Organizing Valuations
A Pragmatic Inquiry

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ORGANIZING VALUATIONS – A PRAGMATIC INQUIRY

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ORGANIZING VALUATIONS

-A PRAGMATIC INQUIRY

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Organizing Valuations – a pragmatic inquiry

The Doctoral School of Organisation and Management Studies (OMS) is an interdisciplinary research environment at Copenhagen Business School for PhD students working on theoretical and empirical themes related to the organisation and management of private, public and voluntary organizations.

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ACKNOWLEDGMENTS

1 INTRODUCTION

New public management has been called both the solution to public organization problems and the biggest public organization problem in itself. This dissertation is an inquiry into this polarized debate aiming to develop a more practical understanding of the relationship between devices, values and organizations.

1.1 CONTESTING VALUES OF PUBLIC ORGANIZATIONS

What is happening to the values of public organizations? Beginning in the 1980s we learned that the public sector was too bureaucratic, too poorly managed and too inefficient to survive under the current societal pressures of demographic transformation, globalization, economic crises and changes in the labor market (Pollitt, Bouckaert 2011, Keating 1989, Boyne, Meier 2013, Nordisk Ministerråd 2014). We also learned that public organizations would be made more agile and efficient if they were to adopt a variety of market-inspired reforms; a collection of tools and approaches that could 'modernize' the public sector. Alongside this modernization, however, a concern grew over what happens to the values of the public sector when economic value is placed at the center. Now, it seems, New Public Management is in turn being pushed aside in favor of new tools, marketed to be more concerned with citizens' values (see, for example, Porter 2010, Moore 1995).

With this dissertation I take up a problem currently traversing popular, political and academic arenas: namely, the potential demise of values in public organizations as we used to know them allegedly instigated by management tools deriving from industrial sectors. By inquiring into this problem, the dissertation aims to develop a practical and situation-based understanding of the relationship between these management tools, values and organizations, which can contribute to the development of more nuanced ways of approaching the management of public organizations.

1.2 A POLARIZED DEBATE ON VALUES AND IDEALS

The debate about values and management in public organizations is one of great polarizations. Some of the loudest proponents in the debate argue that in order for the values of the welfare state to remain, reforms of public organizations are necessary. This argument is typically represented by managerialist scholars, who argue that if public organizations do not begin to lose their excess weight, public welfare and its value for society will be a thing of the past (Moore 1995, Quigley, Scotchmer 1989, Osborne, Gaebler 1992). These approaches are often pooled under the headline of New Public Management (Hood 1991), which is often used in a slightly derogative manner. Generally these approaches share the ideal of public managers who 'steer' rather than 'row' by choosing a particular 'tool' or combination of tools for achieving the organization's objectives (Salamon, Elliott 2002, Bryson, Crosby et al. 2014). Furthermore, they promote the ideal of a lean, flat, autonomous organization (Stoker 2006: 46) that is able to efficiently serve its 'customers' (O'Flynn 2007: 360). At the other extreme pole is the point of view that New Public Management is not the solution but one of the main threats against the survival of the public welfare state, as we know it in Scandinavia. This almost phobic (Kurunmäki, Mennicken et al. 2016) argument is prominently made by, for instance, critical management scholars (see, for example, Alvesson, Willmott 1992, Spicer, Alvesson et al. 2009).

Critical Management Studies find that, generally, "managers seem rather susceptible to bullshit" (Spicer, Alvesson et al. 2009). In different ways, these scholars draw attention to "the dark sides of managerial 'enlightenment'" (Diefenbach 2009), which, they argue, can both create a

great deal of tedious bullshit work (Graeber 2013) and be downright harmful (Spicer, Alvesson et al. 2016: 241). Rather than the ideal of a lean, service-oriented organization, this position promotes the Foucauldian idea of a heterotopia; of creating other-spaces that stimulate a re-imagining of future social arrangements (Spicer, Alvesson et al. 2016: 241). Critical Management Studies' critique of New Public Management shares in this way characteristics with what Dunleavy & Hood (1994) call a 'fatalist critique' (1994: 351): They have as a key assumption that "little is changing underneath the raft of new acronyms and control frameworks promoted by NPM" (ibid), yet do not put anything specific in the place of new managerial systems except "a skeptical debunking of all reform hype" (ibid.). The polarization between businesslike proponents and moral critics is well known, but has to a large extent become a pseudo debate, as the positions are presented in separated arenas and seldom interact.

A related but more interacting polarization exists between those who claim the death of New Public Management, and those who experience it on a daily basis. Recently, the Danish Social Democratic party, historically a close ally of the welfare state, announced a "showdown with New Public Management" (Villesen, Kristensen 2016 (my translation)). According to the leader of the Social Democratic Party, Mette Frederiksen, New Public Management is characterized by a "blind belief in the possibility of the transfer of a market logic to something which is not a market, namely the relations between people"; something which the Social Democratic Party does not believe in, she states (ibid., my translation). The disbelief in New Public Management echoes international studies claiming the death of New Public Management (Dunleavy, Margetts et al. 2006), due both to its 'cruelty' (Lapsley 2009) and to its lack of ability to create "a government

that work[s] better and cost[s] less" (Hood, Dixon 2015). Where Mette Frederiksen points to the dissonance between the values of the market and public organizations, the authors of the UK studies are interested in the costs: Do the UK public organizations actually do more (good) with less? While these positions have declared New Public Management dead or at least dying from both a moral and an economic disease, others hold the view that New Public Management is still alive and well and enhances the value in and of public organizations.

Many public organizations in Denmark are well advanced in their work with specific management tools typically associated with New Public Management. It is estimated that at least half of all public organizations (central, regional or municipal) work with Lean Management (Pedersen, Huniche 2009); one of the most prominent examples of a New Public Management tool. In a comprehensive evaluation of Lean efforts in Denmark, the consultancy Rambøll Management shows that 63 percent of all central administrative organizations have achieved more than a 10 percent increase in efficiency and more than a 75 percent increase in employee satisfaction through their work with Lean (Rambøll 2007). While it is unclear what underlies these numbers, the widespread dissemination of Lean Management as an almost standard device in organizations testifies to the fact that for many public servants and professionals, New Public Management is very much alive.

The polarized positions presented here are different in many aspects, yet, they seem to share some assumptions about what value is; at least what the concept signifies. Generally, the Lean consultancy literature takes value to be what the customer wants (Womack, Jones 1996). It is something which can be determined and which organizations can produce more effectively

by transforming themselves. Among Critical Management Studies a central idea is to create spaces of deliberation, where members can imagine alternatives to "current systems of managerial domination and exploitation" (Spicer, Alvesson et al. 2009: 554), implying that these are organized around problematic values. Among Danish public organizations then, the idea is that more effective organizations equals value to both citizens and employees. How are these understandings similar?

Firstly, these positions assume a contrast between economic and more 'social' forms of value, placing economic value with New Public Management and social values with the (former) public sector. This assumption is a premise of the concern that the values of the public sector are 'under pressure' from the market-derived management tools. Secondly, many of these positions assume that values underlie or transcend social phenomena and somehow radiate through organizations. The understanding of values as something solid and underlying, almost inevitably sparks a debate on which value(s) should underlie public organizations. While this normative discussion is important, it is relevant to problematize the route it has taken towards increased polarization between proponents and phobics and between economic and social values. Rather than fueling this polarization further, this dissertation will therefore inquire into the practical and organizational problems related to values in the public sector. Specifically, the dissertation investigates what happens when Lean management is installed to optimize the value of hospital service.

1.3 A PRAGMATIC STANCE ON VALUES IN ORGANIZATIONS

In order to inquire into the problematic polarization of the debate on New Public Management in the public sector, this dissertation pursues a

practical and situation-based investigation of values in organizations: How do values arise in public organizations, and what happens to them when they 'meet' management devices from the world of business? In investigating these questions, the dissertation takes a pragmatic stance informed by American pragmatism, and particularly the works by John Dewey (1939, 1938). Dewey promotes a particular logic of inquiry, which has the primary characteristics that (1) its objective is the directed transformation of an unsettled or problematic situation into a unified one (Dewey 1938: 117) and that (2) it is preconditioned in practical affairs (Dewey 1938: 498). The transition of this practically rooted problematic situation is achieved by means of two kinds of operations, one dealing with conceptual matters; the other with observations (Dewey 1938, 117). This structure of inquiry is reflected in this dissertation, which first introduces its conceptual and theoretical operations, then its observational operations.

The dissertation's primary conceptual resource is an investigation of the opportunities of crosspollination between the theoretical fields of pragmatic studies of valuation practices and classical organization theory. The dissertation takes its point of departure from the emerging body of pragmatic studies of valuation practices which hold that value is not an intrinsic quality of a thing, but established through socio-technical arrangements (Krafve 2015, Doganova, Giraudeau et al. 2014, Muniesa 2012, Dussauge, Helgesson et al. 2015). The pragmatic studies of valuation practices provide sharply attuned optics and concepts to understand how management devices make something count as valuable, without adding to the polarized debate described above. Yet, many of these studies are interested in problems such as how values are produced, or how to denaturalize the binary approach between 'socially constructed value' and

values as an intrinsic quality of an object (Muniesa 2012), and only few deal with the practical problems and challenges that arise in organizations.

In order to honor this inquiry's concern with the practical and organizational problems of values and valuation, then, the dissertation turns to organization theory. Most contemporary organization studies are occupied with 'abstract' issues, however, such as organizational becoming (Tsoukas, Chia 2002) or the shift from entities to process (Hernes, Maitlis 2010). The dissertation, therefore, consults classical organization theory, which in many ways shares the pragmatic interest in inquiring into practical problems or situations. Although much of it has been abandoned, I find that classical organization theory (Perrow 1965, Barnard 1938 (1968), Lawrence, Lorsch 1967 etc.) exhibited a particularly practical understanding of organizations and still provides a useful vocabulary to study the collective accomplishment of tasks in organizations (Vikkelsø 2015, Du Gay, Vikkelsø 2016).

By bringing together the theoretical bodies of valuation studies and classical organization theory, the dissertation aims to gain theoretical resources that are attuned to the study of values in organizations, and, more generally, to the development of a practical and situation-based understanding of the relationship between devices, valuation and organization. In addition to these conceptual operations, the dissertation draws on an empirical study.

1.4 Observing Lean's value work in the hospital

The inquiry is informed by a study of the interplay between a particular management device[1] and an organization, namely Lean management and a hospital department. In Denmark, as in other countries, Lean is the quintessence of New Public Management: It comes from Japanese car production, offers a number of tools to cut away 'waste' and identifies as the successor of mass production. The key principles are to identify customer value, manage the value stream, develop 'flow production', use pull-mechanisms to support the flow of production, and, finally, to pursue perfection through reduction of all forms of waste in the value stream (Womack, Jones 1996, Hines, Holweg et al. 2004).

Lean has become an industry of its own, offering courses, tools and models to many different types of private and public organizations. The healthcare sector, both in Denmark and internationally, has been particularly receptive to Lean (Brandao de Souza 2009). Among other things, Lean has become known as the Productive Ward System (Wilson 2009, Morrow, Robert et al. 2012, Smith, Rudd 2010), which includes a number of specific tools aimed at optimizing the physical and processual arrangements of the hospital department (such as storage of supplies and shift reports) and through the use of visual goal management through specially designed

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[1] In this dissertation I address Lean management as a 'device', which etymologically refers both to a 'piece of equipment' and an 'elaborate procedure' employed with a specific purpose (Merriam-Webster 2017). I elaborate further on the meaning of 'valuation devices' in section 2.2.2.

Kaizen whiteboards (Hauge 2016b, Drotz, Poksinska 2014) used to "release time to care" (Wilson 2009).

The hospital department studied in this dissertation is the Juliane Marie Center of Rigshospitalet, one of Denmark's largest and most highly specialized hospitals. The Juliane Marie Center (in short the JMC) primarily treats conditions related to women and children. Key specialties include neonatology, gynecology and obstetrics. The JMC began to work with Lean in 2005 inspired by other hospitals such as Virginia Mason (US) and Karolinska (Sweden), as well as developments within the private sector in Denmark. Under the slogan "it is the result for the patient that counts", they have gradually expanded their Lean work via a combination of 'grass root initiatives' and external demands, such as the regional requirement that all organizations should have implemented 'Lean culture' by 2016 (RegionH 2011). Today the JMC is one of the most experienced hospital departments to have worked with Lean in Denmark.

In this dissertation I use the study of Lean at the JMC as an empirical resource to inform the development of a practical and situation-based understanding of the relation between valuation, devices and organization, as a means of transforming the problematic situation characterizing the use of market-derived management devices in public organizations. In an ethnographic study of 10 months conducted from 2012-2015, I followed the Lean work of the JMC and its metrics, tools, guidelines and rules implemented to make the organization more efficient.

1.5 TOWARDS A RESEARCH QUESTION

New Public Management has been criticized as being a bigger threat to the welfare state than the problems it seeks to solve by undermining the 'natural' values of public organizations (Beck Jørgensen 2003). Now, the impulse would be to resolve the situation by replacing the toolbox of New Public Management with a new one able to rectify the damages to public values. The stance of this dissertation, however, is that instead of continuing the trial-and-error approach to management devices, we should use the current situation as an opportunity to inquire into the practical problems evoked by management tools and thus to establish a better informed point of departure from which to make decisions about public sector management and the usefulness of management devices. As Dewey stated, "the choice is not between throwing away rules previously developed and sticking obstinately by them. The intelligent alternative is to revise, adapt, expand and alter them" (Dewey 1922/2002: 165).

THE RESEARCH QUESTIONS OF THE DISSERTATION

By developing a practical and situation-based understanding of the relationship between devices, valuation and organizations, the dissertation aims to encourage questions that go beyond which management device should be next, and to foster alternative ways forward. In order to guide this inquiry, I pose the following research questions:

> **What happens to values and value practices in a public organization when Lean management is introduced? And how may a practical and situation-based understanding of this question serve as a resource for further inquiry?**

The notion of 'inquiry' is, as mentioned, used by Dewey (1938) to denote the controlled or directed transformation of an unsettled or problematic 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 (Dewey 1938: 104-105).

In the endeavor of contributing to a transformation of the described unsettled situation characterized by diverging understandings of what happens, when a management device is introduced in a public organization, the dissertation takes on the experiment of making key insights from the field of pragmatic valuation studies interact with elements from classical organization theory. In the chapter Conceptual Operations I will set up the groundwork of this interaction, which will then be carried out in the analyses and evaluated in the concluding discussion of the dissertation. The sub question that guides this experiment is:

> **How can insights from pragmatic studies of valuation practices and classical organization theory usefully be combined to help establish a nuanced understanding of the relationship between devices, values and organizations and the practical challenges that this may involve?**

As I have already mentioned, the dissertation also draws on an empirical study of Lean management in the hospital department of the Juliane Marie Center. The patient groups of newborns, sick children and new mothers require gentle, sensitive and calm organizational settings with time to care for individual needs. Intuitively, there is a sharp contrast between such a setting and the streamlined efficiency of a car production plant, where standards, speed and quality control are key concerns. But what does the adoption of Lean management in healthcare actually look like? With the

chapter Observational Operations, the dissertation aims to establish an understanding rich in details of what happens, practically, to value and values at the JMC as Lean is introduced; an understanding the dissertation will use to inform its inquiry. To guide the work towards this objective, I pose the following sub question:

> **How does Lean organize values and value practices at the Juliane Marie Center?**

The dissertation is written in the article format, which implies that it consists of a framework and three articles as the analytical body. In the articles I inquire into concrete problems taking place in the organization during the study, experimenting with different ways of combining valuation studies and organization theory to inform the specific inquiries of each paper. In the conclusion, I summarize the findings provided by the articles to each of the sub questions, before providing a final answer to the research question.

1.6 CHAPTERS OF THE DISSERTATION

The dissertation is composed of five chapters. In the first chapter, which is now coming to an end, I have presented the situation which this dissertation inquires into, and briefly sketched the main resources by which it is informed. Namely (a) the conceptual operations related to the formulation of a pragmatic stance and the combination of insights from pragmatic studies of valuation practices and organization theory and (b) the observational operations related to an empirical study of Lean management in a hospital department.

In Chapter 2 (Conceptual Operations) I introduce the theoretical resources of the dissertation in more detail. I begin by unfolding the pragmatic stance, and what this entails for the role of theory in the dissertation. Then I turn to introduce the dissertation's theoretical starting point, pragmatic studies of valuation practices, and move on to classical organization theory. I end the chapter by foreshadowing how each of the articles pursues specific combinations of insights from valuation studies and organization theory.

Chapter 3 (Observational Operations) further unfolds the methodology of the dissertation, and the strategy of the empirical study. It introduces the practical setup of the PhD project as well as the specific methods used for data collection. Additionally, the chapter describes how 'unsettled situations' experienced in the process of doing fieldwork have shaped the inquiry. Lastly, I introduce some methodological 'sensibilities' that have guided the project towards its research problem, and reflect upon how the process of writing up is part of inquiry.

Chapter 4 (The Articles) introduces the analytical body of the dissertation in the shape of three articles. Article 1 is titled The Organizational Valuation of Valuation Devices. Article 2 is titled Organizational Trials of Valuation. Article 3 is titled Situated Valuation: The Affordances of Devices in Organizations. Before each article I provide an introduction, briefly describing its background and stage of publication.

Chapter 5 (Concluding Discussion) is the dissertation's closing chapter. Here I recapitulate the articles' most important answers to the sub questions, and discuss how they contribute to existing studies. Relating to the main research question, I discuss how the dissertation's findings serve

to shed new light on the current polarization of expectations to what management devices do in public organizations, and how the establishment of a situated approach to valuation in organizations can serve as a resource for further inquiry for both practitioners and academics.

2 CONCEPTUAL OPERATIONS

This dissertation's pragmatic stance implies that the relevance of conceptual operations is judged by their ability to make a practical difference for the problem at hand. In order to address the relationship between devices, values and organizations, this dissertation takes on the experiment of creating increased interaction between the fields of valuation studies and organization theory.

2.1 ON DEVICES, VALUES AND ORGANIZATIONS

The title of this chapter; 'Conceptual Operations', indicates that concepts play an active role, and that they do not work as a framework or as explanatory models. In this chapter I lay the groundwork for the conceptual operations that the dissertation will conduct, namely a theoretical 'experiment' of creating interaction between insights from pragmatic studies of valuation practices and classical organization theory. The purpose of this experiment is to inform and attune the inquiry into the problematic polarization of the debate on management devices in the public sector. I open the chapter by unfolding the dissertation's pragmatic stance in greater detail, and by elaborating on its implications for the role of theory. The pragmatic stance serves as the backdrop and a compass giving direction to the inquiry. Then I introduce the differentiated body of pragmatic studies of valuation practices, which I refer to as 'valuation studies'. This literature constitutes the main theoretical source of inspiration for the dissertation. I begin by presenting some central concepts and arguments of valuation studies, which provide some novel takes on the role that devices play in establishing something as valuable. I then move on to introduce some examples of how some studies of valuation are also addressing valuation 'outside' of technical devices, including organizational forms of valuation. While these examples constitute key sources of inspiration for this dissertation, they do not by themselves foster a sufficiently organizational orientation for this particular inquiry. So far, they have been concerned with more conceptual questions such as the variety of acts of valuation, rather than practical, organizational questions, such as the particular conditions organizations provide for valuation devices to perform.

I use classical organization theory as a complement to valuation studies. I begin the introduction of organization theory, or organization studies, by describing three central phases in the understanding of the relationship between device and organization. This description depicts a move from a relatively instrumental and rational interest in this issue towards a more abstract and fluid preoccupation, which characterizes many contemporary examples of organization studies. Again, this does not reside well with the logic of this inquiry, which is guided by an interest in practical and organizational challenges observable in empirical situations. Accordingly, I consult classical organization theory, which offers relevant insights on the organization as a particular 'site' of valuation, where 'work is getting done'; that is, where tasks are conducted in a patterned effort to alter work material in a predetermined manner (Perrow 1965). I end the chapter by foreshadowing how I create encounters between insights from valuation studies and classical organization theory in the each of the dissertation's articles. In the dissertation's last chapter, then, I evaluate and discuss the results of these experiments.

A pragmatic stance on devices, values and organizations

I characterize the general approach of this dissertation as 'a pragmatic stance' (Dewey 1938, Pedersen 2013). The notion of 'stance' is formulated by van Fraassen (2002: 46ff) to denote the "attitude, commitment, approach" that can characterize a scientific position (Van Fraassen 2002: 47-48). A stance differs from theory or ideology, because a stance "involve[s] a good deal more", such as "values and other irrational factors" (Van Fraassen 2002: 195), and "can persist through changes of belief" (Van Fraassen 2002: 62). The pragmatic 'stance' or 'standpoint' that I use to characterize the approach of this dissertation is inspired by American

pragmatism, and particularly the work of John Dewey. In order to clarify my adoption of this stance, let me unfold two central tenets extracted from Dewey's pragmatism; (1) the logic of inquiry as primarily formulated in Logic: The Theory of Inquiry (1938), and (2) the situation as the center of analytical attention, also developed by Dewey (1938) and expanded by Knorr-Cetina (1988).

The logic of inquiry

For Dewey (1938), an inquiry is simply the word for the activity of solving a problematic or unbalanced situation. He defines inquiry as follows:

> Inquiry is 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 (Dewey 1938: 104-105).

Inquiry is composed of three phases; (1) the indeterminate or unsettled situation, which may be characterized as "disturbed, troubled, ambiguous, confused, full of conflicting tendencies etc." (Dewey 1938: 105). (2) The institution of a problem, where the inquiry qualifies the situation as problematic and suggests a possibly relevant solution; and (3) "the determination of a problem solution". Here, a "possible solution presents itself […] as an *idea*" (Dewey 1938: 109). Ideas, Dewey argues, originate as suggestions, which then become ideas, when they are examined in reference to their 'functional fitness'; their capacity as means of resolving the given situation. They can then become the starting point for further inquiry, if the situation remains or becomes again indeterminate, or if the inquiry comes to unsettle a new situation.

Dewey's version of logic partly derives from the inquiry itself: He rejects the idea of an a priori logic immune to changes in reality, and claims that

there is nothing transcendent, unempirical, or unchangeable in the world; logic, too, must be understood naturalistically (Brinkmann 2013, Burke 1994). He thus precludes resting upon presuppositions and assumptions; for Dewey, a problematic situation is indicative of its solution and of its criteria of validity.

> The way in which the problem is conceived decides what specific suggestions are entertained and which are dismissed; what data are selected and which rejected; it is the criterion for relevancy and irrelevancy of hypotheses and conceptual structures (Dewey 1938: 108)

Dewey's take on logic as formatted by the specific inquiry implies that the principles that guide inquiry are not universally valid. Rather their validity is determined by their ability to generate positive results in our inquiries (Brinkmann 2013: 53). The same goes for 'theoretical conceptions', which, Dewey argues, cannot alone "decide what set of relations is to be instituted, or how a given body of facts is to be understood" rather, they should come into play "as the problem in hand is clear and definite" (Dewey 1938: 511). Dewey exemplifies this argument by reference to the work of a mechanic:

> A mechanic understands the various parts of a machine, say automobile, when and only when he knows how the parts work together; it is the way in which they work together that provides the principle of order upon and by which they are related to one another (Dewey 1938/2013).

As part of the pragmatic stance, the logic of inquiry thus implies that the theoretical concepts I draw on, are seen as 'tools' or 'resources', whose validity is determined by their ability to yield productive results as part of the inquiry. Neither the stance, nor the 'tools' are neutral, but have a substantial impact on which goals we can even formulate (Brinkmann 2013, Latour, Venn 2002), and are thus part of establishing the logic of the inquiry. The pragmatic stance, therefore, encourages an attuned approach

to conceptual operations, where the value of using the theories is granted on the basis of the outcome, or, more specifically, on their practical ability to bring forward suggestions for resolving the problem of the inquiry.

In this dissertation the three phases of inquiry are organized as follows: The indeterminate situation is marked by the multiple and conflicting views on devices of New Public Management and their effects on the values in a public organization (phase 1). The institution of this situation as problematic has begun through the choice of words and concepts with which the situation is introduced, as well as the suggestion of the possibly relevant solution of developing a practically oriented understanding of the relationship between devices, values and organizations (phase 2). This institution of the problem makes it relevant to investigate how useful encounters between valuation studies and organization theory can contribute to a more nuanced understanding of the relationship between devices, values and organization. So, what occupies this chapter are not so much the theoretical discrepancies, potential logical fallacies or novelty of each of the theoretical bodies from which I draw; it is their ability to form and inform my inquiry. In the conclusion, then, I return with suggestions that, I hope, will contribute to the composition of alternative ways of approaching the use of management devices in public organizations, than what we see in the current situation (phase 3)

The situation

The pragmatic stance employed in this dissertation, installs 'the situation' at the center of analytical attention. Dewey defines the situation as "a whole in virtue of its immediately pervasive quality" (Dewey 1938: 68); it is "not only that which binds all constituents into a whole but it is also

unique; it constitutes in each situation an individual situation, indivisible and unduplicable" (Dewey 1938: 68). Addressing the situation as a 'pervasive whole' implies a way of inquiring which, in Dewey's words, is "naturalistic in the sense of the observability, in the ordinary sense of the word, of activities of inquiry", which means that it excludes "conceptions derived from a mystical faculty of *intuition* or anything that is so occult as not to be open to public inspection and verification" (Dewey 1938: 19).

The argument that conceptions should be open for inspection has been further developed by, among others, central scholars of Actor-Network Theory as the principle of 'generalized symmetry' (Callon, Latour 1992, Latour 1999). The concept of symmetry was originally formulated by Bloor (1997: 399, 1991) to denote "the principle that the form of explanation used by a sociologist should not depend on the sociologist's own evaluation of the truth of the belief to be explained" (Bloor 1997: 383) or simply that "error and truth should be treated on the same terms" (Latour 2012). It has been expanded later by Callon and Latour (1992) with the attributive 'generalized' to refer to the equal treatment of Society and Nature or of humans and non-humans (Callon 1986), meaning that nature, for example, should not be used to explain human conduct. Rather, both must be explained, as they are not intrinsically separate (Latour 1991: 94).

The methodological details about employing the situation and the principle of parallelization, are further unfolded in the consecutive chapter, Observational Operations. In addressing the analytical attention to situations here, it is because I want to emphasize its significance as part of the dissertation's pragmatic stance on conceptual operations. The role of theory and of concepts, as indicated above, is to work as a resource for the inquiry into the dissertation's research question. Rather than serving as an

ex-ante explanatory model its role should be to foster a concrete and tangible analysis of the problematic situation at hand. The attention to the practical use of theoretical concepts thus adds to the logic of this inquiry the principle of parallelization, in the sense that I do not bring into the inquiry phenomena which are merely 'overarching' or 'underlying' but not observable in empirical situations (Knorr-Cetina 1988), such as diffuse 'structures' or 'the social'.

With this establishment of the dissertation's pragmatic stance, and its implications for the role of theory, I will now turn to the first of the two theoretical bodies that provide the primary conceptual resources of the dissertation, namely valuation studies. As mentioned, my reliance on concepts from these studies is not based on their accuracy in representing the phenomena in question (Van Fraassen 2002: 146), but on their practical ability to enlighten, push forward or transform the situation at hand. This reliance is reflected in the presentations of the studies, which serves to lay the groundwork for the experiment of making valuation studies and organization theory interact in a manner productive for this dissertation's inquiry.

2.2 ON VALUATION

Studies of valuation practices constitute a new and expanding field. It emerged as scholars from different theoretical traditions began to talk across their disciplines about their common interest in the empirical phenomenon of 'valuation'. This phenomenon is not new, but as a concept 'valuation' has succeeded in creating a conversation between studies of related phenomena such as market devices, accounting practices, evaluations, and management technologies. From the onset the empirical

interest was what united the studies, which is why the field is typically referred to as valuation *studies* and not valuation *theory* or a valuation *approach*. The contours of a distinct theoretical program or field are developing, however, as the intertextuality of studies and inter-organization of scholarly activities, such as workshops and special issues, gradually increase. Along with these, a shared conceptual framework of studying valuations is emerging, which scholars draw on, criticize and expand. Acknowledging that studies of valuation practices differ in many respects (as other theoretical bodies do), and pointing to some of these differences below, I talk about 'valuation studies' rather than 'various studies of valuation practices', both because it is emerging as a distinct field, and because it enable a more fluent read. With 'valuation studies', then, I refer to studies which explicitly deal with 'valuation', but I also consult related and preceding studies, which similarly deal with practices of establishing the value of something (such as, for example, the discussions related to 'qualculation' (Callon, Law 2005, Cochoy 2008)).

