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Situated valuations: Affordances of management technologies in organizations

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ABSTRACT

This article engages with the affordance literature and identifies a need for a reorientation of its use in organization and management studies. Thus far, affordances has mainly been used as part of the program of sociomateriality to describe the technology–user dyad. Only to a lesser extent have studies using the affordance concept been sensitive to the means in which contextual conditions outside the technology-user dyad configure technological affordances. In order to provide such a sensitization, this article mobilizes the emerging field of valuation studies. It contributes to affordance literature with a synthesis of valuation studies and affordance theory and by constructing the concept of situated valuation as an associate concept to affordances. This article demonstrates the worth of this association by drawing on a comprehensive, ethnographic study of Lean management in a children's hospital.

1. Introduction

Reflecting the proliferation of management technologies in organizations, organization and management scholars are paying increasing attention to materiality, tools, and technology (Fayard & Weeks, 2014: 237). This turn to sociomateriality (Orlikowski & Scott, 2008; Orlikowski, 2007; Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007) has sparked conversations in the field of organization and management studies on how to (re)define and (re)invent the theoretical relation between organization and technology (Faraj & Azad, 2012). A recurrent theme of this conversation is the co-constitutive nature of the relationship between organization and technology; a theme which seems to oscillate between polarized conceptions of the role of technology, such as oversocialization versus undersocialization (Bloomfield, Latham, & Vurdubakis, 2010), voluntarism versus determinism (Fayard & Weeks, 2014), and constructivism versus realism (Rappert, 2003). To push this conversation beyond oscillation, scholars are increasingly mobilizing affordance theory.

Affordance theory was introduced to the field of organization and management studies as a "third way" of approaching the schism between technology and the social. The sociologist Hutchby (2001) presented the affordance concept as a means to bridge the positions giving primacy to either human agency or technical capacities (Hutchby, 2001: 44). However, while gaining momentum as part of the sociomateriality movement (see, for example Leonardi & Barley, 2008; Van Osch & Mendelson, 2011; Zammuto et al., 2007), several scholars have asserted that the affordance concept has yet to prove its usefulness in understanding the empirical processes through which affordances of technology come into existence in unique situations (Faraj & Azad, 2012: 255) and what role organizational dynamics play in this process. For example, Bloomfield et al. (2010) note that although Hutchby (2001) underlines the relational aspect of affordances, it is not followed through (Bloomfield et al., 2010: 429). The affordance lens has been used in a manner that brings along a tendency to focus on the human–machine dyad and overlooks the role of the co-presence of other artifacts, people, and temporally contingent practices (Bloomfield et al., 2010; Faraj & Azad, 2012; Fayard & Weeks, 2014).

The aim of this article is to enrich the literature on affordances with an attunement to the reality of the organizations of today, where multiple technologies of different types are at play, and where the relevance of particular technologies changes over time. To accomplish such an attunement, this article pairs the affordance concept with that of "situated valuation"; a concept informed by the emerging field of pragmatic valuation studies and developed in this article. The locus of valuation studies is to investigate how things come to count as valuable in empirical situations (Antal, Hutter, & Stark, 2015; Dussauge, Helgesson, & Lee, 2015; Helgesson & Muniesa, 2013). To explore the usefulness of the suggested synthesis between affordance theory and

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valuation studies, this article mobilizes an empirical study of Lean management in a children's hospital. Using ethnographic data, this study analyzes how three affordances of Lean come to be valued differently in specific situations observed at the hospital.

This article begins by accounting for the appropriation of affordance theory by organization and management scholars and argues that the concept has been entangled in ontological debates to the extent that this has come to overshadow its primary quality, which, according to this article, is to direct analytical attention toward the doings of technology. To underscore this use of affordances and provide an organizational attunement, this article presents the field of valuation studies and develops the concept of situated valuation. Upon settling the theoretical framework, this article presents an ethnographic study of Lean management in a children's hospital, including its research methodology. In the analytical section, three affordances of Lean management in the children's hospital are presented, and their changing valuations in different empirical situations are analyzed. Lastly, the analytical findings are summarized and the relevance of combining affordances with the concept of situated valuations is discussed in relation to the sociomateriality literature on affordances.

2. Affordances: From ecological psychology to organization and management studies

Before affordance theory was introduced to organization and management studies, it was used in the field of psychology. As part of his theory of visual perception, ecological psychologist Gibson (Gibson, 1977; Gibson, 1979) uses "affordances" to explain how animals interact with their environments. Gibson's motivation was to counter the argument of the cognitive psychologists of the 1970 s who claimed that meaning was a mental process separate from the environment. Gibson wanted a concept that could "refer both to the environment and the animal in a way that no existing term [did]" (Gibson, 1979: 127). A well-known example drawing on Gibson's work is a study by Warren (1984) that involves a series of stair-climbing experiments. Warren showed that the involved actors perceived the affordance of "climbability" through body-scaled metrics, not in absolute or global dimensions. This result means that the actors' judgment of whether they could climb the stairway was determined by, among other things, their leg length rather than the steps' height (Warren, 1984). To capture both the impact of, for example, the stairway and the climber, Gibson insisted that an affordance is "neither an objective property nor a subjective property; or it is both if you like… it is equally a fact of the environment and a fact of behavior" (Gibson, 1979: 129–130). He held that affordances represented action possibilities that existed in the environment and could be directly perceived by the animals.

Gibson's characterization of affordance stirred debate in the field, particularly on the question of where to locate the reference of the term (Greeno, 1994). For example, is the affordance that a stairway provides for climbing a property of the chair, of the person who climbs it, or something else? In his analysis of this debate, Stoffregen (2003) detects two positions: one that views affordances as "dispositional" and another that views them as "relational." Turvey (1992), associated with the dispositional position, frames an affordance as a disposition equivalent to a law. He views an affordance as a latent property of an object that manifests itself in an interaction with the subject (an animal, in his case). In opposition to Turvey (1992); Stoffregen (2003) presents the relational position. He argues that affordances cannot be dispositions, because a characteristic of dispositions is that they never fail to actualize under the right circumstances. Affordances, he argues, do not always result in a specific action in relation to an organism (Robey, Anderson, & Raymond, 2013; Stoffregen, 2003). This confusion about the nature of affordances has tagged along as the concept migrated into organization and management studies.

In 2001, the sociologist Hutchby (2001) introduced the notion of affordances to the sociology of science and technology. Characteristic of Hutchby's theory of affordances is that it does not fit with either the dispositional or relational position, as identified by Stoffregen (2003). Hutchby (2001) argues that affordances of technology are *neither* dispositional *nor* relational: they are both. They are dispositional because they both enable and constrain action and exist even though they are not perceived. Yet they are also relational, because they are specific to the perceiver and the context, which allows multiple interpretations of the same technology (Fayard & Weeks, 2014: 242; Hutchby, 2001).

