018, p. 69). In short, these scientists had a specific visualizing strategy to present their observation data in the best possible way.

We still do that, except that today we have to abide by an ideal of objectivity. Put differently, we face a general suspicion of biased subjectivity (if not of deliberate forgery). We have to explain and justify what we show and how we selected the specific data that we show. Offering the reader, a 'typical' object is still a good choice in most cases. Of course, the 'typifying' process also applies to immaterial objects, like scenes, conversations, episodes, etc. Contrary to early zoologists, we have to pick up an object that has been truly observed and is now rendered in a realistic way. And we have to explain why this particular object is typical as compared with other objects we could have picked up as well.

A photograph, at first sight, is deprived of typicality. It is something somewhere sometime. It can be given an exemplary power, a generalized status, and it even has fantastic potential for typicality, but this requires specific operations and circumstances. Typicality can be achieved in two different ways. The easiest and most common way is to pick up an object that is typical in a statistical sense, and argue that all similar objects look more or less the same. The other kind of typicality is not only much stronger but also much harder to obtain and to impose. Walker Evans, who was at the origin of the 'documentary style,' is famous for his photos of vernacular objects and ordinary places (Figure 17). The framing is frontal, the light is direct and natural, and the pictures are stripped of any artifice.
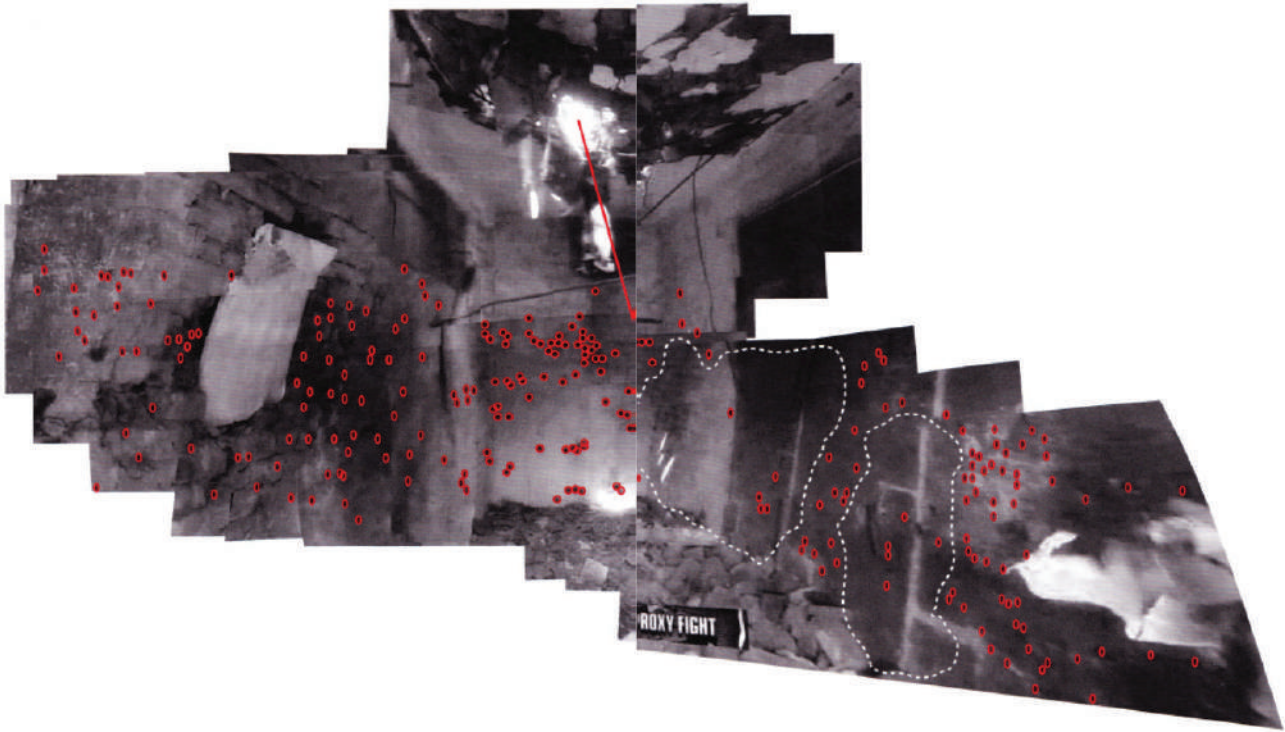
Figure 15. Drone attack at Miranshah, Pakistan, March 30, 2012. Source: Weizman, (2015b)

Figure 16. Copperplate engraving of a drawing by Charles-Alexandre Lesueur, made during his voyage in the southern lands in 1800. Source: Quintard, (2018).

Figure 17. Kitchen Corner, Tenant Farmhouse, Hale County, 1936. Walker Evans (1903–1975).

His aim is to reach the 'transcendence of things' in his own words (Evans, 2017). His photograph of the interior of a poor family's house is not typical of poor families' houses because it looks ordinary and dull. It becomes typical because it is so
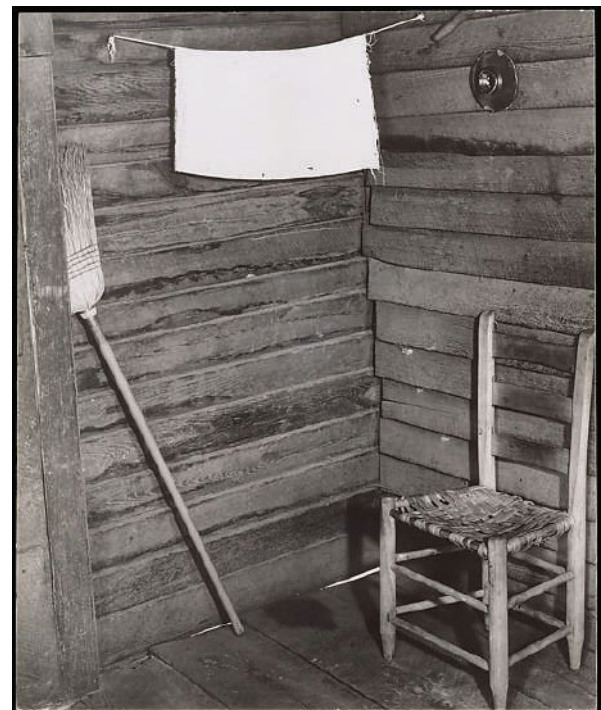
strong a picture, one that speaks for itself. The photo makes the object singular and typical at the same time.

'Typifying' is just an option. More generally, the researcher's question is which data do I show and how, so that they are convincing? As opposed to 'typifying', photographs often use an accumulation strategy. Photos are piled up so that they develop a persuasive strength by their sheer number. In 2009, the Palestine Authority produced a document counting thousands of photos of destroyed buildings in Gaza, as testimony to the destruction caused by the Israeli forces (Weizman, 2015a) (Figure 18). Ruins upon ruins: the invisible becomes visible by its accumulation.

Others also drown the reader with photos but organize them to illustrate similarities and differences, as does the conceptual artist Hans Eijkelboom in his sociologically oriented commentary on globalization (Eijkelboom, 2014) (Figure 19). Variation is what makes the invisible visible here: everywhere, we all dress alike, though slightly differently.

Sometimes the invisible is truly what there is to see. The point is to show that something is missing, to prove the presence of something by its elusiveness. In their investigation into the so-called tax heavens, Woods, Galimberti and Shaxson (2015) faced the challenge of photographing something that was carefully hidden (and, in addition, often plain immaterial). They had to make this absence, this void, visible. The photographic style became a key part of the process, with an exacerbated neutrality that underlined the artificiality of these places (Figure 20) (for another example of this strategy, see Royer, 2020).

At other times, the researcher just builds a fictitious narrative — fictitious, yet with the 'raw materials of truth.' When Arthur Worthington published the beautiful sequence of pictures of a bursting drop of milk (Figure 14), he assembled photos for different drops, because his complex device could take only one picture per drop (Geimer, 2018). The reader believes he sees the same drop falling and bursting — after all, what resembles a drop of milk more than another drop of milk? Yet he is actually seeing nine different drops. Worthington was not only a very clever experimenter but also a very clever storyteller.

The strategies we have just examined are only examples. The key point is that making the (empirically) invisible visible in a convincing way requires a visualization strategy. For observations that do not use photos or films or drawings, the researcher has to develop similar strategies. Interestingly, visualization can be a strategy even for data of a nonvisual nature (Langley & Ravasi, 2019). In this respect, management studies are a very favorable academic field. Journals welcome tables and figures of all sorts. Turning the nonvisual into a visual is therefore an opportunity and, often, a requirement.

Methodological transparency

Ultimately, methodology has the task of guaranteeing that: (1) what has been observed is 'true' in some acceptable way; (2) data have been analyzed in such a way that the meanings attached to them are acceptable. In the language of the photographic metaphor: (1) something exists in the invisible that should be integrated into the visible; (2) this something can be given a new name.

Famous photo reporters or street photographers cared little about explaining how they proceeded to take their pictures. They were endowed with an aura of honesty. War photographers who risked their lives thought that they should be taken on trust, or rather, that their pictures should. Most of the time, they let the pictures speak for themselves. In the suspicious spirit of the late 20th century, though, many famous pictures were proven to be more or less fabricated or deceptive in some way (e.g., Capa's falling soldier [Lavoie, 2017] [Figure 21]).

However, since roughly the turn of the century, a renewed practice of documentary photography has developed (Méaux, 2019). Most of these photographers carry out carefully delimited investigations into social and urban topics (e.g., Mathieu & Stofleh, 2012) or crime stories with social or political aspects (e.g., Sternfeld, 1997 – Figure 22). Deliberately avoiding the photo reporter's spectacular style as well as the sober yet seductive formal perfection of Walker Evans' documentary style, their works are often purposefully dull.

Interestingly, these photographers often find inspiration in social sciences, not only for their topics but also for their methods. Most of them define a 'protocol' determining key variables for the pictures (e.g., framing) and for the making of the pictures (e.g., choices of places and timing, active participation of subjects). This protocol is explained in detail. It is conceived as a part of the work. In other words, the work does not amount to a series of photos: it is at once the photos (the outcomes) and the protocol that produced them (the methods). In many cases, the photographer becomes the instrument of the protocol rather than the classical figure of the inspired artist. The methods are given the real power of agency. Because they share contemporary suspicions about photos, they claim that they want to engage with the spectators and give them the ability to reproduce or at least relive the process that led to the images. This, in their view, will enable spectators to make up their own mind about the pictures, in a democratic or at least participatory process. Most of them, though, do not take the approach too seriously. They see it as a game they invite spectators to play (Méaux, 2019).

Except for the game part, this strikingly echoes the strong focus on methods that we are currently experiencing in

Figure 18. A verification of building-destruction resulting from attacks by the Israeli occupation, published by the Palestinian Authority in 2009. Source: Weizman, (2015a).

Figure 19. People of the 21st century. Source: Eijkelboom, (2014).

Figure 20. The heavens. Woods, Galimberti & Shaxson, (2015).

management studies. A common criticism is that methodological rigor takes precedence over relevance and novelty. Would that be because we are not too sure about the knowledge we produce, just like documentary photographers are unsure about the realism of their pictures?

The most interesting lesson from the new documentary photography, though, is probably a difference rather than a similarity. Photographers intend to draw the spectator into the making of the pictures. We researchers only pretend to

do that. We claim that we are transparent about the methods to enable deep understanding and, possibly, replication. Only what we really want is to kill criticism. In articles, the method section, rather than an exercise in transparency, is a defensive endeavor aiming at deterring or at least containing objections. Which brings us back to photo reporters and street photographers: some things are better left in the dark, says Elliott Erwitt: "But, to preserve the mystery of our trade, and also to avoid showing our weaknesses, our contact sheets must remain as confidential as what you say to your therapist or in confession." (Erwitt, cited in Lavoie, 2017, p. 90). The most famous of all photographers, Henri Cartier-Bresson, concurs in his stiff manner: "An exhibition or a book is an invitation for dinner and it is not our habit to have guests put their nose into the cooking pans and even less into the buckets full of peelings." (Cartier-Bresson, cited in Lavoie, 2017, p. 90 – my translation). We researchers have less latitude, but we make sure we clean the pans and empty the buckets before we submit a paper. Methodological transparency is a strategic transparency.