2.2.1 PRAGMATIC STUDIES OF VALUATION

This dissertation engages primarily with pragmatic studies of valuation[2]. These studies, I find, best serve the purpose of developing a practical understanding of how values are produced, which is central to this inquiry. A primary feature of the pragmatic understanding of valuation is the shift it

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[2] For an introduction to the broader program of valuation studies, see Lamont (2012).

invokes from values to valuation. This key characteristic of the pragmatic approach to valuation is particularly inspired by Dewey's 'theory of valuation' (1939). Here Dewey discusses the differences between seeing value as a noun and value as a verb as primary (Dewey 1939: 4):

> If there are things that are values or that have the property of value apart from connection with any activity, then the verb 'to value' is derivative. For in this case an act of apprehension is called valuation simply because of the object it grasps. If, however, the active sense, designated by a verb, is primary, then the noun 'Value' designates what common speech calls a valuable something that is the object of a certain kind of activity (Dewey 1939: 4).

Dewey promotes the active sense connected to using value as a verb, which brings attention to practices or activities through which something is made valuable, which is what he emphasizes with the notion of 'valuation'. In prolongation of this, Muniesa defines valuation as "something that happens to something" (Muniesa 2012: 26) and which can both be "a matter of consideration or relation, or both at the same time" (Muniesa 2012: 26). "Value", he then states, is "something that something has by virtue of how people consider it (how they like it, in particular), but also as something that something has as a result of its own condition and of its relation to other things (for instance, in relation to work or to money or to any sort of standard metric)" (Muniesa 2012: 26). Rather than taking values as 'predefined entities' the pragmatic approach to valuation makes values the outcome of work (Dussauge, Helgesson et al. 2015: 20). It asks the question of "how values have become in the first place" (Kornberger, Justesen et al. 2015: 08).

By seeing value(s) as constituted in practice and through action, value is no longer something that exists before or beyond the process of ascribing value to something. In other words, the pragmatic approach to valuation

integrates acts of estimation with practices of esteem (Dewey 1939/2008: 195, Stark 2011: 325): It argues that we cannot meaningfully separate the idea of what counts or of what we esteem from the process of making the thing count or of estimating its value. Accordingly, values are not seen as an explanatory factor, but "rather as something that needs to be explored and explained" (Dussauge, Helgesson et al. 2015: 20). Thus, the pragmatic approach collapses the distance between what counts and how it is made count, drawing attention to the work, processes, devices, measurements and practices through which something comes to count as value (Dussauge, Helgesson et al. 2015, Vatin 2013).

Pragmatic valuation studies offer key concepts to understand the role valuation devices often play in processes of valuation. These concepts serve as useful resources in developing a nuanced understanding of the relationship between devices, valuation and organization; at least for the part about devices and valuation. In the following I present some of the most central concepts to describe the role of valuation devices. First, however, I will briefly discuss what, a 'valuation device' might be.

2.2.2 VALUATION DEVICES

If valuation is "any social practice where the value or values of something are established, assessed, negotiated, provoked, maintained, constructed and/or contested" (Doganova et al 2014, 87), then what is a valuation *device*? In the Science and Technology (STS) literature and in some studies relating to economic sociology, devices are both used to denote clearly delineated 'non-human' things such as measurement instruments (Krafve 2015: 53, Zuiderent-Jerak, van Egmond 2015), and more inclusive figures such as 'material and discursive assemblages' (Muniesa, Millo et al. 2007:

2) with no division between humans on one side and machines on the other (McFall, Ossandón 2014: 520). The concept is thus inscribed with some ambivalence as it is often used both to attract attention to material aspects (Krafve 2015: 41), while at the same time wanting not to reify a distinction between humans and material stuff[3].

In line with Dewey's argument about valuation, I see 'valuation devices' not as an intrinsic characteristic of particular phenomenon, but as a characteristic that is gained through the phenomenon's role as a means in the process of attributing value to something. From this point of view, devices never "truly appear in the form of means", as Latour and Venn argue (2002: 251), because the distinction between means and ends becomes opaque in the successive accumulation of layers (ibid.). For instance, a hammer, which is the example Latour and Venn use (2002), is both the end of a process and the means of another (ibid). Thus, in this dissertation devices can be both material and non-material; and what in one situation works as enunciator of valuation can in the next be the object of valuation, just as the hammer can be both a means and an end.

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[3] See also Perrow's distinction between 'technology' and 'device' or 'technique', which operates with a similar distinction in an organizational context. For Perrow, technology is a complex of techniques 'employed to alter "materials" (human or nonhuman, mental or physical) in an anticipated manner' and thus affect the structure of an organization. Devices and equipment, on the other hand, 'are fabricated or created to serve the technology' (Perrow 1965: 140ff). In section 2.3 I elaborate further on the differences and similarities between the notion of 'device' and 'technology.

Referring to something as a 'valuation device' is thus a way of foregrounding what the focus of analysis is. In this dissertation the valuation device under study is Lean management; both its strictly material components such as 'fishbone diagrams' and its more inclusive forms such as 'whiteboard management'. I investigate Lean management and what happens to values and value practices, when it is employed as a means of organizing, 'extracting' or 'optimizing' value at the JMC. At the same time, however, I strive to obtain a symmetrical approach, paying attention not only to Lean's means of valuation, but also to prevailing and competing organizational dynamics of valuation, and particularly to the interaction that happens between these forms of valuation.

2.2.3 VALUATION STUDIES: KEY CONCEPTS

How do valuation devices establish the value of something? Here, I present some of the most central and useful concepts offered by valuation studies to answer these questions. I present two constellations of concepts: First calculation and judgment, then commensuration, proliferation and rarefaction.

Calculation and judgment

The attention given to the work, practices and assemblages that make things valuable has brought attention to the question of whether there are fundamental differences between types of valuation practices and the objects they value, or whether they are versions of the same. This question has been raised in relation to the concept of calculation and judgment, which some scholars attribute to two fundamentally different activities and which others claim are largely the same. This debate has generated some

important insights on the powerful role devices play in establishing the value of things in many studies of valuation (Karpik, Scott 2010, Callon, Law 2005).

The background of the tension between calculation and judgment can be traced to valuation studies' roots in economic sociology or the sociology of markets. Economic sociology is part of a theoretical movement towards breaking up a traditional distinction between economists who study markets, economy and value (in singular) and sociologists who study sociological topics such as trust, families and values (in plural), also known as Parson's Pact (McFall, Ossandón 2014, Muniesa 2012, Stark 2009). Key contributions to these fields, accordingly, are sociological studies of how different markets emerge. A well-known example of this is Garcia's study of a strawberry market in France, which shows that the market is not shaped by an invisible hand, but by actual hands of people who know economic theory (Garcia 2007). The argument is that economic theory is not a passive description of how markets work, but is itself an active part of making markets work. The same argument is captured in the much quoted title of MacKenzie's book, which states that economic theory is "an engine, not a camera" (MacKenzie 2008). In the project of making economics a topic for sociologists, the question is whether or not a particular economic way of assessing the worth of things exists (calculation) and if so, how it differs from a more intuitive or ineffable way (judgment).

Karpik (2010) argues that judgment and calculation are distinct actions. He argues that judgment is used to value the unique 'singularities'; things which cannot be assessed primarily on price, such as fine wine or the choice of a doctor. Their value is assessed via 'judgment devices' (such as

trust, critical reviews, personal recommendations) rather than 'market devices', which use calculation to assess the value of more standard commodities (Karpik 2010). For Karpik, this distinction is highly political and a collapse would be a manifest of the dominance of economy over the social. Cochoy (2008) also distinguishes between calculation and quality-based judgments (Cochoy 2008: 15), suggesting that the notion of *qualculation* be more suited to describe "the very delicate evaluation of the best choice when calculation is not possible" (Cochoy 2008: 26, Cochoy 2002).

To Callon and others, in contrast, both qualitative and quantitative calculations "are about arraying and manipulating entities in a space in order to achieve an outcome, a conclusion" (Callon, Law 2005, Callon, Muniesa 2005). Further; attempts to distinguish (economic) calculation from (social) evaluation or judgment is reifying Parson's Pact of dividing the economy and the social (McFall, Ossandón 2014, Callon, Law 2005) and therefore in opposition to the program of economic sociology.

To some scholars, the usefulness or popularity of the notion of valuation consists exactly in its ability to bridge the distinction between judgment and calculation. In the final note of Beckert and Asper's The Worth of Goods (2011), Stark revisits Dewey (1939) to promote the notion of valuation. Stark suggests that valuation challenges the distinction between judgment and calculation and is a suitable concept to investigate how value (singular) and values (plural) are often entangled (Stark 2011: 319). Also drawing on the work of Dewey, Muniesa (2012) further elaborates on the concept of valuation and its ability to move beyond distinctions of valuation and calculation. Muniesa develops a "contemporary approach to

valuation: that is, one that makes the distance between value and its measure collapse in an analytically constructive manner" (2012: 24). Muniesa (2012) makes the question of whether there is a difference between calculation and judgment a matter of empirical exploration rather than a theoretical point of departure. As such, this argument resembles the statement by Law (2005), who argues that "the important boundary is no longer between judgment and calculation, but between arrangements that allow qualculation and those that make it impossible" (Callon, Law 2005: 4).

The discussion about valuation and calculation, and whether they belong to different domains or not, is related to the next concepts I present, namely those of commensuration, rarefaction and proliferation. These are three categories of arrangements that – in different ways – may, or may not, enable valuation.

Commensuration, proliferation, rarefaction

The concept of commensuration as a key activity in making things valuable is promoted by Espeland and Stevens in their 1998 article 'Commensuration as a social process', where they define commensuration as "the transformation of qualities into quantities that share a metric; a process that is fundamental to measurement" (Espeland, Stevens 1998: 16). The concept of commensuration is thus used to shed light on many of the same aspects as 'quantification' is in the related field of social studies of accounting, such as the irresistibility of the objectivity often attached to numbers (Kurunmäki, Mennicken et al. 2016). The example of Espeland and Sauder is a ranking of law schools, and the qualities are different schools which are made into quantitatives through their placement on a

ranking. This movement, Espeland and her co-authors argue, simultaneously creates unification and separation: Unification because the qualities enter into a relationship due to the shared metric; separation due to the individual positions given via this metric (Sauder, Espeland 2006: 19, Espeland, Lom 2015: 19, Espeland, Stevens 1998).

Commensuration is a central part of valuation, because the effort of giving something (a) value often requires comparison and thus commensuration: Rankings, ratings, prices, prioritizations, to name a few, all depend on commensuration. Espeland and Stevens (1998) draw attention to the work of making things commensurable, as this is often taken for granted. They argue that commensuration "changes the terms of what can be talked about, how we value, and how we treat what we value. It is symbolic, inherently interpretive, deeply political, and too important to be left implicit in sociological work" (Espeland and Stevens 1998: 315). Central for Espeland and her co-authors work is, thus, that they point to the constitutive role of devices in establishing things as valuable, and as both similar (comparable) and different (in value).

Rarefaction and proliferation denote two related strategies of "moving the resources or relations needed for calculability" (Callon, Law 2005: 718). In their written 'conversation', Law and Callon first provide some examples of rarefaction. One is religious experiences. In Quakerism, which is the example they use, the worshippers actively try to 'let go', 'loose selfhood' or 'be passionate'. This, they discuss, is both about being active and passive. It is the 'disentanglement' from the calculative and rational, and at the same time the "entanglement in the noncalculative, the distributed, the uncentred" (Callon, Law 2005: 723). This is a strategy of 'calculative

rarefaction', which, as the authors show, is calculated uncalculation, and thus also calculation.

Proliferation is another strategy of 'impeding qualculation'. In a different way, proliferation operates to generate "subject positions that cannot qualculate" (Callon, Law 2005: 726). To illustrate this, Callon and Law use the example of a rail crash. In trying to find a cause for this, there is an abundance of accounts of what happened provided by different involved parties such as train operators, track and signal owners, maintenance companies, passenger groups, trade unions etc. These accounts are "partially overlapping but also partially contradictory", which makes it "impossible to account for the accident" (Callon, Law 2005: 727).

The concepts of rarefaction and proliferation as strategies of impeding calculation are interesting because they do not presuppose that things sui generis are incalculable and then made calculable, as it is often implied (cf. Karpik, Scott 2010). In contrast, 'rarefaction' and 'proliferation' incorporate the pragmatic idea that things are how they are as an outcome of the relations and the practices in which they partake: "Methods of nonqualculation may also be more or less powerful. Be more or less effective. There is, as Boltanski and Thévenot noted, 'grandeur' in noncalculation" (Callon, Law 2005: 720, referring to Boltanski and Thévenot 1987). The concepts of commensuration, rarefaction and proliferation provide important nuances of the work of establishing the value of things, as it has been argued here.

2.2.4 'OUTSIDE' DEVICES

So far, we have seen some of the central concepts and discussions found among studies of valuation devices to describe what such devices do. A central argument is that valuation devices are not simply reflecting the values of things, but play an active role in making things valuable. Many studies, however, leave unexplored what is 'outside' devices and how this affects what counts. If employing the understanding of 'device' as something as inclusive as an 'agencement', of course, "there is no need for further explanation, because the construction of its meaning is part of an agencement" (Callon 2007: 13). Yet, while some studies claim allegiance to this idea, the body of studies could be interpreted as purveying the idea that even the most obscure 'tool' comes to have pervasive performative effects on values, making the characteristic a 'valuation device' not an outcome of analysis but an entry point. However, studies are increasingly reaching outside the concept of 'device' and the focus on 'tools', which has entailed an expansion of the variety of valuations and problematics related to valuation that are taken into account. Among the contributions that have expanded the locus of valuation studies, I see two overlapping tendencies that are relevant to this inquiry and its interest in valuations in organizations: One towards an increased sense of 'multitude' and 'multiplicity', the other towards an increased sense of 'mundanity'. In the following I present some key contributions to each of these expansions, and reflect on their ability as resources for this inquiry.

A 'quantitative' expansion of the scope of valuation studies: towards multitude

In valuation studies there is currently a rising interest in the study of multiple co-existing valuations. This interest may best be illustrated by briefly comparing it to other prevailing types of valuation studies. I refer to the studies as 'single-device studies' and 'parallel device studies' respectively.

The first approach, single device studies, concentrates on the role of a particular device in producing, transforming and contesting value(s) and valuations. A central example of this is Espeland's studies of rankings. In the influential article 'Rankings and Reactivity: How Public Measures Recreate Social Worlds' from 2007 the point of departure is the observation that there has been "a proliferation of measures responding to demands for accountability and transparency". It presents a framework for demonstrating "how these increasingly fateful public measures change expectations and permeate institutions, suggesting why it is important for scholars to investigate the impact of these measures more systematically" (2007: 1). This framework contains the concepts of reactivity, self-fulfilling prophecy and commensuration, which are all concepts that draw attention to how valuation devices (re)create social worlds. Another example is presented by Pollock and D'Adderio, who in their informatively titled article 'Give me a two-by-two matrix and I will create the market: Rankings, graphic visualisations and sociomateriality' expand Espeland and Sauder's analysis of 'social worlds' by elaborating on how the material construction of a ranking matters – and creates markets (Pollock, D'Adderio 2012: 656ff). More generally, they argue for the relevance of studying not only the 'numerical operations' of a ranking, for example, but

to pay more attention to "the visual nature of numbers" (Pollock, D'Adderio 2012, Justesen, Mouritsen 2009) and to the socio-material setup of calculation devices in general. These studies, then, mainly understand the performative role of devices as going in direction from the device towards its surroundings, or from the device's components to the device.

The second approach explores two or more parallel and often competing devices that offer different valuations of the same object. An example of this is presented by Orlikowski and Scott (2014). In their article, 'What happens when evaluation goes online?' they explore the 'apparatuses' of a hotel evaluation conducted by a professional evaluator and by anonymous, online reviewers respectively, including the organizing effects of these. By comparing these two forms of valuation, they show how the specificities of evaluations "significantly reconfigur[es] everyday practices of the organizations being evaluated" (Orlikowski, Scott 2013: 868). Another example is Christensen and Strandgaard's study on restaurant rankings in the culinary field. They compare two evaluative systems, the Michelin Guide and the San Pellegrino list, and conclude that the first produces an absolute ranking of the individual restaurant, whereas the other produces a relative ranking (Christensen, Strandgaard 2013). Interesting in their study is perhaps not so much the observation of the two different 'products', but their empirical observations of how people navigate within and among the two systems; something which also characterizes other studies that move beyond the linear studies of how a device performs.

With the single- and parallel-device studies as background, I will now turn to some of the studies that offer approaches more attuned to the multitude of values at play in organization as a particular 'context' for valuation devices. Key representatives of such approaches are Stark, Sjögren and

Mennicken, who are among the relatively few scholars with an explicit interest in the interplay between valuation and organization.

Stark suggests the concept of 'heterarchy' to deal with the organization of multiple frames of valuation (Stark 2009: 28ff). With the concept of heterarchy, Stark aims to grasp how organization is 'done' in the twentieth century, where there is no longer "a general consensus about the ideal attributes of the modern organization: […] a clear chain of command, with strategy and decisions made by the organizational leadership; instructions were disseminated and information gathered up and down the hierarchical ladder of authority; design preceded execution, with the latter carried out with the time-management precision of a Taylorist organizational machine" (Stark 2009: 23). To Stark, heterarchy is a useful metaphor of current organization because it is inclusive of "the formal collectives of human agents", but also of wider applicability, as it can be used to study how diverse empirical phenomena (Stark mentions a sequence of genetic code, a sequence of computer code, a sequence of legal code, among others) are expressed in multiple crosscutting networks (Stark 2009: 31). Heterarchy is a contraction of 'hierarchy' and 'heterogeneity', which, according to Stark, "represents a new mode of organizing" that is neither market nor hierarchy, but which 'organizes dissonance' (Stark 2009: 31). Dissonance, then, "occurs when diverse, even antagonistic, performance principles overlap. The manifest, or proximate, result of this rivalry is a noisy clash, as the proponents of different conceptions of value contend with each other" (Stark 2009: 27). For Stark, then, the main challenge for contemporary organizations is to contain rather than abolish dissonant frames of valuation.

Other examples of approaches interested in the 'context' of valuation devices are offered by Sjögren and Mennicken, both individually and collectively (for example in their editorial note for the journal Valuation Studies from 2015). In her PhD dissertation (2006) and in an article from 2008, Sjögren writes about multiple knowledge claims in organizations. Describing how multiple accounts of truth are at play in a case about deciding on subsidies for pharmaceuticals, Sjögren draws on the work of organization scholar Simon to understand how decisions can be made under such circumstances. Sjögren analyzes her case as an example of an organization dealing with ambiguity and draws on the work of Mol (2002) to sketch out organizational strategies for dealing with this ambiguity, including addition, calibration and privileging (Sjögren 2008: 46); strategies which could well be seen as ways of handling the task Stark describes as 'organizing dissonance'.

In several articles Mennicken, with co-authors, addresses the entanglement of valuation and accounting with their 'environments', and discusses how this entanglement alters the performativity of calculative devices. As one way of addressing this question, she emphasizes the spatial dimension of valuation and accounting. In an article from 2012, for example, she unfolds the argument that such devices 'territorialize' particular spaces by making physical and abstract spaces calculable (Mennicken, Miller 2012). In the editorial note with Sjögren and on a track on the 4s/EASST conference (2016), she also points to the relevance of studying valuation at the 'margins', where they are put to trial and bound up with political questions of inclusion and exclusion (Mennicken, Sjögren 2015). By connecting valuations to their 'spatial environments' she draws attention to the 'conditionalities' of the performativity of valuations (Kurunmäki,

Mennicken et al. 2016, Mennicken, Miller 2012); an argument that this dissertation picks up later on.

As illustrated here, the scope of valuation studies is expanding from studying the performative effects of a device to include more things and phenomena in analysis, including 'competing frames of valuation'. If this expansion can be categorized as a *quantitative* expansion of the scope of studies of valuation and their analytical strategies, then the second line of development I will draw involves a *qualitative* expansion of what studies of valuation take into account *as* valuation.

A 'qualitative' expansion of the scope of valuation studies: Towards mundanity

Studies of valuation have been characterized by a preference for the study of quantifying devices with clearly delineated interfaces, such as a particular ranking, guideline or competition (cf. Davies 2017) and valuations related to formalized events. This preference, however, is neither traceable to Dewey, nor the typically cited definitions of valuation, such as the key definition from the journal Valuation Studies, which denote valuation as "any social practice where the value or values of something are established, assessed, negotiated, provoked, maintained, constructed and/or contested" (Doganova, Giraudeau et al. 2014: 87). Why then, the preference for these particular forms of valuation? Is it not likely that valuation could have – and maybe even most often has – a less 'equipped' and event-like character? This dissertation suggests that there is a pragmatic answer – in the mundane sense of the word – to this question, namely that the focus on technical devices is used as a solution to the difficult problem of how to recognize and single out valuation empirically.

This problem is related to the question about whether the 'valuing character' of a situation is an intrinsic quality of the event, or if it is something the event is 'established as' through observation by a particular 'valuation lens'. The point of emphasizing this question is not to embark on a philosophical journey through nominalism, but rather to draw attention to the answer that many studies of valuation give. Recalling Dewey, many scholars quote his statement that "valuations exist in fact and are capable of empirical observation so that propositions about them are empirically verifiable. What individuals and groups hold dear or prize and the grounds upon which they prize them are capable, in principle, of ascertainment, no matter how great the practical difficulties in the way" (Dewey 1939: 58). Operationalizations of this statement seem to lead to studies of devices with a clearly delineated interface and formalized moment of judgment, which are empirically recognized as value-assessing. However, while Dewey's statement points to the empirical character of valuation, it also points to the fact that ascertainment may entail practical difficulties, implying that the relatively easily delineable analytical entities that measurement tools, for example, constitute, may not be the only thing we should take into account.

A concern in making valuation less deviced and less event-based could be that valuation as a concept loses its potency. If valuation can contain 'anything' and 'everything', then what value does it have? While this is perhaps a relevant concern, the consequence of sticking to a particular type of valuation may impose a graver concern for this inquiry, namely a lack of vocabulary and optic to take into account the mundane valuations entangled in the conduct of everyday work in organizations; the kind of valuations that management devices arguably meet when they are

introduced into an organization, and which must be analyzed to understand the conditions that alter the performativity of these devices. Further, the choice of privileging formalized and quantifying valuation devices can have both analytical and political implications in terms of reifying the dominance of valuations inscribed in events, numbers and manuals over marginal or mundane valuations.

Scholars whose work contributes to a qualitative expansion of the scope of valuation studies include Zuiderent Jerak and his discussions of device and culture (2009, 2015), Vatin and his take on professional judgment (2013) and Heuts and Mol's notion of valuing as more than judging from formal criteria. In the following I present these three arguments, before I, in the next section, discuss where the quantitative and qualitative expansion of valuation studies leaves me in terms of developing a nuanced understanding of the relationship between devices, valuation and organization.

In their article 'Ineffable Cultures or Material Devices' (2015), Zuiderent-Jerak and van Egmond discuss the 'context' of valuation. More specifically, they ask the question if valuation studies address how values are made in valuation practices, then what "makes valuation practices?" The authors go on to distinguish an STS approach, with a preference for material devices as explanandum, and a sociological/institutional approach represented by Fourcade (2011), with a preference for culture as explanandum. The scholars point to the current tendency to overstate the "the agency of devices and economic actors" (Zuiderent-Jerak and van Egmond 2015: 50), which brings them to call for a more "historical, relational, and dynamic understanding" of the interplay between market devices, culture and economy in valuation studies. In an earlier article

Zuiderent-Jerak (2009) similarly challenges the performativity attributed to market devices in some of the STS studies drawing on the work of Callon. On this basis, he suggests paying more attention to "market practices as 'forms of the probable'" in reconfigurations of markets. As such, Zuiderent-Jerak (2009, 2015) convincingly challenges the tendency of some scholars to over-focus on the performativity of valuation devices. Yet, the solutions of 'forms of the probable' and 'culture' are not as attuned to a practical and organizational focus as this inquiry requires.

Closer to the organizational setting of this dissertation, Vatin (2013: 42) argues against the 'blind natural forces' sometimes attributed to management devices. In his article 'Valuation as Evaluating and Valorizing' Vatin (2013), consulting the sociology of work, draws attention to the role work plays in establishing something as valuable. In his article he challenges the idea that values are implemented unilaterally from a central place and then dispersed, which is sometimes the narrative of studies of valuation devices. Vatin argues that professionals are not merely subdued by the installation of market requirements, they also "'resist' the imposition of management instruments' drawing on their own 'axiological frames' which are, in fact, management norms" (Vatin 2013: 43). In order to grasp this sense of valuation, Vatin suggests to "think about value and valuation in the activity of work itself" (Vatin 2013: 46), which is a suggestion relevant to this dissertation's exploration of the overlays and co-constitutive nature of valuation and organization (as will be unfolded in the dissertation's Article 3, section 4.3).

Where Zuiderent-Jerak and Vatin in this way point to other 'forms' that valuation devices 'meet', i.e. 'forms of probable' and 'professional judgment', Mol and Heuts move further away from the delineated and

technical device-focus and unfold the differentiated registers of value involved in making 'good tomatoes' (Heuts, Mol 2013). They argue that the practice of 'valuing tomatoes' is not possible to simplify in 'a two or three dimensional scheme' (Heuts, Mol 2013: 140). Valuing tomatoes; the activities of developers, growers, sellers, processors, professional cooks and so-called consumers; is more than passing judgment. Furthermore, the results of activities (such as pruning tomato plants) are never guaranteed. To capture these valuing activities, the authors suggest importing the notion of 'care'[4], as this 'suggests enduring work that seeks improvement but does not necessarily succeed' (Heuts, Mol 2013: 141). Using the tomato case, Heuts and Mol argue that lots of activities, including judging, improving and appreciating, are relevant to understand what it is to value, and accordingly, that valuing does not depend on fixed variables and matrices (Heuts, Mol 2013); an argument which this dissertation will also pursue.

From valuation to organization

Now the usefulness of drawing on valuation studies in order to understand the 'operations' of valuation devices has been established. Further, the section has shown both that formalized and quantitative valuations have been the main focus of valuation studies, but also that the scope of valuation studies is currently expanding. The section has highlighted some

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[4] While Heuts and Mol do not refer to Dewey, it is striking how their argument resembles Dewey's way of unfolding the meaning of valuation through the notions of 'care' and 'liking'. See section 3.5 and 5.1.5 for further discussion of this.

of the examples of how valuation studies are including more of the 'outsides' or 'conditionalities' of valuation devices, as well as more mundane activities than those characterized by fixed variables and matrices of valuation. The arguments behind this expansion of the scope of valuation studies have pointed to the relevance of this inquiry to include 'more' than the calculative activities of Lean management, when interested in understanding what happens to values and value practices in the organization in question. But how, more particularly, do I proceed in the pursuit of a practical understanding of this question?

The expansion of valuation studies points to the relevance of investigating how valuations are entangled in organizational activities (such as care or professionalism), and how organizations work as particular 'arenas' with particular circumstances of valuation devices. Particularly the conceptualizations of 'conditionality' (Kurunmäki, Mennicken et al. 2016), 'care' (Heuts, Mol 2013), 'professional judgment' (Vatin 2013) and the co-existence of multiple modes in organizational 'heterarchies' (Stark 2009) offer some – for this inquiry – highly relevant discussions of the role of valuation. Yet, they do not seem eligible as sole resource for inquiring into the practical conditions of organizations for valuation, and vice versa. For this inquiry, I need a vocabulary more specifically attuned to grasp what is practically taking place in organizations and how it relates to valuation. Accordingly, the dissertation now turns to organization theory.

2.3 ON ORGANIZATION

I turn to studies of organizations in the search of an attuned approach to the study of organizations and the practical challenges that may arise here as devices are introduced. Historically, organization theory tends to address

'technology' rather than devices. Similarly to 'device' in valuation studies, the use of 'technology' comes with some ambiguity, as it refers both to technical instruments, as for example CT scanners (Barley, 1986) or patient records (Bruni, 2005; Petrakaki, Klecun, & Cornford, 2016), and to the particular way an organization transforms raw material into an organizational output (Perrow, 1970; Scott & Davis, 2007). While recognizing the different nuances of the concepts of 'device' and 'technology', in pursuing a more nuanced understanding of the relationship between devices, value and organization, I find it relevant to look into the relationship between technology and organization, as it has been perceived in organization studies. In the following, therefore, I consult three takes of organization studies on the role of technology in organizations studies: The contingency approach, the structuration approach and the co-constitutive approach.