Hutchby introduced the concept of affordances in organization and management studies because he observed an overemphasis of sociality at the expense of materiality in the social constructivist accounts of the time. Explicitly, he criticized the idea of technology as text (Grint & Woolgar, 1997) available to no matter which interpretation the user makes (Hutchby, 2001). Parallel to Gibson's project of emphasizing the role of the environment on our perception within the field of psychology, Hutchby suggests to take seriously the affordances that particular artefacts possess (Hutchby, 2001: 453). According to Hutchby, this position does not equal a realist or essentialist perspective, but rather a shift of analytical attention away from accounts and representations of technology and toward a better understanding of "the material substratum which underpins the very possibility of different courses of action in relation to an artefact" (Hutchby, 2001: 450). The novelty of this shift in organization and management studies can be questioned, but that is out of the scope of this article (see, however, Rappert, 2003).

Novel or not, Hutchby (2001)'s project was to interfere with the social constructivist debate and sensitize the analytical vocabulary to the "material substratum." Yet, his concept of affordances has predominantly been utilized as an input in ontological debates about the relation between the social and the material, and between user and technology. In their chapter of the Academy of Management Annals (2008), Orlikowski and Scott identify the theory of affordances as part of the sociomateriality movement away from "discrete entities of people and technology" and toward "composite and shifting assemblages" (Orlikowski & Scott, 2008: 455). The sociomateriality program challenges the taken-for-granted assumption that technology, work, and organization should be studied as separate entities, because this disables our ability to observe the entanglements of technology and the social at all times, in all places, and under all circumstances (Orlikowski & Scott, 2008: 454). Leonardi later tried to moderate the idea of the "entanglements" of technology and organization by suggesting that the notion of "imbrication' (2011) as a metaphor to grasp the "overlaps" of the social and material is more useful in empirical analysis (2013a, 2013b).

Zammuto et al. (2007), referring to Gibson (1979) and Hutchby (2001), suggest the notion of "affordances of organizing" as a bridging concept that brings "the social and technological systems in organizations in concert" (Zammuto et al., 2007: 752). Such affordances for organizing, they argue, depend not only on the functionality of the technology, in their case IT-systems, but also on the organization; that is, on the expertise, procedures, controls, social capacities, etc. present in the organization. They argue that "although IT features and organization features may exist independently of each other, their value for explaining organizational form and function comes from how they are enacted together" (Zammuto et al., 2007: 753). The affordances that occur from the interconnection between organization and technology must be explored, they argue, if our research hopes to reflect today's organizations (Zammuto et al., 2007: 760). Zammuto et al.'s study shows that the concept of affordance, despite the intentions of Hutchby (2001) and Gibson (1972, 1979), is still mainly used to discuss the features of technology, particularly in studies of digital technologies (see, for example (Yoo, Boland Jr, Lyytinen, & Majchrzak, 2012)).

3. Positioning this article

The debate, raised under the headline of sociomateriality by

Zammuto et al. (2007); Orlikowski and Scott (2008) and others, is a principle debate about the ontology of the relationship between technology and the social. In organization and management studies, these questions have a comprehensive hinterland when it comes to the relationship of technology and organization. Gaining momentum in the 1950 s and 1960 s, the technology/organization relation has been perceived as one of contingency (Lawrence & Lorsch, 1967; Perrow, 1967; Woodward, 1958) and structuration (Barley, 1986; DeSanctis & Poole, 1994) and is now predominantly viewed as one of co-constitution (Callon, 2007; Latour, 2005; Orlikowski & Scott, 2008). This is also the case for studies on sociomateriality, where the main argument is that materiality is an intrinsic part of everyday activities and relations (Orlikowski & Scott, 2008: 455); thus, it no longer makes sense to study technology versus the social, as these are inseparable and must be studied through sociomaterial research approaches.

When integrated into the program of sociomateriality, the concept of affordances is cast as a moderator in the distinction between the social and the technical or material. This role is arguably not the perfect fit, as noted by Greeno, 1994: 340, and, see also Michaels, 2003 and Leonardi (2013b) in a discussion about the metatheoretical foundations for the study of sociomateriality (see also Volkoff & Strong, 2013). This article argues that the affordance concept's entanglement in ontological debates has overshadowed its biggest potential, and that this potential could be harvested if the affordance concept were recast in the role of a vehicle of empirical investigation of the doings of technology in organizations. In other words, this article finds it relevant to reorient the use of affordances toward the empirical study of technologies (little t) rather than an ontological debate about Technology (big T). For this type of study, sociomateriality is the point of departure: Both technologies and organizations are perceived of as sociomaterial arrangements. As such, this is neither the argument nor the endpoint of analysis. Rather, this type of study will result in empirical and practical descriptions of how, when, why, and what the technology comes to afford in the specific case.

Regarding the interest in reorienting studies of affordances toward that with which they enter into a relation, scholars have previously mobilized associate concepts to affordances, similarly to what this article intends to do. The mobilization of associate concepts occurred even within the field of ecological psychology before affordances emigrated to organization and management studies. An argument often used when pairing affordances with other concepts, is that where "affordance" refers to whatever it is about the environment that contributes to the type of interaction that occurs, "One also needs a term that refers to whatever it is about the agent that contributes to the kind of interaction that occurs" (Greeno, 1994: 338). In 1982, Shaw et. al. used the term "effectivity" (Shaw, Turvey, & Mace, 1982) to grasp "whatever it is about the agent": Where an affordance is directional from environment to animal, effectivity is directional from animal to environment (Cutting, 1982: 212). Similar arguments have been used to mobilize the notion of "aptitude" (Snow, 1992) and "ability" (Greeno, 1994) and, in the information studies literature, the notion of "actualization" (Strong et al., 2014). Additionally, affordance theory has been paired with philosophical situation theory (Greeno, 1994). Within organization and management studies and related fields, affordances has been referred to as "affordances of organizing" (Zammuto et al., 2007) and has been used in combination with Bourdieu's habitus concept (Fayard & Weeks, 2014). However, most of these parallel concepts refer narrowly to the user or perceiver; thus, they overlook the dynamics outside the technology–user dyad. Although this omission may not be a problem for a psychological theory of perception, it is not compatible with the program of sociomateriality.

For this reason, this article suggests a new and more suited coupling for affordance theory, which summons recent calls for scholars applying affordance theory. Firstly, this coupling responds to Fayard and Weeks's call for a language that moves beyond the description of mutually constituted arrangements and serves "to unpack how specifically the material is enacted in these constant reconfigurations" (Fayard & Weeks, 2014: 241). Secondly, it builds on the insights from the studies of Robey et al. (2013) and Pentland and Feldman (2007), who have explored "under which circumstances" a technology plays a role in an organization (see also Leonardi, 2013a); and to Petrakaki, Klecun, and Cornford, (2016) who explore when technology comes to afford organizational change in a professional context. Further, it builds on the approach of Faraj and Azad (2012), who studies how specific action unfolds in a unique moment and situation, what it enrolls and how it affects the world (Faraj & Azad, 2012: 255). This article suggests to couple the concept of affordances with that of "situated valuations."