Structuring obscurity

Yes, scientific photography makes the invisible visible. Yet, as we have seen, confusion reigns at the uncertain frontier between the visible and the invisible. The invisible does not just happen. For some objects to be admitted across the frontier, a social process is involved. The invisible has to be

Figure 21. The Falling Soldier. Source: Capa, (1936).

Figure 22. Pensacola Women's Medical Services, 4400 Bayou Boulevard, Cordova Square, Pensacola, Florida, August 1993. Source: Sternfeld, – on this site, 2012

acknowledged as visible and somehow integrated into the visible world. Analyzing early scientific photography, Geimer writes: ''The preceding 'invisible' was not nothingness, it was a kind of structured obscurity; though undecipherable, it was full of experiences, expectations or imaginary representations.'' (Geimer, 2018, p. 247).

In social sciences and in management studies, the sign that the invisible has been integrated into the visible is when it has been given a name ''coined'' into a concept or a construct. Whoever sees something new has to convince others that it has to be moved from the invisible to the visible and baptized accordingly. In fact, this 'something' will exist in the invisible only retrospectively, after it has been 'moved' into the visible. For this to happen, the reader's eye (and the brain attached to it) has to be prepared. It has to be told what to expect. In other words, the reader's eye has to be told something about what the invisible looks like.

In the social process of scientific production, a presentation of previous research on the topic is the main tool for preparing and educating the reader's eye. It defines the visible (the already known) and draws the contours of the invisible (it 'structures obscurity,' in Geimer's words). What should the reader expect to see (and first of all, the reviewer, the editor)? What should the reader not see (because it is deception, false appearances)? Framing expectations about the visible and the invisible is what we do when we draft the literature review or the 'theoretical background' section of our papers. The 'theoretical background' not only establishes the visible but also prepares for the unveiling of the invisible. Its emergence is carefully announced and prepared by establishing some form of continuity between the visible and the (still) invisible. In the social sciences, even more than in the 'exact' sciences, the sudden, brutal revelation of the invisible is a high-risk strategy. The invisible is welcome as long as it expands the visible. When the author claims to offer a new visible that discards or obscures the previous one, the editor argues that their eye is better educated than the author's. Most of the time, then, possible discontinuity is leveled down to a form of continuity.

Pushing the photographic metaphor may help here, perhaps. Photographs (just like our human vision) are always taken from an angle, leaving parts of the object unseen (Geimer, 2018). What is unseen, though, is 'not visible,' rather than invisible in the sense that we used earlier. The dark side of the moon is not visible, yet nobody expects it to be, say, red hot with flames. The continuity between what is visible and what is not visible is firmly established in the mind. The truly invisible is of a different nature: it is discontinuous. Again, to be acknowledged, this discontinuity has to be outlined in some way. In other words, it has to be 'reduced' or 'tamed' into a lesser form of continuity.

However, the reverse process is also conceivable. The unseen can be 'sexed up' into an invisible. In the social sciences, what is currently unseen (empirically unexplored) on a given topic is much less circumscribed than the parts of an object that are left in the dark on a photograph. Observation, though, reveals a good deal of what has stayed unseen up to the present day. This may well make an empirical contribution, but empirical contributions do not get you into print. Similarly, documentary photographers and reporters are not published if they just add to the huge amount of available pictures by documenting another place on earth. Something more is needed. Researchers practicing observation should ask themselves: did I capture something of the unseen or something of the invisible? As there is no clear frontier, it might be tempting, sincerely or not, or somewhere in between, to frame the visible and the invisible ('structure obscurity') in such a way that

the data reveal the fascinating invisible rather than the less exciting unseen.

Research articles are like exhibitions. They are curated, policed, and disciplined. They are costly and rare. Like exhibitions, they are, sadly, no fun. Walker Evans graciously laments: "Grunts, sighs, shouts, laughter and imprecations ought to be heard in a museum room. Precisely the place where these are usually suppressed. So, some of the values of pictures may be suppressed too, or plain lost, in formal exhibition. (…) I suggest that true religious feeling is sometimes to be had even at church, and perhaps art can be seen and felt on a museum wall, with luck." (Evans, 1971). The Evans retrospective exhibition at the Centre Pompidou in Paris (Evans, 2017) was remarkably rich. It was stiff and boring, though, despite the fact that the curators had the earlier quote printed on a wall.

Conclusion

We began this exploration of photography as a metaphor for observation with 19th-century scientists comparing drawings and photographs. Photographs are better than drawings, they said, because photographs see more than what the scientist sees. Things might be a little more complex, but in the end, photography is certainly 'more' than a drawing in some profound sense. Photography is "an event happening. It goes without saying that this event does not happen without having been deliberately prompted, planned or staged. But, at the same time, most photographs escape their initiators' total control (…)." (Geimer, 2018, p. 318 – my translation). As far as management studies and observation are concerned, do we really let this event happen? Obsessed – for understandable reasons – by the reception of our future exhibition (i.e., the publication of our paper), we try so hard to control the outcome that true events have little chance of happening. Narrowing down the scope of our observations, polishing our methods for more transparency, and carefully prefiguring the invisible to manage doubts, we leave no place for anything to be revealed by accident. Our articles are closer to drawings than to photos. And this is what is expected from us: perfectly controlled and controllable products that look like photos but are, in fact, perfectly executed drawings.

Not that drawings are bad in themselves. Only, we can do better. This is what photography tells us, whatever observation methods one prefers. For decades, photographer Keizo Kitajima has relentlessly walked the streets of towns all over the world and taken pictures of thousands of people walking by him (Figure 23). He published a 750-page book, which encompasses only a portion of these pictures. The title is 'The Joy of Portraits.' (Kitajima, 2009).

Figure 23. Keizo Kitajima, 2009

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Doing Ethnography: Walking, Talking, and Writing

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As arguably, the first ethnographer Herodotus (1987, p. 171 in Willis & Tordman, 2002, p. 394) said in the first ethnography, *The History*: "so far it is my eyes, my judgement, and my searching that speaks these words to you".

This short paper is not exactly a manifesto for ethnography. That has already been done several times (see, e.g., Willis & Tordman, 2002), as if doing ethnography supposed constant additional justifications to counter objectivist criticisms. It is rather aimed to engage rapidly with some of the facets of this curious practice of research, which proposes to find the portal to a strange place in which we are strangers, and say something relevant about this place at the outset of a more or less readable journey (Malinowski, 1938). This is the topic of the four papers of this unplugged section: being a stranger, finding a spot from which to see things going on, engaging in a form of writing that will talk from and to the strange people we will have lived close by for a while. Understanding the power of closeness, of intimacy, the evocative strength of writing ethnographically, of researching a tiny path in the inextricable jungle of social life. And grasping that "nothing is stranger than this business of humans observing other humans in order to write about them" (Behar, 2014, p. 8).

Ethnographic practice indeed raises controversies related to its very essence: Mills and Ratcliffe show that ethnography can be seen according to diverse lenses, either as a "license to explore the curious, the messy, and the unexpected" (2012, p. 147), as a sensibility to be cultivated and experienced, or as an "explicit and rigorous set of methods and approaches (…)" defending a "robust, disciplined empiricism" (Mills & Ratcliffe, 2012, p. 148). The decidedly growing market for qualitative research is indeed likely to trigger contradictory rhetorics and imaginaries about ethnography, and how it is being appropriated or rejected across a range of fields and contexts.

How can one do ethnography *today*? Clearly, it is almost accepted as a fact that lack of time and increasing ideals of productivism and the pressure for 'academic capitalism'

(Slaughter & Rhoades, 2004) moves research designs away from exploratory and long-term fieldwork, toward more tightly defined research frameworks involving less time. Ethnography as "discovery" (Mills & Ratcliffe, 2012, p. 149), whereby the researcher spends the necessary time to walk and let things happen, seems to be sacrificed to the benefit of ethnography as *discipline*, a less involving and costly approach, including the 'four weeks' ethnography, or the long intimate interview. This possible renouncement is unfortunate and vexing for those who still try to define their research craft as an engaged practice (see Rahmouni El Idrissi, Bougherra, & Dsouza, 2020). Keeping distance from high-speed 'drive-by' ethnography or ethnographically informed fieldwork carried out within predefined research schedules is absolutely necessary for defending ethnographic imagination. This is why I would rather suggest that we scholars in social sciences should apply the fundamental ethnographer's lesson: rather than risking to import concepts or categories and to artificially implant them on a slippery reality that we fundamentally know nothing special about (because we have seen it from afar or disincarnated data), we are always better off seriously and patiently observing *ourselves* what people do (Debaene, 2017), and then write about this observation with imagination, seizing the act of writing as being integral to the method of ethnography. While recognizing that the current 'social' economy of research in most institutions concretely prevents researchers from spending long periods of time on the field, I think that social sciences, if they are interested in saying something relevant about people's lives, should invite scholars (especially the nascent ones) to experience what an ethnography can do…an experience that engages "a corporeal knowledge that provides a practical comprehension of the world quite different from the act of conscious decoding that is normally designated by the idea of comprehension" (Bourdieu, 1999, p. 135). This is surely what the four contributions of this Unplugged section strongly illustrate, based on current or recently defended doctoral ethnographies conducted at the Oce Research Centre-Emlyon Business School,

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Montpellier University, and Esade Business School[1]: it is possible to do long and deep ethnographic work; however, that practice engages the researcher morally, corporeally, and cognitively.

The purpose of the ethnographic investigative effort is indeed moral: speaking to the reader's sensitivity as much as to her intelligence (Griaule 1957), rekindles the experience of the material and physical thickness of the world, the concrete value of concrete facts, all the more necessary in a period of fake news and post-truth, where the fascination for images and quick descriptions and assumptions is too often a substitute to the tangible and plausible adherence of everyday life; how can we say something significant to people (be they students, workers, journalists, etc.) without having ourselves seen, touched, and felt the thickness and fragility of the world? Times are in need of truly engaged investigations and request to capture 'what has actually happened' as Barthes was putting (1967). Ethnography renders possible the creation of a 'poetics of fieldwork,' not a constraining and tight methodology, but a whole of aesthetic and formal possibilities that will allow the researcher to write in the language of the world she/he wishes to know better, rather than with an estranged vocabulary following the academic formalist rituals. If that is done, ethnography will be widely read, which is not the case of a huge majority of social science research, which remains hidden behind the walls of often off-putting and disheartening journals and conferences. Ethnography also permits to exorcize the risk of abstraction, by filtering concepts through actively involving bodies (Rahmouni El Idrissi & Courpasson, 2019), transforming the peculiarities of each encounter in a form of resistance to any premature generalization or 'totalization' to follow Claude Levi-Strauss. Ethnography is also somehow the science of vacant spirits and fleeting attention, whereby the researcher allows herself to be carried along by the inevitable unexpected requests of the terrain, in order to just stay on the lookout and grab the impromptu in the apparent routine of detached observation. An attitude that makes the ethnographer *available*, because she/he is *roaming* in the field, in a version of fieldwork that is at times more passive and pensive than active, but keeps the researcher's eyes open to strangeness and imponderables. And that permits to grasp the detail that counts, the gesture that makes the difference, the word that will help understanding, at the corner of a conversation, why certain doings are meaningful and others are not in the very place where they are done.

The consequence of such an approach to fieldwork is to generate knowledge that would not miss human thickness, and could give to social sciences an impetus to an empathic move, a desire to feel the same as those observed, emotions, memories, to be part of them, even to "coincide with others" (Demanze, 2019, p. 138). The authenticity of knowledge in social sciences largely depends, I believe, on researchers' interiorization of what people on the field experience and know themselves (see Ellinger, 2020; Roussey, 2020). There is an epistemological necessity to co-feel others' experience, thereby transforming the 'roamer' in an engaged actor. This suggests that such a truly *human* social science is not reserved to social scientists but includes in a wider circle of investigation and writing forms, journalists, film makers, and writers. Compelling examples of that necessary inclusion/connection are numerous: embedded with the mafia, Roberto Saviano, in his book *Gomorra, dans l'empire de la camorra* (2007), dissects from within the functioning of a mafia organization, thereby rekindling a longstanding tradition of immersive experiences of investigation; Laurent Demanze (2019) also mentions for instance Nelly Bly, interned in an asylum in 1887 to craft a series of clandestine reports, or Maryse Choisy, infiltrated in a brothel in 1928 who wrote the book *Un mois chez les filles* (1928). These are stunning exercises of *corporeal* understanding, because physically enduring what field people endure gives the body of the ethnographer an access to the abstract language of what remains a foreign experience, intimately testifying of what people do and how they do it, to give a "proof by the body" (Demanze, 2019, p. 139; Rahmouni El Idrissi & Courpasson, 2019), enacting a flesh and blood practice of research (Wacquant, 2005). The result of this personal posture is that ethnographic writing is not done first *for* the people, but *from* them, from their everyday experience and how it translates into a text. The other result is that all that intimate and embedded knowledge is hardly possible when research is done behind a desk. So let us leave our desks and take the streets…!