2.3.1 THE CONTINGENCY APPROACH

The relationship between technology and organization has been a recurrent issue for organizational scholars since the 1950s where the contingency theory movement brought it to attention. In opposition to the "closed logic of the rational model" (Thompson (1967)2007: 145) scholars began to see organizations as 'open systems'. This approach implies the assumption that there is not one best way of organizing, but that the suitable structure of an organization is contingent upon the organization's task environment (Lawrence, Lorsch 1967, Thompson (1967)2007). A key source of inspiration for the contingency approach is Woodward (1958), who based on a study of 100 manufacturing companies, developed a typology describing an organization's production system based on its level of

complexity (Löwstedt 1985, Woodward 1958). Woodward found technology to be the variable that links organizational structure to performance: The best performing organizations were those with organizational attributes (such as chief executive's span of control, subordinate-supervisor ratio etc.) which fitted the core technology (unit production, mass production, and process production) (Woodward 1958, Hickson, Pugh et al. 1969).

The understanding of technology as a variable of an organization's task environment configures the analytical approach and interest when studying organizations. As contingency theories reject 'one best way of organizing', many studies are interested in investigating how technology and organizational structure (as a term for the "arrangements among people for getting work done" (Perrow 1967: 195)) are best aligned, which is often investigated through comparative analyses (as is the case in both Woodward 1958, and Lawrence, Lorsch 1967). This has also been done in the study of hospitals, by, among others, Heydebrand (1965) and Perrow (1965). In his study of different types of American hospitals (i.e. psychiatric and general) for instance, Heydebrand is concerned with "the interrelation between structural characteristics of hospitals as formal organizations" (Heydebrand 1965: 30), and investigates the links between the complexity of the organizations' environment and their modes of coordination and bureaucratization, which he then links to the structural characteristics of effective hospital organizations.

This practical orientation of designing high performing organizations characteristic of contingency theory, is based on a rather 'solid' understanding of both technology in the sense of a 'production style' and of 'technical devices'. While structure and 'organizational designers' affect

the choice and use of technology within contingency theory (Scott 1981: 142), technology is to a wide extent seen as an independent (Vikkelsø 2003) and moderat*ing* (Orlikowski, Scott 2008: 444) variable, separated from the organization. Whereas the contingency approach to devices programmatically set out to modify the 'rational' ambition of finding the best way of organizing, the idea that technology may work differently in different organizations (even with similar task environments), that technology may change when it is introduced in a particular organization, and that it may have effects not planned for, is not within the scope of this understanding of the relationship of technology and organization.

2.3.2 THE STRUCTURATION APPROACH

In the 1980's and 1990's a different take on the relationship between technology and organization was offered: The structuration approach. This is primarily formulated by Barley (but see also Orlikowski (1992) and DeSanctis and Poole (1994)), and is most well-known from his study of how CT scanners come to work differently in two radiology departments (Barley 1986). Where contingency theory primarily deals with technology as moderat*ing* the organization, structuration theory suggests understanding technology as both 'product and form' (Barley 1986: 79) or as product and process (Orlikowski, Scott 2008: 452). It thus takes inspiration from Giddens (1979), who uses the notion of structuration to capture the duality of structure and agency, which implies that "the structural properties of social systems are both the medium and the outcome of the practices that constitute those systems" (Giddens 1979: 69).

This interest in the structuration process is reflected in the analytical preoccupation of structuration studies. We see this, for example, in Barley's advice on how to study technology in organizations:

> Since most technologies enter established contexts whose institutions will influence subsequent events, researchers must document traditional patterns of behavior, interaction, and interpretation before the technology arrives. […] As an interaction order solidifies, one's analytic focus shifts back to the institutional realm, where the contours of practices that form the interaction order are specified and compared to prior patterns to assess the extent to which the technology has occasioned replication or modification of the previous structure (Barley 1986: 83).

The attention devoted to the 'institutional realm' configures an interest in examining how the introduction of the same technology has different structuring effects in different organizations. This is what Barley shows in his study of how the introduction of CT scanners provides 'occasions for structuring', but that the practical results are different in the two radiology departments under study, leading to a higher level of decentralization in one than the other. In their empirical study, DeSanctis and Poole (1994) similarly illustrate that the introduction of a GDSS (group decision support system) has different practical consequences in the two groups they study.

While the structuration approach to technology in organizations is less solid than what is characteristic of the contingency approach, the design of these studies reveals an understanding of 'sequential interdependency' (Vikkelsø 2003: 37, Thompson (1967)2007): While they are interested in 'appropriation' (DeSanctis, Poole 1994) or 'structuration' (Barley 1986, Orlikowski 1992) as a reciprocal movement, the movement is still studied as if it went in one direction. The initial moment of 'social construction' is separated from the consecutive process where "technological determinism

is allowed, on the basis that beyond the point of stabilization there is little disagreement about what the technology can do" (Woolgar & Grint (1991: 370) cited by Orlikowski (2000: 406)). The idea that technologies are only unstable on particular occasions, after which they become stable and predictable entities, draws attention to the practical circumstances of specific organizational arrangements at the moment of introduction, but is not able to understand the cases in which technology and organization continue to mutually alter (Vikkelsø 2003: 39) even beyond the phase of design and development (Orlikowski 2000: 406).

2.3.3 THE CO-CONSTITUTIVE APPROACHES

Rather than taking organization and technology as separate entities that enter into a unidirectional, reciprocal relationship, the co-constitutive approaches (Orlikowski 2007, Czarniawska-Joerges, Sevón 2005, Woolgar, Grint 1991) take technology and organization to be mutually constitutive. A central concept within the co-constitutive approaches is that of translation, stemming from actor-network theory (Latour 1999, Callon 1984). As mentioned, actor-network theory see everything as local; 'cold objectifications', 'superior reasons' or 'mysterious structures' (Latour 2005: 179) do not exist anywhere; "an organization is certainly not 'bigger' than those it organizes" (ibid.). Therefore, we should not make these invisible 'factors' explanatory, but rather see them as occasions for inquiry and investigate what constitutes them by 'following the actors' (Latour 1990). The understanding that technology and organization enter into a co-constitutive relation is shared by different current genres of organization theory, such as Scandinavian institutionalism (Czarniawska, Sevón 1996) and more postmodern approaches.

In postmodern organization studies (see, for example, Chia 2003, Styhre 2001) it is an explicit aim to part with the modern 'meta-theoretical assumptions' which include local causality, objectivity and individual intentionality (Chia 2003: 118). Replacing the 'modern' preference of stability and order, postmodern organization theory operates with an understanding of organizations as 'becoming' (Tsoukas, Chia 2002). This implies that technology, and things in general, are "no more than 'stability waves in a sea of process'" (Styhre 2001: 18, referring to metaphysician Rescher (1996: 53)), and that organization "consists of an interlocking sequence of ontological acts of differentiating, isolating, fixing and identifying of portions of lived experience" (Styhre 2001: 26). Where the structuration approach kept some element of stability, the co-constitutive approaches – and particularly the postmodern variation – operate with the understanding of things 'in flux'.

From contemporary to classical organization theory

Through this brief overview of the relationship between technology and organization, it is clear that this relationship is increasingly understood as less of a relation between two separate entities and more as a co-constitutive relation through which both technology and organization are altered. In this movement we also see how the practical problems related to devices and organizations emphasized by contingency scholars gradually disappear into the abstract focus on co-constitution. Many current organization studies of the relationship between organizations and devices are hallmarked by this bringing out of the co-evolving and 'becoming' nature of this relation. This focus is often characterized as a move away from past times' organization theories' presumed rational, instrumental and structural assumptions about how technology works in organizations (Chia

2003), which is also the argument provided by Stark in relation to his introduction of the idea of 'heterarchy' (2009).

With the inquiry of this dissertation in mind, however, the contemporary, postmodern focus on the somewhat metaphysical intertwinements of devices and organizations draws the attention too far away from the practical problems experienced in organizations when devices are introduced. While both organizations and society have changed during the last decades, and research needs to take this into account, I find that classical organization theories offer some practical insights regarding the concrete work of organizations, which have largely been washed out as remnants of past times' theoretical fallacies (as also argued by Du Gay, Vikkelsø 2016, Vikkelsø 2015, Lopdrup-Hjorth 2015). In loyalty to this dissertation's suggested solution to the problem of its inquiry, namely of establishing a practical understanding of the relationship between devices, valuation and organization, the dissertation will now, therefore, turn to examine the usefulness of classical organization theory for this purpose.

I will specifically emphasize two aspects of classical organization theory that I find useful for this inquiry. The first is about the coordination between different subsystems, and is here represented primarily by the work of Lawrence and Lorsch (1967, 1986); the second is about the organizational task and its relation to organizational 'propositions', and is represented by some of the scholars already mentioned in this chapter, including Perrow (1986, 1965) and Mintzberg (1979). In this section I will unfold these aspects and show how they provide useful insights into the establishment of a practical understanding of the relationship between devices, values and organizations and the concrete challenges that this may

involve. First, however, I will clarify what I mean by 'classical' organization theory.

2.3.4 CLASSICAL ORGANIZATION THEORY

With the adjective 'classical', I point to some of the enduring concepts and focus points characteristic of the field: the organization as a collective, practical, task-solving arrangement. Examples of such work include that of Barnard (The Function of the Executive (1938)), Simon's (Administrative Behavior (1947)) and Mintzberg (The Structuring of Organizations (1979). This is inspired by what du Gay and Vikkelsø refer to as 'the classical stance' on organization theory (Du Gay, Vikkelsø 2016). By pointing to the relevance of classical organization theory, I do not imply that these theories should simply be re-installed or that we should return to a specific geographically or temporally delineated pocket of organization theory (Du Gay, Vikkelsø 2016: 18). Rather, I am interested in revisiting some of the core categories and foci, such as 'task', 'purpose' and 'work' and use them to explore the distinct circumstances of valuation that organizations hold.

The risk in pointing to the relevance of classical organization theory is that my work will be devalued on basis of the same criticisms as these theories: It may be seen as subscribing to a structuralist, simplified and overly solid understanding of the ontology of organization and technology. Yet, from the pragmatic stance it follows that I judge the value of theoretical concepts on their ability to assist my inquiry; I am not necessarily dedicated to the entire theoretical network of arguments and assumptions attached to a particular concept. Furthermore, I find that in looking into the theories of Lawrence and Lorsch and Mintzberg, for example, as I do in this dissertation, they are not as rigid in terms of how they approach

organizations as they are often accused. While their projects and aims, such as wanting to detect a causal relationship between a certain type of integrative device and high organizational performance (Lawrence, Lorsch 1967), are based on scientific ideals and interests that are different from mine – and from those of pragmatic valuation studies – I find their ability to bring forward and analyze the practical organization of work, just like it plays out in a hospital, highly useful.

In the following I present two aspects of classical organization theories that are relevant to explore the practical organization of work: These are, respectively, drawn from Lawrence and Lorsch's article on coordination and integration (1967) and from different scholars' emphasis on the conduction of tasks and the related organizational propositions. I could have chosen other theories or concepts from organization theory to generate a practical understanding, but I have chosen these because they were relevant to the specific inquiry of this dissertation, and the particular sub-inquiries of the articles, as will be unfolded soon.

Coordination and integration: Lawrence and Lorsch

As already mentioned, Lawrence and Lorsch (1967) are exponents of the period of organization theory from the 1960s, when many scholars began to see the structure of organizations as contingent to – among other things – the organizations' task environment(s) (Thompson (1967)2007, Lawrence, Lorsch 1967, Scott 1981). Here, I will briefly present the article 'Differentiation and Integration in Complex Organizations' from 1967, which investigates how 'integrative devices' work, emphasizing the practical challenges of specific organizations. Then I return to discussing how this provides a useful opportunity to interact with valuation studies.

In their 1967 article, Lawrence and Lorsch try to solve the problem of how organizations succeed in being both differentiated and integrated at the same time. They need to be differentiated in order to be able to accommodate the needs of their environments and to be integrated in order not to have intra-subsystem problems that prevent them from operating as a united whole. Lawrence and Lorsch are therefore interested in finding the optimal way to divide and integrate 'subsystems' (such as sales, research and production) for organizations with similar task environments. To investigate this, they conduct a comparative case study of six organizations operating in the same industrial environment, where they test seven hypotheses developed mostly by referencing other organization scholars, such as Blau & Scott (1962). Their key findings are that the highest performing and most integrated organizations operate with integrative devices that hold intermediate positions between the subsystems they seek to integrate or coordinate, and whose influence is based on professional judgment rather than a formally established hierarchical position (Lawrence, Lorsch 1967: 35).

What I adopt from this article is the way they conceptualize the practical challenges of integrating the different subsytems towards a common purpose. They understand an organization as "a system of interrelated behaviors of people who are performing a task that has been differentiated into several distinct subsystems, each subsystem performing a portion of the task, and the efforts of each being integrated to achieve effective performance of the system" (1967: 3). A task, then, is defined as "a complete input-transformation-output cycle involving at least the design, production, and distribution of some goods or services" (1967: 3). A subsystem tends to develop "particular attributes in relation to the

requirements posed by its relevant external environment" (1967: 3). I find that it is possible to extract this way of concretely grasping the 'attributes' of the subsystems (to which I return below) and the practical challenges of integrating them, while leaving behind some elements and challenges that I find problematic.

According to Lawrence and Lorsch (1967) a subsystem is defined by a particular task, time and goal orientation. Depending on the task, a particular time orientation emerges. The time orientation varies "directly with the modal time required to get definitive feedback from the relevant subenvironment" (p 8). Thus, research, which is one of their identified subsystems, has a 'longer' time orientation than production, for example. Additionally, "a primary concern with the goals of coping with their particular sub-environment" characterizes each subsystem. Through the conceptualization of subsystems and their attributes, I find that we gain a useful tool to open up the study of what it is a device 'meets' when it is introduced in an organization or with 'what' it, perhaps, co-constitutes organizational values. In Article 1 of this dissertation, I develop the notion 'modes of valuation' primarily by operationalizing Lawrence and Lorsch's subsystems and making them interact with insights from valuation studies and other related lines of theory.

Task and organizational propositions: Perrow, Mintzberg and others

The second aspect of classical organization theory I find useful to this inquiry is the focus on the practical conduct of tasks and the organizational propositions related to this. I will return to the 'propositions', and begin with the task. As already mentioned, organizations, from the stance of classical organization theory, are seen as 'systems for getting work done'

(Perrow 1967: 194, Perrow 1965), that is, for conducting practical tasks in "*a patterned, directed effort to alter the condition of basic materials in a predetermined manner*" (Perrow 1965, 914, italics in original). In order to 'design' an organization in the most efficient manner, i.e. define its 'structural characteristics' (Haberstroh 1965, 1171), the specificities of the organization's primary task are considered. The idea is not that one best way of organizing existed, but that organizational success depends fundamentally upon meshing design with the core technology, which also defines the organization's task (Hunt 1970, 251).

Considering the core task of the organization is a different way of asking "what business are we in?" (Lawrence, Lorsch 1986, 209, Vikkelsø 2015, 426), or of exploring the organization's task-reality (Vikkelsø 2015). The idea is that the more precise and specific the answers to these questions, the better the organization can be 'fitted' to its task. In his book from 1979, 'The Structuring of Organizations', Mintzberg reviews much of the literature on organizational structures and provides a condensation of the 'findings' of some of the studies of structural characteristics[5]. With the notion of 'flows' he sums up four central ways of approaching the organization; ways which, Mintzberg argues, can be combined or 'overlaid' to gain a thorough understanding of how the different parts of

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[5] Accordingly, not all scholars cited (for example March and Simon (1958/1993) would agree with Perrow's definition of an organization. Yet, the purpose here is not to validate a true or proper theory of organizations, but to develop a practical understanding of the organization and its entanglement with valuation. For this purpose minor theoretical incongruences can be accepted, as stated in the beginning of this chapter.

the organization 'function together'[6] (Mintzberg 1979, 35). These 'flows' include (1) work material, (2) decision processes, (3) information and (4) authority.

These 'flows' make it possible to disentangle and unfold different aspects that shape the conduct of the task, and thus of the organization's reality. I find this operation useful as a means of investigating the relationship between organizational tasks and valuation devices, as will be unfolded in Article 2. The first flow, work material (Mintzberg 1979, 35), is similar to Perrow's idea of 'raw material', and both authors suggest paying attention to the particular material that is being 'altered', as it constitutes particular circumstances for the conduction of the task. The work material can both be human, material or symbolic, and, as Perrow argues, organizations such as hospitals, that alter human material, are subject to particular challenges, because "humans are self-activating, potentially recalcitrant, fragile, and are invested with all sorts of characteristics provided by cultural definitions" (Perrow 1965, 914). The second flow is about what a decision situation looks like (Mintzberg 1979, 58): How is it identified and designed? For the decision process, Mintzberg argues, the selection is just "the icing on the cake", prior to this a number of 'routines' prevail; the identification phase, the recognition phase (where the need to initiate a decision is perceived), the diagnosis routine (where the decision situation is

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[6] Mintzberg (1979) argues that organizations consist of an operating core, a middle line and a strategic apex, flanked by a techno structure and by support staff, as depicted in a famous figure which the reader may recall.

assessed), the development of solutions (search and design) and lastly the selection phase, where solutions are screened, evaluated and ultimately authorized (Mintzberg 1979, 58). This process is similar to what March and Simon describe as happening when organizations ask the question 'what kind of event is this?' (March, Simon 1958/1993, 173). March and Simon emphasize that problems can occur when there is not agreement about the goals of the organization, and that this requires politics and negotiations to resolve such conflicts (March, Simon 1958/1993, 150).

The third flow, information (Mintzberg 1979, 45), is about how intelligence flows in the organization. This can both be information external to the organization (Mintzberg 1979, 45), internal information, and routine informational tasks, as well as the organization of information; that is, the 'techniques for processing information', the number of sources of information, and the way it is transmitted in the organization (March, Simon 1958/1993, 147, Mintzberg 1979, 45, Haberstroh 1965, 1175). The fourth flow, authority (Mintzberg 1979, 43), is about the vertical division of 'decision making labor'. Who is authorized to make what kind of decision, and what is the extent of their discretion? Discretion, as Perrow defines it, "involves judgments about whether close supervision is required on one task or another, about changing programs, and about the interdependence of one's task with other tasks". Discretion relates to choices among means and judgments on the critical and interdependent nature of tasks (Perrow 1967, 198). Regarding authority, Lawrence and Lorsch emphasize the relevance of investigating whether authority is granted on the basis of formal position in the organization or on the basis of knowledge and competence (Lawrence, Lorsch 1967, 37).

These categories offer a means of investigating the 'organizational propositions' of a task, and, as I suggest below, provide an analytical entry point for investigating the co-constitutive outcomes of tweaking the valuation practices related to the conduct of a task and the trials of valuation that this may ignite.

2.4 FORESHADOWING THEORETICAL ENCOUNTERS

In this chapter I have laid out the groundwork for the investigation of the theoretical sub question of the dissertation; "How can insights from pragmatic studies of valuation practices and classical organization theory usefully be combined to help establish a nuanced understanding of the relationship between devices, values and organizations and the practical challenges that this may involve?" As the chapter has shown, this question is not only about making a patchworked theoretical tool to 'cover' all aspects of the threesome; it is also to explore productive theoretical amalgamations from a pragmatic stance. For example to investigate how a concept from one field can be used to disentangle nuances of another in order to make it stand out as a stronger resource for this inquiry – and perhaps for others interested in the entanglements of valuation and organization.

With the particular logic of this inquiry as a compass, the chapter has introduced and discussed how studies of valuation and organization theory respectively offer vocabularies and optics relevant for this inquiry's pursuit of a practical understanding of the relationship between devices, valuation and organization, while also showing some of their weaknesses for this endeavor. At the core of valuation studies are the state of the art concepts and understandings of the performativity of valuation – specifically in the

form of concrete practices or devices. Judging from the logic of this inquiry, however, this specialization has in some studies led to an overemphasis of the performativity of valuation devices, while the conditionality of this performativity has been left in the dark, and along with that, the role of organizations in valuation, and valuation in organizations. Increasingly, however, valuation studies are addressing co-existing and competing valuations, and valuations embedded in work and professional judgment. These features pave the way to what may be called an 'organizational turn' (as suggested in the Article 1) in valuation studies; or at least of an increased focus on the circumstances and conditions of the performativity of valuation devices that organizations hold. However, this expansion still leaves something to be desired when the interest is in the practical and organizational conditions and challenges of valuation devices. Accordingly, the chapter turned to organization studies.

From the field of organization studies the chapter presented three influential takes on the organization-technology relationship, which depicted a move away from a concern with practical problems toward an occupation with more abstract and theoretical issues. Some contemporary organization studies therefore end up more concerned with metaphysical and theoretical intertwinements than with the practical problems that occur in organizations where management devices are introduced, which is the interest of this dissertation. Accordingly, the chapter lastly turned to classical organization theory, were it found some tools and concepts particularly aimed at dealing with concrete, organizational problems; tools and concepts which can, I find, be revisited by an inquiry like the present, without involving the problems often posed against the organization theories of the past.

While I hope with this chapter to have drawn a more general image of what the two fields have to offer in developing a nuanced understanding of what happens when valuation devices are introduced into organizations, in the three articles that constitute the analytical body of the dissertation, I will experiment more directly with combinations of insights from valuation studies and organization theory. I will present these suggestions at length in the articles, but find that some foreshadowing might be helpful.

In the first article I present the notion of 'modes of valuation'. The idea of this notion is to tease out the entanglements of valuation in the conduct of organizational tasks. This idea is primarily established upon the concept of organizational subsystems and their attributes (Lawrence, Lorsch 1967) and the idea of dissonant valuations (Stark 2009). In the article I show how different modes of valuation are at play in the hospital, and how each of them operates with a particular grammar, through which the value of things is assessed. The article also shows how these grammars are intertwined with the 'attributes' of each mode, such as the goal and the temporal orientations enacted through the mode.

In the second article, I address 'organizational trials of valuation'. The purpose of this idea is to nuance the understanding of the performativity of devices by showing how organizational propositions of devices can be put to trial as they are introduced into an organization to alter the conduct of a task. From organization theory, I use Mintzberg's flow categories to address these propositions, and from valuation studies and related fields I take, among other things, the notion of 'trials' or 'struggles' of valuation and performativity (see, among others Gond, Cabantous et al. 2016, Dussauge, Helgesson et al. 2015). I use both to investigate the political

work of negotiating the organizational reality that is related to the conduct of a task.

In the third article I investigate 'situated valuations' as well as 'affordances' of a valuation device. While the concept of affordances is not a main concept in either of the theoretical bodies introduced here, I find it travels rather effortlessly across the fields, and I like how it calls for empirical investigation of how devices come to do different things in different situations – even in the same organizations. This phenomenon, I argue, can be understood as situated organizational valuations of particular affordances of the device. For example, Lean's configuration of time may be highly problematic in some situations, but useful in others. As such, the concept of affordances is useful as a way of making the performativity of a device 'interact' with more mundane modes of valuation.

The relevance and the actual test of the experiment of making these theoretical amalgamations, however, takes place in the dissertation's articles in connection with the empirical material, as this is where their 'fitness' to aid the inquiry is put to work. In the conclusion's section 5.1.6 I evaluate the theoretical experiment for which this chapter has laid the groundwork and discuss the usefulness of the particular conceptualizations in more detail. In the conclusion I will also elaborate upon how and where I see them contributing to existing theory. In the following, however, I will turn to the observational operations of the PhD project.

3 OBSERVATIONAL OPERATIONS

This dissertation is informed by an empirical study of the Lean practices in a hospital department. To capture the practical establishment of values and the role of Lean in this establishment, the study has been conducted using ethnographic methods. I offer here an account of this study and consider, among other things, how 'unsettling situations' and 'methodological sensibilities' have served to form and inform the inquiry.

3.1 ON METHODS, CASE AND INQUIRY

Dewey argued that – as for theoretical concepts - the judgment of relevance of methods and data are granted by their ability to inform the specific inquiry (1915/1998: 238). Thus, the relevance of specific observational operations can only be determined as the problem is known (Dewey 1938: 117). In making methodological choices, therefore, the working compass is a continued judgment on the relevance of particular methods and data to transform the problematic situation at hand. Yet, as Dewey also reminds us, the problematic situation does not precede the empirical study, but originates in this. This leaves the inquiry with a double role as both formative of, and formatted by, the collection of empirical material. As Dewey formulates the dilemma: "How, it will be asked, can inquiry which has to be evaluated by reference to a standard be itself the source of the standard?" (Dewey 1938: 5). Dewey's short answer is that 'it can, because it has', which he elaborates by suggesting that "one might even challenge the objector to produce a single instance of improvement in scientific methods not produced in and by the self-corrective process of inquiry" (Dewey 1938: 5). This reflects Dewey's view on logic as a 'progressive discipline' (Dewey 1938: 14); he does not see inquiry as an isolated activity, but as closely related to preceding inquiries.

According to Dewey, the result of an inquiry is at once an end and a means. He uses the example of a mariner to illustrate this point: "A port or harbor is his objective, but only in the sense of reaching it not of taking possession of it. The harbor stands in his thought as a significant point at which his activity will need re-direction. Activity will not cease when the port is attained, but merely the present direction of activity. The port is as truly the beginning of another mode of activity as it is the termination of the present one" (Dewey

1922/2002: 226). The progressiveness of logic, then, arises as the "cumulative effect of continued inquiry that defines knowledge in its general meaning." (Dewey 1938: 8). This implies that the settlement of a problematic situation by an inquiry does not mean that it cannot be exposed to further inquiry, only that it is 'so settled' that it can be used as a resource in further inquiry (Dewey 1938: 9).

This dissertation is informed by an empirical study of Lean management in a hospital department, namely the Juliane Marie Center of Rigshospitalet. The study was guided by the question: 'How does Lean alter values and value practices at the Juliane Marie Center?' The empirical strategy of data-collection that I employed was inspired by Neyland's Organizational Ethnography (2008). At the time of data-collection I had not yet settled on the pragmatic stance or Dewey's logic of inquiry, but I find that this stance corresponds well with Neyland's strategy. Neyland emphasizes both that organizational ethnography has "always been entangled with practical matters" (Neyland 2016: 179), and that the ethnographic strategy should be developed "in tandem with the situation being studied" (Neyland 2008: 12), which are two tenets closely related to Dewey's emphasis on the practical situation as a means of directing observational attention as part of inquiry.

With this chapter I aim to account for the dissertation's empirical strategy; the entanglement of means and ends as they have been established in the course of the conduct of this dissertation and to discuss how circumstantial and strategic choices have shaped the inquiry. I begin by presenting the organizational setup of my PhD, which has been important in the process of making methodological choices related to the study. I also provide an overview of the Juliane Marie Center, including a few words on the Danish healthcare system. Then I present three 'phases' of the empirical study: First

the strategy of data production and the specific methods used, as well as some 'unsettling situations' related to the work of producing data. Then I move on to discuss three methodological 'sensibilities' that have been central to the analysis of the empirical data. Lastly, I turn to the phase of 'writing up' and describe the process of settling on a particular approach for one paper, and then using that as a 'harbor' from which the next inquiry takes off.

3.2 THE SET-UP: A CO-FINANCED PHD

This PhD has a 'co-financed' setup, which requires a short introduction. A co-financed PhD is a collaboration between a university, a private or public organization and a PhD student. The details of such a setup vary. In my case, a project description was developed by the two-person management team of the Juliane Marie Center at Rigshospitalet in collaboration with researchers from the Department of Organization at CBS. The position was then advertised publicly. Working as a consultant at a Danish healthcare research institution and having an interest in management technologies, I applied for the position. The project had some specific requirements and opportunities. The primary one being that the phenomenon and research site were given: The empirical study had to be about Lean and take place at the hospital department, which framed the project in a certain way, and provided some methodological challenges, as I will unfold in this chapter[7]. On a broader

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[7] Additionally, the setup entailed that the dissemination was distributed between teaching at Copenhagen Business School (a half semester) and communication and other activities at the JMC (workload equivalent to a half semester).

note the project was also formed by the Danish context, which I will very briefly present.

Danish Healthcare and the Juliane Marie Center

In Denmark 'easy and equal access to healthcare' is the prime principle of the Danish Health Law (Sundheds- og Ældreministeriet 2016). Hospitals are publicly owned and administered by five regions, which settle locally a combination of fixed-budget funds and activity-based funds from the state and the municipalities. In international comparisons, Danish hospitals have adapted well to the increased demands for hospital treatment while maintaining expenditures on par with growth in the wider economy (Bilde, Hansen et al. 2010). They nonetheless find it challenging to keep up with demographic changes and economic restraints. Accordingly, many strategies and tools have been employed to tackle these problems. One of these tools is Lean.