3.1. Situated valuations

The idea of situated valuations is rooted in the emerging field of pragmatic studies of valuation (Antal et al., 2015; Dewey, 1939; Helgesson & Muniesa, 2013; Vatin, 2013). Rather than a clearly delineable theoretical approach, valuation studies are a collection of studies drawing on different literatures (e.g., economic sociology and social studies of science) with a shared empirical interest in valuation devices and practices. Valuation studies, in this manner, comprise everything from comparisons of food assessment devices (Christensen & Strandgaard, 2013) to the analyses of architectural competitions (Jacobsen & Kamstrup, 2017) and the negotiations of subsidies in medical trials (Sjögren, 2008). Yet, from the valuation literature, two central and closely related aspects relevant to illuminating what a technology affords in an organization can be drawn, namely, the "move" from value to valuation and the focus on "situations."

Neither valuation nor situation are foreign aspects to affordance studies. Gibson notes that the Gestalt psychologist Koffka (1935) argued that the assessment of "the value" [i.e., meaning or utility] of something is assumed to change as the need of the observer changed (Gibson, 1982: 409). To Gibson, by contrast, affordances do not change as the needs of the observer change. For example, the edibility of a substance is assumed not to depend on the hunger of the animal (ibid). Yet, if interested in unfolding the role of a technology in an organization, I observe it is relevant to be able to grasp organizational equivalents to hunger because these may provide information about the circumstances under which technology comes to play a role (Pentland & Feldman, 2007; Robey et al., 2013). The notion of valuation characteristic of valuation studies is relevant in association with affordances, because it can be used to grasp the process through which a technology is assessed and valorized in an organization.

Pragmatic studies of valuation glean from Dewey the idea that value is not an intrinsic quality of an object: it is established in empirical situations (Dewey, 1939) through socio-technical processes often involving technology (Muniesa, 2012); hence, the focus is on valuing and valuation rather than value. Rather than considering value as an explanatory factor, value calls for an explanation (Doganova et al., 2014; Dussauge et al., 2015). In this article, I extend this line of reasoning to include affordances; that is, an affordance is not an intrinsic part quality of a technology, it is established in empirical situations. Valuation, in this respect, is thus not equivalent to an individual opinion or the sum of the opinions of the individuals in an organization. By contrast, valuation is the sociomaterial process through which something comes to count; thus, it is the outcome of an often highly political process in which multiple and sometimes conflicting opinions have been raised or perhaps silenced.

Attention to the relevance of exploring valuation "in situations" was cast by Dewey and has also been promoted within the field of science and technology studies (prominently bv Suchman (1987)). Based on Dewey's attention to situations, valuation studies have operated with a "methodological situationalism" (Antal et al., 2015; Krafve, 2015) inspired by Dewey (2013) and Knorr-Cetina (1988). Among valuation studies, "situation" is understood as a "particular social assemblage of persons and things that is in place and in motion during a span of time"

(Antal et al., 2015: 10). By pointing to the situation, two tenets are brought forward: The principle of parallelization "which demands that descriptively adequate accounts of large-scale social phenomena be grounded in statements about actual social behavior in concrete situations" (Knorr-Cetina, 1988: 22) and attention to the ways in which the situation is "furnished" (Knorr-Cetina, 1988: 22) or "rigged" (Krafve, 2015: 58). By putting situation and valuation together, I establish the notion of "situated valuations" as a means of grasping how the relationship of a technology and an organization is established in the interplay between the affordances of the device and the organization's "situated valuations" of these. The usefulness of this approach is investigated through an empirical case of the Lean practices of a hospital department. Before commencing with the analysis of Lean's affordances in the hospital, I provide some details about this study.

4. Methodology

4.1. Design of this study

This article reports on an organizational ethnography conducted in a children's hospital in Denmark. The ethnography consists of approximately 10 months of data collection. The children's hospital is a highly specialized department of Denmark's main hospital, with 228 beds and among 180,000 outpatient visits annually. Among others, it houses the specialties of reproduction, childbirth, maternity, pediatrics, neonatology, surgery for children, and gynecology.

For three years, I was granted generous access to the Lean activities of the hospital, where I chose to focus on the Unit for Children and Youth and the Unit of Neonatology. The ethnography was conducted in sequences of approximately two months: the first sequence began in 2011 and the last in 2014. This approach was chosen as a reflection of the Lean work of the children's hospital, which was typically organized in projects of this length. Additionally, the pauses from the fieldwork provided useful opportunities to compare the research findings with the literature; thus, I continually improved the research questions and choices of where to be and what to observe. During this study, I inhabited an office in the management hallway of the hospital department. This location provided a useful gateway to follow the hospital department management and coordination of Lean activities.

4.2. Data collection

The ethnography involved multiple qualitative methods. The primary method was planned, participant observations, including "shadowing" (approximately 200 h), qualitative interviews (31 interviews of 30 min to 2 h in duration), training to become a Lean agent with staff members of the hospital (a three-day course) and informal conversations and encounters when "at work" in my office at the hospital. In addition, I studied the hospital's strategy work and Lean documents. The data produced through the different methods was triangulated, was compared with the Lean literature, and provided a rich understanding of the Lean work of the hospital department.

4.3. Data analysis

The observed material was translated into text. Interviews were transcribed and handwritten fieldnotes were typed into a long document. Each section of the long document was marked with facts about the data (e.g., date, participants, method used, activity taking place). With inspiration from the book "Writing Ethnographic Fieldnotes" (Emerson, Fretz, & Shaw, 2011), the most important themes and stories were extracted and organized into data pools. The empirical material used in this article was once such a data pool. To make sense of the data and to frame it theoretically, I applied an abductive approach (Ahrens & Chapman, 2006; Timmermans & Tavory, 2012). This implies I switched between using theory to challenge my observations and the observations to challenge theory. For this article, the initial interest was what I called "occasionally Lean": The empirically observed phenomenon that Lean was only used on particular occasions at the hospital. How could I make sense of this, having a sociomaterial point of departure? The tension between occasion and co-constitution has inspired the article's focus on affordances and situated valuation.