Ethnographic research, as well as *in situ* fieldwork more generally, are therefore instances of "reflexive socialization" (Piette, 1996, pp. 68–72), a conscious work of the observer who must both harness emotional relationships and develop an introspective acuity to learn from the transformational process she/he necessarily undergoes, because of her constant and durable presence on the field (Dodier & Baszanger, 1997; also see Sanson & Le Breton, 2020). Ethnographers need to go through the thickness of communities and cultures they observe to being able to write what Levi-Strauss called a 'total ethnography,' to discern structures in the manifold of insignificant encounters, talks, routines, and doings that every group fabricates in everyday life.

Cold and warm writing

L'âge de l'enquête (the age of investigation): This is the stunning expression used by Emile Zola to depict a 19th century over-heating in an investigative fever, between the boom of documentaries, the invention of the detective novel, and the parallel development of social sciences and naturalistic inquiry 'on the field' (Demanze, 2019). This was the moment when fieldwork was instituted as a privileged mode of relating to the world, as well as a 'state of mind' and a major narrative paradigm. The 20th century has seen the crisis of this common language between literature and social sciences, and an emancipation of the latter from the language and purpose they shared with the novel: building the arguments of certain truths about people's lives through practicing *writing as a method*. Social science has spent much effort and energy to erect cognitive and formal walls between what doing science was supposed to mean, and what portion of rigor and seriousness the writing of a novel or of a newspaper article was deemed to neglect. How many times in respected conferences can we hear the remark, 'this is not serious, this is journalistic knowledge!' or 'this is literature!'…

Contrary to what these sometimes arrogant and fallacious comments may involve, it may well be that we witness nowadays a new moment of reconciliation (Demanze, 2019; Jablonka, 2017). At the crossroad of social sciences, journalism, and 'black novels,' the model of the inquiry, in the form of fieldwork, is today a major form and imaginary, which rekindles the beauty and necessity of the investigative pathway, in its hesitations, trial-and-error, doubts and humility in front of the actual *terrain* and its diverse constituencies. This possible renewed conciliation between the cold and serious world of science and the warmly poetic and 'free' world of literature is crucial to understand because we live in a very opaque moment of our history: fake news, post-truth allegations, and the precariousness of knowledge strongly call for a return of the *fact* (if not of the *evidence* and the obsessive quest for positivistic forms of social science) for encouraging the passion for investigating the concrete, socially and corporeally embedded everyday life of people, instead of relying on 'distant data.' The 21st century is marked by the contradictory split of reality: multiple competing truths are on the scene, a crisis of certainty has been opened and is opened every day at the discovery of the 'news,' largely converging with Baumanian pessimistic accounts about current processes of growing social liquefaction (Bauman, 2000). In the midst of this moral maze, the strength of tiny and insignificant stories is revealed again, the story of all those people 'who do not have history' as Edmond de Goncourt said. Saving the mundane and small traces of supposedly minor existences becomes the fulcrum of the converging mission of social sciences and literature (Courpasson, 2019).

This is, I think, where ethnography gets today some power and enhanced credibility: it is indeed a way to highlight the actual symptoms of contemporary concern about the instability and precariousness of life and fates, to show that concrete everyday life is a practical and discursive construction that is being revealed and constituted in the very movement of investigation, *together with* the observation. In a 6 months ethnography I did in 1989 in a chemical plant, I realized the symbolic centrality of one of the workshops,[2] where workers were dealing with dangerous and above all, dirty and extremely stinking products that were harshly affecting workers' bodies. The curious fact I had to realize was that dirtiness was the surprising key to prestige in this site: a whole peculiar vocabulary was used throughout the plant (composed of 10 other workshops of different kinds, working on less 'problematic' products) to describe the workers spending days and nights in the dirty workshop: warriors, zombies, wacko bunch of extremists, all terms notifying the cultural difference and distance together with a collective historical construction of the admiration that all workers in all units and departments of the plant [including engineers and administrative staff] had for these zombies. Wandering by night through the alleys, sharing coffee breaks and snacks with the team, and capturing their words and gestures as well as complicit glazes and conspiratorial silences at the sight of my clothes ('look at the little sociologist and his light-colored jacket (…) I would not see the jacket next week'), gave me the sense of the cardinal importance of this very workshop's territory to understand the social structure of the plant and its hectic pathway through compulsory strategic modernization. I had to smell the place, to feel the symbolic and unobtrusive power of the product that was always there, snooping around and flowing malevolently and lazily through the conduits, always susceptible to explode and damage the people and the equipment, also seeing the workers' own corporeal scars, proudly shown like gleaming medals, the pictures in the locker room (naked women and wounded soldiers, side by side) to disclose some fragments of truth about the social construction of a 'culture of prestige' in this plant. Ethnography is key to disclose these tiny splinters of truth, relinquishing, at least in part, the generic and often haughty and proud pretense of scientific interpretation, favoring the snippets of ordinary knowledge, of ordinary gestures and efforts to capture the meaning of what people do. Even more importantly, ethnographic inquiry has the power to be *enacted* (Wacquant, 2015), that is to say, to make the most of the researcher's engagement and presence, and taking advantage of the fact that, like every social agent, s/he comes to

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[2] By workshop in this context, I talk about huge metallic buildings around and within which run kilometers of pipelines and walkways. Each workshop in 'inhabited' by teams of 12 workers including one foreman, working in a 24/7 production line.

know her topic and her concrete object of investigation *by body*; and s/he can leverage carnal comprehension by deepening his social and symbolic insertion into the [social, geographical, occupational] universe s/he studies (Courpasson & Monties, 2017; Rahmouni El Idrissi et al., 2020; Wacquant, 2015). This means that we social scientists can and probably *should* work, while on the field, to become 'vulnerable observers' in our practice of investigation ; the same goes with our practice of writing because ethnographers can decide to depart from the supposed truthful scientific interpretation that induces a posture of overhanging neutrality, and instead 'write vulnerably' by injecting large doses of "subjectivity into ethnography," as proposed by Ruth Behar (2014) (see also Sanson & Le Breton, 2020), without always being accused of generating insurmountable biases by the denigrators of an empathetic and engaged social science, favoring less risky [including for publishing!] and less time consuming 'normal' science. There is a powerful method behind what could be seen by some as the weaknesses of subjectivism and the rambling of personal biographies: to dive into the imperceptible and indescribable fabric of banal action and mundane talk to the greatest possible depth, to take the road to capturing the tacit, invisible texture of social life and action, without drowning in the "bottomless whirlpool of subjectivism" (Wacquant, 2015, p. 5).

The current reinvigoration of [qualitative] fieldwork now detectible across the social sciences[3] helps indeed reshaping the boundaries and limits existing with literature and journalism, and that is great news. In her work on the police, Monties (Courpasson & Monties, 2017) gives the reader a vivid sense of the taste, bruises and 'social drama' taking place at dawn, when the police break down the door of a suspect's apartment, or when two police officers have to stay in a car for two days and two nights without moving a finger to keep a watchful eye on drug dealers : the schema of the unity of time, place and action, to construct an 'expansive' sociology (Wacquant, 2005), a *literary* ethnography (Debaene, 2010), is here displayed in all its power. And can turn the writing into a controversial newspaper chronicle (see Courpasson & Monties, 2016). In my own ethnographic work on a group of rebellious bloggers, how could I have captured the dramatic density of intimate engagement leading eventually to long and painful hunger strikes if I had not been everyday 'with them' for almost two years, through online observation and participation in their blog, as well as visits to their private homes

and conversation with family members (see Courpasson, 2017)? Feeling the bodies of resisters deteriorating every day, through their tweets, blog's contributions, voices breaking during phone calls, and the emails of their friends and spouses, gives to ethnographic inquiry [even online] the tone of a heartbreaking social drama that only writers can otherwise offer. It entails a form of *warm writing* that, surely away from current academic canons, helps capturing the workings of *subjectivities* theorized as uncertain flesh-and-blood *agencies*. And would lead many ethnographers to form another discourse, in between facts and observation, and playing with language, in what Vincent Debaene calls the *second book of the ethnographer*.

The second book of the ethnographer

These reminders about what ethnography can bring to social sciences [and to the people] have a number of consequences on the very practice of ethnographic research, in particular in terms of writing and engagement. They are thus meant to encourage ethnographers to present their findings in a wider variety of literary and artistic genres (Behar, 2003) without being afraid of the suspicious and puzzled gaze of journal editors and reviewers.

This is all the more decisive for ethnography to think in terms of a *science of writing* as it is subject, in the knowledge economy, to other types of pressures and demands than in the original discovery-driven Malinowskian framework. Now it is also about being useful: ethnographers need to adopt a different narrative paradigm and style than the familiar disciplinary speech (Mills & Ratcliffe, 2012). On one side, the future writing narrative is claimed to be oriented toward complexity and nuance reduction, and requires growing explicitness, added value, and key points to be identified for sustaining or explaining change to field actors: this could be called efficient ethnographic writing, though avoiding that "the gap between critical intellectuals and simple salesmanship" (Frank, 2002, p. 52, quoted in Mills & Ratcliffe, 2012, p. 159) [or consultants, or design 'thinkers'] could shrink dangerously, to the risk of making ethnography a simple writing tool for entertainment, profit, and everyday voyeurism.

In any case, ethnography is essentially about writing (Humphreys & Watson, 2009): it is the account of the more or less extensive fieldwork having been done, rather than the fieldwork itself (Watson, 2008). Writing, then. But writing what, and how? In that respect, Tedlock (indeed observes that "thousands of works written in many languages and genres have been encoded as 'ethnographic'" 2000, p. 459), covering a huge range from doctoral theses converted into extended monographs to short stories, plays, and poems, even fictional writing such as those mentioned by Debaene (2010): after all, Flaubert, Zola, or Balzac were all writing their classics from detailed

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[3.] This revival does not prevent qualitative researchers to fall sometimes into the positivistic trap, and to present their findings and methods as more and more shackled and legitimated by pages and pages of the so-called explanations and justifications of data collection, data analysis, and so forth. This sometimes sounds like an excuse for not doing 'proper' research, whose objective and serene underpinnings would prevent the researcher from multiplying biases and be subsequently ejected from the publishing race.

observation and documentation of their contemporaries' doings and beings (Bensa & Pouillon, 2012).

Ethnographic writing is a way to both distance the ethnographer from its field, by writing from the emotionality of people she/he has encountered, and to gets her closer to the field, by producing a literary theory of what people do to sustain their living under pressing constraints, rooting action in human nature, rather than only in socially determined subjectivities, in the "irreducible essence of the person – the human soul" (Mitchell, 2007, p. 91). In that effort, mingling scientific prose with literary peregrinations seems unavoidable. Debaene reminds that first among social scientists, most French ethnologists-ethnographers trained in between wars (Claude Levi-Strauss, Marcel Griaule, Paul-Emile Victor…), having produced the first 'handbooks' of ethnography,[4] extended their first ethnographic monographs into a 'second book,' addressing the same topic through a polished literary 'novel,'[5] showing that literature is not only about style and elegance, but also about the possibility to generate through writing an "experience of memory" (Debaene, 2010, p.14). The second book of the ethnographer (Debaene, 2010) is often crafted as a way to compensate for the weaknesses and shortcomings of a science, seen as unable to 'make feel the feelings' of studied people, combining, even melting in the same pot a deep concern for knowledge and an evocative capacity, helping readers to feel something of the richness, ambiguities, and emotions experienced by field actors, without renouncing to educate and instruct. This tension goes through any ethnographic work and probably all human sciences: craving for facts, while forcefully picturing an *atmosphere*. That is also surely a way to respond to a peculiar ethical necessity of ethnography: to acknowledge and shape in duly chosen words the violence involved in constituting other men as objects of study. As Devereux wrote: "It is customary to call books about human beings either toughminded or tenderminded. My own is neither and both, in that it strives for objectivity about that tendermindedness without which no realistic behavioral science is possible" (Devereux, 1967, p. xx). It remains that ethnography will always share with literature – if it is not absorbed or perverted by growing claims for qualitative orthodoxy – the hope to restore exhaustively a human reality that we scholars always fear to disregard through our words and sentences (Debaene, 2010).