All Danish regions are working with Lean to different extents and the capital region, for example, has decided that all units must have implemented a 'Lean culture' in 2016 (RegionH 2011). This is based on the idea that "Lean can be an efficient method in order to do more with the same or fewer resources to the benefit of patients and professionals" (Bak-Bernt, Vinterberg 2010). As mentioned in the introduction, the JMC has worked with Lean since 2005 and is now one of the most experienced public organizations to work with Lean in Denmark. Since 2010 Lean has been a part of the JMC's official strategy – their 'Policy of Improvement':

> We will, as our main method of improvement, apply the Lean principles, as these support the management philosophy and corporate culture that the center is already working with. We do not only see Lean as a collection of tools, but also as a philosophy that is founded on

common sense and a scientific approach to development of the daily
operation, on high quality in our services, continuous improvements
and on respect for people (Juliane Marie Centret 2011).

The JMC offers their employees different levels of Lean training through the
Capital Region: Beside the intro course (1 hour), it is possible to get the basis
course (1 day), the agent course (3 days) and to be trained as a Lean
consultant (8 days). As part of the empirical study I took the training to
become a Lean Agent. Generally, the JMC is known to be among the first
movers in terms of adapting to the current economic situation and of taking
in new ideas in relation to management. However, they have also had a
number of challenges related to financial cuts. This recently culminated with
a well-known head of the obstetric unit quitting his position, dissatisfied with
the economic restraints his unit faced and the consequences this had on the
quality of their services. His resignation led to headlines and heated debate in
the national media (West Madsen 2016, Ritzau 2016, Attardo 2016).

The Juliane Marie Center is one of eight centers of Rigshospitalet.
Rigshospitalet is Denmark's most specialized hospital. It is placed in
Copenhagen in the capital region and contains with few exceptions all
medical specialties. In addition to treatment of patients, its responsibilities
include research, development and education. The specialization of the JMC
corresponds to the internationally employed notion of a 'children's hospital',
with the exception that the JMC also includes treatment of certain conditions
related to women. The JMC thus covers obstetrics, gynecology, pregnancy,
delivery, fetal medicine, neonatology, children's diseases, pediatric surgery,
fertility, growth and reproduction, genetics, sexual assaults, fetal medicine
and ultrasound. The JMC employs about 1,500 people. Approximately 200 of
these are doctors: 900 are nurses, midwives and nurse assistants; 140 are

doctors' secretaries and the remainders are psychologists, dieticians, researchers etc.

The JMC is organized in 10 'units'. Each unit is managed by a management team, consisting of a head of unit (physician) and one or two nursing heads of unit. Each unit has its own structure, making it quite a difficult task to provide a simple, visual overview. In the organigram provided below, I have sketched out the structure of the two units in which I spent most time: The Unit for Children and Youth (UCY) and the Unit of neonatology. As the organigram shows, the UCY is organized in ten sections and four wards. The unit of neonatology is organized in three teams (recently, however, it has been reorganized and now consists of two teams).
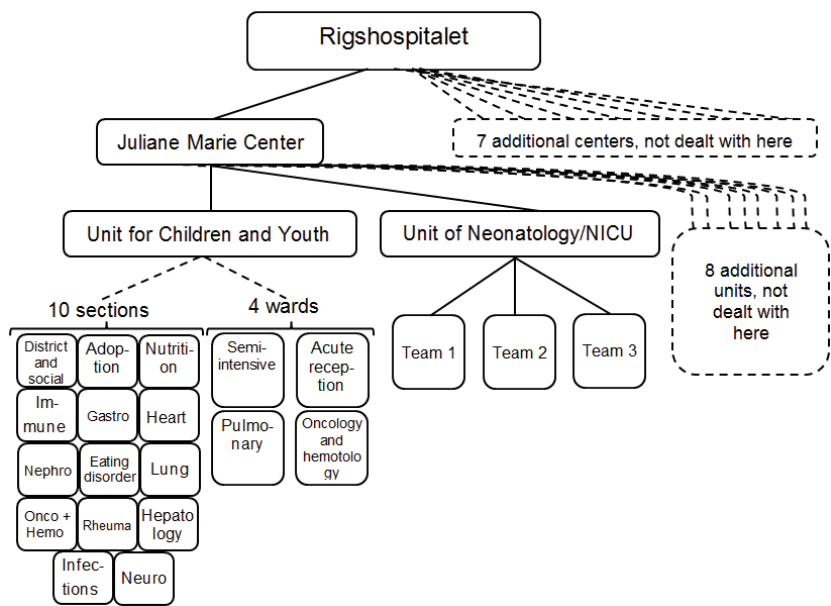
Figure 1: Organigram of the JMC

Physically, the JMC occupies most of a wing of Rigshospitalet. You enter the JMC through one of two sets of revolving doors on the ground floor. At the entrance you can tell staff members from patients, as staff members prefer the adjacent fire doors to the revolving ones, which slow down the pace of their walk. Once inside the hall you have the choice between four elevators with signs guiding you to the desired unit. From the halls of each of the seven floors you have the choice between four corridors with signs on the ceiling telling you where to go. Some doors are open and reflect that the corridors are used as walk-through passages, while others are closed with signs indicating that unauthorized persons should not enter. During the empirical study I spend most of my time on the seventh floor where Lean activities often took place, and where my office was located. This was also where the Head Lean Consultant, a trained economist who served as my main gatekeeper, had her office. Through frequent conversations and access to her outlook calendar, I was able to gain good information about what Lean-related activities where going on, and I was always welcome to attend, leaving me with the luxury problem of having overwhelmingly good access to the activities I wanted to observe. In the following I elaborate on how I decided where to go and what to follow.

3.3 METHODOLOGICAL STRATEGY: ADAPTING TO SITUATIONS

While the object, Lean, and the site, the Juliane Marie Center, were given for my project, a lot of methodological choices remained open, such as which methods to use, where to be, and what to look at. From the onset of the empirical study, I had not settled on the pragmatic approach or the concern with valuation, although Lean management in offering itself as a strategy to 'optimize value' begged to be subject to the STS slogan of showing that 'it

could be otherwise'; by optimizing value Lean was not a neutral amplifier of value, but also part of establishing what counted as valuable.

In order to tune in my ability to understand and recognize the hospital's Lean work, and, to 'locate' Lean at the hospital, I began with a pilot study. Here, the focus was to become more familiar with the hospital department and the phenomenon. I was guided by questions such as 'Where is Lean, what is it, what does it do and how does it matter, for whom?' From the pilot study a key discovery for me was the large amount of local variations of answers to these questions within the hospital department. In contrast to the grand Lean strategy of the hospital department, its common language and the mandatory Lean training programs, Lean gave rise to very different things in different sections to different people: In some sections, abandoned whiteboards with outdated numbers were the only sign of Lean. Elsewhere, people were happy, for example, that 'Lean had provided new phones'. Others were highly critical to Lean and described in graphic details their concerns, while others again engaged enthusiastically with Lean and described their conversion from critics to believers. Expecting that the diversity of versions of Lean would be useful for my inquiry, I felt assured about the relevance of an iterative empirical approach that would let me move across professional boundaries, situations, and hospital sections.

Three Lean activities as starting points

Based on the insights from the pilot study, I decided on three activities that could serve as empirical starting points: 1) Whiteboard management, 2) Kaizen Blitz projects and 3) Lean as a top-level management strategy. These activities would be some of the first answers to the question of what Lean gave rise to at the hospital department. From the onset I followed as many

whiteboard meetings, projects and management activities as I could, but then zoomed in on the ones that seemed particularly interesting for my study. An overview of my empirical observations can be found as Appendix A. Before I elaborate further on my empirical strategy, let me unfold how the activities of whiteboard management, kaizen blitz projects and Lean as a top-level management strategy took place at the JMC.

'Whiteboard management' is a translation of the Danish term 'tavleledelse' which is used interchangeably with 'tavlemøder', in English 'whiteboard meetings'. This activity seems to be a Scandinavian amalgamation of different Lean-related tools, such as 'visual management' (Bicheno, Holweg 2009) and 'Kaizen meetings', which are described on various commercial websites (see, for example Cini 2017). In Denmark, whiteboard management has become a well-known phenomenon in all kinds of public organizations, from post offices and police stations to hospital departments. At the JMC it is a weekly activity, where participants, typically a smaller section or sub-section (for example 'team 2' in the unit of neonatology involving both nurses, doctors and secretaries) meet for 15-20 minutes in front of their local whiteboard. The whiteboard is often placed in a hallway, and the participants stand during the meetings in order to emphasize efficiency. During the meetings there is a structured agenda, entailing that a whiteboard manager (typically a member of staff with some Lean training) goes through the section's three to four objectives, which are depicted on the whiteboard. A member of the section, or a student assistant from the administration, depending on the character of the objective, produces data about the objective before each meeting. If the objective is achieved, the result is printed on a green sheet of paper, if it is not achieved, then on a red sheet. Going through

the objectives, the whiteboard manager encourages the participants to come up with ideas or new solutions in cases of red results.

During my empirical study I followed the shared whiteboard meetings of the three teams in the unit of neonatology most intensely, although I also attended other whiteboard meetings, for example in the Gynecology section as they first began having the meetings. The whiteboard of the unit of neonatology is depicted below, and introduced in a larger size and greater detail in the dissertation's Article 1.
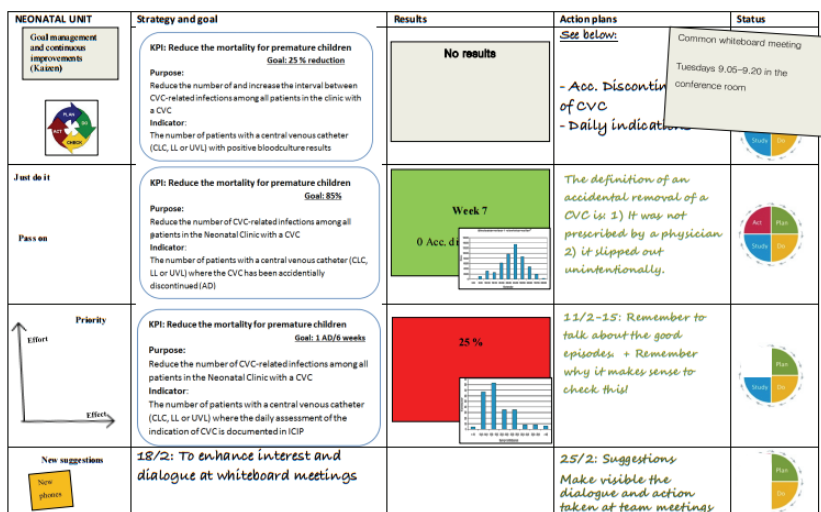
Figure 2: Whiteboard of the unit of neonatology

The 'Kaizen Blitz projects' is the second activity I used as starting point. This is an activity that is well-described in the Lean literature, and of which many different versions exist (Bicheno, Holweg 2009, isixsigma.com 2016). In the literature it is explained that Kaizen is Japanese for 'continuous improvement' and 'blitz' comes from 'blitzkrieg' and refer to 'any sudden

overpowering attack' (isixsigma.com 2016). At the JMC, the Kaizen Blitz projects are encouraged by the Lean consultants but initiated by the individual sections or wards, who define a practice they want improved, such as the handling of women with immanent abortion (which was one of the projects I followed). The projects are typically organized as a number of workshops, where representatives from the different professions or functions involved in the patient path under scrutiny participate. During the first workshops, a Lean consultant from the hospital takes the participants through the process of Value Stream Mapping. This is done by placing a 'brown paper' from wall to wall in a meeting room. On this, the participants under guidance of a Lean consultant visualize a typical example of the patient path under scrutiny, as well as the tasks of all involved staff members. Then the participants identify areas of 'waste', for instance records that are filled out twice or unnecessary room changes. Through the course of the workshop the participants will develop an improved patient path, and then present this to their colleagues, who hopefully agree with their suggestion. Below is a picture from one of the Kaizen Blitz workshops. In this case, the participants are working to make the path for patients in infertility treatment more efficient.

Figure 3: Picture from Lean workshop, JMC

The third starting point was Lean as a management strategy at the top level of the hospital department. This turned out to be a more fuzzy activity than the others, as Lean had not become directly involved in the top level management practices, such as the weekly meetings with the heads of each of the JMC's units. All the Lean artifacts found in the hallway of top-level management, gave the impression that a lot was going on. Yet, these primarily turned out to be the Head Lean Consultant's attempts to inspire and involve the others. While this in itself is a 'finding', I used it as an occasion to redirect my strategy to focus on activities that actually took place. I did, however, follow the bi-weekly meetings between the Head Lean Consultant and the management team, where they discussed and set the direction for Lean activities. I also observed other occasional meetings involving top-level managers, such as a meeting with Lean consultants from the Danish Defense etc.

Below is a picture of the top-level whiteboard at the JMC. While the management team seemed highly interested in the results, the whiteboard never became an integrated part of any meeting and was more a display than

the center of an activity. The Head Lean Consultant's work in trying to interest people is shown as she first attached orange post-its on the printed results with questions and then red and green smiley-faced badges to attract attention.

Figure 4: Picture of whiteboard, top management level, JMC

From these starting points, I branched out to the projects and whiteboard management practices that seemed to stand out; namely those where I had good access; where the activity was somewhat established, and where Lean seemed to create some tension that called for unraveling.

Example of redirection of empirical strategy

To exemplify how I navigated in my data collection, I can use a project from the Unit of Children and Youth (UCY), which constitutes the main empirical data for the dissertation's Article 2, inserted in section 4.2.

This project started out with high ambitions on the part of the Head Lean Consultant and the management team of the UCY and consisted of launching whiteboard management to the entire unit, which is composed of four wards

and more than 10 out-patient sections. For this project, the JMC had decided to involve two external Lean consultants from a well-known consultancy. I began by observing the Head Lean Consultant's planning meetings with the management team of UCY (head of unit and two nursing heads of unit), as well as her planning meetings with the external Lean consultants. I also took photos of the drafts and drawings of whiteboard designs and specific objectives that were discussed during the meetings. I then followed the actual workshops that fleshed out the project as well as the informal conversations before and after these workshops. I also shadowed the hospital staff members participating in the project and interviewed the external Lean consultants. During the initial workshops, the focus of the Lean project changed, and came to focus exclusively on the patient distribution practice; the work of placing each patient in the right bed and making sure that there is space for incoming patients. As a consequence, I redirected my focus and began to observe the daily distribution meetings that took place parallel to the Lean workshops, take photographs of the distribution plans and to shadow some of the participants of the distribution meetings. In this way I ended up both studying the practice of working with Lean to make improvements, and the practice which the participants ended up wanting to improve.

3.3.1 OVERVIEW OF METHODS

By using the strategy of trying to adapt to the situation, I ended up using the methods of observations, shadowing, qualitative interviews and collection of documents and photos. These methods were not always applied one at a time. During fieldwork, they would glide into each other depending on the circumstances. As Czarniawska (2007) notes, it is difficult to say 'Sorry I am not doing participant observation' when somebody asks your opinion or to

hold the door, and it is difficult to say 'You forget that I am shadowing' when you are instructed not to attend a meeting (cf. Czarniawska (2007): 55). In spite of these occasional overlaps, each method is characterized by particular advantages and challenges, and in the following I will briefly describe how I used these methods, and reflect on the implications of this use. A more elaborate discussion of methodological choices and challenges follows in section 3.4 (Unsettling empirical situations and their formative role). In Appendix A it is shown which methods I used and how much time I spent on each.

Observations

The most frequently used method of my fieldwork was observation. According to Justesen and Mik-Meyer (2012: 96), participant observation 'involves the observer participating in the everyday life (at work) of the people she is studying'. As such, all the time I spent at the JMC can be characterized as participant observations and amounted to approximately 2.5 days per week for a period of 10 months, plus some follow up visits. This includes time in my office at the JMC, which I shared with the quality coordinator of the center, as well as lunches and general meetings with the additional administrative staff on the 'management floor' of the JMC.

Additionally, I conducted a lot of meeting observations. While observation always includes a form of participation, I had a tacit agreement with the other participants that during the meeting observations my role was primarily that of a passive observer. I took this role for several reasons. Firstly, I found that for me good observations and good fieldnotes are not easily compatible with good participation. As I observed, I took notes in two columns in my notebook, or, occasionally on my laptop: One for what was going on, and

another for reflections, ideas and questions. Typically, I also audio-recorded what was going on, but needed my notes to decipher the different voices, the participants' expressions and the atmosphere in the room, which did not always comes across on tape. This kind of observation note taking was time-consuming and required full concentration.

Where observations are typically bound to a specific 'site' or 'multiple sites', my observations were bound to the specific activities I followed, that is, the Lean whiteboard meetings and the Kaizen Blitz projects, among others. I also did observations at a Scandinavian Lean Conference in Umeå, where I participated with the Head Lean Consultant of the JMC and, as mentioned, took the three day course to become a Lean agent.

Shadowing

Czarniawska (2007) emphasizes two primary qualities of the shadowing method: its mobility and its ability to work as 'camera with a mirror lens' (Czarniawska-Joerges 2007: 56), meaning that the observer not only 'records' what is taking place, she also 'guesses (and asks) about the events being perceived' (ibid). What I refer to as shadowing in this chapter, is therefore only the instances where I follow persons, as non-humans can be difficult to get responses from.

Shadowing made me able to attach myself to the particular individuals that proved relevant in relation to the Lean activities I observed, and follow them as they weaved in and out of their other clinical, administrative and social activities. Shadowing proved to be a particularly suited method in the hospital setting. Apprenticeship is a customary form of training for new clinicians, and since I looked like one when wearing a uniform, I had easy access all over the hospital. Neither the person I shadowed nor those we met

seemed to modify their behavior when I was in uniform. Yet this easy blending in ended up bordering on a covert research practice and fostered some ethical challenges, which I reflect upon in the section 3.4.

A practical challenge when shadowing was note taking. I would take as many notes as possible, and sometimes, when entering a meeting, for example, I would ask for permission to turn on my audio recorder, which was always in my pocket. After a day of shadowing I typed in my notes on my computer, as I did with other observation notes. During shadowing I would often have time to ask questions as we walked the long hospital corridors. These walks proved to be a valuable source of information, as they allowed for a more bodily sense of what Lean did at the hospital as well as good opportunities for the 'mirror lens' part of shadowing to work. For example, at one point a head physician stuck his neck out of the hallway, looked to the right, and then made haste across the hall into another passage. Noticing the surprised look on my face, he explained: "Sorry, but you see, I always try to duck here at this hour… There is often a whiteboard meeting going on, and [name] sometimes calls me and asks me to participate. And I simply don't have time….". This, then, initiated a conversation about his experiences with whiteboard meetings.

Interviews

While the primary sources of data generation were shadowing and observation, I also conducted semi-structured interviews. These interviews served different purposes. In the beginning, as part of my pilot study, I used the interviews to familiarize myself with the hospital department. On this occasion I did a round of interviews with physicians who were respectively positive or negative/reluctant towards Lean (selected in collaboration with

management team), as well as representatives from the region (Region Hovedstaden) and the central Lean unit at Rigshospitalet. These interviews were relatively general in character and served mainly the purpose of giving me an opportunity to detect interesting opportunities of how to continue my fieldwork.

I did another round of formal interviews in relation to my observations of the practice of whiteboard management at the neonatal unit. These interviews served two purposes. Firstly, during informal talks and also through my direct observations, it was clear that the way Lean worked in the unit at the time, was related to a previous project. In order to understand this relation, I made a miniature genealogy of Lean in the neonatal unit, drawing on interviews as well as documents. The second purpose was to understand better what was going on at the whiteboard meetings: What was the difference between a CLC and a CVC? And what did the interface of the IT application ICIP (IntelliVue Clinical Information Portfolio) look like? Also, looking back, I was provoked by what happened at these meetings. Over and over again, participants would disagree over the practice of ticking off a field ICIP to indicate the continued relevance of babies' catheters (this episode is elaborated upon in the dissertation's Article 1, section 4.1). While I understood both sides of this disagreement, I was stunned by how much time they spent without getting anywhere. Accordingly, I did interviews with the persons who seemed most influential in this standstill, partly to understand it, and partly to mirror my own experience of the meetings to them to incite a development of the situation. Related to this empirical focus I did 11 interviews (two with nurses, four with head physicians, two with head of unit, one with nursing head of unit, one with local Lean consultant and one with a secretary).

The last round of interviews I did was related to the second larger project I observed: The before-mentioned project in the UCY. Here the purpose with the interviews was, similarly, to unravel what was going on during the workshops. In addition to the formal interviews (six in total), I did some informal interviews or talks in connection to other empirical activities. For example, after a day of shadowing the head nurse and newly appointed Lean whiteboard manager of the gynecology unit, we sat down in her office and talked about the day's activities. I went through my field notes, posed questions about some of the activities and asked for her reactions. I also regularly talked with the Head Lean Consultant, as she also served the role of keeping me up to date with what was going on in the hospital.

In comparison to observation studies and shadowing, I found that the benefit of doing formally scheduled interviews was that it provided an opportunity to engage more thoroughly with the participant. Here, I could ask longer questions that required some introduction; I could be critical, when this was relevant, and I could get long, detailed and sometimes confidential answers. Through the empirical study I conducted 25 formally scheduled, qualitative interviews with regional representatives, hospital managers, doctors, nurses and secretaries, as well as an uncounted number of shorter, informal interviews as part of the participant observations and shadowing.

Documents and photos

The final source of empirical material was the collection of documents and photos. The documents I relied on were mainly digital. I was given access to the folder where all digital documents related to Lean activities were stored, as well as to some of the internal drives and databases of the hospital. This was a great resource, especially when doing my mini-genealogy of Lean in

the neonatal unit, as it enabled me to establish a timeline of past events. Additionally, access to these documents made it possible for me to ask relevant questions and to participate in a more qualified dialogue with the hospital professionals, because I could search for formal regulations and guidelines regarding the procedure of the particular sections.

Regarding photos, I used them both as an optical way of taking notes, and as a means of bringing earlier situations or decisions into the interview situation. By taking photos of the whiteboard, for example, I was able to document its development through the course of the meetings I observed. In relation to the BUK project, I took photos of the participants' drawings, as they were making sketches for how the whiteboards in their unit were going to look. I thought this would be an interesting way of investigating how the organization shaped Lean, along with Lean's shaping of the organization, yet in the end, the project came to be about the distribution practice rather than the whiteboard, and so the drawings were not used in analysis.

Having briefly provided an overview of the methods applied, I will now discuss some 'unsettling situations' that occurred during the fieldwork. As Dewey notes, "discourse that is not controlled by reference to a situation is not discourse, but a meaningless jumble" (Dewey 1938). Accordingly, I find it relevant to account for the formative role of specific empirical situations on the dissertation's methodological approach.

3.4 UNSETTLING EMPIRICAL SITUATIONS AND THEIR FORMATIVE ROLE

This section is about episodes that have shaped the dissertation's inquiry. Some of these are related to classic ethnographic issues such as access, ethics

and field relations. In line with the Deweyan idea that inquiry begins in actual, unsettling situations, rather than going systematically through each of these classical issues, I find it relevant to illustrate how they played out in concrete situations; how I tackled them and how they came to shape the inquiry.

Unsettling situations 1: Where to be? Ethical dilemmas, critical situations, indirect information

The first type of situations relates to the decisions of where to be. While I did have some preliminary questions to navigate my study, it was not always obvious where to practically place myself in the hospital. As I defined the interest in studying how values were established, I purposely did not strictly limit my fieldwork to Lean activities. While this strategy was necessary for the dissertation's inquiry, it also implied that I did not always have control over where I ended up. And accordingly, that I sometimes landed in situations, where I, perhaps, should not have been. As it has turned out, however, many of these situations have come to shape my understanding of the work and the values of the hospital, and some of them came to play a part in formatting the methodological sensibilities of the study, as will be introduced later in this chapter (section 3.5).

The nature of the work at a hospital, and in a hospital department for children in particular, involves situations that come to be pivotal, or at least personal, for the people involved: Life beginnings, life changes and life endings. Rarely –and luckily – do these situations have anything directly to do with Lean. When I ended up in these life changing situations, it was most often because I was shadowing head physicians. They were so familiar with having someone on their tail that I was treated more as yet another new apprentice,

rather than as a 'foreigner' with a different purpose and justification for access than their medical students. Only on two occasions was I asked to stay outside: When a midwife whom I was shadowing had to attend to a woman in active labor; and when a head physician had to remove an abscess from the buttocks of a teenage boy. I did not mind waiting outside.

From time to time I ended up in situations where I was unsure if I had the right to be there. Examples of situations include the following. As I, as part of the pilot study, followed the work of the operation theatre, I was present in the operation room when a woman delivered her twins via a caesarean section. A special and private moment, I felt somehow pushy in observing it, since I had no clearly defined purpose for being there. Another example is from a couple of days later, when I was present when an elderly woman was told the grave news that she had stage four abdominal cancer and only a few months left to live. And then again when a couple of new parents, holding their prematurely born baby in their arms, were told that the baby would not survive. These situations are familiar to clinical professionals, yet since they involved no signs of Lean, I found myself in the role of an imposturous spectator. Approaching this in conversation with the clinical professionals, they took my concern as an indication that I was uncomfortable in these situations. And while this was not untrue, I was struck by the fact that they seemed to have no concerns about the patients' and relatives' feelings about my presence.

Other situations evoked a similar uneasiness which, at the time, I saw as being a result of my own lack of situational awareness. After the caesarean section, for example, another situation occurred: As the newborn twins were being checked by the doctors, someone in an operation gown ordered me to go and fetch sterile, warm towels for the newborns. I insisted that I was not a

health care professional, but a researcher, and did not know where the warm towels were. But the person in the operation gown ignored that and said; "lower cupboard, hallway, now". I came back with cold, un-sterile towels[8].

In effect, I never moved beyond encountering ethically challenging situations, but continued to try and blend in without attracting attention. As my fieldwork progressed, I took more charge of where I was going, which came to shape the data I collected: As I studied the whiteboard meetings in the neonatal unit, for example, much discussion evolved around the assessment of the catheters of the admitted babies. With the ANT slogan of following the actors in the back of my head, my first impulse was therefore to observe the nitty-gritty details of the catheter assessment practice. As I – through my observations of the meetings about quality and safety – learned about the risks of infection for these premature babies, and as I – through shadowing – experienced how intimate the patient rooms were for the parents of the babies (in many cases it was there home for weeks and months), I changed my mind. Rather than regularly observing the catheter assessment practice, I continued to shadow the doctors and nurses, conduct interviews and observe the whiteboard meetings. In this way my answers to what happened to values and value practices in relation to whiteboard management came to evolve around the general tensions and problems of the unit, and less about the specific work of inserting, assessing and removing catheters.

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[8] Nothing else happened in this situation. The babies were cold for a little while longer while a nurse fetched the proper towels.

Looking back at these situations, I find that the unsettling part of these situations is not primarily about where I was and what I did or did not do: It was about what 'should' be done and what 'was' done in the situation. In other words, it was about the entanglement of values and justifications in relatively mundane situations of hospital work. In making sense of these episodes, the particular details of each episode and their role in affecting the enacted values caught my attention: The hospital gowns that blur people's identity, the operation gowns that cover up name tags, the commensuration of individual cases into standard elements of rounds, the time that goes and the patients waiting, the unsettled questions of responsibility. Such details come to shape how work is conducted, and thereby the values that are enacted.

This realization came to affect the way I analyzed my empirical material in two related ways: First, it settled for me the methodological relevance of a sensibility to 'situations' as the key analytical container for studying value practices. Rather than, say, practices or devices, situations are useful to bring into focus the practical circumstances of how things come to count in that particular moment at that particular place, and, additionally, situations are what Dewey's starting point of inquiry (as will be unfolded as the first 'sensibility' in section 3.5). Second, it made me aware of the significance of the *mundane* in the establishment of what counts as valuable in the particular situation. It brought attention to the fact that while new and technical valuation devices are brought to a scene, this does not necessarily affect the values enacted in the work that takes place away from that particular scene. The analytical attention to situations and to the mundane is something that has shaped the way I have both studied and understood what happens as Lean was introduced in the hospital.

Unsettling situations 2: Access, manipulation and looking like a Lean consultant

The second set of situations concerns questions about establishing my role at the hospital during observations. On occasions, particularly when I was not in uniform, I got the impression that I was taken to be some sort of efficiency consultant. This was, I assume, a consequence of my organizational affiliations.

Through the setup of my PhD, I was closely connected to the Head Lean Consultant of the JMC, to whom the center's top managers had delegated much of the interaction with me. She was a valuable resource in many respects. She would help me to gain an overview of the Lean activities of the hospital; translate both Lean and clinical jargon into regular Danish, provide me with formal and informal background information and invite me to network meetings etc. Since we had offices just across the hall from each other, we would often walk to the Lean events together, where she would facilitate or evaluate, and I would observe and sometimes ask questions. At these events, she would often introduce med as the 'PhD from CBS researching Lean'. In the ears of many Danes, CBS – Copenhagen Business School – is associated with business, suits and streamlined productivity.