4.4. Analytical selection of the data

The data presented in the analysis was chosen to illustrate how the affordances of Lean management were valuated differently in different situations. The analysis consists of three embedded examples (Yin, 2013: 56) that revolve around three affordances of Lean: The affordance of a particular temporal frame, the affordance of a particular language, and the affordance of a particular space. Each example contains unusual episodes from the units. For each example, I begin by demonstrating how the affordance in question is generally assessed at the hospital. With these demonstrations as a backdrop, I illustrate how the same affordance comes to be valuated differently in certain situations. Next, I analyze how the situation and organizational dynamics at play resulted in this valuation. Before introducing the three selected examples, I provide a brief introduction of Lean management and the Lean work of the children's hospital.

5. Lean management in healthcare and in the children's hospital

Lean is one of the most applied management technologies worldwide. According to its founders, it is best characterized as a particular way of thinking derived from Toyota's car production plants in Japan (Womack & Jones, 1996). The slogan of Lean is to maximize value and remove waste. As such, it is the perfect case for studying processes of valuation: it consists of principles and tools with the purpose of establishing what value is and how to maximize it. The five main transformation principles of Lean are (1) identify value in the eyes of the customer, (2) identify the value stream, (3) create flow, (4) let customers "pull" value, and (5) pursue perfection (Bicheno & Holweg, 2009; Womack James, 2005; Womack, Jones, & Roos, 1990). Lean comprises a range of tools and each has a specific purpose. Among the most prominent are value stream mapping (VSM); a visual tool to identify value and eliminate waste in the value stream, and "five times why"; an interrogative technique to identify the root causes of a problem. While originally a production system, Lean is also used in a variety of public and private service organizations to transform everything from storage rooms to entrepreneurial innovation strategies (Johnstone, Pairaudeau, & Pettersson, 2011; Joosten, Bongers, & Janssen, 2009; Modig & Åhlström, 2013; Stone, 2012).

One of the sectors most receptive to Lean is healthcare. Lean has been an integrated element in many countries' healthcare systems for the last decades, including in the United Kingdom, the United States, Sweden, and Denmark (McCann, Hassard, Granter, & Hyde, 2015; NHS, 2013; Plsek, 2013; Region, 2011). One reason for Lean's popularity is the demographic and socioeconomic development of these countries, where an increase in the demand for public care due to the aging population is not reflected proportionally in the financial means available to provide this care: Lean is known to enable organizations to do more with less (Porche, 2006). In spite of the seemingly perfect match between the solution of Lean and the problem of healthcare, Lean has frequently been criticized for not having "delivered its promise" (Radnor, Holweg, & Waring, 2012) and of only existing in "pockets of best practice" (Radnor et al., 2012; Spear, 2005) when implemented in hospitals. A recurrent explanation for these conclusions is that the hospital organizations create barriers that prevent Lean from working (de Souza & Pidd, 2011; Joosten et al., 2009).

The children's hospital under study works with Lean in primarily two ways: blitz projects and Kaizen meetings. "Blitz" is short for "Blitzkrieg," a sudden, overpowering attack (isixsigma.com, 2016),

which translates into an intense development project a couple of days in duration. At the children's hospital, the blitz projects typically involve VSM. In manufacturing industries, VSM is used to analyze and redesign the flow of materials required to bring a product or service to a customer (Bicheno & Holweg, 2009). At the children's hospital, VSM has—among other things—been used to map and redesign the path of patients with imminent abortion through the Acute Reception of the Clinic of Gynecology and redesign the process for couples in fertility treatment.

Kaizen means "continuous improvement" in Japanese. In the words of the Lean founders, it is "about raising the baseline by intervening in the process or value stream to change the work, improve the results, and create new, higher performance standards" (Womack, 2016). In the children's hospital, attention to continuous improvements is cast through "whiteboard meetings", that is an amalgamation of Lean-related tools found particularly in Scandinavia (Rahbek Gjerdrum Pedersen and Huniche, 2011, Hauge, 2016), but also observed in France (Paring, Pezé, and Huault, 2017). Whiteboard meetings are local to particular teams or sections, occur at a predetermined time every week, are 15–20 min in duration, and operate with a fixed agenda and an appointed whiteboard manager. The meetings are organized around a whiteboard with a particular visual structure, facilitated by colored adhesive tape and attached signs. On the whiteboard, four to five targets are displayed simultaneously. For instance, a target can be that 95% of incoming patients are assigned a care-responsible nurse. During the meetings, the Lean manager in collaboration with the participants review the status of each target and evaluate whether it has been achieved, and if not, what actions must be taken to reach that target.

At the time of this study, the children's hospital had been using Lean management for about five years with varying intensity and success among the units. Despite some frequently told success stories, the hospital was not buzzing with Lean activity. For example, no unit or team had any suggestions for blitz projects during what was supposed to be the "Big Round of Autumn Blitz" in 2014, where multiple projects should have been conducted simultaneously to achieve a synergy effect. Additionally, in many units, the whiteboards were not updated, and no one ever gathered around them. Even at the top level, where the enunciators of Lean had their offices and where I had mine, the head Lean consultant (HLC) struggled to interest her colleagues in the Lean results she produced, even though they were displayed on a large whiteboard (approximately 2 × 5 m) and aided by numerous means of nudging in the form of colored smiley badges, Post-its, and hand-drawn arrows. During interviews, some informants would confide that they would duck or take detours through the hospital to avoid Lean activities.

In dispersed situations, however, the affordances of Lean would suddenly be found valuable. Three examples of such situations are unfolded in the following: The first example involves the affordance of an alternative temporal frame. Normally this affordance is valued negatively in the neonatology unit, but as the unit needed to solve an organizational problem, it became useful. The next example is about how Lean affords a particular language in terms of a certain jargon and certain metrics. Generally, the clinical staff ridicule this language, but as a media scandal about children's fasting times in the hospital evolved, this affordance of Lean became useful in organizing a cross-professional root cause analysis. The last example involves Lean's affordance of generating a certain physical space. Although this affordance was generally viewed as a nuisance, because the staff had other places they would rather be, it became valuable in the detection of problematic details regarding how to assess the catheters of babies. I present these three examples, and after each example, I provide an answer to the question of how the affordance came to be valued differently in the specific situation.

5.1. Example 1: Lean affords an alternative temporal frame

You can measure how much time a factory employee requires to attach a door to a car. While there may be some variation, you can quickly estimate how to improve the car-attachment process and make it faster. It is a manageable process. Do not think that you can transfer this to making rounds: Some doctors need more time, because they don't have the same experience. Some patients take longer, because they are more complicated. And it is important to take this time.