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[4.] See, in particular, Griaule (1957) as well as Mauss (1947).

[5.] *Tristes tropiques* from Levi-Strauss, and *L'Île de Pâques*, from Alfred Metraux, are two flagships of this practice.

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Navigating the Space and Ethics of Ethnography

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At my last job in the software industry in the United States, I resigned in protest. The trigger was that I felt the company had treated my coworker abhorrently. But I had been unhappy for a long time in my role as a project manager. It was like a bad relationship I could not quit. I enjoyed high tech and sometimes even the long hours that accompanied hard deadlines because I liked the camaraderie of team work. What soured me on the industry were the dysfunctional dynamics that often occur in the process of making software, a process of disillusionment that had started 14 years earlier when I was a developer and had strengthened over time.

It did not have to end that way. In many ways, I was a good fit for the role. I liked focusing on the hard problems and doing what I could to solve them. Over time, I found that most of the problems were not about technology, even though I worked on complex software. The biggest problems were about people, often about how people were being treated. Once I became a project manager, I focused much of my effort around treating people well and trusting them, which turned out to be a powerful strategy. The other thing I was naively willing to do is work long hours to optimize team process. The most extreme example of this is when I stayed up all night to make sure that teams in China and India were given systems administration support at a critical point in the software release process. I became known for saving troubled projects and regaining the trust of clients. Strangely, not only was I not rewarded for these heroics, but I was also often punished.

At one company, I was put on probation and ultimately laid off for speaking out against pressuring the developer team from India to work 12-h days, 7 days a week, for months, in order to meet an arbitrary client deadline. At another company, a vice president from another division, many levels higher than me in the hierarchy, called me into his office and threatened me for integrating team process in a way that he said encroached upon his domain. An account manager at another company did the same. A Chief Technology Officer (CTO) at yet another company fired me when I was becoming too visible in my work with the Chief Executive Officer (CEO) and parent company. Looking back, the best explanation I can give is that I was power blind. I did not bow down to the hierarchy and did not wait for permission to act. I mistakenly believed the common rhetoric that we as tech workers were empowered and that management would support our risk taking. I focused on solving problems first, worked with whoever I found to help, and I was outspoken. I stuck out when I should have receded into the background.

When I finally had enough, I broke up with the software industry, and in 2015, moved to Europe to leave the US 'empire' for a while and work toward my PhD in management. Given my history, it seems natural that I was drawn toward researching the phenomenon of how companies might function in a more egalitarian, autonomous way. I was lucky. Two organizations practicing self-management agreed for me to spend months over the last 3 years hanging out in their offices, sitting in their meetings, looking at their online interactions, and talking with whoever agreed to talk with me. The funny thing is they are both information technology companies in the United States. So for a large part of my PhD time, I have worked in the same environment among the same types of workers I thought I had left behind.

My intimate knowledge of the software industry has been both comforting and confounding as I have begun to find my way as a researcher. One way it has helped immensely is to understand the context of what is happening in the moment and to make an immediate connection with those whom I speak. I know the processes. I know the terminology. I know the world and am acutely aware of the common frustrations. From my first day on the field, I felt certainly that I was able to understand things on a deeper level than I would have in an industry where I had no prior knowledge. Here is a dialog snippet from April 2019 that flowed based on my understanding of historical software (names changed):

Liv: The R4 system, which is our main financial system, is 36 years old. It is the oldest mainframe accounting system in the whole country, in the United States.

Eleu: Probably programmed with Natural language on the mainframe.

Liv: Not even Natural, it's COBOL.

Eleu: Not even Natural? COBOL?

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Liv: It's Assembly and COBOL on the mainframe. When I started, I started 34 1/2 years ago, and my first job was to write reports against this brand-new system to replace reports from the old system. That bit got ripped out. As part of my career, I want to see that replaced before I leave.

Eleu: That will be so satisfying.

Liv: It will.

At the beginning of my field work, I tried to draw clean lines between my role as a researcher and others warned by my qualitative research instructors to work in ways considered to be scientifically valid. I clung to my research protocol and regularly attempted to scour prejudice from my mind. Practitioner experience made my research life more complex by making my biases highly informed and personal. I knew the personality stereotypes and sometimes the inside jokes of software developers, managers, sys admins, and database administrators. In the field, I felt compelled to question whether my choices were informed by disciplined research approach or questionable assessments based on my history, because every interaction and observation resonated with a decade and a half of my past professional life.

But early on, I was nudged by my research subjects to engage. I was asked for my opinion about how meetings went. I was asked to contribute my opinions about how to proceed. I realized the thing I came to study, the nonhierarchical organizational system called Holacracy, required that I fully join in to really understand it. And I had a seed of faith that my inside knowledge had the potential to make my research better. In the beginning, this joining in meant being willing to not know what to do, at a point where I previously believed I needed to look and feel like I was in control. This stance long predated my entrance into the realm of research. Here is a field memo entry that I wrote early on:

> 27 October, 2016: I am having a real struggle figuring out how to position and what to do. I am used to being so circumspect and able to control a lot through other people's confusion but now I am just as confused as anyone else, these moments of clarity that I used to have all the time, I don't seem to have so much now, or anymore.

The next year, in early 2017, my memos reflect wading further into the big muddy of living my research. For instance, in February, I recounted how I ran into Meg in the elevator, and she asked me how I thought she should handle her elected role of facilitator for her team, a position that I noticed in meetings was causing her stress. I had an in-breath moment of internal conflict of simultaneously not wanting to affect behaviors at my research site while also believing that my mere presence was affecting everyone's behavior. After breathing out, I shared with Meg my perspective that Holacracy seemed to invite people to speak openly about their concerns. Then I

added that the truth is powerful, and sometimes, it is like playing with fire, so it is important to read the situation and speak carefully and responsibly in order to not get in hot water. That second part came purely from my school of hard knocks as a practitioner. That moment of earnestness from me has garnered years of Meg's trust and conversations of deep insight. Is this valid science? Some would say no. But I know for sure that my relationship, and I would even say friendship, with Meg has given me rich perspective aiding in theory building.

When I began allowing myself to have spontaneous discussions with people, without an agenda and with natural pauses, our dialog took on life and perspective that opened big windows between practice and theory in my mind. It was here that I took the leap from participant observation to relationship, and from distanced researcher employing ethnographic techniques to being an ethnographer who enjoys theory building. As one simple example, because of the freedom I now allow myself to converse with others, I sometimes can mark my own thought by speaking it out loud in the flow of conversation. In talking with someone, I enfold their ideas and add to them for my greater understanding, all while the recorder is running. At graceful moments, this has enabled me to do a level of data analysis *in situ*, while I am there talking with the person. Then I have this nugget in the transcript, and it can help me get multiple perspectives, that of the person I spoke with as well as my own, that I am able to analyze further through the process of integration.

My deviation away from classic case study into full ethnography started small and keeps getting bigger. I am entering my third and fourth years with my two research sites, and my inquiries continue. Though I am no longer tiptoeing around the subject of whether I am an ethnographer, the deeper I go, the more I feel that I have to think about my new role and work, which surprisingly draws deeply from my past. My former work as a project manager tended to give me a lot of responsibility without a lot of power. So, I grew my capacity to inspire and to listen, in order to assuage frustration, connect commonalities, and build teams. Sure, I got good at schedules, sequencing, and task tracking. But I believe my most important work, the work that transformed failing projects into successes, was building trust, deepening relationships, and holding confidences across an organization. This core work continues for me in the academic setting. Now as a researcher, I build trust, deepen relationships, and hold confidences every day. Here are three themes I presently ponder as a new researcher:

Leveling the power dynamic. Though I study organizations that strive to be more egalitarian, no system is perfect. In a practice that purports itself to be nonhierarchical, when the familiar power plays happen, the hypocrisy is heightened and even more upsetting. I have found that as a woman, women especially confide in me. The privacy of the interview room

and of me as a familiar face yet a safe outsider has meant that I have learned about many painful work experiences that tie into even more painful personal histories. I do not flinch. I do not pretend that I do not have feelings. I am aware that the audio recorder is on even through tears, and at times I opt to turn it off. In a transcript from 2018, I have me closing the interview, saying after a particularly pained sharing, "I think, if it's okay with you, I want to stop being a researcher and start being a friend." Their trust in me is moving, that I will make sure that they do not regret what they have exposed. Impromptu, I started sharing my stories with them that are equally exposing in exchange. I have many options to choose from. This started as an impulse and has gravitated into a code in my personal ethics. I do not want to only take and use as a researcher. I want to share with others in discussions that are meaningful for all of us.

Double agent – holder of confidences. I have come to know my research subjects well enough over the years that they speak openly, even bluntly, with me around. Sometimes, I think they have forgotten I am in the room. I have heard striking things that add new dimension to my research. Furthermore, in interviews, I often hear mutual complaints that people have about each other. As spontaneous as I am myself in these discussions, I drill into myself the discipline to keep a straight face to not betray what I know and to not share what has been shared with me in private. Though I am not an adherent of the ideas of simple researcher objectivity and distance, I believe firmly in the practice of confidentiality and the precept of doing no harm. Occasionally, I agonize over whether I slipped in a moment off guard. I very much want to remain uncomfortable and watchful with staying on the right side of the line in this respect.

Right relationship with the organization. Recently, I was riffing on some ideas with the founder of one of the companies I study. It resulted in me giving a suggestion about a way to measure performance. A week later, he told me, in the presence of an Agile coach also employed at the company, that he had implemented this idea with a group of senior developers, and he was nervous about it because, given the egalitarian nature of their company culture, it was the first time in company history he had ever given them a directive. He left, and then the Agile coach told me, 'Yeah, and they're pissed,' chuckling a bit about the situation. I did not sleep well that night. What the hell am I doing? Over time, I had become accustomed to interactions with newly hired employees just out of university that took on the nature of mentoring. But I was in no way prepared for the founder of the company taking a spontaneous comment I made and running with it in a way that could change company direction. Though I have started reading a bit more on action research, I do not feel settled about this, in either an appropriate research standard or the right ethical approach. I trust that my approach will evolve over time

with more study and interaction. It causes me to reflect that my research reality is so much more free and far ranging than so many other options I could have taken. It makes some moments complex, but it is worth it to me in what I learn and the rare quality of conversations that I am able to have.

Looking back at my research thus far, perhaps, I am working in a space of what could be called hermeneutic intimacy, where my expert knowledge in the field I am investigating gives me a cultural shorthand, a shared language with those whom I study. It is hermeneutic in the sense that I am intimate with the context and world view of my research subjects. I share history with them. Our conversations take on a dimension of a quest for shared meaning. It can be seen as intimacy in that based on my own extensive history in the field, I can complement or even reciprocate what is shared with me during interviews (Kirk, 2007). Perhaps, I am engaged in these discussions in part as a way to revisit and make sense of my own past experiences (Romanyshyn & Anderson, 2007).

To detail the concept of hermeneutic intimacy further, I first work with the knowledge banks I retain based on my past experiences. Throughout the process of observation, I generate layers of additional context regarding my knowledge of the industry, of its professional norms, and my expertise about the tasks at hand that I am watching people talking about and doing. Then I bring this contextual knowledge into multidimensionality, where I build mental models of what is happening in the present, as well as the past and future, based again on my own history. I conceive of these processes happening in a space of knowledge.

Next, using these mental models, I think about what people I am around might be feeling. I spend time with these anticipated feelings, and think about what I would want to talk about if I were in their shoes, in other words what would be the most meaningful discussion for them. I then talk with people from this space of emotion. I am looking specifically for ways to touch them. I have found that this brings a level of humane service to research, where people may feel that I have supported, listened to, or helped them through the integrative discussions that we have together. If this is ever the case, I think of it as giving back, in honor of the gifts they have given me with their vulnerability and earnestness.