The impression that I was concerned with their efficiency sparked two types of effects among the hospital professionals. The first type of reaction was characterized by what seemed to be partly ironic, partly self-conscious, remarks on their own behavior such as 'uh-oh, now we have to shut up and work hard' or in attempts to very clearly demonstrate that things were done by the book. The second type of reaction was to try to use me strategically. This would sometimes be in relatively simple attempts to communicate

through me to the Head Lean Consultant or the Center's top managers by, for example, making me notice how slow the computer systems were. Once a nurse I shadowed explicitly asked me to take note that it took three minutes for a computer program to open. On another occasion, a nurse loudly counted her steps when she walked from the phone to her desk while mimicking exhaustion, clearly making a reference to the Lean tool 'spaghetti diagram', which is used to first map, and then shorten, the physical paths people have to take in the organization.

On other occasions the informants would try to enroll me furtively into their own political programs. This happened, for example, the first day I observed the doctors' conference at the neonatal unit. At the end of the conference, the head of unit had to pair me with a physician that I could shadow that day. It was a busy day, and many critical patients were admitted for team 1 and team 2. So the head of unit suggested I should follow someone from team 3, where they were less stressed. This seemed to provoke one of the senior head physicians from team 1, who responded "You know what", addressing the head of unit, "Why doesn't she come with me? Then they will get an idea about what it is actually like down here!" This, I have later reasoned, was probably rooted in an old quarrel in the unit about how well the numbers that were generated in Lean projects depicted reality. Some doctors at the neonatology unit felt that previous projects had misrepresented their work load and work circumstances and had in this way generated unreasonable demands for improvement. It seemed as if the head physician from team 1 saw me as an opportunity to rectify this misrepresentation, by showing me – one of 'them' – exactly how things actually were.

Similarly, I would experience during interviews that interviewees would try to form alliances with me against some of the Lean representatives at the

hospital department. I experienced this, for example, with a couple of head physicians who had been engaged with Lean previously. They would present their view on how Lean ought to be run, ask me to agree, and then provide examples of how something else was being done in their section.

Initially, I was frustrated by their image and use of me, as I felt it was wrong, and that it had a negative impact on the data I was able to collect. I felt it damaged my access, because some people clearly acted and talked differently when I was there. Accordingly, I spent a lot of energy trying to shake off this 'wrong' impression, and to establish a research persona that was more in accordance with the ethnographic ideals of 'trust' in the field (Neyland 2008: 87ff). In discussing this with more experienced ethnographers, however, I was encouraged to embrace the situation and to utilize it as a way of gaining an understanding of the relation between Lean and the hospital. In this way I began to use the ironic comments and the attempts at manipulation as occasions to inquire about their images of and experiences with Lean, rather than trying to shake them off. The clinical professionals often seemed pleased by getting an occasion to elaborate on their views of Lean, and by inviting this I was given many interesting perspectives on the advantages and – especially – the disadvantages of using Lean in the hospital. Additionally, it provided me with opportunities to talk to staff members who would otherwise try to dodge interviews and other activities under the Lean headline. As such, my association with Lean came to establish a different kind of trust. I was trusted to be, if not one of 'us', then someone who could mediate between the ideals of the Lean consultants and the experiences of the clinical professionals.

In a sense I could evoke unsettled situations by reminding participants of Lean or New Public Management, and rather than try to straighten out these

situations by rejecting that association, I could occasionally use them as an opportunity for inquiry. I gained, thereby, occasions to inquire about how the organization members had come to establish a certain image of Lean. And, more particularly, I could investigate how the value of Lean had been established in particular teams or professional groups etc. Along with a lot of other data, these unsettling situations came to directly and indirectly inform the focus on organizational valuation, which plays a central part in Article 1 and Article 3 of the dissertation.

Unsettling situations 3: Covert research, challenges and pragmatic solutions

The third type of situation that calls for methodological reflection, has to do with my relationship to the hospital, both formally and informally, and the 'right' thing to do. More particularly these questions concerned my personal relations to colleagues at the hospital, tensions between overt and covert observations, and how this inquiry would be reported.

As mentioned, I was provided with a computer and a desk in a shared office on the management floor of the hospital. This desk was useful, and not only for practical purposes. I found out that I could use it as a form of symbolic leverage in negotiating access to particular units of the hospital. Office space is scarce at the hospital, and when it occurred in conversations with hospital professionals at the different units of the hospital that I had one, I sensed that this granted me acceptance and legitimacy. Yet sharing – for periods of time – space as a daily colleague with the administrative staff at the center, also caused some unsettling situations. I had to continually balance the line between private conversation and professional observation.

At the offset my idea was to maintain an 'ethnographic distance' (Neyland 2008: 88) in relationships at the hospital, but instances such as private birthday invitations and some closed-door conversations blurred this line. For example, at one point I was frustrated that a central informant kept avoiding an interview with me: The person did not answer my emails, put me off when I rang her, and was always busy, when I tried to talk to her in the hallway. At one point, I aired my frustration over this in the presence of one of my colleagues at the management floor. The colleague in question then invited me into her office, closed the door, and shared with me the rumors on why this person was difficult to contact and what she thought I should do. The advice proved to be useful, but the details of her account were clearly – or perhaps not so clearly – given to me as a colleague and not as an observer, just as my frustrations were given to her as a colleague. In this case, and similar ones, I have subsequently typed the conversation in my electronic field note document, but only used it as one version of what took place and never in citation.

A second aspect is related to the extent of the 'overtness' of my observations. When doing field work at a hospital it is simply not possible to introduce yourself to everybody you meet. In fact, in some situations, it can be both interruptive and disturbing to insist on such an introduction. To be overt about my observations, I made an electronic poster with my picture and a description of my project for the heads of unit to distribute when I commenced fieldwork in their units. Furthermore, I always wore a name tag with my name and title, so that it was also clear for the patient what I was doing. Still, in some cases, such as the before-mentioned caesarean section, such a tag is not much use under an operation gown. Accordingly, some of the hospital professionals and patients I observed were not aware that they

were being observed. However, in no case do such persons play a central role in my accounts. Furthermore, to make sure that my accounts do not cross any ethical boundaries, they have been made available for stakeholders at the hospital, and assessed by my academic supervisors.

A related problem is the general anonymity of the people observed. Due to the setup of my PhD, the site of my fieldwork (the Juliane Marie Center) is known to the reader. In some cases, therefore, it may be possible to figure out to whom I am referring in the papers – at least to people familiar with the hospital in question. To avoid the accounts being fixed to identifiable persons, I have done three things. Firstly, I have not used the real names of the people I observed. Most often, I have used only the titles, and in some cases, for example 'Dr Karl' in the second paper, I have used pseudonyms. In other cases I have blurred the identity of people by changing their sex, for example, or by making them part of a group. In addition, the stakeholders at the hospital were provided the opportunity of blurring identities further; although this was never pursued.

Lastly, since my project was co-financed by the hospital, I had some preliminary concerns about the double role of the hospital as both object of study and sponsor of the study. I wondered how the hospital management team would receive critical accounts, and if they expected a more prescriptive outcome than what I had in mind. For example, as I worked on the first article, I was unsure of how the head of center and the Head Lean Consultant would receive an account that pointed to some problems related to whiteboard management in the neonatal unit. Yet, through ongoing dialogue, expectations were balanced and the double role of the hospital was never problematic.

What these situations have in common is that they have provided occasions for reflections upon what is the 'right' thing to do and the criteria for determining this. As mentioned, the pragmatic stance entails that the relevance or 'rightness' of particular data and methods is granted by their ability to transform the problematic situation. This does not imply, however, that anything goes as long as it is useful for the internal criteria of the inquiry. Dewey specifically states that a criterion for the success of a scientific inquiry is to become stable enough to be considered a resource for further inquiry. In this judgment, Dewey notes, "It is not merely that conclusions [are] found to be inadequate or false but that they [are] found to be so because of methods employed" (Dewey 1938: 6). This indicates that in order to convey a useful solution to the inquiry, it is necessary to make methodological challenges and the chosen solutions available for inspection. This is what I have tried to do explicitly in this section, and throughout the dissertation as a whole.

3.5 ANALYZING DATA: METHODOLOGICAL SENSIBILITIES

In the process of collecting and analyzing my empirical material, I did not yet have a clearly formulated research question or a defined problematic situation, and had not yet picked up Dewey's logic of inquiry. Thus, I could not use this as a compass to guide my project at that point. Instead I was guided by some methodological 'sensibilities' (Neyland 2008, Woolgar, Coopmans et al. 2009). Sensibilities, according to Neyland (2008), 'do not have the same status as recipes or instructions, but neither do they leave issues of methods and methodology vague or incoherent'; rather they provide 'possibilities for orienting' the study (2008: 11). My sensibilities were neither the starting point nor the product of the inquiry; but looking back at the

process I find that these have played substantial guidance in terms of creating the 'tracks' for the study and keeping it on them. The sensibilities include (1) attention to the situation, (2) attention to the practical and mundane, (3) attention to actions that make something count as valuable.

The three sensibilities relate to methodological strategies in the vicinity of STS and Organizational Ethnography, which have been great sources of inspiration for this dissertation. From organizational ethnography, I have gained a lot of insights on 'classical' aspects of doing fieldwork, such as gaining access and managing relations with the field (Neyland 2008). From Mol's praxiography, I have been greatly inspired particularly by the idea of local and co-existing versions of the same phenomenon, and the challenges this entails (Mol 2002), and from Dussauge et al.'s 'valuographic program', I have found a particularly attuned box of 'tricks of the trade' (Becker 2008) in the shape of the 'valuographic tactics' they propose (Dussauge, Helgesson et al. 2015: 268ff).

When I refrain from characterizing the empirical study as An Organizational Ethnography (Neyland 2008), a Praxiography (Mol 2002) or a Valuography (Dussauge, Helgesson et al. 2015), it is not because I am not indebted to each of these methodological approaches. Rather it is because, in line with the pragmatic stance and particularly Dewey's discussion about the methods of social and physical sciences respectively (Dewey 1938: 498), I find that such tools should be chosen on their ability to inform the inquiry, not on their belonging to a particular package or paradigm. The fields of organizational ethnography and anthropology seem in particular to insist on being more than a method (i.e. a 'paradigm' and a 'writing style', for example (Bate 1997). This opens up a number of criteria of validity and classification that are not necessarily interesting or useful for this inquiry, such as, for instance,

whether the ethnography was sufficiently immersive and not just a 'quick dip' (Cunliffe 2009: 227). The proliferation of new 'ographies', such as valuography (Dussauge, Helgesson et al. 2015), ontography (Lynch 2013) or technography (Woolgar 1998) could very well be seen as attempts of tailoring methodological approaches to particular theoretical and empirical foci, and, thus, replacing inquiry with stabilized epistemologies and ontologies. In my view, however, Dewey's logic of inquiry makes the adaption of an (additional) methodological strategy excessive, although it, as mentioned, does not exclude the use of elements of these. By emphasizing the following sensibilities the aim is to account for some of the most central methodological concerns and guiding principles, particularly in relation to the empirical study, and to situate them in the methodological literature.

Sensibility one: Attention to the situation

From the pragmatic stance and Dewey's logic of inquiry follows a sensibility to the 'situation'. For Dewey, an indeterminate 'situation' is the starting point of inquiry (Dewey 1938). As stated in the beginning of Chapter 2, Dewey describes the situation as "a whole in virtue of its immediately pervasive quality" (Dewey 1938: 68). Discourse which does not appear in practical situations, Dewey argues, is meaningless for scientific inquiry, because "without its controlling presence, there is no way to determine the relevancy, weight or coherence of any designated distinction or relation" (Dewey 1938: 68). This argument is, as mentioned, related to the strategy of 'methodological situationalism', as formulated by Knorr-Cetina in 1988. In line with Dewey's emphasis on actual situations, Knorr-Cetina defines methodological situationalism as "the principle 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). Knorr-Cetina further argues that methodological situationalism should not be confused with methodological individualism, which, among other things, takes the individual as a "stable and unproblematic source of social action" (Knorr-Cetina 1988: 24), which for example Goffman has shown, it is not (Goffman (1974: 573ff) as cited by Knorr-Cetina 1988: 25). Rather, situations constitute "little systems of organized activities that furnish their own processes and regulations" (Knorr-Cetina 1988: 22).

The sensibility to situations in this way also implies a focus on the practicalities and materialities of the situation: How the situation is 'furnished' (Knorr-Cetina 1988: 22) or 'rigged' (Krafve 2015: 58). It implies that things are 'observable' in the ordinary sense of the word (Dewey 1938/1998: 166). The methodological quality of 'the situation' is closely related to Knorr-Cetina's idea of parallelization (between micro and macro levels of analysis) and later Callon and Latour's notion of generalized symmetry (between Nature and Society) (Callon, Latour 1992). To Knorr-Cetina, parallelization implies that "the macro appears no bigger than the micro not only in regard to the structure of underlying transactions, but also in regard to its control over ('micro') events" (Knorr-Cetina 1988: 44). She argues that a sensibility to the situation does not imply that we cannot talk about 'power'; power strategies are "at work in the most esoteric and sanitized of representations, that is, in the discourse of natural science, provided one takes the trouble of a micro-scale investigation" (Knorr-Cetina 1988: 45).

In the context of valuation studies, Stark has also pointed to the relevance of studying situations, which he characterizes as "the particular social assemblage of persons and things that is in place and in motion during a span

of time" (Antal, Hutter et al. 2015: 10). Stark and his co-authors prefer the notion of 'situation' to that of 'setting', because it draws attention to the way in which "the situation is *set up,* indeed how it might be *a setup,* that is, increasing the applicability of some tests and precluding or posing obstacles to others" and because 'setting' is less evocative of the possibility of dispute, of things puzzling, of "uh-oh, we have a situation on our hands here" (Antal, Hutter et al. 2015: 10). While Stark and his co-authors' idea of situation points more to something staged or unusual, I find it equally valuable to consider mundane situations, which is what I unfold in the following.

Sensibility two: Attention to the practical and mundane

Dewey's concern with 'practical situations' is a central part of his logic of inquiry. When he talks about 'practical affairs' (Dewey 1938: 498), it is as in opposition to the 'conceptual approach' which he accuses of conceiving of "ends-in-themselves that are fixed in and by Nature" (Dewey 1938: 504). Furthermore, in relation to valuation, Dewey argues that "valuations exist in fact and are capable of empirical observation so that propositions about them are empirically verifiable. What individuals and groups hold dear or prize and the grounds upon which they prize them are capable, in principle, of ascertainment, no matter how great the practical difficulties in the way" (Dewey 1939: 58). As mentioned in the previous chapter, in studies of valuation, valuation is typically operationalized as particular events or acts of particular technical devices. This is something which is not a clear-cut prolongation of Dewey's idea of valuation. In describing valuation, Dewey uses the example of group interests:

> Suppose, for example, that it be ascertained that a particular set of current valuations have, as their antecedent historical conditions, the interest of a small group or special class in maintaining certain exclusive privileges and

advantages, and that this maintenance has the effect of limiting both the range of the desires of others and their capacity to actualize them. Is it not obvious that this knowledge of conditions and consequences would surely lead to revaluation of the desires and ends that had been assumed to be authoritative sources of valuation? (Dewey 1939).

What stands in the way of such revaluation, Dewey goes on, are 'practical', however not practical in the sense of 'material things', but (also) as "traditions, customs and institutions, which persist without being subjugated to a systematic empirical investigation and which constitute the most influential source of further desires and ends" (Dewey 1939). So while much contemporary literature on valuation is to a large extent occupied with the more staged and event-like situations of valuations, I have employed the sensibility to the practical and the mundane, not to automatically reify this idea of valuation, but to expand and adapt valuation to what I have found relevant for this inquiry. In being sensible to the mundane and practical, I again gain inspiration from, among others, organizational ethnography and STS.

In ethnography and anthropology the study of everyday, mundane practices are a well-known trope, closely related to that of 'detail, meticulous detail' (Garnder and Moore 1964: 96, referred to by Bate 1997: 1164). Some ethnographers purposely work to "lift the banal or the mundane to the status of a legitimate focus for research" (Neyland 2008: 8), and "to uncover and explicate the ways in which people in particular work settings come to understand, account for, take action, and otherwise manage their day-to-day situation" (Van Maanen 1979: 549 referred to by Neyland 2008: 7). Within the STS tradition, a well-known example of a focus on the mundane is Laboratory Life by Woolgar and Latour (1979), where the authors show how facts are constructed in a laboratory setting, by focusing on the mundane

details and coincidences of laboratory work. Additionally, Mol's strategy of studying how things are enacted in local practices, has inspired a sensibility to details in the mundane conduct of tasks and their political consequences.

The sensibility to the practical and the mundane is closely related to the dissertation's research questions 'What happens to values and value practices in a public organization when Lean management is introduced? And how may a practical and situation-based understanding of this question serve as a resource for further inquiry?' They explicitly emphasize the ambition of developing a practical understanding of 'what happens' in the hospital organization when Lean is introduced. This sensibility is not of universal relevance, as perhaps some organizational ethnographers would argue, but it is of relevance to this inquiry, as the practical implications 'on' values in organizations of New Public Management are often only hinted at, but remain on a more polemic level. How, then, do I operationalize the practical focus on situations of valuation? For this question, the next sensibility is relevant.

Sensibility three: Attention to actions that make something count as valuable

The pragmatic stance installs a focus on the practical aspects of the situation. Yet, the inquiry into what happens to values and value practices, implies a sensibility to what makes some situations fit the description 'valuation'; how do we recognize situations where value is established? Turning to Dewey, we gain some direction in terms of what valuation 'is'. Dewey begins by distinguishing 'valuation' from related words such as 'liking' or 'desire', not by saying that these are intrinsically different, but by emphasizing that he only sees valuation as the *activities* that take place in the 'observable world'

(Dewey 1939: 14). More useful than the word 'liking' Dewey finds the words 'caring' and 'caring for' (Dewey 1939: 14), because they, in line with 'tending', 'fostering' etc. point to 'modes of behavior', and constitute "variants of what is referred to by 'prizing'" (ibid.).

In the book Value Practices in the Life Sciences and Medicine (2015), the authors elaborate on a 'valuographic research programme of values as enacted' (Dussauge, Helgesson et al. 2015: 268). Here the authors address some methodological questions regarding the study of (enacted) values, and outline some approaches and tactical tips to apprehending values-in-the-making (Dussauge, Helgesson et al. 2015: 269). These include (1) heeding the settling of compensation (2) studying devices and their construction (3) exploiting controversies (4) tracing the temporal instability of values and (5) making comparisons. As such the strategies are all related to the program of 'moving beyond the question of what values really are' (Dussauge, Helgesson et al. 2015: 274), and largely read as variations of what may be called the STS core slogan (Lynch 2013) of showing that 'it could be otherwise' (Woolgar, Lezaun 2013, Lynch 2013): the enacted values could have been different. I find the valuographic tactics useful, as they provide some ideas on how to open up situations of valuation.

The valuographic tactics also, however, emphasize the relevance of the inquiry as a tool to judge whether it is relevant to talk about valuation. If not convincing the reader about the relevance of valuation, then 'valuation' could easily be seen as an 'elevator word' (Hacking 1999: 22), a word that 'moves up a story' and becomes 'a statement about a statement'. I.e. something that can be used to name just about any practice where a device, for example, is constructed, or where there is controversy. In order for it to be meaningful in a Deweyan sense, it should therefore make a practical difference – or inform

the problem at hand somehow – to show how valuation is at play in a situation. With the third sensibility, attention to actions that make something count as valuable, I point to the relevance of continually reflecting upon the analytical value of approaching something as valuation. As Lynch argues in his critical postscript to the special issue of Social Studies of Science on the 'ontological turn' (2013), concerned with the detection of multiple, local ontologies, the value of the studies of the volume do not lie in their enunciation of 'petty ontologies' as confirmations of a 'theory of objects' (Lynch 2013: 459); but in their own 'richness'. Thus, with the sensibility to actions that make something count as valuable I point out that it is not interesting in itself to point to valuation to confirm a self-affirmatory 'valuation theory': It should not only be the most obvious activities into account, such as negotiations of prices or the making of rankings. In choosing to address something as valuation, this should serve the purpose of inquiry. Having accounted for these three sensibilities, I will move on to the process of writing up.

3.6 WRITING UP: THROUGH DIFFERENT HARBORS

Inquiry takes place through data collection and analysis, as described, and it continues through the phase of writing up. The dissertation as a whole is not therefore a 'final harbor', to revisit Dewey's metaphor (1922/2002: 226), but a journey through several harbors. This is especially true for the different articles contained in the dissertation, but also for the dissertation's additional chapters.

From the onset of the study, my main orientation was toward Lean and the hospital, as already described. Through the first rounds of coding and categorizing, then, I was –in addition to my main supervisors – guided by

Professor Stefan Timmermans, whom I visited for a stay at UCLA. He recommended a selective and inductive approach to data analysis and introduced me to some of the strategies found in the small book Writing Ethnographic Fieldnotes (Emerson, Fretz et al. 2011). This work resulted in the first disentanglement and selection of the empirical focus points of the three papers.

In writing up my first paper, I settled on the journal Valuation studies. The point of departure of many studies published here was – and is – to study value as the outcome of a practice (see, for example Doganova, Giraudeau et al. 2014), which was highly suited for my purpose. Since Lean 'maximizes value' and I wanted to make contingent the value it made, valuation studies – particularly the pragmatic approach – offered many useful 'moves' and concepts. Secondly, I felt motivated by the 'energy' that seemed to characterize the field. I was inspired by the ongoing debates and conversations engaging scholars across theoretical and empirical interests. It was exciting to grapple with some analytical problem, and then notice new conference streams, such as the 'The organization of multiple modes of valuation' track on Laemos in Chile (Ariztía, Espinosa et al. 2016) and 'The margins of valuation' at 4S/EASST in Barcelona (2016) or articles being published which dealt with similar problems as I was.

Engaging with the analytical work in relation to valuation studies, I noticed that while these studies presented ideas that I found inspirational in terms of analyzing Lean as a device, I felt that there were fewer conceptual resources to take the organizational and 'contextual' circumstances of valuation into account that I saw at play in my empirical study. This constituted a problematic situation, which rendered classical organization theory a useful resource, as this offered a practical approach to exploring the organization as

a particular setting for valuation. I began to define the 'experiment' of combining valuation studies and classical organization theory. Through the inquiry of the first paper, I also began to see parallels to more general discussions about performativity and devices in organizations.

For the second article, now titled Organizational Trials of Valuation, I wanted to inquire into discussions about performativity in relation to valuation devices in organizations. For this purpose I settled on the Journal of Cultural Economy where I submitted a version of the paper which reflected my interest in going to the roots of the performativity program and thus in Austin's work (1962) and the Butler/Callon discussions (Butler 2010, Callon 2010, Clarke 2012). Here, I attempted to use a combination of valuation studies and Mintzberg's conceptualizations of 'flows' as a resource. A reviewer, however, suggested a recent study (Gond, Cabantous et al. 2016), which brought my attention to a number of studies on organizational performativity and trials, which I found to be a highly relevant resource. In the current and resubmitted version of the article, therefore, I have toned down the more general performativity discussions, and focused more on valuation trials.

Through the process of producing the first two articles, and of writing the first version of the theoretical chapter of this framework in preparation for my closing seminar (mandatory six months before handing in at CBS), I became more familiar with organization theory, and even more clear about the similarities and differences between the device-context debates of valuation studies and the technology-organization discussions of organization studies. With the third paper, therefore, I wanted to take on the discussion with a point of departure in organization theory – or organization studies – and then use the article to explore how insights from valuation studies could

work as a resource here. I decided to direct this paper to the journal Organization.

Having draft versions of three articles and the theoretical chapter of my framework, time had come to write up the rest of the framework. This provided an occasion to engage more thoroughly with the work of Dewey. I had previously read some of his Theory of Valuation, as this is so often quoted by scholars writing about valuation, and a long time ago made a placeholder section in the outline of my framework with the headline 'on Dewey and pragmatism'. But as I became more familiar with his *inquiry*, I felt it made good sense to give the pragmatic stance and the Deweyan logic of inquiry a more central position. It provided a coherent narrative and style of argumentation that I could use across the chapters, and which was compatible with both many of the approaches of studies of valuation practices, and with the way I had engaged with organization theory.

As this account reflects, the different parts of the dissertation are characterized by being guided by different 'harbors' that I have visited during the dissertation. Accordingly, they do not amount to a completely fluent read, both because they embody different interests, occupations and levels of analytical sophistication, and because some arguments, descriptions and facts are repeated a few times. This is a reflection of the article format, but also of the general process of inquiry, which implies that the product of inquiry has to satisfy certain demands, "that are capable of formal statement […] and that these demands exist prior to and independent of the inquiry" (Dewey 1938: 16). This means that the dissertation's different parts are written to satisfy different demands; demands which are constituted by journal requirements, reviewer suggestions, and the observational and conceptual operations I undertook at the time with more or less clearly defined purposes.

Furthermore, the purpose of inquiring is to transform the problematic situation at hand, including the researcher's view upon it (Pedersen 2013). Thereby the judgment of relevance (Dewey 1938: 134) has been transformed and resituated several times through the project, both to satisfy external demands and on basis of my own development as a researcher. Having presented this 'journey' of writing both the articles and the framework, the next chapter turns to the articles themselves.

4 THE ARTICLES

This chapter contains the three articles of the dissertation. Each of the articles inquires into specific problematic situations, drawing on a combination of insights from valuation studies and organization theory. Before each article, I briefly present its 'history' and stage of publication.

4.1 ARTICLE 1: THE ORGANIZATIONAL VALUATION OF VALUATION DEVICES

The articles of this dissertation are inserted in chronological order, starting with 'Article 1', the first I wrote as part of this dissertation. Previous versions of the paper have been presented on different occasions, including the LAEMOS conference in 2016, subtheme 12 'The Organization of Multiple and Contested modes of Valuation', and at a Danish seminar about implementation of new management and organization devices in healthcare, organized by Center for Health Management and the University College Metropol. Additionally, an article using some of the same examples have been printed in a Danish journal for healthcare professionals (Tidsskrift for Dansk Sundhedsvæsen (Hauge 2016a)). The paper was submitted to the journal Valuation studies in January of 2016, and went through a revise-and-resubmit process before it was published in December of 2016. The following version of the paper is almost identical to the one in Valuation Studies 4(2) 2016: 125–151.

The Organizational Valuation of Valuation Devices

Putting Lean whiteboard management to work in a hospital department

Amalie Martinus Hauge

Abstract

This paper is about the interplay between multiple modes of valuation. The paper engages with the question of how a valuation device intersects with the working values of an organization. While the many studies of valuation practices have drawn attention to the pervasive effects of valuation devices, only a few studies have taken into account the fact that many spaces, including organizations, are already filled with practices and ideas that constitute what is valuable. Revisiting classical organization theory, this paper shows that organizations comprise multiple, more—or less—integrated modes of valuation. Empirically, the paper draws on an ethnographic study of Lean management at a children's hospital, which is presented through analytical snapshots. The paper suggests that an organizational turn is relevant for valuation studies, as this first allows an analytical expansion to include less 'deviced' valuations, contributes to the ongoing culture vs. device debate offering an alternative to the causal analysis of devices and effects without making the 'ineffable culture' what makes or breaks the causality.

Introduction: Bringing Devices to Work

As part of a general tendency within the public sector, quantitative evaluations and performance measurements have proliferated in hospitals. Where quantification and numeric evaluation some years ago existed mainly in the context of the evidence-based medicine movement (Sjögren 2008, 368-383; Timmermans and Berg 2003), today, calculations and quantitative accountability are integrated in a number of hospital tasks. These include everything from quality work (Madsen 2015; Zuiderent-Jerak and Berg 2010) and patient involvement (Bech 2012) to management and coordination (Sjögren 2008). The increasing employment of tools of valuation has brought about new circumstances for the hospital: with the new measurements come new professional roles (Madsen 2015), new administrative tasks and new expenditures, to name a few. The increased use of quantitative tools of assessment has created an intensive focus on the importance of being able to measure the effects of efforts, but the interesting question is whether they have also played a part in changing what is regarded as important and valuable at the hospital.