A head physician delivered this statement during an interview. It represents the general sentiment toward Lean that I encountered in the neonatology unit: Lean's idea of time is incompatible to the way the clinical professionals work; Lean is about standards and routines, whereas some of the work that occurs in the neonatology unit is acute and "ungovernable", as the head physician calls it. The clinical director agrees that Lean's temporal frame is difficult to integrate with the work of the neonatology unit. His point of view is practical: "in an organization where resources are scarce," he explains, "it is difficult to do our work properly, if three head physicians attend a Kaizen Blitz workshop for three days." A Kaizen Blitz is a focused, short-term project to improve a process, undertaken while the normal production process is still running. It includes analysis, design, and—often—re-arrangement of a product line or area. The typical duration for a Kaizen Blitz is 2–10 days (Bicheno & Holweg, 2009). The idea of making improvement projects while the "production" is still running is problematic in a hospital organization, the physician finds. His reasoning is that the "normal" work of the doctors is more valuable for the unit than their participation in Lean activities. Yet, in a particular situation emphasized by several informants, this valuation changes; during the invention of the acute trolley, Leas is suddenly valuable.

In the neonatal unit, a sub-unit of the children's hospital, approximately 1100–1200 children per year or 3–4 children per day are admitted. Often the healthcare professionals do not know how sick the children are before they arrive at the unit. Some children come directly to the unit only minutes after being born in the adjacent maternity ward, others are transported from other hospitals to receive special care. When a child arrives, it is critical that the doctors can begin their work straight away. For this to be possible, certain specialized instruments—in the right size—are necessary. This includes laryngoscopes, feeding tubes, a radiant warmer, an anesthesia bag, an oxygen source, a pulse oximeter, a carbon dioxide monitor, and neonatal probes. Yet, the rooms are small, and must accommodate nurses, doctors, parent beds, and the incubators with the arriving children. The instruments have been stored in a storage room around the corner from the patient rooms, rather than inside the rooms.

"When the children arrive, it is a matter of life and death how fast this equipment is ready for use," the doctor explains. "And to the great frustration of doctors and nurses, the rooms were not equipped properly. There was either too much or far too little equipment. And then we had to run back and forth between the patient and the storage room, using valuable minutes on logistics rather than on the patient." At one point a group of colleagues from the neonatal unit, along with their local Lean consultant (a trained nurse), decided to address the problem. "Originally, we wanted to do a Kaizen Blitz over a couple of days," the Lean consultant from the neonatal unit tells me during an interview. "But to take out time over several days was impossible, so instead we planned a morning meeting… and then we went out and did it that same day: We bought the things we needed, made stickers and knobs and thingies… On one day we made it! It was a kind of adapted Kaizen Blitz that we came up with."

That morning the group decided to develop an acute trolley. "On this trolley is everything you need. So when we get reports of an incoming child, we bring the trolley to the patient's room, take the things we need from the trolley, and then roll out the trolley," the head physician further explains. The "stickers and knobs and thingies" were put on the trolley to indicate the right place of each piece of equipment

to make it easy to find what they needed, and make it fast and easy to check if the trolley was "full" and ready for use. Now, the neonatology unit has one acute trolley for each of its three teams, and the responsibility for maintaining the trolleys has been delegated; thus, they are always ready for use. "It is an enormous success," the head physician concludes.

5.1.1. Affordance of an alternative temporal frame: changing valuation

Why was Lean assessed as relevant in this situation? According to the doctors and nurses from the unit, they did not previously have an opportunity to address the problem of the overfilled patient rooms until Lean was available. For them, the role of the Lean consultant and adapted Kaizen Blitz afforded an opportunity they did not experience before, namely, managing their time in a different manner. This will be unfolded in the following.

The working days of nurses and doctors are typically organized around the patients on their lists, and administrative duties are squeezed in during the patient-free time pockets. Added to this situation is the arrival of new patients, changes in patients' conditions, requests of supervision or help from colleagues, and other tasks. The clinicians must re-evaluate how to spend their time many times during the day, balancing the needs of their 'own' patients, colleagues, colleagues' patients, and formal requirements of documentation, among other things. When Lean activities are commensurate with these "normal" activities, they are often regarded as belonging at the bottom of the hierarchy of what to spend time on. Lean is not urgent and not necessary to get through the day, according to the clinical professionals' assessment.

When the clinicians attend Lean activities, they often complain that peripheral activities take unproportioned amounts of time. This occurs, for example, during the whiteboard meetings in the neonatology unit. One of the goals on the whiteboard is "reducing the mortality rate," for which one means is to make ticks and comments in an IT application to document their work and then discuss these ticks and comments. Yet, many doctors feel that "reducing the mortality rate" is exactly what they work to achieve in a very literal sense when they are with patients; not with the whiteboard or the computer. They experience that Lean requires additional time spent on administration and metatalk than on what—from their perspective—should be on top of their priority "list." In this manner, the clinical professionals' timeframe collides with Lean's: Lean holds a much longer time horizon, examining how the mortality rate can be decreased during a monthly and annual period, whereas the hospital staff are working to prevent mortality here and now. Thus, when the temporal frame of Lean so often collides with those of the hospital staff, what makes Lean an affordance in the situation of the acute trolley? The answer has two components.

Firstly, the group who developed the acute trolley used the Kaizen Blitz as a means to mark a period where they would evaluate their current organization. Concretely, they marked a slot in the calendar where they agreed to work on the equipment and space problem. By availing this means, the trolley process formally and practically got a "beginning" and became disentangled from daily operations. Although the clinical professionals modify and shorten the Kaizen Blitz, they use it as a label to indicate that a parallel activity worth spending time on is taking place. This designation is necessary in the busy life of the hospital staff, as in many other organizations. Spending time away from normal tasks requires that "it is time" for something equally or more important, and this is the case when the trolley process gets a slot in the calendar as a Kaizen Blitz. Thus, while it is often regarded negatively that Lean takes time away from the regular tasks of the organization, in this situation the affordance of taking time away from tegular tasks is exactly what makes Lean valuable. The technological substratum does not change per se, but the situated valuation changes.

Secondly, the Kaizen Blitz affords an alternative temporal frame to the typical temporal frames of hospitals. Using the Lean device of VSM as part of the Kaizen Blitz, for example, a way of talking about time differently is offered. A VSM typically involves creating a patient path on a long, brown sheet of paper (approximately 5 x 1 m) and using Post-its to visually identify the tasks of the different professionals as part of the path. Next, stickers with yellow flashes of lightning are placed on "wasteful" procedures such as fetching equipment in a storage room. Thereby, the device—visually and concretely—makes time an object of management: Something that can be tweaked, shortened, and utilized. Where time is usually something that the staff check on their watches and which guides them through that day, the VSM device offers a different sense of time, namely, one that allows for more distant future-making. While this temporal frame of Lean in many situations is assessed to disturb hospital activities, in the situation of the acute trolley, it comes to afford an alternative to the regular time, both practically in the shared calendars and focally by enacting a more distanced and generalized version of time.

In the next example, Lean is involved in a case about children's fasting times, where the disposition that Lean affords, namely, alternative metrics, is suddenly assessed to be useful.