Hermeneutic intimacy follows a path that runs parallel to a more typical ethnographic approach, and it adds an interior experience that builds closeness through an interplay of knowledge and emotion, both inwardly and with others. This hermeneutic intimacy seems to tap into a deep well of exploration for understanding, from which flows rich and referenced narrative. I love Schutz (1953) and draw from his careful, profound work in human interpretation, while at the same time, I challenge his paradigm of a social scientist as a disinterested observer. What is commonly viewed as the bias generated from involvement and intimacy becomes the very source of

relational depth, which I have found to be deeply relevant and advantageous for my research. This is my thinking thus far when I consider how to navigate the space and ethics of ethnography.

I am young in researcher years. I do not know yet how my research will be received by my new community. I can say I love what I am doing and I savor my world, now that I have embraced being an ethnographer.

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Enacting Ethnography: Three Perspectives on Engagement with Political Communities

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Ethnography is premised on the idea that by subjecting oneself to unfamiliar conditions that structure the universe of others, one is more or less able to see and understand the life, work, and culture of a particular group of people (Van Maanen, 2011). Informed by a rigorous analytical approach, ethnographic research builds on direct observation, interpersonal interactions, and a certain level of participation with the social group under study. However, as asserted by Van Maanen (2011), ethnography is also constituted by the frequently shifting social practices that researchers perform, which may not always be strategic but are often pragmatic in that they are created, shaped, and transformed by ethnographers as their fieldwork unfolds. Engagement in the field is one such practice that has recently been debated in organizational ethnography (Cunliffe & Karunanayake, 2013; Van de Ven, 2007). Engaged scholarship has, in fact, been advanced as a way to produce knowledge that helps to bring about social change (Fleming & Banerjee, 2016). Highlighting embeddedness as being key to in-depth insights and empathy (Bansal, Smith, & Vaara, 2018), many scholars have argued for its relevance as a methodological framework for pursuing their academic engagement in practice (Coleman, 2015; Hussey, 2012; Juris, 2007). In turn, other critical organizational researchers have called for more involvement with the tradition of academic activism (Flood, Martin, & Dreher, 2013).

While we do not see ourselves as scholar activists but rather budding ethnographers who share an interest in studying activist communities, that is, communities organized around political issues that are key for their survival, in which members' work constituted a form of everyday activism. Hence, when conducting our fieldwork, we asked: How can we identify with our informants while 'living with' or 'living like' them? To what extent should we engage with their work to get closer to them? And to what extent do we believe we can 'penetrate' their subjectivity through our engagement in their everyday activities? These questions motivate this essay, in which we reflect on how the field – and the tensions we faced navigating it – prompted us to have a more rigorous level of engagement than we initially expected. Revisiting our ethnographic experiences, we aim to show how this deeper engagement enabled us to discover previously unseen dimensions of the phenomenon we were studying and acknowledge the limits certain features of our field placed upon us.

We present our research fields as activist communities focused on different political issues and situated in distinct geographies: an isolated ethnic community in North Africa, a nongovernmental organization fighting human trafficking in India and a nonviolent climate movement in France. The first author spent 8 months living among mountain villagers in precarious and challenging conditions; the second author was involved for 11 months with a feminist nonprofit organization working with sex trafficking survivors and advocating for the abolition of prostitution; and the third author collaborated for 17 months with grassroots' climate justice activists. Through our fieldwork, we were sensitized to the political nature of

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these communities and the issues they faced, and we developed a deep affinity with their members. However, each of our fields presented us with unforeseen challenges that we were unprepared for. As such, we saw our engagement as a necessary means for developing our ethnographic pursuits and for gaining a more profound and nuanced understanding of the structures underlying the life and work of our participants. Acknowledging the fluid, multiple and agentic nature of our ethnographic experiences and the relationships we built (Cunliffe & Karunanayake, 2013), we illustrate three different ways of engaging in the field, in response to a key tension we faced along the way relating to nativeness, gender differences, and embodiment.

Engagement through sharing a precarious life

My[6] desire to find a new meaning of life motivated me to look beyond the boundaries of the 'modern city' and reach out to remote communities where life might have a different meaning. This led me to an isolated village in North Africa where I set out on an ethnographic journey that would tell the tale of a resilient community whose aim was to resist in order to exist through an embodied intergenerational system of life written in the bodies of its inhabitants (Bourdieu, 1990). I embarked on this journey as a romanticizing explorer heading into the unknown. I aimed to free myself from all restrictions and selflessly engage my body and soul in an obscure and precarious field characterized by difficult terrain, a rough environment and a high level of activism derived from the heroic history of the region. The field's grassroots activities embodied politically driven practices to preserve the life and heritage of the collective for generations to come, as a counter political mechanism against the hegemonic other. Although my entry to the village was conditioned by my belongingness to the same ethnic group and was guaranteed by a local host family, once I was there, I engaged in breaking into, exploiting, and extracting as much as possible from a field I knew very little about.

Naively, I initially ignored the fact that in order to penetrate the plexus of this community, I would have to live inside the skin of the villager – something I progressively came to understand. Going native for 8 months in a precarious field to experience critical life conditions, I was not accustomed to required engaging my objective and subjective selves to "grasp the native's point of view" (Malinowski, 1922). Accessing the social meaning, which can only unfold through direct, close, and vigilant observative behavior (Brewer, 2000), was important to understand the social order and to easily penetrate its layers to grasp the basic elements that characterize the individual and explain the collective survival

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mechanism that takes place in such an isolated environment. During this journey, I evolved from being a cautious observer, learning the rules of the game to avoid exclusion, to being an adventurous participant who got involved in the everydayness of the community to uncover the tale of the village. This required crossing the boundaries of my body and self and moving beyond my comfort zone to become as native as possible while dealing with tough geography and weather conditions, isolation, hunger, thirst, and sickness, among other things.

As a predisposed body that shapes a field and is shaped by it, I had to test myself by engaging my physical, spiritual, and mental capacities to make this ethnography a reality, within the context of being a young female researcher embedded in a male-oriented society. I initially saw this as a disadvantage, imagining harassment and kidnapping, and I was surprised to discover a different reality: that of an exotic traveler who developed a thick skin and whose personal traits were shaped by experiencing life in such an environment. My engagement shifted from just sharing the physical space to sharing the same fate by being part of the same political, social, economic, cultural, and environmental realities. Immersing myself in a contradictory environment where relationships were characterized, on one side, by concealed repulsion, mistrust, and constant social control and, on the other side, by empathy, solidarity, and cooperation created a barbed environment I had to navigate carefully to exploit it to the fullest extent possible. Thus, embodying the necessary knowledge and skills, both preacquired and developed in the field, was an asset that helped me navigate various situations. It was both "something to know and a way of knowing" (McGranahan, 2018).

Shaping myself within while remaining fully aware of my identity as a researcher was an integral part of my immersed ethnography. I managed to 'fit in' by respecting the norms that defined the boundaries of my field and through my active participation in the daily grassroots initiatives that gave sense to life and assured its continuation, developed the inhabited physical space, overcame a challenging geography and an isolating environment, and created a form of embodied activism primordial to the regeneration and survival of the collective. My embodied engagement included giving advice, teaching, preparing food, harvesting olives, working at the oil mill, taking photographs during festivities and sport events, and transporting people and goods at times of crisis. This was an engagement I felt humbled and honored to undertake, as it allowed me to be considered as an insider and to fully understand the hidden phenomenology underpinning a community I became native to. The villager I once was came to understand the precariousness of existence and the preciousness of life from the daily collective struggle to survive and save an isolated village from ruin.

Engagement through acknowledging gender differences

One of the main challenges I faced in my fieldwork was being a male researcher[7] in a radical feminist organization (Hildwein, 2019) fighting sex trafficking and committed to ending prostitution in India. As I had been introduced by senior management, access to the organization was relatively easy. However, gaining the trust and confidence of the women employees and beneficiaries proved to be more challenging. It was essential for me to show that I was sympathetic to their cause, to demonstrate an appreciation of their struggle against prostitution and prove how my presence could benefit their work. For many of the women, men were the perpetrators of the problem and the cause of their suffering. And for some, the presence of men was a cause of suspicion or anxiety in a setting where they hoped to be open and vulnerable about their present and past.

While women's meetings were sometimes held behind closed doors and the few men in the organization occupied themselves elsewhere, there was one particular instance where I distinctly recall the discomfort this caused. The incident occurred during a workshop with partner organizations of my focal organization. No objections were raised about my presence when I registered for the workshop. However, soon after I entered the room with another female researcher as observers, a woman participant spoke to the moderators who were seated facing the room. After a brief discussion, she faced the room and announced that "she and other women felt uncomfortable sharing their stories in the presence of men and if there were men in the room, they were requested to leave as they would like the workshop to be restricted to women." As I left, there was a strange silence and I noticed several women exchanging questioning glances at this announcement. After the workshop, the organizers apologized for the misunderstanding in registration and the inconvenience caused. However, this incident, and others, crystallized for me the imperative of crossing boundaries (Ocejo, 2012) created by gender differences and the limits of my engagement with the particular features and structures of the anti-trafficking field (Liebow, 1967).

While negotiating these structures, I uncovered the subtle but meaningful distinction between 'men' and 'known men.' While this organization believed patriarchal interests and men to be responsible for much of the suffering experienced by the women, many of them had relationships where fathers, brothers, husbands, or sons encouraged and supported their choices and work. An older social worker, one of the first to accept my presence, often talked about her deceased father's influence on her choice of profession at a time when women were expected to marry and have a family. With her encouragement, I opened up about my family and parts of my personal life and work, which helped to break the ice and cautiously establish common ground. On visits to the red-light area[8] and at meetings with beneficiaries, her presentation of me as someone who was helping the organization aided my credibility and my gradual acceptance by the women.

I often struggled with the desire to engage more deeply with my subjects while needing to maintain a distance to remain critical and unbiased (Ocejo, 2012). However, since my need for the former was often greater than my fear of the latter, whenever opportunities arose to participate in their activities, I eagerly involved myself by working on funding proposals, reading legal documents, editing publications, and documenting the various organizational events and activities, etc. By immersing myself in the daily rhythm of the organization in this way, I progressively gained the acceptance and trust I needed and learned to navigate this unfamiliar social world and participate in the organization's informal circles. Sharing home-cooked meals in the office, watching anti-trafficking movies, commuting together and even exchanging views about cities we had lived in, all contributed to my shifting from being in the category of 'men' to that of 'known men.' When my opinion on organizational issues was sought, I was careful to lay out options for the women to decide rather than recommending a particular course of action. I did not want to tell them how to run their organization because of my desire to maintain a distance and not influence the organization's decision-making processes.

This relational feature of the field made me reflect on my role as a male researcher working in a context of suspicion because of my gender. It also showed me the intensely relational nature of ethnographic research (Bruni, 2006; Farias, 2019) and challenged me to seek allies (Stack, 1974) who could help build bridges over differences to obtain deeper engagement with my field. It was only through a great deal of cautious relational exploration and considerable insider help (Stack, 1974) that it was possible for me to navigate some of the structural features of my field and participate in the world of my subjects. However, while I was considered to be in their corner even though I was a man, it was also evident that I would never be able to fully identify with the complexity of their struggle.

Engagement through embodiment and apprenticeship

Driven by an interest in social movements' organizing as one of the modalities of collective action aimed at social change, my[9]

[8.] Where many brothels (and beneficiaries) were located.

ethnography examined how the use of civil disobedience translated into activist work practices. Along this journey, I shifted from being a novice ethnographer to an apprentice activist as I became highly engaged in the everyday activities of a specific group. My epistemological posture evolved through the research process and revealed my body as a key vehicle for understanding the ongoing cultural dynamics of nonviolent activism.

I entered the field as a young female business school PhD student from Morocco, with no activist experience. Ahead of the opening of COP21,[10] my access was made difficult from the beginning by the state of emergency after the Paris terrorist attacks in November 2015. As I observed the first nonviolent actions that were taking place, my apprehension about violence and police repression grew. At the same time, I quickly realized that the 'hearts and minds' of the activists I wanted to get close to were deeply enmeshed in a web of relations with their body. I would not be able to understand just by observing, but I wondered how I could ever overcome my growing fear of violence.