The proliferation of tools of evaluation and quantitative assessments has sparked the emerging field of valuation studies (Kornberger and others 2015; Orlikowski and Scott 2013). Scholars engaged in a number of diverse fields (Lamont 2012) have shown how the introduction of valuation devices has had pervasive performative effects on the field, for example, how university rankings affect university management (Espeland and Sauder 2007), how fish quotas change a fish market (Holm and Nielsen 2007) or how shopping carts affect shopping choices (Cochoy 2008). By unfolding the sociotechnical arrangements of these devices, the studies show how the act of measuring, ranking or rating not only affects how the value of something is established but also affects what is considered valuable—or what 'counts' (Dussauge et al. 2015). In this way the constitutive effects of valuation devices have been heavily accounted for, leaving the impression that the introduction of a new device will almost inevitably have dramatic consequences.

Few studies of valuation have provided alternatives to the almost causal narratives produced about the effects of valuation devices (Boltanski and Thévenot 2006; Fourcade 2011; Zuiderent-Jerak and van Egmond 2015). One of these is provided by Fourcade (2011). In her analysis of how we ascribe monetary value to an intangible thing such as nature, she argues that the answer to 'how' we do it is not enough; we should also ask 'why', which leads her to argue that national 'logics' or perhaps 'culture' encapsulates and frames how devices work (Fourcade 2011: 1770). Relatedly, Boltanski and

Thévenot (2006) argue that people give worth to things based on a 'political metaphysics' of orders of worth. For both Fourcade (2011) and Boltanski and Thévenot (2006), the consequences of valuation devices therefore need to be found *outside* of those devices, in the 'cultural repertoires' in which such devices are situated. Although these authors present such a move as an important step for the study of valuations and justifications, other authors fear that this may lead to a rather traditional culture vs. materiality leapfrog discussions about what drives history (Zuiderent-Jerak and van Egmond 2015).

In this paper, I aim to contribute to studies of valuations and particularly the culture/device debate with an organizational perspective built on classical organization theory (see, for example, Simon 1964; Lawrence and Lorsch 1967; Barnard 1968 [1938]; Mintzberg 1979). Drawing on an ethnographic study of the use of Lean in healthcare, and more specifically the use of the Lean valuation tool 'whiteboard management' and how this is put to work in a unit of neonatology of a children's hospital, I engage with the question of how a valuation device intersects with the working values of an organization. Through empirical analysis, I argue that valuation devices are rarely put to work in value-free realities waiting to be sorted and hierarchized. Taking inspiration from classical organization theory, I show that organizations are already filled with ideas about what is valuable, implicitly defined in the work of the organizational members. Depending on the tasks organizational members conduct, they assess the value of things with different 'grammars'. The paper suggests that an organizational turn in the study of valuations provides a valuable contribution to the culture/device debate, as it offers an alternative to the sometimes overly causal analysis of devices and effects, without making the 'ineffable culture' (Fourcade 2011: 1770; Zuiderent-Jerak and van Egmond 2015: 51) what makes or breaks the causality.

Theoretical Framework: Modes of Valuation

With the purpose of investigating how the valuation device of whiteboard management intersects with the working values of hospital organization, I employ the concept of *modes of valuation.* I use this composed concept similarly to Stark (2011) as a particular manner of assessing and attributing the value of something; but I develop it further by attaching four dimensions: A particular grammar of assessment*,* and a particular goal, task and time configuration, which will be presented in this section.

Valuation can productively be defined as 'any social practice where the value or values of something is established, assessed, negotiated,

provoked, maintained, constructed and/or contested' (Doganova et al. 2014: 87) including 'judging, improving, appreciating, and lots of other activities' (Heuts and Mol 2013: 141). While this is a rather broad definition, the dominant tendency is to study valuation performed in connection with a particular *device* in the sense of a specific socio-technical assemblage with a relatively unambiguous 'interface', such as a particular ranking (Espeland and Sauder 2007), set of guidelines (van Loon and Bal 2014), rating (Rona-Tas and Hiss 2011; Pénet 2015) or model (Cabantous and Dupont-Courtade 2015). Similarly, I began the ethnographic study of whiteboard management in the unit of neonatology by investigating the question 'what does the whiteboard do here?' expecting to do a study on how the whiteboard's program of 'optimizing' value would have intended and unintended effects on the enactment of value in the unit.

With time, however, it became clear that it was not only the valuation installed by the whiteboard that was interesting; the hospital's valuation of the whiteboard was equally relevant for investigation. Among other things, some nurses never attended because they could not leave their patients and some doctors again and again contested what the whiteboard manager suggested. To understand this, it was pertinent to develop an alternative to the dominant analytical strategy of studies of valuation that could grasp what happens as a valuation device intersects with the working values of an organization. The aim was to specify not only the device's means of working and its effects but also its relationship to prevailing tools and practices of valuation at play in the organization. For this purpose, I developed the concept of modes of valuation, drawing both on Stark (2011) and other lines of theory.

I conceptualize modes of valuations as consisting of four dimensions: Grammar of assessment, goal, task, and time, as depicted in Figure 1. Two of these are based on classical organization theory (goal and task) and two on a broader sociological/philosophical tradition (grammar of assessment and time). The idea is that these dimensions define a particular manner of assessing value—meaning that what is valuable is dependent on the mode enacted.

Mode of valuation

Goal

Task

Time

Figure 1. Grammar of assessment. Source: Author's illustration
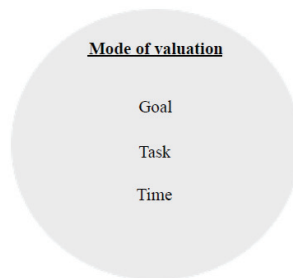
With 'grammar of assessment' I draw on the post-structuralist ideas of grammar in relation to

subjectivity and discourse (Lévi-Strauss 1963; Foucault 1988; Lyotard 1993; Owen 1995: 489–506) and, similarly to Barley (1986: 83–84), use the concept to denote the principles and elements that constitute a particular 'frame' of valuation. In contrast to how Boltanski and Thévenot use the term grammar (Boltanski and Thévenot 2006; Thévenot 2007, 2015), namely to describe a collectively shared framework of modes of justification on which persons can draw in situations of dispute (Boltanski and Thévenot 1999), I refer to the particular assessment system used by a specific mode of valuation. Concretely, this is constituted by the metrics, categories and reference points applied to assess the value of something and to prioritize between different choices. I use the notion of grammar rather than valuemeter (Latour and Lépinay 2009: 135; Zuiderent-Jerak et al. 2015: 119–135, esp. 135) or valorimeter (Latour and Callon 1997) to signify a system that is not exclusively based on a numeric measurement, as 'meter' suggests, but can also contain forms of assessment that are not based on numbers.

The notion of 'goal' is a classical element of organization theory (see, for example, Simon 1964; Schein 1965; Barnard 1968 [1938]) that generally refers to that toward which is aspired: For the whiteboard manager, this could be better results related to a particular Lean effort. The notion of 'task' is another classical element from organization theory generally referring to the actual piece of work that is conducted. In the hospital context, it can, for example, be to administer eye drops.

The 'time' dimension is inspired by some of the works by the Russian literary Bakhtin (Bakhtin 1937). Bakhtin uses the term 'chronotope' (literally time–space) to point to the interconnectedness of temporality and spatiality in literature. In this context, I use this idea (but only the time element of the concept) to connect temporality to modes of valuation with the purpose of showing that the way time works is contingent on what mode you are in. In this way, the time dimension is also similar to Lawrence and Lorsch's notion of 'time orientation', which they argue is defined by the 'definitive feedback of the relevant subenvironment' (Lawrence and Lorsch 1967: 8). Thus, a mode can, for example, be oriented toward the 'acute' in the immediate now or toward a more distant, plannable future.

I understand modes of valuation as dynamic and situated in concrete practices, constituting what counts as valuable. Modes of valuation are not necessarily defined by particular professions or persons; rather, actors can engage in different modes. For example, I see doctors as enacting one mode when they perform acute procedures and another when they discuss administrative issues. Modes of

valuation thus offer an approach to explore how a valuation device intersects with the working values of an organization, as it allows for multiple and coexisting answers to how things come to count.

Organization theory's relevance to studying multiple modes of valuation

The conceptualization of modes of valuation is closely related to the idea that organizations are usually already 'filled spaces' (Vikkelsø 2010). A new valuation device will therefore typically have to compete with other valuations and find its place in the organizational order defined not only by devices with orderly interfaces but also by valuations that are not announced, not published and do not necessarily rest upon complicated numeric calculations but happen as part of the mundane conduct of the daily work in the organization. In organization studies, the integration and coordination between different subdivisions, professions or roles toward an organization's common goal is a classical theme. In valuation studies, however, the coexistence of and dynamics between different valuations is an aspect that so far has received only limited attention. In this paper I explore the value of drawing on organization theory to capture such dynamics.

Around the 1960s, organization scholars began to see organizations as open systems whose structure was contingent on the organizations' task environment(s) (Lawrence and Lorsch 1967; Scott 1981; Thompson 2007 [1967]). Complex task environments were reflected in differentiated organizations with various subsystems, which made coordination and integration a major managerial challenge and research focus. A good example of dealing with this is "Differentiation and Integration in Complex Organizations" (1967) by Lawrence and Lorsch. They understand integration as "the process of achieving unity of effort among the various subsystems in the accomplishment of the organization's task" (1967: 4) and argue that in differentiated organizations, integrative devices or personnel functions that work to integrate the different subsystems are necessary to achieving unity of effort. Such integrative devices must have six characteristics to be effective: (1) the device must have an intermediate position to the "subsystems" it aims to integrate; (2) the influence of the integrator must derive from technical competences; (3) the integrators must perceive rewards as related to the organization's total performance; (4) the integrators must have high influence throughout the organization; (5) the influence must be on a requisite level; (6) there must be a developed means of conflict resolution (1967: 44-46). In the discussion, I will explore how this perspective is relevant to investigating the challenges that can emerge when multiple modes of valuation coexist.

Methodology: Constructing Empirical Snapshots

The ethnography on which this paper is based was conducted at the main hospital in Denmark. For this paper, I chose to focus specifically on the use of whiteboard management in the unit of neonatology. This unit is one of the most highly specialized units of neonatology in Scandinavia, treating premature children; children with congenital malformations, heart diseases, neurological disorders, surgical illnesses; and children below the age of two with need for intensive care. This unit was among the first in Denmark to work with Lean and whiteboard management. Their initiative to use Lean and whiteboard management was voluntary and has not been problem free, but it has generated educational experiences for themselves and other hospitals embarking on the use of Lean. I chose to focus on whiteboard management in the neonatology unit because it constituted an elaborate exemplary answer to the question of how a valuation device intersects with the working values of an organization. Here, I was able to investigate how whiteboard management intersects with the values that are already at play and what organizational consequences this has.

For approximately one year, I explored the practice of whiteboard management at the hospital, and for three months, I focused specifically on the unit of neonatology. In the empirical study, I relied on complementary sources of information. Most importantly, I observed the weekly meetings that took place every Tuesday at 9:05. Second, I shadowed doctors and nurses in the unit and had walking talks with them about Lean and whiteboard management. Third, I conducted 11 one-hour-long qualitative interviews with central actors in the unit, including the clinical managers (3), the Lean manager (1), head physicians with different roles (4), nurses of different ranks (2) and one secretary. Fourth, I gathered documents related to the unit's Lean work and took photos during my observations, which I used as reference points during the interviews.

I have presented the findings of the study as analytical "snapshots" (Running 1997): Detailed descriptions with the purpose of conveying a distilled flavor of what is going on in the unit. The snapshots are not identical to my observations, yet they allow for a more accurate description of the atmosphere and the tensions in the unit than would a few citations or long, less edited field note extracts. Additionally, the snapshot format matches my interests in exploring modes of valuations, as it makes it possible to juxtapose different examples of how things are made valuable.

Analysis: Introducing the Valuation Device 'Whiteboard Management'

In 2011, the clinical management board decided to apply Lean to free more resources for research and other core activities. Among other things, the unit employed a Lean manager (a nurse with training as a Lean consultant) who, in collaboration with the quality coordinators and the clinical management team, has conducted weekly whiteboard meetings ever since. However, what was supposed to be a common strategy of enhancing value and creating flow almost immediately became a highly contested activity in the unit of neonatology. In the following, I unfold the activity of doing whiteboard management. Whiteboard management is a carefully orchestrated activity, where the elements on the whiteboard as well as the articulation work by the meeting conductor are meticulously choreographed. In a neighboring unit, I witnessed how a Lean consultant coached a future whiteboard meeting conductor on how to perform whiteboard management:

> The whiteboard must be alive! Update the numbers every week; no one is interested in old numbers. It attracts attention when you focus on the core tasks. As an example this can be re-operations. They attract people! […] And never put up a red result [on the whiteboard] without relating an "action" to it. Also: There has to be a whiteboard conductor. One who leads the meeting. Another should be appointed writer. You cannot write when you lead! The amount of people should make it possible for everybody to hear. If there are too many people, then you should conduct meetings in different fora.

The citation shows that whiteboard management relies on a combination of two central mechanisms that respectively aim to (1) bring the organization to the whiteboard; (2) bring the whiteboard to the organization. The first mechanism involves the creation of a specified space in front of the whiteboard where people stand close together at a certain time with a certain frequency. It is not that the unit does not have meetings already: Among others, there are morning conferences in the different teams (there are three specialized teams in the unit), among the different professional groups (nurses, physicians and secretaries) and among different cross- functional groups (the quality board, etc.). However, the whiteboard meetings in the hallway are different in the sense that they seek to gather unit staff across the different sections to coordinate activities toward shared goals.

The second mechanism involves the translation of the common goals into particular tasks, which are systematically monitored against key performance indicators (KPI) and adjusted if the objective is not

achieved. This mechanism is about linking the activities at the whiteboard meetings to the work done in the unit, which is what I call "bringing the whiteboard to the organization." In the following, I will present the details of the unit of neonatology's whiteboard (see figure 2).
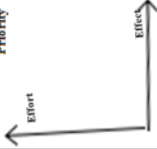
NEONATAL UNIT	Strategy and goal	Results	Action plans	Status
Goal management and continuous improvements (Kaizen)	**KPI: Reduce the mortality for premature children** — **Goal: 25 % reduction** — **Purpose:** Reduce the number of and increase the interval between CVC-related infections among all patients in the clinic with a CVC. **Indicator:** The number of patients with a central venous catheter (CLC, LL or UVL) with positive bloodculture results	No results	**See below** — Common whiteboard meeting Tuesdays 9.05–9.20 in the conference room — - Acc. Discontin… CVC — - Daily indicati…	
Just do it	**KPI: Reduce the mortality for premature children** — **Goal: 85%** — **Purpose:** Reduce the number of CVC-related infections among all patients in the Neonatal Clinic with a CVC. **Indicator:** The number of patients with a central venous catheter (CLC, LL or UVL) where the CVC has been accidentally discontinued (AD)	Week 7 — 0 Acc. di	The definition of an accidental removal of a CVC is 1) It was not prescribed by a physician 2) It slipped out unintentionally.	
Passon — Priority / Effect	**KPI: Reduce the mortality for premature children** — **Goal: 1 AD/6 weeks** — **Purpose:** Reduce the number of CVC-related infections among all patients in the Neonatal Clinic with a CVC. **Indicator:** The number of patients with a central venous catheter (CLC, LL or UVL) where the daily assessment of the indication of CVC is documented in ICIP	25 %	11/2–15: Remember to talk about the good episodes. + Remember why it makes sense to check this!	
New suggestions / Effort	18/2: To enhance interest and dialogue at white-board meetings		25/2: Suggestions 1) Suggestions can also be about improvement of other quality issues — Make visible the dialogue and action taken at team meetings	

Figure 2. The unit of neonatology's whiteboard. *Source:* Author's visualization

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The unit of neonatology's whiteboard sits between the entrance to one of the hallways and the elevator housing. The basis of the whiteboard is columns and rows marked by colored adhesive tape, attached plastic folders and headlines written with permanent marker. From left to right the board reads as follows: The first column is for suggestions. These can be formulated by members of the unit on post-its and placed on the bottom of the column. In conversation facilitated by the Lean manager, the suggestions are prioritized using the depicted coordinates system, which shows that suggestions that require "low effort" but deliver "big effects" are best.

The next column contains the objectives on which the unit is currently focusing. On this whiteboard projection, three objectives are on the board, which all relate to the KPIs "to reduce the mortality rate for premature children." In addition to these three, a fourth handwritten objective is to "enhance interest and dialogue at meetings." According to the Lean consultants, all staff in the unit should be able to relate to and affect the objectives on the board, even though their specific tasks differ. To find an objective that fits this format is no easy task: "Even at Novo Nordisk they spend as long as three months developing the right objective," a Lean consultant says to calm down another head of unit, who is frustrated that her unit's whiteboard meetings do not go as planned. This difficulty is also reflected in the unit of neonatology, as we see in this extract from a workshop on the unit's strategy day:

> **Head of unit (HU):** We need to make our KPI more concrete.
>
> **Head Physician 1 (HP 1):** We only measure infections in relation to the KPI.
>
> **HP 2:** We have to have a higher time resolution! We need to translate the work flows of the big out-patient clinics to our context. Think in processes.
>
> **HU:** We should use the meetings to create a flow […] not just the data, but also the meetings. That makes sense.
>
> **Head nurse (HN):** Yes, but we also have to find it important. It should be meaningful!
>
> **Section nurse:** Yes. But what can it be?
>
> **HP 1:** Take mortality—what we can monitor easily?
>
> **HP 4:** We could take weight fluctuations as an indicator of the fluid balance?
>
> **Senior HP**: It is important that we don't guess. We have to do it evidence-based.
>
> **HP 4**: Sure sure—it was just a suggestion—something like that!
>
> **HP 2:** What about something with blood sugar fluctuations?
>
> **HU:** We need to remember the multidisciplinarity—the objective must be something that we can all relate to (transcription extract).

In this case, the unit's quality group continues the complicated process of developing an objective that lives up to the criteria of having the right time resolution (HP 2), being important and meaningful (HN), being evidence-based (senior HP) as well as relatable for all unit members (HU).

The third column on the whiteboard is for results. As the Lean consultant states above, the results must be updated every week before the meetings in order for the participants to be able to see if their actions of the current week have made a difference. This demand increases the complexity of deciding on an objective, as the data about the objective have to be compatible with the whiteboard meetings' weekly frequency. If an objective is achieved, the result is printed on green paper. If not, the paper is red. The fourth column is for "actions." Participants have to come up with actions if a goal is not achieved. When conducting the meeting, the whiteboard manager goes through the results, and in announcing a red result, she will ask the participants in the meeting to come up with suggestions on how to achieve a better result next week. For example, as part of the discussion related to the red result (row three) about how to improve registrations of catheter assessments, a head physician suggested "sharing stories in which it made a difference to make the registration" (suggestion noted in row three, column four). The last column indicates the status of the goal using the PDSA-circle (is the effort Planned, Done, Studied and Acted upon?). The principal goal of the whiteboard is thus to work toward the KPIs by engaging participants in turning the red results green.

Bringing the Organization to the Whiteboard

The logic of whiteboard management is that as long as the objectives on the board are important to members of the unit, they will participate in the meetings. However, this was not the case in the unit of neonatology. In fact, participation became a source of great frustration in the unit, for some because they wanted more participants, for others because they did not see the point of participating and for others because they could not participate and felt left out. In spite of the meetings' mandatory status, the amount of participants at the meetings varied extensively, and not infrequently the meetings were cancelled. In this section, I look into the mechanism of bringing the organization to the whiteboard by analyzing how varying importance is attributed to the whiteboard meetings depending on the mode of valuation enacted.

Mode 1: The Lean manager gathers participants

It is 9 a.m. The Lean manager enters the hallways of the unit of neonatology to remind people that the weekly whiteboard meeting is beginning in five minutes. The atmosphere in the hallways is characterized by brightly lit effectivity, emphasized by the dim quiet oozing from under the doors of the patient rooms. A phone is ringing; a nurse is fetching medicine with fast and experienced movements; two young physicians are looking at some scans speaking in low voices; a newborn is transported to the operating theatre under piles of machinery, and the first visitors are searching for the button that opens the automatic doors. Two head physicians concentrated on their conversation pass by with their eyes fixed on the papers in one physician's hand. The Lean manager continues down the hallway and looks into the small windows or the half-open doors of each patient room to assess whether the situation allows for her to enter and inform staff about the forthcoming meeting. In the hallway she makes eye contact with a nurse head of section and taps her wrist watch. "Oh yes. Two minutes," says the nurse head of section and continues in the other direction. Returning to the whiteboard from her round in the unit, the Lean manager goes through the numbers one last time with the nurse responsible for quality to make sure that everything is updated and ready for the meeting. They hope that many physicians and the head of unit will participate, as the most burning issue requires the physicians to take action. At 9:05 she looks at the clock above the door, tightens her lips and bids the first arrivers welcome.

Mode 2: A head physician and a nurse are attending to critical patients

The morning conference is over and head physician Jane is walking down the hall to the changing room. It will be a busy day, according to the head of unit, who ended the conference by proclaiming that they must discharge as many patients as possible to make room for those that will arrive. A nurse stops Jane in the hallway and wants a consultation about a patient. Jane says she will come back as soon as she is in her uniform. The nurse goes back into the room behind the reception preparing for the consultation by reading the patient's records over again. She waits for longer than expected. A colleague comes running frantically looking for something. "Have you seen Omar's file?! It is urgent!" After a frantic search, they find the file and the colleague calls Omar's parents, who have slept at home tonight. After the conversation she hangs up and says "that is the worst of messages; to tell parents that they need to come as fast as they can." After a while, head physician Jane comes to get the nurse: "Omar's heart stopped so I had to run in there right away—now, let's talk." After the consultation, head physician Jane continues toward her next patient, Albert. On her way, she meets the specialized nephrologist, and while walking, they discuss what to do about Albert's, sudden, critical fluid retention. In the hallway, she passes the Lean manager. However, by the pace of her walk, her waving coat and the firm grip around the file in her hand, everybody knows that head physician Jane has more urgent things to see to.

Mode 3: A nurse is caring for baby Emily

In the patient rooms, the light is dim and movements are slow paced. Sleep- deprived parents are rising from their beds, and some are having breakfast. Nurse Mary converses with the parents in familiar terms about how the night went and admires a mother's knitting project. The baby cribs with home-made nametags and teddy bears testify to the length of some families' stay in the unit. Mechanic, monotone sounds from a ventilator and a dialysis machine mixed with the frequent offset of alarms are a constant reminder of the gravity of the families' situations. Seemingly asleep, baby Emily lies on her back in a white crib with adjustable height and wheels for transportation. Nurse Mary le aves the room to fetch the eye drops. On her way to the room-sized medicine cabinet, she meets a colleague and asks how "her little friend" is doing. All the nurses refer to their primary patient as their little friend. "Stable, but waiting for a new brain scan," the colleague says. As Mary returns to Emily's room, she passes the Lean manager, and they quickly catch each other's eyes. In the patient room, Emily's father looks up from his phone to see who entered the room, then looks down again. For the fourth time this morning, Mary applies the hand sanitizer from the container next to the door, and asks if either of the parents would like to put the drops into Emily's eyes. The mother shakes her head. Mary doesn't go to the whiteboard meeting that day.

Mode 4: A head physician is preparing for the whiteboard meeting

Head physician Dan met earlier than he had to today, because he wanted to get some paperwork done. In addition to the ordinary work, Dan is the manager of the "transportation team," which is available 24/7 if other hospitals in Denmark need to have a child transferred to Hospital H. He is also part of the team responsible for the medical apparatus and utensils. The unit has recently changed suppliers for the bandages used to hold catheters in place. Today, Dan is interested in how his colleagues—especially the nurses—have experienced the new bandages, which are cheaper and, according to a new study, just as good as the old ones. He hopes they will share some experiences at the whiteboard meeting. He is also interested in the follow-up to the discussion about whether or not the attending physician on night shift should take on a new area of responsibility: To create an overview of the patient situation and hand it over to the day shift. He thinks it is unreasonable to put more duties on the night shift, and he has planned to stand up against this idea, even if the Lean manager and head nurse are still behind it. He prints out some information about the new bandages before he gets up and taps his front pocket to see if his notepad and pen are in place. He reminds his younger colleague using the computer next to him about the meeting. Having walked the short distance to the whiteboard, he looks at the updated numbers one by one. The head of unit arrives and the head physician asks what the head of unit thinks about the idea of adding more areas of responsibility to the already burdened night shift attendants. Then the Lean manager says "welcome" and they quietly finish off their conversation to focus on the Lean manager from their position in the back of the crowd.'

Juxtaposing Snapshots: Multiple Versions of the Value of Participating in Whiteboard Management

The four snapshots (Figures 3–6) portray particular modes of valuation. It is clear that the value of participating in the whiteboard meetings is assessed in different ways and with different results. Depending on the task, time and goal orientation of each mode, a certain "grammar" is enacted through which the value of participating in whiteboard meetings is assessed:

In the first snapshot, the Lean manager sets out to remind nurses and physicians to participate in the meeting. In the practice of whiteboard management, participation in whiteboard meetings is conceived of as very valuable: Whiteboard management is the means of working toward the KPIs of the unit. In the snapshot, we see how the whiteboard manager performs an ongoing assessment of the possibility of almost every colleague she meets participating in the meeting. While the Lean manager enacts a mode where it is highly valuable to get participants to the Lean meetings, she is not submerged in the mode to the extent that she does not also recognize that there are other modes at play in the unit in which participation is not assessed as valuable or possible.

Mode: whiteboard mgt

Goal: Improve KPI results

Task: Conduct whiteboard meetings

Time: Weekly cycles
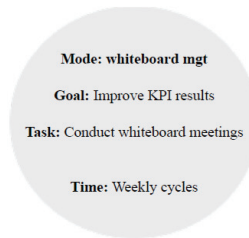
Figure 3. Grammar of whiteboard management. Source: Author's own work.

In the second snapshot, the head physician is too busy with acute clinical work to attend the whiteboard meeting. For her, in Room 5 it is valuable to find a solution to Albert's critical fluid retention and to keep Omar in Room 2 stable until his parents arrive. There is thus clearly misaligned time orientation. This is clear to the Lean manager, who does not try to remind her of the meeting.

Mode: Acute clinical work

Goal: Stable patient

Task: Clinical work to stabilize patient

Time: Acute/now

Figure 4. Grammar of acute clinical work. Source: Author's own work.

The third snapshot portrays how participation in whiteboard meetings is prioritized in the practice of nursing. Here it becomes almost impossible to participate—and also almost unnecessary. In the mode of nursing, nurses often have to be physically present in patients' rooms all the time. If you go to the bathroom, you ask a colleague to attend to your patient. When caring for less intensive patients, nurses are able to participate in

Mode: Nursing

Goal: Safe and qualified care for patients and families

Task: Physical and psychosocial care for patients and families

Time: The shift

Figure 5. Grammar of nursing
Source: Author's own work.

the meetings, but it is not necessarily seen as more important than talking to families or giving eye drops. Accordingly, attending the whiteboard meetings is not purposely avoided, but neither is it conceived of as necessary to conducting the main task of caring for the patient.

Mode: Admin. work

Goal: Best-practice, evidence-based and standardized departmental practice

Task: Organize and facilitate departmental work

Time: Future

Figure 6. Grammar of administrative work. Source: Author's own work.

In the fourth snapshot, we follow a physician preparing for the whiteboard meeting. Similar to the head physician attending to Omar's cardiac arrest, he takes care of many acute problematics during the day. However, due to his extra responsibilities, he is also enrolled in tasks that require an overview and a more longitudinal perspective of the unit, for example, to know if remedies are used properly or if orders or regulations need modification. In the mode of solving such tasks, time orientations are more aligned and Lean is regarded a useful tool,

although with the remark that Lean should not be used "too insistently." In the words of another physician with organizational responsibilities, it is important to use Lean with a sense of humor; otherwise, people will be fed up with hearing about the wonders of Lean. In this mode of planning and coordinating, he believes that Lean and the whiteboard meetings are useful tools (only) to the extent that they do not exclude, disunite or upset people in the unit. If so, they are at risk of dismantling the planning and coordinating qualities of Lean whiteboard management, which are the qualities he finds valuable. In order for whiteboard management to work as intended, the unit members enacting the modes of valuation presented here are among those who must be "brought to the board" for whiteboard management to work. This section has given some insights into why this is a challenge in the unit. However, to bring people to the board is not enough for the whiteboard to work: actions decided upon during the whiteboard meetings must also be carried out in the unit.