5.2. Example 2: Lean affords an alternative metrics

I have to say something about the way you talk. Now that we are here [in the hospital], can we not say "target?" And not say "KPI"? [Speaker pronounces 'target' and the abbreviation for key performance indicator in English to emphasize their strangeness to a native Dane] In this room [hospital management meeting room] we may be fine with it, but to others [pointing to the corridor] it will sound like you are scraping a chalkboard with your fingernails: They will stop listening. So excuse me, but that is how it is!

The comment is made by a managing head physician from the Unit of Children and Youth (UCY) to an external Lean consultant during a workshop on how to improve the referral practice. The Lean consultant, wearing a suit, is standing in front of a flip-over and going through his suggestion on how to achieve the improvement. With her arms crossed, the managing head physician is leaning back in her chair and smiling at the Lean consultant. It is not unique for the clinical professionals to react to the Lean expressions. In addition to direct confrontation, typical reactions to someone saying "let's go to gemba (gemba is the Japanese term for 'actual place,' 'go to gemba' means that real improvement requires a shop-floor observation where work is done (from the Lean Lexicon by (see Lean Lexicon under 'gemba', Shook & Marchwinski, 2014)," "low hanging fruits," or "customer," includes eye-rolling, indulgent smiles, and similar expressions of "oh, you are one of those, I will now stop listening." However, in this empirical example referred to at the hospital as "the hunger case," Lean's affordance of a characteristic jargon and metrics are suddenly found to be useful.

In 2014, the children's hospital and, particularly, the UCY, ended up in a media scandal with headlines such as "Cancer Children Starving at the Hospital" (Politiken, 2014, author's translation). The parents of some of the child patients at the children's hospital were dissatisfied with the number of hours their children had to fast before surgery. Not experiencing that their concerns were taken seriously, they alerted the press. The resulting media attention caused a heated situation at the children's hospital, where managers and staff were simultaneously trying to solve the problem and calm the parents and press. In the work to solve the case, a myriad of factors related to the problem were illuminated: The operation ward was not properly prepared, the fasting times should have been measured differently, the parents' could have chosen to give the children juice during the night, the referring units had not made proper bookings in the IT-system, there was a lack of resources, the cancer unit had not managed to moderate the parents' expectations, and the porters were not organized properly. The management team was painfully aware they needed to initiate a process to solve the problems, but also that the choice of how and where to place the responsibility for this process were highly political.

The hospital decided that the HLC, that is, the trained economist

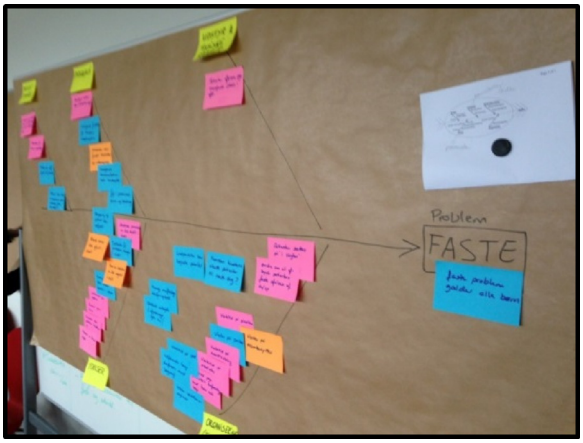

Fig. 1. Fishbone diagram in use. Source: Photo by author.

employed at the children's hospital, should oversee the process. The HLC appointed approximately 15 representatives (nurses, doctors, managers, and parents) from the involved units (e.g., UCY, cancer, operation, anesthesia) to solve the problem during a series of workshops. Of interest to this article is their use of a tool called the fishbone diagram, namely, a method of detecting and grouping the root causes of a problem (Boersema, 2011). The "head" of the problem was the long duration of the fasting times. At the first workshop, the head Lean consultant asked the participants to write Post-its with causes of the long fasting times and affix them to a clean whiteboard. For the second workshop, she brought a big poster (see Fig. 1) with a fishbone diagram, and grouped the Post-its into six categories, each represented by one bone: 1) Patient factors, 2) Communication in Orbit (an IT application), 3) Coordination and prioritization, 4) Preparation from referring unit, 5) Waiting for service staff, and 6) Test handling.

Comments during this meeting included "you could have made many different bones," "waiting times," "prioritization," and "There is a subjective angle to the choice of categories!" Yet, the discussion generally ran well and doctors and nurses of different ranks brainstormed on the root causes of the problem and how to manage them. The format allowed the participants to speak their mind:

> HLC: Do we have all the problems now?
> Head nurse, cancer: Maybe we should include the matching of expectations with the parents?
> Nurse, cancer: Yes, because it is a problem when we say that their child has to fast from 2 a.m. but in actuality they fast from bedtime around 8 pm.
> Head physician 1, UCY: And remember waiting time for the service staff!
> Head physician 2, UCY: Without a doubt, the most important issue is coordination!
> Head nurse, operations: As this shows [hints at fishbone], we all have our problem "baby": it depends on your point of view.

While the discussion was still, at times, heated, the situation established the simple tool of placing the problems on a fishbone diagram as a relevant tool. Rather than fueling a discussion about which professional group or medical specialty is to blame, the different interpretations were commensurated into parallel causes to a shared problem.

5.2.1. *The affordance of an alternative "language": changing valuation*

I now elaborate on the theme of Lean's alternative language. Clinical professionals were irritated by not only Lean's jargon, including for example, the words "target" and "KPI," but also Lean's "numeric language"— the Lean consultants' way of calculating. The following statement by a senior head physician is an excerpt from an interview about a Lean project that, in his opinion, created more harm than harmony in the clinic:

> It is a risk with Lean: It works based on social scientific principles in a world based on the natural sciences; this requires special consideration. […] If you make an analysis based on only a few persons' statements and use them to generalize [shakes his head]… It is not cookbook treatment we are offering here, and […] you should not make it into absolute statements and make it a business case, because then you will end up with absolutely ludicrous numbers in comparison to what anybody in their right mind would be able to recognize as empirical reality.

Lean's calculations and characteristic concepts generated suspicion and critical scrutiny on the side of the clinical professionals, especially the head physicians, who were not keen on the idea of accepting Lean as a common metric.

However, in the situation of the hunger case, the affordance of a characteristic language was valued positively. In other situations, tools such as the fishbone diagram would be ridiculed, but instead of irritating the clinical professionals, it became relevant here. The alternative language afforded by Lean created a common metric (Espeland & Sauder, 2007; Sjögren, 2008) that united the clinical professionals toward their common goal of solving the problem of the fasting times. The fishbone diagram enabled the Lean consultant to commensurate the myriad factors of the problem and make them comparable unities. They were "sorted out, detached, and displayed within a single space," (see Callon and Law (2005) on commensuration). Rather than setting off an organizational war about the right to define the solution to the problem, the fishbone diagram afforded a commensuration of the different roots of the problem, making them parts of a common problem.