For the duration of the COP, in the first phase of my fieldwork, I felt absent–present, almost invisible among a mass of activists from all sorts of backgrounds in terms of experience, ideological commitment, and privileged tactics of action. I used that time to acquire, through training, the basic social competency of a nonviolent activist by learning to act, feel, and think like one. In this context, characterized by urgency and a lack of human resources, I started to feel useful when, as an extra pair of hands, I engaged in the daily practical organizing by taking notes, making banners, cooking for others, etc. (Chatterton & Pickerill, 2010; Reedy & King, 2017). At the same time, I embodied the pedagogical techniques nonviolent activists use to forge a new body schema and examined the pragmatic designs through which they are internalized, moving from training to performance.

So, when I was invited by some activists to collaborate on a transnational project they were developing ahead of COP22 in Morocco, I seized the opportunity to dive into the phenomenon and swim along with it in order to know my object *by* body. By becoming an insider, that is, an organizer of an event in Tangier about climate justice issues, I inhabited a specific organizational structure, participated in the working culture, and developed an activist corporeal schema that involved more than the nonviolent techniques taught in training: less sleep, long and intense working hours, unhealthy eating habits, corporeal self-neglect, and a general feeling of social isolation. In this second phase of my ethnographic journey, I experienced critical moments of vulnerability that developed into exhaustion, leading me to withdraw from the field for a time.

As my research interest was focused on nonviolent action and its embodiment in the performance of activists, I stumbled across violence where I did not expect to find it. Initially, despite the movement organization's external discourse that promoted nonviolence as the only strategy that might gain public support, there were still internal discussions about whether it could complement other, that is, violent tactics. However, about a year after COP21, activists started to discuss their own experiences of exhaustion, describing the self-inflicted violence they felt increasingly subjected to. By that time, my own body had become a mirror of the others' experiences of vulnerability. In addition to my informal conversations about this issue with other activists, I decided to reflect on my own experience and interview them about it.

In an attempt to develop the sense of 'acuteness,' which Wacquant (2015) defines as another modality of reasoning nourished by concrete experience from the field, I moved back and forth between being an outsider and an insider in order to disentangle how the power of the organizational cause penetrated activists' bodies. My own embodiment constituted a fundamental way of understanding this. As I was positioned in the messy zone of activism in the making, I, at first, interpreted my own breakdown and temporary withdrawal from the field as a personal failure to become a 'good' activist. Considering my own bodily experience in discussion with others, I was able to acknowledge my privileged position as an apprentice scholar and the economic precariousness of my informants' situations. I was also able to uncover the process through which what had been initially described and experienced as inevitable, immutable, and natural in the community became the object of common interrogation and critique by organizational members.

Acknowledging passion, flesh, and desire as modalities of social life, Wacquant (2015) suggests apprenticeship as a way to gain a visceral apprehension of the people studied before turning to analytical reconstruction, and he thus advances the importance of attending to our own vulnerability, as researchers, in the practice of fieldwork. In fact, my activist experience enabled me to uncover the persistence and reproduction of power relations within social movements (Reedy, King, & Coupland, 2016). More specifically, the epistemological positioning I developed helped me show how vulnerability and violence were central to the experience of organizing collective action within this community.

Conclusion

In this essay, we illustrated how engagement in ethnographic practice can take different forms depending on the challenges posed by the field. Enacting our ethnographies meant that we needed to involve ourselves more deeply with the associated spaces, people, and critical dimensions or tensions we faced.

By embarking on research journeys within political activist communities and engaging with their members, we experienced and revealed some of the physical, emotional, moral, and ethical issues that structure these environments and their members' responses to them (see, for instance, Rahmouni Elidrissi and Courpasson, 2019).

Although our inputs were each different due to the nature and dynamics of these communities, as ethnographers, we acknowledge the importance of diving into the phenomena we study to uncover the significant and deeply embedded meanings, perceptions, behaviors, and patterns that shape them. We also emphasize the importance of crossing self-boundaries and participating in the field as relevant ways to get closer to the *native's* point of view and to be able to reflect upon it. Indeed, for us, engaging proved crucial not only for gaining access to the field and understanding the dynamics at play but was also key to understanding ourselves and building our identity as academics.

The position we found ourselves in, akin to that of "outsiders within" (Hill Collins, 2013), enabled us to reflect on the role of academics at this time of crisis we are living in. While some scholars call for "intellectual activism" (Contu, 2017) in our work as academics in a society where silence has become a less viable option, we argue for a broader understanding of research — that is, a less contemplative one — which engages with, experiments, and promotes diverse ways to be part of the social and political change we need.

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Research Ties as Social Tales: Intimacy and Distance in Ethnography

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Ethnography is, without doubt, the social science in which the researcher is the most embedded into the studied world, and in which s/he is the most prone to develop tight relationships with informants. Regardless of their nature, those ties can never be exempt from any influence on the research process, and thus constitute a core source of data. (Marchive, 2012, p. 7)

The present essay is rooted in our experience as young ethnographers and aims to shed light on the constant tension between intimacy and distance in ethnographic journeys. It is mainly based on the experiences of David, who carried out an 8-year longitudinal ethnography in a French factory, and Claire, who performed an enacted ethnography as a food-delivery courier in Lyon. Interestingly, despite their different objectives, vicissitudes, and conclusions, our experiences both highlight the same issue: while intimacy with informants enables data to be accessed, it also distances the researcher from some aspects of the field – research ties determine the boundaries of ethnographic fields by opening opportunities as well as closing doors. Hence, as Obligacion (1994, p. 41) stated, "field researchers must realize that the data they obtain are refracted by the prism of social interaction". Ultimately, therefore, this empirical balance between familiarity and strangeness with the field, ease, and unease with respondents also influences the theoretical development of an ongoing ethnographic project.

From bonds to boundaries

First, both of our experiences highlight how research ties frame the boundaries of ethnographic fields by opening opportunities and closing doors. Since ethnographic studies progress with the help of informants (Becker, 2002), the strength of bonds and intimacy developed with specific respondents plays a determinant role in the course of the investigation. In this vein, David was only able to access his fieldwork because of his intimate relationships with informants:

David: Since my childhood, I have been immersed in factory stories and imagery whose topics frequently come up in discussions with family or friends. My longitudinal ethnography takes place in a factory where my relatives and friends work. This factory is classified as a 'SEVESO 2' – the highest security protocol in France. Access to it is therefore strictly controlled and the management does not allow any observers to hang around. To interview plant managers, I had to follow the official registration procedure for visits. However, this procedure did not give me access to production sites. Therefore, to access the heart of the factory and observe workers on site, my only option was to sneak into the factory at night and at weekends, i.e. when the management had left. I was only able to 'squeeze in' thanks to my acquaintances within the field. I therefore took advantage of my intimate and privileged relationships to access the factory with their complicity, in 'covert' ways.

Thanks to his friends and relatives, David thus managed to covertly gain access to a high-security factory to pursue his ethnographic observations and further develop relationships with other informants. As well as providing researchers with access to an otherwise inaccessible part of the field, informants can lead them to specific and often unplanned aspects of the phenomenon under consideration. Thanks to a spontaneous and unexpected lead from an informant, Claire got access to what would later constitute a main part of her ethnographic field:

Claire: I had been studying food-delivery couriers for approximately 6 months when Jérôme P., a Parisian courier involved in activist groups against capitalist platforms and with whom I had already had several conversations, contacted me out of the blue, saying, "Hi Claire, I don't know if you've come across them, but a bunch of couriers are launching a local cooperative in your city, you might want to check it out. You can contact the leader on my behalf, if interested." It should be noted that the aim of my project was not to study cooperatives. It was to examine courier work, and therefore I wasn't planning to engage in organizational matters. Yet, I was pleased to get this lead, for two reasons. First, it gave me the opportunity to observe this new organization from the start – which is a methodological asset for anyone interested in analysing its development. Second, and importantly, it showed that Jérôme P. considered me to be a trusted ally and was willing to help me in my research ambitions. I felt personally boosted by this interpersonal trust and jumped at the sudden opportunity.

Here, as well as giving Claire access to a wide potential source of data, Jérôme P. also spontaneously alerted her to the burning issues in his world, thereby demonstrating trust and an interest in pursuing their relationship. These vignettes clearly demonstrate how we were able to access specific areas of our fieldwork as a result of the relationships we managed to develop with key informants, thereby shaping the contours of the investigation.

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Yet, in doing this, it is difficult for ethnographers to sustain a neutral position, and they can take on the role of confident, hostage, witness, judge, or helper, depending on their location in their informants' networks (Beaud & Weber, 2010). The way ethnographers compose data, which delineates the field's boundaries, therefore depends on both their social and affective locations in their informants' networks. The importance of the weight of relationships in shaping the data was particularly evident in David's ethnographic exercises over the years as, in the course of his work, preexisting friendships and animosities regularly took precedence over purely investigative relationships, excluding him from various groups and making him vulnerable to hostilities linked to his (real or supposed) affiliations:

David: My father and many friends are local activists in the factory and belong to a far-left union. Such affinities label me as a potential ally of unionists and protesters within the field. One of my very first visits to a production team was quite revealing: the supervisor I met at that time, known to be anti-union, said in front of the workers "it will serve his father, all of this [i.e. the observations and interviews], he is sending his son to scout us out, so that afterwards he will be able to get all the information he needs." Such filial stigma thus put me in a delicate position with some respondents. During a strike initiated by some friends, a team of workers in which I had made many observations refused to take part in the movement. Because of this disagreement, my relatives and this group were on bad terms for a long period of time. I was thus unable to carry out observations or interviews with them for several months. Of course, I never received any formal interdictions or any refusal. But this was just something I couldn't ask to do, and I knew it. I knew that a complete outsider without any ties could have pursued an investigation in both groups, arguing that scientific investigation does not allow the researcher to take any sides. But my immersion in a field involving pre-existing friendships or alliances impeded me from pretending to be blind to the situation.

These social ties and affinities within the field entangled David in an 'interlocking' situation (de Sardan, 1995) that proved difficult to circumvent and that could have forced the researcher to temporarily or indefinitely give up on getting access to parts of the field. Therefore, intimate relationships with informants can also distance the researcher from some potential sources of data.

The role of informants in framing the field's boundaries is also particularly notable in Claire's ethnographic journey:

Claire: I am writing this while I should be outside on my bike, socializing with UberEats couriers. From the beginning of my ethnographic immersion as a food-delivery courier in Lyon, France – the city I have been living in for 8 years now – I am supposed to have established contact with these men. In Lyon, most couriers come from underprivileged, probably immigrant backgrounds, they drive motorcycles or poorly maintained cheap bikes, they dress in thick cotton sport clothes typical of ghetto-types of neighbourhoods, and they speak French with an accent. They

are like the men who harass me in the street when I'm walking alone, as a well-behaved urban young woman, with blond hair and blue eyes, corresponding to a conventionally sexualized feminine body. It feels too difficult for me to go to them spontaneously. I am afraid they might misunderstand my intentions. I feel ashamed of these stereotypes, which scare me. Still, I feel paralyzed. I have talked about my fears to some – white, better-off – informants with whom I have developed a trustful and friendly relationship, and they said to me, jokingly, "a girl like you, for sure, they will gossip about it and won't believe it when you'll suggest exchanging numbers. This is definitely to be expected."

While her contacts made the exclusive examination of a nascent organization in a fragmented environment possible, her gender and socialization distanced her from one of the main populations of the occupation under study. Hence, our experiences point to the importance of considering researchers' situated positions in a field, framed by their social characteristics and by the relationships they build throughout the research process.

As fieldwork involves complex relationships between the investigator and some respondents, and as these relationships frame the field's very boundaries, investigative relationships become a paramount object of analysis per se (Beaud & Weber, 2010; Becker, 2002). Thus, far from being restricted to 'impurities' (Schwartz, 1993) that cripple the analysis, relationships developed during the fieldwork trigger reflexive questioning that allows researchers to better grasp the meaning and challenges of their investigation.

Empirical distance and intimacy shape-theoretical questioning

Our aforementioned experiences show how research ties determine the boundaries of ethnographic fields by opening opportunities and closing doors. Consequently, related broader research projects cannot depend on the researcher's initial strategy or theoretical focus only. The following section illustrates how a permanent empirical tension between intimacy with and distance from informants shapes the direction of the investigation and the theoretical research question:

Claire: I have always felt uneasy in this fieldwork. I don't think I have ever integrated. Every time I encounter other couriers while working, I fear that they might spot that I am an imposter. I try to remain discrete, to act efficiently. I duck down so that they cannot see my face. After months of working as a courier, I still don't feel like one of them. I am different, I am not like them.