Bringing the Whiteboard to the Organization

To investigate the challenges of bringing the decisions from the whiteboard meeting to the unit, I focus in on a concrete objective on the whiteboard, namely the objective of improving adherence to the rule of daily assessment of the relevance of the patients' central venous catheters (CVCs). This is depicted in Figure 7, which zooms in on this particular goal on the whiteboard. For the sake of simplicity, I adopt the unit's own nickname for this objective: "The indication".
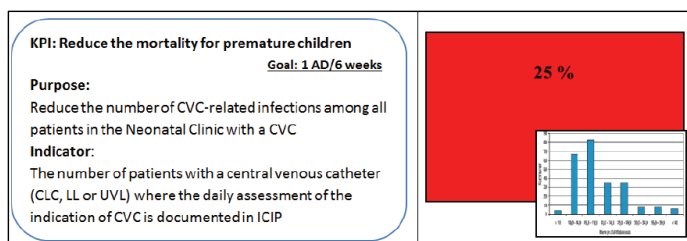
Figure 7. A whiteboard objective. Source: A zoomed in image of Figure 2

Let me provide further detail: CVCs are inserted into the veins of a patient to administer medications and fluids, obtain blood tests and/or measure central venous pressure. While in most cases CVCs are of utmost importance, CVCs also entail an increased risk of the patient getting an infection. This risk increases with the period during which the CVC is inserted. Thus, the purpose of daily assessing the continued relevance of the CVC is to make sure that only those patients who need a CVC have one and that the CVCs are always removed as soon as possible. The means of measuring whether the assessment is taking place is to ask doctors to tick a box in the electronic hospital record ICIP (IntelliVue Clinical Information Portfolio) when they have performed the assessment. The unit's quality board counts and compares the number of ticks to the overall number of patients with CVCs. The percentage of assessed CVCs is printed on a sheet of paper and placed on the whiteboard. While unit members support the KPI of reducing the mortality rate, the task of making the indication creates tension in the unit week after week.

The following is an example of the challenges related to the implementation of the indication. At a Lean whiteboard meeting in February 2014, the result of the week's indications is yet again printed on a red sheet of paper, showing the same result as the previous weeks; that the objective is not achieved. The head physician, who is also part of the quality board, reads aloud what the whiteboard already states:

Physicians have indicated that they have assessed the relevance of the CVC in only approximately 25 percent of cases. This is significantly below the declared goal of 85 percent. The atmosphere in the meeting is tense, and it is clear that the indication is not regarded as equally important by all members of the unit. Different valuations of the indication are reflected in the following statements:

1. Head physician with administrative responsibilities: I think the problem stems from the fact that the box to be ticked is located in a place in ICIP where no one operates. However, now that the fluid ordinations are also going to be there, all of a sudden it will be a process that makes sense.

2. Head of unit: I think we have to reconsider one more time. We have to remember that it is not the tick itself that improves the child's situation. What is important is that we don't have catheters inserted longer than necessary. So we must reflect: Is this worth spending so many resources and so much time on this registration? Is this how we secure the best treatment for patients?

3. Head physician, quality board: The indication of the CVCs is a thing that simply MUST be registered. Not that I am too good at it myself, but it MUST be done. It is one of the few things we have evidence to support. The longer they are inserted, the greater the risk of catheter infections. They need to be removed as soon as they can.

4. Head Nurse: There is anarchy here: Why keep spreading doubt—"is it really necessary and is it a good parameter?"—Why not say: This IS the way [of achieving a reduced mortality rate]. We HAVE to do it. It is what we have decided in the clinical council and on the quality board, and now we SIMPLY have to do it.

5. Nurse from section with typically non-intensive patients: On the other hand I think that when we do rounds, it has become something we remember and talk a little about like "So the child gets this and that [through the catheter]" So we do talk more about it than if we never focused on it.

The statements show the dissonant assessments of the value of making the indication. In the first statement by the head physician, the lack of indications in ICIP is categorized as a practical problem: His anticipation is that when doctors get an additional task in ICIP, they will make the indication. In the mode of administrative work, he regards the indications as a valuable means of getting an overview and of reaching the objective of 85 percent. In the second statement, the head of unit shifts the premises of the question and asks if spending time on making indications *is how we secure the best treatment for patients.* In this question he mobilizes the mode of acute clinical work: With the limited time we have, which is more important, treating children or making—and discussing—computer clicks? Assessed with this grammar, the value of

making indications is doubtful. In the third statement, a head physician who is also on the quality board, argues in contrast that it is not good enough to omit the indication and only make the assessment. He assesses the relevance of the tick on the basis of international literature on how to decrease the mortality rate. On this basis, the indication as a means of making sure that the CVCs are removed as soon as they can be is *one of the few things we have evidence to support* and thus very valuable. This head physician is thus much more aligned with the mode of whiteboard management both in terms of goal and time orientation: CLC assessments *must* be indicated every day.

The fourth statement by the head nurse is also in support of making the indication. In alignment with the mode of whiteboard management, she argues that many arguments and reflections have preceded the decision of making the indication a whiteboard objective, and now it is a matter of doing as has been decided: Make the tick in ICIP. *Spreading doubt* about the relevance of the indication is time poorly spent and undermining the unit's ability to reach its goal. In her statement is also a trace of an historical dispute in the unit, where nurses have tried to implement new initiatives and doctors have declined to adhere to them. In working to solve the task of improving the organization and quality of the unit's work, she firmly insists on bringing the whiteboard to the organization; doctors should make the indication. It is a decision they have participated in making, it is evidence-based and it is a means of reaching the goal of decreasing the mortality rate. The fifth and last statement by the nurse claiming that they do in fact talk more about it shows that making the assessment can be aligned with the time orientation of nursing: It can be a part of "doing rounds" which the doctors and nurses do together every day. On the other hand, it is something that they "talk little about," not something of utmost value when nursing. Additionally, nurses are not authorized to make the indication themselves, and for nurses, taking care of intensive patients and therefore not participating in whiteboard meetings, the focus on the CVC assessments is not necessarily known. While not regarded as a hindrance in the mode of nursing, neither is the indication of particular value in accomplishing tasks related to nursing.

While it has been decided to put the objective of improving the number of indications on the whiteboard, it is clearly a challenge to bring decisions from the whiteboard to the unit. None of the modes of valuation reflected in the statements presented here is misaligned with the *goal* of making the indications: To reduce the mortality rate. However, as translated by the whiteboard, this goal becomes achievable only through conducting a certain task—to make the tick. To make the tick, unit members have to change the way they normally do rounds by extending the time and attention given to the CVCs and, more problematically, the time spent on the computer.

Consequently, the indication loses value in comparison to what unit members could otherwise spend time on. As a head physician tells me in an interview: "It is as though focus on the whiteboard makes important aspects of the job secondary. The whiteboard meetings are the only mandatory meetings in the unit, and all we talk about is quality and cleaning and stuff like that. We don't talk about patients and treatment. Not at all!"

In this case the practice of whiteboard management molds the unit's goal and links it to a certain task and to a certain temporal configuration, which makes it misaligned with some modes of valuation in the unit. In this way, whiteboard management both adds to the organizational misalignments of the unit and magnifies its historical conflicts. Thus, whiteboard management fails to commensurate the modes of valuation in the unit toward a united goal, but rather comes to increase the complexity of its coordination problems.

Discussion: Organizing Multiple Modes of Valuation

Having engaged with the case of Lean whiteboard management at the unit of neonatology, I have illustrated how it may look when a valuation device intersects with the working values of an organization. On a more general level, this analysis allowed me to explore why it is useful to study valuation practices or devices in the "filled spaces" that organizations constitute. To further elaborate on the relevance of an organizational perspective to valuation studies, I will show how Lawrence and Lorsch's (1967) study of the role of integrative devices in achieving unity in an organization has something to offer in investigating the dynamics between coexisting valuations. I will do this by discussing whiteboard management as coming to act as an integrative device and highlight some of the challenges it faces in this endeavor. Lawrence and Lorsch argue that integrative devices must have an intermediate position to the subsystems they seek to integrate. Their study showed that organizations experience the most difficulty in obtaining an intermediate positioning in terms of (1) time orientation and (2) goal orientation. In what follows, I will briefly discuss, first, the challenges related to the time orientations of the whiteboard in comparison with other modes of valuation, and second, challenges related to the goal orientation of whiteboard management in comparison with other of the unit of neonatology's analyzed modes.

By exploring the organizational valuations of whiteboard meetings with the theoretical framework of modes of valuation, we saw— among other things—how the time orientations of the different modes played a substantial role in shaping the grammar of what was valuable

in the particular mode. This is summarized in Figure 8.

Mode: whiteboard mgt	Mode: Acute clinical work	Mode: Nursing	Mode: Admin. work
Goal: Improve KPI results	Goal: Stable patient	Goal: Safe and qualified care for patients and families	Goal: Best-practice, evidence-based and standardized departmental practice
Task: Conduct whiteboard meetings	Task: Clinical work to stabilize patient	Task: Physical and psychosocial care for patients and families	Task: Organize and facilitate departmental work
Time: Weekly cycles	Time: Acute/now	Time: The shift	Time: Future

Figure 8. Comparing modes of valuation. Source: Author's own work.

Whiteboard management as a mode of valuation has a weekly time orientation. Feedback is provided every Tuesday when the results are printed on red or green paper. In the mode of acute clinical work, the primary feedback is instant—although clinical work done in acute situations may show results later on as well. In the mode of nursing, the main time orientation is the shift: The nurses conduct the plan of the shift as decided on in the morning conference (in the case of the day shifts), and they care for the patient to whom they are assigned for the duration of the shift. In the mode of administrative work, the time orientation is mainly toward the future: How can the unit improve its statistics this year compared to last year; what can we do to solve the problem that too few nurses have intensive care training, etc.? Feedback for these types of issue varies but is generally more future-bound than other practices in the unit. This time orientation of whiteboard management differs from the time orientation of, in particular, acute clinical work, but also from that of nursing. When the objectives and actions defined at the whiteboard meetings are temporally configured in a way too different from these modes, the argument based on Lawrence and Lorsch's article would be that it complicates integration because organizational members may not find feedback in other temporal structures equally valuable.

In terms of goal orientation, the goal of whiteboard management is to improve the unit's KPI results: To decrease the mortality rate for premature children. This goal is not so far from the goals of "stable patient," "safe and qualified care" or "best practice" associated with the other modes of valuation in the unit. However, as this goal is translated into the task of making ticks in ICIP to indicate the continued relevance of the patients' CVCs, it seems to create significant challenges in terms of integrating the different modes toward this goal. When this task is assessed through the grammar of, for example, acute clinical work, it is not necessarily aligned with the goal of decreasing the mortality rate of premature children. Physicians or nurses enacting the mode of acute clinical work may not always find it meaningful to spend time on opening ICIP and making indications. This underscores a central observation: While the goal of whiteboard management is relatively aligned with the goals in the

other modes of valuation in the unit, its link between goal and task is less intermediary to the other modes. In fact, whiteboard management is the only mode of valuation in which the practice is a means of achieving the goal. This explains some of the difficulties of bringing the organization to the whiteboard.

In spite of these challenges, whiteboard management manages to optimize certain things. When unit members from different teams and professions get together and talk about their work, a number of ambiguities and tensions between different ways of doing things emerge. For example, at one meeting it turned out that two teams measured the placement of a CVC in different ways. This made it difficult to assess whether the CVC was placed correctly, because it was impossible to know if a difference in the measured position of the CVC was as a consequence of different measurement practices or an indication that the CVC was slipping out and needed replacement or adjustment.

While trying to work as an integrative device—or phrased more in the spirit of Lean—offering itself as a means of streamlining the unit's work toward the common goal, whiteboard management rather comes to enact an *additional* mode of valuation. Whiteboard management becomes its own practice with a particular time orientation and a particular link between goal and task, and as such comes to *add* to the number of modes that need to be integrated in order to make the unit work as a coordinated entity. Rather than making the unit "lean" in the mundane sense of the word, whiteboard management comes to increase the organizational complexity of the unit. The effects of working with Lean whiteboard management in the unit are not that the entire unit's view of what is valuable changes. The effects may unexpectedly turn out to be increased complexity rather than streamlined unity.

Conclusion and Implications: When Valuations Intersect

When a valuation device is put to work in an organization, its effects are likely to deviate from how it was designed. In the organizational arrangement the device intersects with other modes of valuation, enacting different ideas about what is valuable or important. Thus, the course of a valuation device is not defined only by the design of the device but also by how it is itself valuated by the prevailing or coexisting modes of valuation. When a mode of valuation (a grammar of assessment, a task, goal, and/or time orientation) enacted by a device deviates from existing modes, a consequence can be that the device is ignored or distorted. It can also result in new and unintended effects co-created in the intersection between the modes of valuation, as the example of diverging measurement practices shows. To expand

the understanding of valuation devices regarding their impact, this paper has shown that an organizational turn in valuation studies is a productive way forward. Such a turn has (at least) two related implications for further studies of valuation.

First, an organizational turn would constitute an alternative to the dominant analytical approach of investigating the performative effects of a particular device without looking at the "scene" in which the device is put to work. To be able to analyze the scene, I have shown how strategies and learning points from organization theory are highly useful, as they offer a focus and vocabulary with which to engage and explore this scene. Furthermore, it implies a more symmetrical approach about which valuations to study. Currently, studies of valuation tend to prefer to study the most highly "deviced" modes of valuation. While these often provide neat interfaces and numeric figures that perhaps make them more appealing to address in analysis, it does not mean that they are necessarily more influential or relevant on the empirical scene than others. In this paper, this is illustrated by the fact that even when Lean whiteboard management comes with numbers, managers, meetings, resources and political backing, it does not make the doctors make the indication or show up to a meeting if they find other things more valuable.

Second, an organizational turn would be a way of pushing forward the culture vs. device leapfrog debate of valuation studies (Zuiderent-Jerak and van Egmond 2015: 45–73). The current debate is split between those who give primacy to culture or almost metaphysical orders (Boltanski and Thévenot 2006; Fourcade 2011: 1721–1777) and those who give primacy to particular devices (Callon 2007: 311– 357). An organizational turn as presented in this paper provides the possibility of taking in that with which the device interacts in a way that is practice-oriented and material. Rather than conceptualizing what is outside of devices as Culture with a capital C, this paper suggests that—in organizational arrangements—"it" may be approached as practices enacting valuations: Conduction of a task, striving after a goal and a particular time orientation amounts to a particular grammar through which the value of something is assessed. In this way, studies of valuation would gain a supplement to the approaches that (over)emphasize the agency of devices (Zuiderent- Jerak and van Egmond 2015: 45–73, esp. 50) while maintaining an interest in concrete, empirical practices where "the value or values of something are established, assessed, negotiated, provoked, maintained, constructed and/or contested" (Doganova et al. 2014: 87–96, esp. 87).

While this paper argues that an organizational turn is highly relevant for valuation studies, this does not imply the view that organization theory should uncritically be "added" to valuation studies. The combination

also points to some of the areas to which organization theory has devoted less attention. This includes the role of devices—or technology—in relation to organizational goals. When technology is addressed in organization studies, with few exceptions (see, for example, Orlikowski and Scott 2013), this is mostly by interpretative approaches such as sense making or institutional theory, which typically do not address the "agential" qualities of technology. The contingency school (Lawrence and Lorsch 1967: 1–47; Thompson 2001 [1967]) perhaps most directly addressed technology's influence on organizational goals. They emphasized the way in which exogenous or "environmental fluctuations" (Thompson 2001 [1967]: 278) could "distort" the rational goal-achievement of technologies. Yet, even if it operated with a "bounded rationality" (Simon 1957; Thompson 2015 [1967]), meaning that the organization cannot comprehend all "possible sources of variation" (ibid.: 364), the contingency school did not address the agential role of technology in creating these "distortions" or in even establishing the goals.

Organization theory in general thus has something to learn from the way valuation studies address valuation devices. Devices in valuation studies are much less solid and more "mutable" and "mutating" than in organization theory. Rather than asking how well a means (technology) serves to achieve a goal, valuation studies would ask how a goal is established and what role technology plays in this establishment, not assuming that the goal preceded or is separable from the technology. One of the sources of inspiration for valuation studies, Latour, and his co-author Venn (2002) argue that "technologies never truly appear in the form of means" (2002: 248). Using the example of a hammer, Latour and Venn show how time and space is folded (referring to Deleuze 1993) into the hammer, making it an "end" of an historical and material development process at the same time as a "means" of a handyman. This makes it impossible to say that the hammer merely "fulfills a function." Rather, Latour and Venn say, the hammer alters the man who holds it in his hand making him envisage a "flux of new possibilities." An example of this from this paper is when it becomes a whiteboard goal to "enhance interest and dialogue at the whiteboard meeting." What was before a means (whiteboard meeting) of reaching a goal (decreased mortality rate), becomes a goal in itself due to the alterations installed in relation to the technology. From this way of approaching the role of technologies in many studies of valuation practices, organization theory could learn how elements of grammars of assessment, such as specific practices of goal, task and time, may become enacted differently and enter this flux of new possibilities.

For research on Lean management, this conclusion provides an alternative to the typical conclusions of implementation studies. Often, scholars describe the implementation of Lean in hospitals as failing

due to "barriers" or lack of dedication (Brandao de Souza 2009: 121; Edwards and Nielsen 2011; Radnor 2011: 89–90; Radnor et al. 2012: 364–371). These studies' conclusions rest on the idea that Lean as a policy or design holds the correct or most valuable solution, and that practice distorts or ruins this solution. In this paper, I have aimed at shedding new light by approaching the hospital unit as a filled space where multiple modes of valuation are at play, each with sensible ideas about what is valuable. In showing how Lean whiteboard management competes with other modes of valuation about how to organize the unit's work, it becomes clear how the course of a device (or a policy) is shaped by its intersection with prevailing modes of valuation. This implies the relevance for hospital managers or Lean consultants of developing valuation devices close to practice, as this is where the organizational valuation of new devices takes place. Additionally, the organizational perspective to valuation implies that implementation of Lean is not mainly approached as a question of overcoming barriers to optimize value, but rather of how to organize Lean in relative alignment with what is constituted as valuable in the existing modes of valuation of the hospital.

References

Bakhtin, Mikhail M. 1937. "Forms of Time and of the Chronotope in the Novel: Notes Toward a Historical Poetics." In *Narrative Dynamics: Essays on Time, Plot, Closure, and Frames*, edited by Brian Richardson, 15–24. Ohio: The Ohio State University Press.

Barley, Stephen R. 1986. "Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments." *Administrative Science Quarterly* 31(1): 78– 108.

Barnard, Chester I. 1968 [1938]. *The Functions of the Executive*. Cambridge, MA and London: Harvard University Press.

Bech, Karsten. 2012. "Landsdækkende Undersøgelse Af Patientoplevelser– respekter Patienterne." *Ugeskr Læger* 174: 40.

Boltanski, Luc, and Laurent Thévenot. 1999. "The Sociology of Critical Capacity." *European Journal of Social Theory* 2(3): 359–377.

Boltanski, Luc, and Laurent Thévenot. 2006. *On Justification: Economies of Worth.* Princeton, NJ: Princeton University Press.

Brandao de Souza, Luciano. 2009. "Trends and Approaches in Lean Healthcare." *Leadership in Health Services* 22(2): 121.

Cabantous, Laure, and Théodora Dupont-Courtade. 2015. "What is a Catastrophe Model Worth?" in *Making Things Valuable*, edited by Martin Kornberger, Lise Justesen, Anders Koed Madsen and Jan Mouritsen, 167-186. Oxford: Oxford University Press.

Callon, Michel. 2007. "What does it Mean to Say that Economics is Performative?" in *Do Economists make Markets*, edited by Donald MacKenzie, Fabian Muniesa and Lucia Siu, 311–357. Princeton and Oxford: Princeton University Press.

Cochoy, Franck. 2008. "Calculation, Qualculation, Calqulation: Shopping Cart Arithmetic, Equipped Cognition and the Clustered Consumer." *Marketing Theory* 8(1): 15–44.

Deleuze, Gilles. 1993. *The Fold: Leibniz and the Baroque.* Minneapolis, MN: University of Minnesota Press.

Doganova, Liliana, Martin Giraudeau, Claes-Fredrik Helgesson, Hans Kjellberg, Francis Lee, Alexandre Mallard, Andrea Mennicken, Fabian Muniesa, Ebba Sjögren, and Teun Zuiderent-Jerak. 2014. "Valuation Studies and the Critique of Valuation." *Valuation Studies* 2(2): 87–96.

Dussauge, Isabelle, Claes-Fredrik Helgesson, and Francis Lee. 2015. *Value Practices in the Life Sciences and Medicine.* Oxford: Oxford University Press.

Edwards, Kasper, and Anders Paarup Nielsen. 2011. "Improving Healthcare through Lean Management: Experiences from the Danish Healthcare System." NOHR2011 - 5th Nordic Conference on Health Organization and Management, Frederiksberg, January.

Espeland, Wendy Nelson, and Michael Sauder. 2007. "Rankings and Reactivity: How Public Measures Recreate Social Worlds1." *American Journal of Sociology* 113(1): 1–40.

Foucault, Michel. 1988. Politics, Philosophy, Culture, Ed. LD Kritzman. New York and London: Routledge.

Fourcade, Marion. 2011. "Cents and Sensibility: Economic Valuation and the Nature of 'Nature'." *American Journal of Sociology* 116(6): 1721–1777.

Heuts, Frank, and Annemarie Mol. 2013. "What is a Good Tomato? A Case of Valuing in Practice." *Valuation Studies* 1(2): 125–146.

Holm, Petter, and Kåre Nolde Nielsen. 2007. "Framing Fish, Making Markets: The Construction of Individual Transferable Quotas (ITQs)." *The Sociological Review* 55(s2): 173–195.

Imai, Masaaki. 1986. *Kaizen*. Vol. 201. New York: Random House Business Division.

Kornberger, Martin, Lise Justesen, Anders Koed Madsen, and Jan Mouritsen.
    2015. *Making Things Valuable*. Oxford: Oxford University Press.

Krafve, Linus Johansson. 2015. Valuation in Welfare Markets: The Rule Books, Whiteboards and Swivel Chairs of Care Choice Reform. Dissertation. Linköping: Linköping University Electronic Press.

Lamont, Michèle. 2012. "Toward a Comparative Sociology of Valuation and Evaluation." *Sociology* 38(1): 201.

Latour, Bruno, and Michel Callon. 1997. "'Thou Shall Not Calculate!'or How to Symmetricalize Gift and Capital." Trans. Javier Krauel, French Title: Tu ne calculeras pas!" ou comment symétriser le don et le capital. *Revue du MAUSS* 9: 45-70.

Latour, Bruno, and Vincent Antonin Lépinay. 2009. The Science of Passionate Interests: An Introduction to Gabriel Tarde's Economic Anthropology. Chicago, IL: Prickly Paradigm Press.

Latour, Bruno, and Couze Venn. 2002. "Morality and Technology the End of the Means." *Theory, Culture & Society* 19(5–6): 247–260.

Lawrence, Paul R., and Jay W. Lorsch. 1967. "Differentiation and Integration in Complex Organizations." *Administrative Science Quarterly* 12(1): 1– 47.

Lévi-Strauss, Claude. 1963. *Structural Anthropology*. Vol. 1. New York: Basic Books.

Lyotard, Jean-François. 1993. *Political Writings*. Minneapolis, MN: University of Minnesota Press.

Madsen, Marie Henriette. 2015. Emerging and Temporary Connections in Quality Work. Frederiksberg: Copenhagen Business School.

Pamela Mazzocato, Terese Stenfors-Hayes, Ulrica von Thiele Schwarz, Henna Hasson, Monica Elisabeth Nyström 2016. "Kaizen Practice in Healthcare: A Qualitative Analysis of Hospital Employees' Suggestions for Improvement." *BMJ Open* 6(7): 1-8.

Mintzberg, Henry. 1979. The Structuring of Organizations – A Synthesis of the Research. Englewood Cliffs, NJ: Prentice-Hall.

Orlikowski, Wanda J., and Susan V. Scott. 2013. "What Happens when Evaluation Goes Online? Exploring Apparatuses of

Valuation in the Travel Sector." *Organization Science* 25(3): 868–891.

Owen, David. 1995. "Genealogy as Examplary Critique: Reflections on Foucault and the Imagination of the Political." *International Journal of Human Resource Management* 24(4): 489–506.

Pénet, Pierre. 2015. "Rating Reports as Figuring Documents. How Credit Rating Agencies Build Scenarios of the Future". In *Making Things Valuable*, edited by Martin Kornberger, Lise Justesen, Anders Koed Madsen and Jan Mouritsen, 62-88. Oxford: Oxford University Press.

Perrow, Charles. 1970. Organizational Analysis: A Sociological View. Belmont, CA: Wadsworth.

Radnor, Zoe. 2011. "Debate: How Mean is Lean really?" *Public Money & Management* 31(2): 89–90.

Radnor, Zoe J., Matthias Holweg, and Justin Waring. 2012. "Lean in Healthcare: The Unfilled Promise?" *Social Science & Medicine* 74(3): 364–371.

Rona-Tas, Akos, and Stefanie Hiss. 2011. "Forecasting as Valuation." In *The Worth of Goods: Valuation and Pricing in the Economy*, edited by Jens Beckert and Patrik Aspers, 223-246. Oxford: Oxford University Press.

Running, Alice. 1997. "Snapshots of Experience: Vignettes from a Nursing Home." *Journal of Advanced Nursing* 25(1): 117–122.

Schein, Edgar H. 1965. *Organizational Psychology*. Englewood Cliffs, NJ: Prentice-Hall.

Scott, W. Richard. 1981. "Developments in Organization Theory, 1960-1980." *American Behavioral Scientist* 24(3): 407–422.

Simon, Herbert A. 1957. Models of Man; Social and Rational. Oxford: Wiley.

Simon, Herbert A. 1964. "On the Concept of Organizational Goal." *Administrative Science Quarterly* 9(1): 1–22.

Sjögren, Ebba. 2008. "Deciding Subsidy for Pharmaceuticals Based on Ambiguous Evidence." *Journal of Health Organization and Management* 22(4): 368–383.

Stark, David. 2011. "What's Valuable?" In *The Worth of Goods – Valuation and Pricing in the Economy*, edited by Jens Beckert and Patrik Aspers, 319-338. Oxford: Oxford University Press:.

Thévenot, Laurent. 2007. "The Plurality of Cognitive Formats and Engagements Moving between the Familiar and the Public." European Journal of Social Theory 10(3): 409–423.

Thévenot, Laurent. 2015. "Making Commonality in the Plural, on the Basis of Binding Engagements." In Social Bonds as

Freedom: Revising the Dichotomy of the Universal and the Particular, 82–108. New York: Berghahn.

Thompson, James D. 2007 [1967]. Organizations in Action: Social Science Bases of Administrative Theory. Classics in Organization and Management Series, 5th ed. New Brunswick, NJ: Transaction.

Thompson, James D. 2001 [1967]. "Organizations in Action." In *Classics of Organization Theory*, edited by Jay M. Shafritz, J. Steven Ott, and Yong Suk Jang, 268-281. Boston, MA: Cengage Learning.

Timmermans, Stefan, and Marc Berg. 2003. The Gold Standard: The Challenge of Evidence-Based Medicine and Standardization in Health Care. Philadelphia, PA: Temple University Press.

van Loon, Esther, and Roland Bal. 2014. "Uncertainty and the Development of Evidence-Based Guidelines." *Valuation Studies* 2(1): 43–64.

Vikkelsø, Signe. 2010. "Mobilizing Information Infrastructure, Shaping Patient-Centred Care." *International Journal of Public Sector Management* 23(4): 340–352.

Zuiderent-Jerak, Teun, and Marc Berg. 2010. "The Sociology of Quality and Safety in Health Care: Studying a Movement and Moving Sociology." In *The Handbook of Medical Sociology*, edited by Chloe E. Bird, P Conrad, Allen M. Fremont and Stefan Timmermans, 324–337. Nashville, TN: Vanderbilt University Press.

Zuiderent-Jerak, Teun, and Stans van Egmond. 2015. "Ineffable Cultures or Material Devices: What Valuation Studies can Learn from the Disappearance of Ensured Solidarity in a Health Care Market." *Valuation Studies* 3(1): 45–73.

Zuiderent-Jerak, Teun, Kor Grit, and Tom van der Grinten. 2015. "Critical Composition of Public Values: On the Enactment and Disarticulation of what Counts in Health-Care Markets." In *Value Practices in the Life Sciences and Medicine*, edited by Claes-Frederik Helgesson, Francis Lee and Isabelle Dussauge, 119–135. Oxford: Oxford University Press.

4.2 ARTICLE 2: ORGANIZATIONAL TRIALS OF VALUATION

This article is under second review in Journal of Cultural Economy. Previous versions of the paper have been presented at the 4S/EASST conference in 2016 and on a seminar with Center for Health Management in 2016. The article was submitted in June, and comments from reviewers were received in September 2016. Subsequently I revised the article responding to the suggestions and resubmitted it in February 2017. The following article is almost identical to my resubmission to Journal of Cultural Economy.