The positive valuation of Lean's affordance of an alternative language is observed to be related to the organizational setup of the workshops of the hunger case. Usually, a particular unit or team wanting to solve a problem initiates the Lean projects (e.g., a group of doctors and nurses who want to improve the referral practice). In many of these cases, Lean's concepts and tools do not become a common metric: They become the concepts and tools of the Lean consultants but remain strange and invaluable to the clinical professionals. The clinical professionals observe that the "social scientific" or business-like words and—in their eyes—"quick and dirty" calculations misrepresent their reality.

In these situations, Lean comes to afford not unifying but self-excluding language and metrics: The doctors, nurses, and other hospital professionals defining the project usually have a "more common" metric than the Lean consultants, implying that Lean adds to the complexity rather than reducing it. In the hunger case, by contrast, the participants have a much more dispersed "organizational orientation"—the quantity of registers of value (Heuts & Mol, 2013) at play is much greater than what is usually the case. The presence of multiple registers of value implies that Lean's fishbone diagram—despite some resistance—succeeds in uniting these registers rather than being rejected as merely a distorter of reality. The affordance of providing a particular language and metric thus becomes useful to the specific situation, where multiple competing languages or metrics are at play.

In the next section, this article analyzes the third affordance of Lean, namely, an alternative space. This space comes to play a central role in discovering a mistake in the neonatology unit.

5.3. *Example three: Lean affords an alternative space*

At the cross-team whiteboard meetings in the neonatology unit, they decided to use their Lean whiteboard to work systematically to improve the quality of their handling of catheters: this target relates to their main KPI of reducing the mortality rate of the admitted, prematurely born babies. Whiteboard management is a visual form of

management based on weekly 20-minute meetings where the staff of a unit meet in front of a whiteboard. A Lean manager reviews the unit's objectives (4–5). If the objectives have not been achieved, the unit must produce ideas to achieve the objective during the subsequent week. Notably, although the whiteboard meetings have become routine in the neonatology unit, the Lean work of improving the way catheters are handled is not running smoothly.

The neonatology unit was the first unit in the hospital to practice whiteboard management, and the staff is—at the time of my observations—very familiar with the practice. Yet, at the time of my observations, conflicts from the past had become woven into the current practice of whiteboard management, occasionally transforming the meetings into a "battle scene" of multiple organizational struggles: nurses versus doctors, the old management team versus the new, the quality team versus the clinical management team, and Lean versus clinical professionalism, for example. The unit decided to improve the frequency with which they assessed the continued relevance of the admitted children's central line catheters (CLCs), which are thin tubes inserted in the patients' veins and used to, for example, administer fluids and medication. To monitor the improvement of their handling of CLCs, the doctors had to make a tick in the IT application IntelliVue Clinical Information Portfolio (ICIP) every day when they had assessed the CLC. Yet, this did not occur as frequently as intended (as also noted in the section on the acute trolley): The doctors found the process too troublesome and did not comprehend the value; the nurses were annoyed that the doctors would not participate and sometimes completed this task themselves, even though they were not officially entitled to do so; and the Lean consultant and staff members responsible for quality were concerned with the unit's lack of willingness to monitor this life-saving effort. These tensions had turned the whiteboard meetings into an organizational game of chicken, where the participants repeated the same discussions week after week waiting for one of the other parties to stand down.

Yet, in the following situation at the end of a whiteboard meeting, an important event occurred. To finish the meeting, the doctor responsible for quality briefly mentioned the agenda of the next week's meeting, saying that they had now exerted a considerable effort in obtaining the CLC certifications, the next step is to focus on learning to attach the CLCs properly—every time. Then, a nurse raises her hand:

> But I have a question! Take the example of the triplets [admitted in one of the teams]. I checked whether the records are aligned with the data in ICIP [the computer program]. Guess what: While the numbers matched, I could see on the child that the CLC had slipped out. Then I asked in Team 2 how they usually register the level of attachment of the CLC. And half of the people I asked said one thing, and the other half said another! The first half said they note down the first visible number. The others said they measure at skin level.

As the excerpt shows, the nurse brought attention to an important problem: Different methods of measuring the position of the CLCs coexisted, making the assessment of whether a CLC was slipping out difficult. This discovery could potentially contribute to the achievement of the target of reducing the mortality rate by improving the handling of catheters. Thus, even in a situation where the whiteboard meetings did not work as planned, the space they afford resulted in the discovery of a critical mistake. The informants I talked to were surprised by this discovery, and said, "something good does come out of the whiteboard meetings once in a while."

5.3.1. Affordance of an alternative space: changing valuation

As in the other examples, the space afforded by the Lean whiteboard meetings changed from being a nuisance to a relevant place. In this situation, the meeting afforded an alternative space for the members of the neonatology unit, making it possible for the nurse to bring attention to her suspicion of the misaligned measurement practices. The affordance of the alternative space makes it possible to convey messages directly to a large group. While other organizations may communicate in large groups through Outlook and multi-recipient e-mails, these means of communication are not as influential in some units of the hospital organization, where computers are often only used briefly for the specific purpose of filling out a patient record, googling a procedure, or ordering x-rays. Thus, when Lean whiteboard management makes communication among groups of people possible by their physical co-presence, this affords a space for addressing shared problems.

In addition to the physical place, the headlines from these meetings are also important. Naturally, meetings also take place on other occasions in the hospital. Mono- and bi-disciplinary conferences, supervision, occasional team meetings, quality- and safety-related meetings, or staff birthdays are a few examples. However, the hospital does not have many occasions where people gather to talk about how they organize their work on a more general level. In this example, the nurse managed to both change the triplet's file and initiate her own explorative study of the measurement practices in Team 2 before she determined a suitable outlet for sharing the results of her "study." Here, the headline of the next whiteboard meeting made her think of this problem. While the affordance of making spatial encounters is often valued negatively, in this case, it became a means of the department to discover a weakness in their work with catheters.

6. Analytical findings

This article has studied three affordances of Lean: The affordance of a temporal frame, of a particular language, and of a certain space. These affordances constitute an alternative to the prevailing possibilities of organizing available in the organization. This article has studied different situated valuations of these affordances. Many times, Lean's affordances create an unproductive tension with the work otherwise taking place in the organization: The clinical professionals' experience is that Lean takes their time, distorts and misrepresents reality, and requires them be somewhere they do not want to be. At other times, Lean is simply ignored, as in the cases of the left-behind whiteboards, where no one gathers anymore. Yet, in certain situations, the same affordances become valuable for the clinical professionals as a means of, as the examples demonstrate, inventing an acute trolley, of mediating in the complicated hunger case, and of discovering a critical mistake related to the catheters in the neonatology unit. The analysis shows how the value of these affordances is settled on basis of both dispositional and relation characteristics of Lean and the hospital, as well as the situation in question. In the subsequent discussion, I relate these findings to the literature on affordances and valuation studies and discuss the relevance of pairing the concept of affordances with situated valuation.