Claire's feeling of strangeness in the field – even of being a misfit –and her inability to connect with many informants led her to problematize a dense ethnographic journey. As she gained intimacy with respondents as the research ties developed, she came to realize why she felt so different to most of the couriers: as a woman, she was able to spot the masculine

undertones of food-delivery platform work rhetoric. This aspect of the job had been neglected by previous studies and became one of her main areas of focus in the theoretical puzzle of her thesis. As shown earlier, Claire's fears epitomize the gendered nature of working in public spaces. Her growing tiredness with and dislike of pedaling all evening to deliver food reveal the difficult nature of the work and led her to conceptualize food delivery as 'dirty work.' These elements were particularly complicated to unpack during interviews, particularly because most of the respondents were male: they were reluctant to address shameful aspects of their work as it might make them look weak to a female interviewer. In this regard, her ties with some respondents were particularly informative:

Claire: I liked Killian from the moment we met. His tall and thin body, his fine-lined sophisticated face, gave me confidence. Outside of his delivery work, he always wore quite urban, fashionable clothes that underlined his sensitive, composed and calm posture. His figure didn't look muscular, which he confirmed, saying, "I am not sporty, I am too thin, I should gain some muscles"; "It's not my thing. I'm not manual." He even bought protein powder to increase his muscular mass. From the beginning, I considered him as an ally. When thinking about it, I think we shared a lack of visible physical strength, manual resourcefulness and appetite for challenge… were we too different to the stereotypical virility of most couriers?

Ethnographers tend to develop intimate bonds with particular individuals and groups that are mostly based on their own dispositions (social background, personal story, and preferences) in parallel with predefined research strategies. Therefore, the resulting research ties can only reveal broader and in-depth social knowledge if ethnographers engage in reflexive examination (Bourdieu, 1997; Devereux, 1980). Rich ethnographies therefore theoretically introspect the ways researchers are 'affected' by events in the field (Favret-Saada, 1990) – "ethnographers shape a research self as they work through a series of existential choices. […] The choices made implicate the researcher's personality as a whole and over time the choices shape the researcher's working sensibility" (Katz, 2018, p. 16).

This resonates with David's own ambivalent feelings about his field, which are marked by inextricable social ties and affinities and yet by a growing feeling of unfamiliarity over the years:

David: In my thesis, I ended up studying the working-class background I was raised in, among individuals I grew up with. This 'coming back to my roots' partly results from a strong and ambivalent feeling towards my home that I gradually developed during my undergrad years. As I studied social sciences and evolved in a universe of elitist people, I gradually (re-)discovered my home environment from a totally different perspective, but without being able to spot what had changed. Somehow, I progressively started to feel out of place among my own kin. I realized that what had changed was not really the places or the people, but the way my newly (re)socialized eyes saw them. As I pursued my studies, I came to judge their manners: how they would eat, talk, and even dress. I was ashamed of my home, of my relatives, and at the same time, in an ambivalent terrible feeling of guilt, I was ashamed to be ashamed and disgusted by the violence of my social judgment.

This interlacement of strangeness and familiarity has provided David with a unique position of observation and understanding, facilitating access to data while preserving a certain reflexive distance from his respondents. Rooted in a strong sense of revolt against the social violence and unfairness lived by his relatives, David thus took advantage of his particular position to broaden the scope of his investigation:

David: Familiarity with this field resulted in me sharing various activities with people I had been bonded with since my childhood, and who were now also interviewees. Such intertwining of intimacy and investigation questioned the theoretical contours of my investigation and contributed to shaping my research questions. The factory's restructurings threw, over time, an acute light on the broader cultural clash between the gradual imposition of neoliberal values at work and the resulting broader devaluation of working-class ways of being. Such cultural shifts engendered a situation of harsh violence, which I have been witnessing for many years: my affinities within the field thereby allowed for deep sociological biographies that clearly showed how restructurings at work threaten and brutalize workers in their daily existence, far beyond the professional sphere and the boundaries of the factory.

Similar to Ybema and Kamsteeg's (2009) idea of 'insider/outsider' ambiguity, David's atypical situation demonstrates how familiarity with the field and respondents can mingle with scientific detachment. His growing social distance from the home environment gradually enabled him to adopt a 'conversion of the gaze' reflexive posture. Here, deep data were only accessible because David was particularly familiar with his respondents. Yet, the subsequent theorization depended on how he managed to preserve some distance regarding the daily life of respondents. In the field, researchers are not just investigators; they come with a social and personal history, everything that constitutes who they are. Researchers are thus responsible for unpacking the process of accessing data as this development directly paves the way to knowledge (Beaud & Weber, 2010).

Unpacking ethnographic social ties reveals broader social tales. Not only do relationships with informants impact the field's empirical boundaries, thereby conditioning data accessibility, but they also induce theoretical puzzles. Therefore, research ties are rich data *per se*, which, rather than waiting to be collected, are elaborated by researchers and the relationships they cultivate during the fieldwork journey (Becker, 2002). In this regard, Claire's introspection highlights the paramount importance of taking account of one's thoughts and feelings during the research process because of the influence they have on the investigation and the research results. As David's case especially demonstrates, intimacy and distance are sometimes ambivalently intertwined. Ethnographers should therefore engage in "reflexive reflexivity" (Bourdieu, 1993, p. 1391), that is, in systematic and humble socioanalysis that leads them to constantly wonder about their own social impulses, particularly as they guide choices made in the field (Kunda, 2013). Far from providing answers to a narcissistic project, our introspective

essay on the complex ethnographic balance between proximity and distance (Elias, 1993) thus allows us to better understand the stakes and shapes of the fieldwork relationships in which ethnographers navigate both as participants and observers.

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(Auto)ethnography and the Access to Others' Experiences: Positioning, Moving, Surpassing yourself

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"More than the analysis of oppression or the sense of duty toward the oppressed the core political experience of our generation may well have been to go on such a voyage, discovering for ourselves this recognizable foreignness, this shimmering of life" (Rancière, 2003, p. 2). While the voyage mentioned by Rancière could be likened to ethnographic work, several questions are hard to figure out regarding what the voyager can do with this 'political experience' once back home, and how (s)he could produce knowledge from it. Beyond the journey itself, 'hearing someone else's voice' undoubtedly embodies "one of the main purposes and one of the main issues of writing or of qualitative description" (Moriceau, 2018, p. 109). A voyage in itself. Accordingly, it seems that trying to 'understand man by all of his experiences and achievements' (Lévi-Strauss, 1984) cannot be limited to having *been there* (Watson, 1999).

This paper proposes to return to the ethnographic study I carried out during my PhD thesis, which dealt with the manufacture of powerlessness in the mining industry and, more particularly, to the steps and difficulties that have punctuated my own accession to others' experiences – in this case, the Indonesian communities living in the vicinity of the mine studied. Ethnography enabled me to relate "the words spoken and the practices observed or experienced to the overall cultural framework within which they occurred" (Watson, 2011, pp. 205–206). It paved the way to my understanding the "how and why" (Van Maanen, 2011, p. 219) of the domination mechanisms at play between the representatives of Western transnational companies and indigenous communities. However, it was also autoethnography – challenging, tough, and rather unflattering (Jones, 2005) – and an exploration of the "reflexive connection between the researcher's and participants' lives" (Ellis, 2004, p. 30) that, in the end, allowed me to necessary and salutary surpassing of myself in aid of the translation of the words and pains collected on the way of my fieldwork.

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This contribution therefore takes the form of a personal narrative, one of the autoethnographic types highlighted by Ellis and Bochner (2000) and which Alexander (2005, p. 431) defines as the "critical autobiographical stories of lived experience." Blending a personal journey and academic analysis (Burnier, 2006), I narrate the work required to access others' experiences, as well as to consent to understand it. In addition, submitting myself to "personal criticism" (Miller, 1991, p. 1), I have tried to transcribe the "multiple layers of consciousness" (Ellis, 1999, p. 673) that helped me to construct the knowledge project on powerlessness, and enabled me to shake the story up and "put meanings in motion" (Bochner, 2012, p. 157). More particularly, I highlight the necessarily tumultuous and uncomfortable nature of the relationship between how the positioning I had *vis-à-vis* my fieldwork was transformed and how my interpretation of the situation, once placed under scrutiny, evolved accordingly. First, I focus on the inception of my research work, characterized by my determination to *position myself* in what I believed was *neutrality*. I thus opted, at the time, to study how indigenous communities, whose living environment was greatly threatened by the creation of the mine, came to accept it (1). Second, I relate how my immersion in my field of studying a mining community in Indonesia led me to engage my body and emotions in the situation. This allowed me to gradually *move myself* and, unwittingly, *project* my own singular experience on the case under scrutiny. Immersed in this field and living through a turbulent and emotionally intense time, my body prevented me from understanding the voices of others. My own sense-making process obliged me to think that, given their precarious living conditions, the local community had no other choice but to accept the mining project (2). Third, I describe the state of grace that allowed me to *surpass myself*. Thanks to work on *translation*, which later proved to have been of paramount importance, I was able to take a distance and access the words and hardships of the people I studied. It paved the way for me to access the other's experience, others' experiences. I had been able to accept the storyline that I had been told from the beginning, that is, a story of lies and violence, a story of oppression and suppression, a story of anger of multiple contestations and manufactured powerlessness, and a myriad of stories, but not a story of acceptance: certainly not (3)!

Positioning myself on 'neutral' ground: 'They accepted'

When I decided to study the corporate social responsibility (CSR) practices deployed by a French multinational for its project to mine a tract of Indonesian tropical forest inhabited by indigenous communities since time immemorial, I already knew that my research would not end up as an ode to the company's management tools. Although presented as exemplary, the Weda Bay Nickel project (WBN) was part a mining industry

that depletes natural resources and marks miners' bodies for life, generating occupational accidents, illnesses, and multiple conflicts. So, I wondered what these CSR practices looked like to the eyes of the local communities. What were the textures of the corporate representatives' discourses promoting win-win development schemes for the Weda Bay inhabitants living on the frontline of WBN. I used to introduce myself as a 'critical management scholar' wanting to integrate the stakeholders' largely marginalized voices into my analysis, that is, the "demand side of sustainability" (Banerjee, 2011, p. 722). However, despite my declaration of intent for a critical and political research agenda, I was largely imbued with the idea that I had to comply with Bloor (1976)'s argument for symmetry and, above all, to remain neutral. I decided therefore to study a contemporary mining project, admittedly contested by environmental NGOs, but also presented as 'exemplary' and backed by 'concrete' and 'substantive' CSR actions. This choice was almost conscious, inasmuch as I was certainly trying to soften the radical side of my knowledge project by sheltering behind a quest for 'complexity' so as to counter reductionism and Manichaeism and comply with Weber (1965, p. 399)'s 'axiological neutrality' – tenets that I had then only partly understood. As a researcher, I felt like a free spirit whose purpose was to collect the broadest set of standpoints to transcribe them as accurately as possible. I wanted to explore them all. To give them the same space and the same benefit of the doubt. At this stage of my research, my initial aim to voice the voiceless involved figuring out why *they accepted* the WBN project.

As I was preparing my trip to Weda Bay, I interviewed numerous people and collected large amounts of secondary data. The discourses of both the company and NGO networks helped me to discover an environmental protest involving Paris, Jakarta, and Washington. The protests were from national and international NGOs and a grassroots social movement triggered by local activist networks. Yet, the local communities' acceptance of the WBN project reduced these protests to nothing. Seen from here, from my office in France, the information I was collecting in French and English signaled: "they had accepted." I thus decided to try and understand how and why the local communities had accepted the mining project, marking the beginning of a disaster that local and international NGOs announced as inevitable. How and why were they surrendering to what the NGOs presented as the worst-case scenario – bartering their ancestors legacy and their children's future? Just for money? Because of greed, ignorance, and stupidity, as some would have thought? Really? I decided to move myself to this distant Indonesia so as to apprehend their words in the same way as those of NGOs and MNC representatives or CSR reports. Also voice the voiceless. Comprehend the means and causes of the success of so-called 'development.' Grasp this implacable process whereby ancestral cultures and endemic ecosystems were to be swallowed up. Establish

access to the members of the Sawaï community, who inhabit the coastal villages coveted by WBN and live off small farming and fishing. My move to this far-off Indonesia aimed to collect their words and inform the enormous paradoxes of the situation when it was viewed from afar.

Moving myself into the mining field at the risk of projecting: 'They had no choice'

Through my immersion in the environment of Weda Bay, located on Halmahera Island in the remote Indonesian province of North-Maluku, I discovered a territory left behind by development. On contact with the indigenous communities affected by the launch of the mine, I began to enter the frame. I went up and down their dangerous roads, shared their meals, experienced their precarious living conditions, saw how vulnerable they were to unexplained illness, wildfires, and the natural elements. Be it in their rudimentary homes, on their small motorcycles or pirogues, I met the members of this community and their universe of meaning through different lenses. In the course of my fieldwork, my person and body, along with their limits, became engaged in the situation. My search for observations, field notes, records, and verbatim accounts gradually turned into thrills and conflicting feelings. During the first days, my encounters and interviews were still colored by my determination to remain 'neutral.' I did my best to monitor Subhan, my guide and translator, trying by any means to pressure him into complying with what I believed to be the right position. In a context where I did not know or understand anything, I was prescribing. When he interfered in interviewees' comments – for example, talking too much for my liking and possibly influencing the respondents – or when he selected which replies he would translate or not, I silently fumed against him, cursing, explicitly citing the replies that I expected him to translate. I did my best to pressure him into complying with the ideal image of the researcher who, during interviews, is able to marshal qualities such as neutrality, cleverness and relevance, self-effacement, and a firm but discreet hand. Subhan listened to me patiently, with smiling eyes, and continued as if nothing had happened. These first moments allowed us to build up a common grammar, a mutual understanding about our differences and our respective expectations. We soon became friends and as I shared the fieldwork with him and exposed my emotions and my corporeality to his reality, this compelled me to change and move forward.

I have fond memories of a situation that happened 9 days after my arrival in Weda Bay. It allowed me to gauge the intensity of the fieldwork I was experiencing and the changes I was subject to because of it. I was about to meet the manager of the only resort on Halmahera Island, where the WBN project was setting up. A single night in the resort cost €100, equivalent to 1.5 million Indonesian rupees or 1 month of a good local salary: almost a fortune. The Western clients who arrived

there straight from the airport in an impressive 4 × 4 were there for the diving and had no interaction with the local community. The friendship I was nurturing with Subhan, his wife, and family meant that I could spend no time there, be it only one night. It would have created too wide a gap between us. Nevertheless, we were both interested in going there to interview the manager of the resort.

We had already visited several villages and islands mostly by motorcycle driving along submersible and almost impracticable roads right in the middle of a tropical forest, a vast lush jungle. More than 10 h of riding were needed to go around all the villages affected by the mining project to meet the whole range of stakeholders, and each of our trips had proved difficult. The day before our meeting at Weda Bay resort was rainy and our motorbike skidded dragging us down on the ground – Subhan, my 20 kg backpacks and myself. We lost our balance when Subhan accelerated to jump over a stony, slippery mound covered with piles of fallen rocks that served as a road. My foot was twisted and stuck in the spokes of the rear wheel and the motorcycle had fallen on top of me. I remained on the ground for quite some time, and my foot stuck and squashed under the weight of my two backpacks. I was scared that something was broken. We were 2 h from Weda, in the jungle, night was falling and it was pouring with rain. The nearest hospital was at least 8 h away. Subhan tried to pull me out forcefully before realizing my foot was still stuck between the spokes. Though 3 years later my leg still has a small scar, my wound was superficial and we rode on quickly. I got a grip on myself. I was physically affected for the first time. Over the 8 days I had already spent in Weda Bay, my body had felt different from the one I was used to. It had seemed totally indifferent to stiffness, my stomach had easily digested the food I ate, I was never ill, never tired, not eating too much of the spicy food, drinking the same water as everyone else, smoking a lot, as everyone else. My body had never betrayed me. It had had no choice – we had supported each other from the start.

This fall was the first sign of my weakness and I could not hide it: I had to sit down to overcome my fear. It was the most serious injury I had ever known and I was ashamed that I could not cope with it. The exhaust pipe of the motorbike had also burnt Subhan, but we did not even allude to it – his legs were already entirely criss-crossed with scars from a previous much more serious fall. The next day we were to interview the manager of the resort but the road was too risky for the motorcycle, so Subhan decided to take a pirogue. This was a small motorized boat that he rented, a kind of dugout tree trunk that did not inspire me with great confidence. We travelled in the company of the boat owner's two teenage sons. We made a halt to fish for our lunch. I did not catch anything, but we grilled and shared their meager catches in a cave before continuing to the resort. Unfortunately, the manager was absent and we returned empty-handed. But in the meantime, I had

been suddenly extracted from the situation and forced to distance myself.

The resort comprised several independent wooden bungalows close to the jungle and the water's edge. Hammocks were hanging in front of the bungalows we passed. After walking down a well-kept path, we arrived in a wide open room looking out onto the bay. The view was splendid. This room was the resort's dining room, sober, and grand at the same time, exuding a Zen atmosphere and comfort. A young woman, seemingly barely younger than me, welcomed us. She was elegant, in a lovely skirt and beige blouse, and spoke English fluently. She took care of me with deference, making me that feel she regarded me as a 'white' guest. But I was struck by her questioning eyes. She asked a waitress to serve us something to drink and eat. In my Bermuda shorts and a stained, quite unbecoming tee shirt, I realized that I was starving, soaked, and that my leg was bandaged with a dirty plaster. She insisted on seating me on a huge sofa that I was afraid of dirtying. Subhan was looking at me, smiling and inviting me to make the most of the free feast they were giving. I stood there, frozen, and slightly ashamed. They were all eating and chatting. They came from very different backgrounds. She was from another province and had graduated in vocational hospitality. Subhan kindly teased her about the fact she, like its clients, had never been to the villages adjoining the resort. 'You must pay us a visit!,' he jokingly concluded. The trouble and embarrassment I felt, like after my motorbike fall, brought me closer to the bay's inhabitants, some of them at least. To return from the resort, we had to row for hours under rain and lightning as the boat's small engine had broken down. Sharing these experiences with them drew me closer to them and I became their 'sista buleh' (foreign sister). My small injuries and big fears were both subjects of the stories that made me accepted.

As a result, I was moving away from my original position of neutrality, getting closer, siding with the inhabitants of the bay. Even so, moving myself involved a pitfall that was probably necessary to confront. My physical and emotional experiences in this situation acted as a catalyst for me to *project* my own feelings onto how I interpreted the situation and the actors' behaviors. The ethnographic experience had a strong impact on my personal feelings, encouraging me to analyze the pain and words I encountered in the field through my body and my experiences of this otherworldliness. I threw myself into the role of righter-of-wrongs. While I came to understand the 'how' of their acceptance of the mining project, I then tried to explain the 'why' of this acceptance. In fact, it was impossible to conceive that they had sold their lands for a crust of bread without understanding the precarity of their living conditions. Generally speaking, my reasoning relied on the assumption that this precarity left them no other choice but to accept the meager crumbs the of so-called 'development' and that everyone would have done the same in their shoes. Like causes having like effects, I felt it necessary to differentiate between acceptance and evil, the easy option and absolute necessity, or the aspiration to a better life. My anger was sincere, my feeling of powerlessness at a peak, and I was unaware of the condescension I was showing. I now realize, with astonishment, that the belief that 'they had no choice' was imbued with a kind of ethnocentrism, and that this belief was certainly one of the most powerful allies of the so-called 'development' that was eroding ancestral cultures and tropical forests through a violence that I needed time to think about.

Surpassing myself thanks to translation: 'They had never accepted'

A sense-making process of several months, bringing its share of troubles, extended the field of ethnography I was exploring. I returned confused, my only truth being the impenetrable veil that had thus far covered my taken-for-granted certitudes. Several months after my return home, comfortably seated at my desk and looking through my field notes, interview records, and photos, the contradictory emotions I had felt in the field surged up intact and intensely disturbing. I had gone there to voice the voiceless but discovered that a huge gulf exists between claiming to receive otherness and being able to comprehend or decipher it. I was reaching my intellectual limits. I became aware of my unexpected preconceptions and was totally shaken up. Making sense of the rupture that the ethnographic experience had caused in my research, challenging body and mind, meant that I needed to deconstruct the things I was taking for granted to gain access to the meanings that the inhabitants of the bay had tried to pass on. I had to surpass myself and to put myself outside the situation so that I could, more than voicing the voiceless, accept their participation in the sense-making process and remain open to their experience.

I then decided to start a collaboration of several months with a qualified translator, Fanny. This aimed to translate some of the interviews recorded in distant Indonesia – initially roughly interpreted from Indonesian to English by Subhan – and the written documents I had laid hands on while I was there. More than 1 year after my return from the field, I was finally grasping what the locals had said and explained to me. Their reasoning, logics, and pain were reaching me. Going there and understanding what they allowed me to see finally turned out to be two entirely different steps, separated by more than 1 year. The language played an obvious but incomplete role. If I had spoken Indonesian, I would have understood words, even sentences, but not all the sentences, given that Indonesia encompasses thousands of regional languages. Fanny did much more than translate words and sentences. She helped me to reduce the distance: listening to the stories I was telling her, crying with me, explaining to me what she understood of my experience, discussing some of my misunderstandings, some of my discomfort

in certain situations. She told me that she herself had done research in Indonesia and expressed her amazement at the quality and depth of the data I had been able to collect. She helped me to understand the codes that existed in the rooms where I had been, totally unaware of their presence. Subhan had helped me to open the doors and had accompanied me to the Weda bay, while Fanny helped me to surpass the role of righter-of-wrongs and distance myself in order to enter an understanding of others' experiences. This very gradual surpassing of what I had lived, which took a whole year, allowed me to challenge most of my preconceptions and accept that understanding the unfamiliar, even incompletely, takes time.

A group interview I realized in Weda Bay haunted me for a long time. I was interviewing several inhabitants who had agreed to sell their lands. The tension was palpable. My attention had been utterly absorbed by the interviewees' conflicting views: one women felt cheated at the sale of her land and was crying her eyes out because her subsistence farming had disappeared leaving her unable to feed her children; one man had also sold his land, he had been paid, but the amount received did not allow him to finish building a house, he had no land left to sell and the job he was waiting for might never come; another had also agreed to sell his land, he had seen his land disappear and had been waiting for over a year for the promised compensation; two men had agreed to sell and were outraged that they still had land and still no money. After leaving this group interview with Subhan, we reached the troubling conclusion that if these people listened to one another, they would realize that their positions – especially their acceptance of selling their lands – made no sense. It took me more than 1 year to understand that I was the one who had not listened to them, despite my desire to comprehend them and what lay underneath their words. I had failed to take into account the unity of their respective accounts and the cement allowing their coexistence: anger, powerlessness, and a strong feeling of injustice. Finally, my sophisticated analysis had been my best shield against the violence of clearly assessing how the local inhabitants' needs had been crushed, against the demonstration that nothing was or could have been expressed, discussed, or able to change. They had never accepted. My fieldwork narrated a story of violence, of forced destructions, of fierce social protests crushed by a juggernaut MNC armed with paramilitary groups, supported by local authorities, some of them corrupt, all of them committed to the cause of the so-called development. I discovered a mining project that did not provide many jobs for local communities, which was destroying their 'life spaces' despite local protests, billboards, official complaints, and accounts of a 6-year struggle. I met people who had accepted nothing save the idea of future prosperity. People who, on unequal terms, had struggled, surpassed, and transformed themselves to denounce injustice and claim their right to a different and better life, to more. People

who had purely and simply been crushed by the cogs of the WBN machine, its multifaceted power, and the panoply of means it had at its disposal.

To conclude, I discovered that the ethnographic experience revolves around a process of positioning, moving, surpassing one's self – which is a prerequisite – taking into account the troubles and discomforts that mark the passage from one step to another. All of this is vital if the researcher wishes to be capable of "making the personal political" (Jones, 2005, p. 783), that is, being able to access others' experiences and make 'words matter' inasmuch as they might 'change the world.'

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