7. Discussion

Affordance theory has been brought to the table as part of the sociomateriality movement of organization and management studies arguing that technology, work, and organizations are inseparable components (Orlikowski & Scott, 2008; Orlikowski, 2007). The affordance concept's strength is that it contains both a dispositional and relational aspect in terms of understanding the constitution of technology (Hutchby, 2001). To nurture the concept's usefulness in terms of understanding how technologies are found relevant or not in the organizations of today, this article has explored the relevance of coupling affordances with the concept of situated valuation. In this section, the aim is to discuss the relevance of this coupling, including its contributions to the sociomateriality literature and our understanding of the role of technology in the organizations of today.

Coupling theoretical concepts requires reflection on the compatibility of these concepts. Affordances and situated valuation have similar theoretical hinterlands (Law, 2009): Affordances and situated valuations are rooted in literature that emphasizes co-constitution of

the social and the material (or technical), and both are studied as sociomaterial phenomena. Additionally, they share an etymological play with the verb–noun relation: The noun affordance is derived from the infinitive "to afford," and valuation describes the action or process associated with the verbal form of the word "value," that is, to make something valuable and/or to assess the value of something (Helgesson & Muniesa, 2013; Muniesa, 2012). For both concepts, the aim is to underline that the "effects" of the studied objects are not inherent features, but (also) the results of the entanglement between the objects and their context. The concepts are supplementary because of what they delineate. "Affordance" delineates the dispositionally and relationally constructed features of a technology-in-context. Situated valuation, by contrast, delineates the spatial and temporal episodes of judgment through which something comes to count as valuable (or relevant) or not.

The coupling of the two concepts contributes to the sociomateriality literature with an attunement of the affordance concept to an organizational context, where more than the user's cognitive calculations are at play. The contributions this attunement offers can be summarized as follows.

Firstly, situated valuation of affordances is a concept combination that moves the analysis from abstract, ontological debates to an empirically oriented analysis. This move does not reject the relevance of such debates but uses them as its foundation: The concepts thus do not complement each other by representing, respectively, the physical and the social. The concept combination is rooted in the understanding of the co-constitutive relation between technology and organization as established within the fields of sociomateriality, including practice–theoretical approaches of technology-in-use (Pentland & Feldman, 2007) and Actor-network-theory (Latour, 2005; Law, 1999). Thus, the studied technology; Lean management, and the organization; the children's hospital, are both understood as sociomaterial assemblages. Informed by the empirical observation that a Lean-hospital or hospital-Lean only exists occasionally, this article has attempted to move beyond the conclusion that technology and organization are co-constitutive and toward an orientation of the analysis toward the empirical situations in which this relation is configured. An empirical orientation of affordance theory toward the organizational dynamics responds directly to calls made by scholars using affordance theory (Faraj & Azad, 2012; Fayard & Weeks, 2014; Leonardi, 2013a; Letiche & Lissack, 2009) and to sociomateriality more broadly.

Secondly, the coupling of affordances with situated valuation offers increased symmetry in the analysis of organization–technology relations. As mentioned, organization and management studies have oscillated between positions that emphasize, respectively, technology and the social. The concept of situated valuation does not primarily or inherently provide primacy to organizations or technology; instead, it makes it an empirical question about which entities, relations, or concepts are relevant for the particular study. To address the situation as a "pervasive whole" (Dewey, 2013) and as unit of analysis implies the principle of generalized symmetry, that is, institutions, for example, should not be used to explain human conduct; instead, both human conduct and institutions must be explained, as Latour (1991) argues. This integration of ideas rooted in Dewey's American pragmatism offers a fruitful way for studies of sociomateriality to move beyond oscillation between nature and society or technology and the social and toward an empirical exploration of how these phenomena and their relations are enacted in empirical situations.

Thirdly, analyzing how affordances are valued in specific situations is particularly useful in studies of today's organizations, where multiple technologies and organizations are often at play. Analyses aiming to investigate the affordances—or effects or performativity—of a specific technology have a tendency to find this technology mighty powerful (for a substantiation of this claim, see Kurunmäki, Mennicken, & Miller, 2016; Vatin, 2013; Zuiderent-Jerak, 2009, Hauge, 2017), overlooking the role of the "context" of the technology, or the "conditionality," as Kurunmäki et al. (2016) call it. As mentioned, a similar line of reasoning led Fayard and Weeks (2014) to combine affordance with Bourdieu's notion of habitus. Notably, this article observes that such a combination is at risk of reifying the technology–user dyad, as habitus typically refers to individual, corporal dispositions and cognitive templates (King, 2000). By contrast, to combine the notion of affordances with situated valuation paves the way to incorporate multiple and competing technologies into analysis; thus, it is better suited to study the organizations of today, where technologies of different types continue to proliferate.

8. Conclusion

In conclusion, affordance theory offers organization and management studies a lens for understanding the influence of technology that accounts for both its material and social construction, or rather, one that integrates the two. The implication of taking the notion of affordances seriously is abandoning the idea of settling the features of a technology prior to its insertion into an empirical context. Coupled with the concept of situated valuation, affordances afford a non-deterministic and empirically sensitized vocabulary that brings attention to the process through which the relevance of a technology is established, whom and what this process enrolls and entails, and what the implications are. This vocabulary makes it possible to bring forward empirical nuances that help explain, for example, how technology is sometimes found relevant and at other times not, as this article has illustrated with the study of Lean management in a children's hospital. I hope that such a vocabulary may be valuable to other scholars interested in exploring how the proliferation of technologies in today's organizations (re)configure organizational practices.

Where the analytical strategy chosen in this article brings forward accounts of how and when a technology comes to afford what it does in empirical situations, an equally interesting strategy is to unfold the organizational trials of valuation (Hauge, 2018, under publication) involved in this process. Valuation studies and the affiliated literature provide useful sources of inspiration for such an endeavor, many of which are positioned against the tendency to present accounts of the "winner technology." For example, Gond, Cabantous, Harding, and Learmonth, (2016) recommend the notion of "performative struggles," and others suggest investigating the margins, dissonances, and ruptures between different values and principles of valuation (Dussauge et al., 2015; Mennicken & Sjögren, 2015; Stark, 2009). Notably, such situations of unsettledness illuminate the various yardsticks, technologies, and matters of concern that inform the valuations and offer access to the "explicit assembling, articulation, coordination, and negotiation of values" (Dussauge et al., 2015: 1). Future studies interested in extending the synthesis of valuation studies and affordance theory provided by this article could fruitfully attend to the political nature of the process of valuation.

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