Organizational Trials of Valuation

Amalie Martinus Hauge

Abstract

Management devices from industrial sectors are proliferating in the public sector; a trend which is now being accused of undermining the 'proper' values of public organizations. Among studies of valuation, value changes are often explained as a consequence of the performativity of valuation devices. Yet, this paper claims, such an explanation is at risk of overlooking the particular circumstances of valuation constituted by the organization. This paper follows the turn to value and the pragmatic tenet of studying values as the outcome of work. In addition, in order to address the particular circumstances of valuation organizations hold, it also draws upon classical organization theory. In investigating 'organizational trials of valuation', it shows how modifications of valuation practices are entangled with negotiations about the 'task' of the organization. Based on an empirical study of a children's hospital use of 'Lean management' to clarify and tighten the criteria involved in the task of distributing patients to beds, the paper argues that the performativity of devices in organizations may well be studied as their ability to organize, and that this ability can fruitfully be investigated by addressing organizational trials of valuation.

Keywords: Performativity; valuation; devices; management devices; organization; ethnography, trials

Introduction

Management devices from the world of business are proliferating in the public sector in the name of modernization or 'New Public Management'. The promise of these devices is to help public organizations lose their excessive bureaucracy and make them sufficiently agile to survive under the current societal conditions, which, among other things, are characterized by economic crisis and demographic changes (Hood, 1991; Ward, 2011). Lately, however, the modernization program seems to have backfired: The devices associated with New Public Management, critics say, pose a much greater threat to the survival of public organizations as we know them, than the problems they offer to solve (Diefenbach, 2005; Diefenbach, 2009): They are destructing the public ethos (Kirkpatrick, Ackroyd, & Walker, 2005) and install a set of values and organizing principles unfit to the task of administering public services and goods (Newman & McKee, 2005; Ward, 2011).

It is tempting to attribute the problematized transformations of values in public organizations to the performativity of management devices. For quite some time, studies drawing on the Callonian version of the performativity program have been occupied with the ability of certain devices to shape the market (Callon, 1998, 25; Callon, 2007). These studies have shown how economic theories, models and artifacts not merely reflect or describe but actively shape the economy (Caliskan, 2007; Cochoy, 2008; Preda, 2006). With the emerging focus on 'valuation', then, scholars such as Stark (2015; 2011), Muniesa (2012), Helgesson (2015) and Espeland (2008) have expanded the relevance of where to study devices beyond markets and economic value to also include areas of society usually associated with 'social' values, such as hospitals and universities. This makes it eligible to investigate values in organizations by looking at the ways in which management devices establish what counts as valuable. Yet, this paper argues, such an approach is at risk of overlooking the particular circumstances of valuation organizations constitute.

Scholars in the vicinity of cultural economy have already pointed to three central problems of the performativity program, which problematizes the idea of transferring it to studies of values in organizations. First, the performativity program's fascination with economic engineering and models has a tendency to overshadow "the material and symbolic interests of those who carry it out" (Fourcade, 2007, 1027, refers to; Mirowski & Nik-Khah, 2007). Second, many studies seem to favor the successful accounts and leave the 'felicitous' (Austin, 1962; Gond, Cabantous, Harding, & Learmonth, 2016) or 'boundary' (Felin & Foss, 2009) conditions that enable these successes largely in the dark (Butler, 2010; Hébert, 2014; Zuiderent-Jerak, 2009). Third, studies drawing on the Callonian performativity program have a

preference for quantitative measures and fixed variables (Davies, 2017, 45; Hauge, 2016; Heuts & Mol, 2013, 141), which has the implication that these are privileged in favor of more mundane valuations. In sum, these problems indicate a preference of making quantitative devices the main character of analysis, casting 'prevailing conditions', including those constituted by organizations, as anonymous extras. As Gond et al. argue, there is a lack of organizational conceptualizations of performativity (2016), including a lack of attention to the particular circumstances of valuation organizations hold. How then, are we to investigate the role of devices in public organizations without becoming overly fascinated with the device in question, overlooking the role of the organization and privileging the fixed variables?

In this paper I pick up the idea of studying the performativity of devices through the 'trials' in which they partake as they are introduced organizations (suggested explicitly by Gond et al. (2016, 458), but see also Stark (2015) and Dussauge et al (2015)). The paper follows the turn to value (Dewey, 1939; Roscoe & Townley, 2015; Stark, 2011) and the pragmatic tenet of studying values as the outcome of work (Dussauge et al., 2015). Furthermore, to address the particular circumstances of valuation organizations hold, the paper also draws upon classical organization theory (for example Lawrence & Lorsch, 1967; Mintzberg, 1979; Perrow, 1967). In investigating organizational trials of valuation, it shows how valuation methods operate with embedded propositions about the 'reality' of the organization. Based on an empirical study of a children's hospital use of 'Lean management' to clarify and tighten the criteria involved in the task of distributing patients to beds at the hospital, the paper argues that the performativity of devices in organizations may well be studied as their ability to organize, and that this ability can fruitfully be investigated by addressing organizational trials of valuation.

The remainder of this paper falls in four sections. First, I elaborate upon how the paper draws on respectively valuation studies and organization theory to address organizational trials of valuation. Second, I introduce empirical study of a children's hospital's use of Lean management to optimize the distribution criteria; i.e. the criteria employed in decisions about discharge, admittance, relocations and postponements of patients. Third, by studying four trials of valuation, it is unfolded how the Lean workshops, which the participants expected to be about formalizing and improving criteria, turned out to involve questions about the very 'nature' of the task of distributing patients, and the organizational reality this task is a part of. Fourth, I discuss how addressing organizational trials of valuations contributes to an organizational attunement of the study of the performativity of management devices, and how it deals with the three problems posed against the Callonian performativity program. Lastly, I relate the paper's argument to the

debate about the threatening role of management devices in public organizations.

Studying trials of valuation

'How does something become valuable?' is a question that has received increasing attention among scholars within the fields of STS and economic sociology (Antal et al., 2015; Boltanski & Thévenot, 2006; Doganova et al., 2014; Kornberger, Justesen, Koed Madsen, & Mouritsen, 2015; Roscoe & Townley, 2015). Scholars of valuation have drawn attention to the ways in which devices and practices aimed at measuring and assessing the value of something, at the same time *attribute* value to something and shape what counts. Some studies investigate the specific socio-technical arrangements through which something is established as valuable (including Moor & Lury, 2011; Roscoe & Townley, 2015), such as when a ranking names a university as number one (Espeland & Sauder, 2007) or when a journal article is approved (Pontille & Torny, 2015). Other studies analyze the 'orders' (Boltanski & Thévenot, 2006), 'value systems' (Antal et al., 2015), 'schemes' (Orlikowski & Scott, 2013) or 'registers' (Heuts & Mol, 2013) used to assess the worth of something.

Many studies of valuation are primarily occupied with 'valuation devices'. The observation that 'specialized assessment and comparative orderings have been expanding recently', as Orlikowski and Scott put it (2013, 869), makes valuation devices a 'distinctive sociological phenomenon worthy of attention' (Roscoe & Townley, 2015; Stark, 2009). This worthiness of attention has been condoned, and valuation studies are thus blooming with accounts of how different types of valuation devices perform, including shopping carts in super markets (Cochoy, 2008), fishing quotas (Holm & Nielsen, 2007), forecasts (Rona-Tas & Hiß, 2011) and standards in medical practice (Dussauge et al., 2015). The key argument in these studies is that valuation devices do not passively measure, but actively shape the value of something. The ways in which the delineations between devices and their outsides or environments are drawn, however, vary to a great extent: Some scholars describe devices as 'agencements'; "arrangements endowed with the capacity of acting in different ways depending on their configuration", which implies that there is nothing outside; "the construction of its meaning is part of an agencement" (Callon, 2007,13), where others focus on devices as standardized or material equipment (for example Georg & Tryggestad, 2009, 971; and Zuiderent-Jerak & van Egmond, 2015 and others). Yet, both of these approaches leave something to be desired in terms of addressing the particular circumstances of valuation organizations hold, including how valuation happens as an organizational dynamics.

With some exceptions (4S/EASST, 2016; Mennicken & Sjögren, 2015; Moor & Lury, 2011; Zuiderent-Jerak & van Egmond, 2015 and others), the body of accounts of valuation devices seems to favor accounts where the device is successful in establishing or altering the value of something (Butler, 2010; Hébert, 2014; Zuiderent-Jerak, 2009). This leaves the impression that the performativity of valuation devices, such as models and fixed variables, is so persistent, that the implementation of a device automatically has pervasive political effects on what counts as valuable. What the role of the organization in this is, and what happens to the organization as values are altered or undermined, is, so far, largely left in the dark within studies of valuation. In this paper I pursue the idea that in order to grasp what happens to values in an organization when a device is introduced, we need to enhance the understanding of the entanglements of valuation and organization, which, I argue, can be achieved by investigating how management devices operate with embedded propositions about the reality of the organization; propositions which are explicated as they are put to trial in organizations.

On organizations

To inquire into the propositions about the organizational reality of management devices, I suggest consulting classical organization theory[1]. As Scott and Davis argue "how we define 'organization' shapes how we think about the phenomenon - what we see as essential, and what we ignore as irrelevant" (2007, 27); an argument which does not only count for 'us' as researchers but equally for the people whose job it is to organize, including the clinical professionals distributing patients at hospitals. It has been emphasized that organization studies as a field has become too concerned with metaphysical and ontological questions about, for instance, the fluidity of organizing, and that there is a need for revisiting classical and practical notions of 'organization' (Du Gay, 2015; Lopdrup-Hjorth, 2015; Vikkelsø, 2015). I agree with this characterization and will try to show how classic organization theory can be fruitfully employed to investigate organizational trials of valuation. Drawing on the case of the patient distribution at the hospital, I show how valuation is entangled in discussions about the 'flows' that format the task of the organization by drawing on scholars

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[1] For a discussion about the 'classical stance' on organizations see 'For Formal Organization' by du Gay and Vikkelsø (2016)

such as Perrow (1965; 1967; 1986), Mintzberg (1979), Haberstroh (1965) and Lawrence and Lorsch (1967).

Many of the 'classical' organization scholars were occupied with investigating what the relevant structure and technology of an organization should be, considering the specific 'task environment' of the organization (Haberstroh, 1965; Lawrence & Lorsch, 1967). In their studies organizations are seen as 'systems for getting work done' (Perrow, 1965; Perrow, 1967: 194), that is, for conducting practical tasks in '*a patterned, directed effort to alter the condition of basic materials in a predetermined manner*' (Perrow, 1965, 914, italics in original). In order to 'design' an organization in the most efficient manner, i.e. define its 'structural characteristics' (Haberstroh, 1965, 1171), the specificities of the organization's primary task were considered. The idea was not that one best way of organizing existed, but that organizational success depends upon meshing the organizational design with the technology defining the organization's task (Hunt, 1970, 251).

Considering technology in a broad sense as the way in which the organization 'alters the condition of basic material' (Perrow, 1965, 914), is a different way of asking 'what business are we in?' (Lawrence & Lorsch, 1986, 209; Vikkelsø, 2015, 426) or of exploring the organization's task-reality (Vikkelsø, 2015). The idea of these scholars was that the more precise and specific the answers to these questions, the better the organization could be 'fitted' to its task. In his book from 1979, 'The Structuring of Organizations', Mintzberg reviews much of the literature on organizational structures and provides a condensation of the 'findings' related to the structural characteristics [2]. With the notion of 'flows' Mintzberg sums up four central ways of approaching the organization, which, he argues, can be combined to gain a thorough understanding of how the different parts of the organization 'function

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[2] Accordingly, not all scholars cited in the subsequent section (for example March and Simon (1958) 1993) would agree with Perrow's definition of an organization. Yet, the purpose of this paper is not validate a true or proper theory of organizations, but to develop a practical understanding of the organization and its entanglement with valuation. For this purpose minor theoretical incongruences can be accepted.

together' [3] (Mintzberg, 1979, 35). These 'flows' include (1) work material, (2) decision processes, (3) information and (4) authority.

These 'flows' are useful as entry points into the organizational trials of valuation, which is what the paper explores in its analytical section. With the flow categories attention is drawn to the practical aspects of how the organization constitutes particular circumstances of valuation. The first flow, work material (Mintzberg, 1979, 35), is similar to Perrow's idea of 'raw material', and both authors suggest paying attention to the particular material that is being 'altered', as this constitutes particular circumstances of organizing. The work material can both be human, material or symbolic, and, as Perrow argues, organizations such as hospitals, that alter human material, are subject to particular challenges, because 'humans are self-activating, potentially recalcitrant, fragile, and are invested with all sorts of characteristics provided by cultural definitions' (Perrow, 1965, 914). The second flow is about what a decision situation looks like (Mintzberg, 1979, 58): How is it identified and designed? For the decision process, Mintzberg argues, the sheer selection is just 'the icing on the cake', prior to this a number of 'routines' prevail; the identification phase, the recognition phase (where the need to initiate a decision is perceived), the diagnosis routine (where the decision situation is assessed), the development of solutions (search and design) and lastly the selection phase, where solutions are screened, evaluated and ultimately authorized (Mintzberg, 1979, 58). This process is similar to what March and Simon describes as happening when organizations ask the question 'what kind of event is this?' (March & Simon, (1958/1993, 173). March and Simon emphasize that problems can occur when there is not agreement about the goals of the organization, and that this requires politics and negotiations to resolve such conflicts (March & Simon, (1958/1993, 150).

The third flow, information (Mintzberg, 1979, 45), is about how intelligence flows in organizations. This can both be information external to the organization, internal information and routine informational tasks, as well as the organization of information; that is, the 'techniques for processing information' (Mintzberg, 1979, 45), as well as the number of sources of information, and the way it is

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[3] Mintzberg (1979) argues that organizations consist of an operating core, a middle line and a strategic apex, flanked by a techno structure and by support staff, as depicted in his famous figure, which the reader may recall.

transmitted in the organization (Haberstroh, 1965, 1175; March & Simon, (1958/1993, 147; Mintzberg, 1979, 45). The fourth flow, authority (Mintzberg, 1979, 43), is about the vertical division of 'decision making labor'. Who is authorized to make what kind of decision, and what is the extent of discretion? Discretion, as Perrow defines it, "involves judgments about whether close supervision is required on one task or another, about changing programs, and about the interdependence of one's task with other tasks" (1967). Regarding authority, Lawrence and Lorsch emphasize the relevance of investigating whether authority is granted by a formal position in the organization or on the basis of knowledge and competence (Lawrence & Lorsch, 1967, 37).

Through these four 'flows' it becomes possible to investigate how propositions about the organization's task-reality are at play when a valuation device is introduced in an organization. Bringing insights from studies of valuation practices together with organization theory in this way, enables the investigation of the organizational reality a valuation device 'meets' when it is introduced in an organization to modify the accomplishment of a task, and vice versa, of how valuation is entangled with the prevailing organization. Rather than assuming that it will come to establish what counts, this approach puts attention to the conditions under which it is able to perform and the obstacles to this performativity. In the analysis I investigate examples of organizational trials of valuation taking place as a group of hospital professionals with assistance from Lean consultants try to optimize the task of distributing patients; i.e. to develop new criteria to 'compare, categorize and classify' (acts central to valuation according to Kornberger et al., 2015, 9) patients in order to place them in the right bed. In these workshops, competing propositions on the work material, the decision process, the information and the authority are put to trial as the participants work towards their common goal of making sure that the right patient is in the right bed, and that the hospital has the capacity to receive the incoming patients. Before commencing on this analysis, however, let me introduce the empirical case in more detail.

Empirical focus and methods

The data of this study were produced as part of an ethnographic study of the Lean practices of a hospital department. Since its emergence in the 1970s as the Toyota Production System, Lean has spread from the Japanese automotive industry to almost all types of industries and organizations (Hines, Holweg, & Rich, 2004a; Holweg, 2007; Womack & Jones, 1996). Lean has crossed industrial and sectorial borders, built research institutes and tons of consultancies, developed dimensions, opponents and new languages and become mandatory and mainstream in organizations that have very little in common with a car production plant. What has remained during Lean's expansion is its key principle

of 'optimizing value while minimizing waste': A characteristic that makes it an obvious and exciting subject for valuation studies. One sector that – perhaps surprisingly- has been especially welcoming to Lean is the healthcare sector (de Souza & Pidd, 2011; Joosten, Bongers, & Janssen, 2009; Young & McClean, 2008).

The healthcare system in Denmark is managed by 'regions', and currently most regions have a Lean strategy (RegionH, 27-01-2011). This study was conducted at a children's hospital located in the capital region of Denmark, which has one of the country's most ambitious Lean strategies. In this region all hospitals must implement management by objectives and annually document their Lean activities (for example their number of Lean-educated managers and the number of core processes that have been leaned). Inspired by developments in the private sector in Denmark in the 00's, the children's hospital, however, began their Lean work long before it became a regional requirement. Today, the children's hospital has incorporated Lean in their strategy- and policy documents, provided more than 300 employees with different levels of Lean training and made several Lean-inspired activities regular elements of hospital operations. Additionally, a wide variety of Lean optimization projects have been conducted on areas as different as the use of hospital clowns, the planning of insemination procedures and the quality work related to catheters at the neonatal unit.

I followed the hospital's Lean work on and off through two years. I did approximately 225 hours of scheduled data collection in the form of participant observations and shadowing, supplemented by 24 qualitative interviews as well as numerous hours of informal observations during lunches, staff meetings etc. This paper is about a specific Lean project I followed: In 2014 the Children's hospital decided once again that it was time to 'optimize'. The head of unit needed more beds. They wanted to spend time on treatment rather than logistics and were tired of having to move children around and of parents complaining over this. To address this problem, they were granted access to the hospital's internal Lean consultant (an economist employed as a full-time Lean consultant), as well as two external Lean consultants from a well-known consultancy specialized in Lean with some experience from hospitals but mostly from private firms such as NovoNordisk and even Toyota in Japan. Together with the head of unit and the nursing heads of unit, a head physician and two head nurses, the Lean consultants planned the optimization process.

In order to understand the relation between the valuation device, Lean, and the hospital organization, I investigated not just the Lean project, but the distribution practice itself, which continued as regularly alongside the workshops. I attended all the Lean project workshops and preparation meetings between the hospital's Lean consultant and the

external Lean consultants (9 meetings). Having the hospital's Lean consultant as a main gatekeeper allowed me to continually hear about her reflections and plans about the process. I interviewed her as well, along with the external Lean consultants (6 interviews in total). Beyond the Lean project, I familiarized myself with the task of distributing patients. I shadowed the responsible head physician and two members of the three-person clinical management team[4]. I also shadowed two nursing head of units that were involved in the distribution practice (22 hours of shadowing in total). Additionally, I observed the formal distribution meetings, where the nursing heads of unit, the responsible head physician and sometimes one of the nursing heads of unit participated (5 meetings). To sum up, I gained thorough insight into the organizational propositions at play in the Lean workshops, which is what I will present in the analysis.

Analysis: Lean Optimization at a Children's Hospital

We are in the central meeting room on the management floor of the children's hospital. It is the first workshop where the external Lean consultants and the hospital staff participate together. The hospital's Head Lean Consultant (HLC) has organized the process so far and has tried to mediate the expectations of the clinical professionals and the external consultants. The hospital professionals are from the from the Unit for Children and Youth (UCY), a unit which is known as one of the most 'progressive' sections of the hospital, meaning that they are actively seeking to modernize and reorganize their 'operations', and have welcomed many previously offered small-scale Lean initiatives. Yet, during the pre-workshop negotiations, the hospital professionals have convinced the HLC to scale down the project from being a big launch of goal management throughout their many sections and wards to focus solely on the distribution practice. While surprised with this decision, the external Lean consultants find it reasonable that the head of unit wants to see for herself how their collaboration will work out before launching the larger project.

For the first workshop, the main objective is to map out the current process of making decisions about which patients to admit, move, discharge, postpone or cancel. This is the process they want to improve as a means of solving the hospital section's lack of capacity for

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[4] The third member rejected being shadowed due to time constraints.

patients. As the Lean consultants ask the hospital professionals about the current systems and principles for referring patients, their surprise is evident, as this dialogue excerpt reflects.

> **Lean consultant**: Don't you have objective regulations that state which patients you can discharge? Is it merely subjective estimation?
>
> **Head physician [sharply]**: Discharge is done on the basis of a razor-sharp clinical assessment.

Let me provide some more detail about the practice of distributing patients as it is done in this hospital. This task has two main components: Informal 'rounds' by the responsible head physician, Dr Karl, and formal, daily distribution meetings at 12 noon. Early in the morning Dr Karl comes in one hour before his shift formally begins to gain an overview of the night's developments. He browses through patient records and makes personal visits to the different hospital units to get a sense of the units' current level of occupancy and to assess if any patients could or should be moved to other units. Dr Karl knows the majority of the admitted patients by name – or symptoms – and is the only one who has (what comes close to) an overview of the overall occupancy level of the children's hospital. By making his morning rounds, Dr Karl gains an impression not only of the 'state' of the particular patients, but also of the staff's concerns and of the unit's current capacity. These morning rounds are formative of a daily 'gauge' that Dr. Karl will use as a backdrop throughout the day when he makes decisions about how to distribute patients.

The different units have different specializations and levels of care. Specializations refer to diseases such as cancer, pulmonary problems etc., and levels of care refer to the equipment available (such as ventilators or dialyzers) as well as the staffing level per bed and the staff's competences. The units' head nurses are responsible for keeping an overview of their overall patient situation, and units with related levels of care have ongoing communication about particular patients and relieve each other if one of them is congested.

Every day at 12 noon Dr Karl and the nursing heads of unit meet for the official distribution meeting. At these meetings the nursing heads of unit gather in one of the rare closed-door offices. Each person carries a note with the names of patients who need to, or are capable of being moved or discharged within a short timeframe. The nurses additionally bring information about incoming patients and their demands in terms of specialization and level of care. For an outsider, the meetings are chaotic: Many names, diagnoses and concerns are mentioned and assessed in a hectic tempo while at the same time phones are ringing and subconversations about other matters are taking place. The meeting ends after about 20 minutes, when the participants have *a plan* that places all patients in a suitable bed for the next 24 hours.

The series of valuations taking place in making this plan and the criteria involved in deciding which patient is worthy of which bed, who is ready for discharge and who needs to – or are able to – be moved to a different bed, is what is on the table in the Lean workshops. Yet, while both the hospital professionals and the internal and external Lean consultants agree about the relevance of clarifying and improving the criteria used to make these decisions, it turns out that more than the mere criteria are on the table.

In the following I analyze trials of valuation that take place during the Lean workshops. As entry points, I use the four flow categories presented in the section 'On organization', namely work material, decision situation, information and authority.

Trials about work material: What is a patient - and a bed?

To continue the process of mapping the current distribution practice, the Lean consultants suggest to systematically go through each of the 'solutions' available; moving patients, discharging, postponing, admitting etc. They want to clarify the criteria for when to turn to each solution. Yet, the clinical professionals are reluctant to approve of the idea that patients can be categorized. This is illustrated in the following excerpt from a discussion about criteria for when to move patients:

> **Lean consultant 1** (interrupts): There must be clear criteria stating when you can move a patient – otherwise it will be a mess!
>
> *Several of the clinical participants shake their heads and claim that it is not so easy.*
>
> **Lean consultant 2:** What about starting with a simple criterion such as moving them before 8pm when the children go to sleep?
>
> **Nursing head of unit**: It is problematic to decide once and for all. The other day we had Simon and his mother. He actually belonged in the cancer unit, but he was the least ill in the cancer unit that day, so he had to be moved. We gave them [patient and mother] the lay of the land: There was a risk that they would be moved during the night, so if they didn't want to be woken up, they could be moved straight away. But they preferred to take the chance that they could stay in the unit where they knew the staff and everything. And so we didn't move them.

Here, the Lean consultant articulates the *general* or *typical* patient who for example 'goes to sleep before 8pm'. In making a standard 'figure',

the complexity of each patient is sought reduced and they are easier to categorize. This is a regular procedure in the work of optimizing patient paths. Yet, the clinical professionals keep putting a stick in the wheel of the Leanconsultants' patient figure-making, by insisting on the patient as an uncategorizable figure. The Lean consultants also try to tap into the clinical professionals' own categorizations. For example they suggest using the ABCDE classification system[5] already used at the hospital. When a patient is ABC stable, this is marked with a star symbol on the patient list, which indicates to the clinical professionals that he or she is stable enough to be moved. Yet the head physician says that they have had problems with star-patients, who are moved without being '*completely* ABC stable'. This goes against the grain of one of the Lean consultants who objects: "You are either ABC stable or you are not, right?", "Not always" another head physician explains: "sometimes a patient can be stable without oxygen when she is awake, but needs it when she is sleeping!" Thus, even the emic categorizations of the clinical professionals are dissolved when the Lean consultants try to use them as valuation criteria. Where the Lean consultants make averages, the clinical professionals keep using their professional knowledge and vocabulary as a strategy of 'rarefying' (cf. Callon & Law, 2005) the nature of patients.

The same struggle unfolds in relation to the beds. At one point, for example, the Lean consultants are trying to find solutions to the capacity problem, and to make sure that patients are moved only for clinical reasons and not for capacity reasons. The HLC suggests that it is a positive thing to have a small 'buffer', in the form of beds in sections that are acceptable for the patient for a time. A member of the management team objects: "Well, I would say that that is not true, because the nurses need the right competences. In section 4144 they have not been to the chemo course that it takes. So you *cannot* use other sections as a buffer. I am not saying this to be difficult, but to make sure that we do not create unrealistic expectations as to what is possible". "But that is not what she is saying", one of the nursing head of unit says, indicating that the sections mentioned by her colleague, a pulmonary section and a cancer section, are obviously a case where it is

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[5] A = Airway, B = Breathing , C = Circulation, D = Disability, E = Exposure. According to proponents, the method is a simple and systematic way of generating and overview and keeping calm in heated situations. The method "helps the caretaker to prioritize examinations and treatment and gives a quick impression of how bad the situation is". (Thim, Krarup, Grove, & Løfgren, 2010)

not possible to exchange patients, but that this does not imply that it is not possible between sections with more closely related specialties. "I know" the colleague responds. "I am just trying to clarify to our 'coach types' over here, that our cancer children cannot be placed in 4144; this is for heart-related diseases!". In this way, she once again emphasizes the need for a specially trained clinical eye to assess not only the patients, but also the beds, as grave mistakes can be made, if someone, such as one of the 'coach types' assumes that any bed can be used as a buffer.

This struggle about the in/calculability of patients and beds is interesting for several reasons: It reflects that in this case, Lean operates with the proposition that work material is possible to standardize, despite the 'self-activating, potentially recalcitrant, fragile' nature of humans, as noted by Perrow. This is what the clinical professionals object to. They argue that patient distribution requires close familiarity with the patients and the beds (i.e. the level of care and specialization they offer), which draw the work and skills of caring and treating into the distribution practice. This makes it necessary that the ones who know the patients best – the clinical professionals themselves – are the ones who make distribution decisions. In this way, the valuation trials are also about the position of the clinical professionals: They are struggling to maintain an organizational reality which renders them in charge of patient distribution. They have trouble defending this argument, however, because – as will be clear, it is not currently the case that all patients are where they are supposed to be, judging from a clinical position.

Trials about the decision process: 'When do we make distribution decisions?'

When are decisions on admittance, discharge, postponements or relocation of patients made, and what do decision situations look like? As previously mentioned, a key strategy in the Lean consultants' optimization work is to develop clear, available and coherent principles for making decisions about how to admit, move and discharge patients. Embedded in this strategy is the proposition of a decision situation where one particular patient at the time is assessed against the relevant criteria: Based on the particular patient's body's information the clinical professionals will assess the patient against formal criteria enabling them to place the patient in the right bed, discharge the patient, or postpone the patient. Here, the reference point for identifying, developing and designing the decision lies with the individual patient in question.

Yet, for the clinical professionals the decision situation looks somewhat different: "Which patient are we talking about?" a member of the clinical management team inquires at a workshop: "The one coming in, the one going out, or both at the same time?" To answer this, the

hospital's HLC cites the children's hospital's slogan: "it is the result for the patient that counts". To this, the clinical manager sharply responds "The patient*s*! [Hissing the s to emphasize the plural] - there are multiple concerns involved in these questions. Sometimes we move someone because it is better for the patient*s*! It is bad for Simon to be moved, but it is good for the paracetamol-poisoned child who comes in!" The clinical professionals claim that the decisions are also informed by, for example, the current situation of the different sections, and, not least, the child that is currently in the bed which the incoming patient 'fits'.

An example of how the current decision process looks at the 12 noon distribution meetings is provided below. In the excerpt, we are in the middle of a meeting, and the participants are struggling to find enough beds:

> **Dr. Karl**: This will not work, we have so many patients on the doorstep…
> **Nurse:** That is true. They will come sooner or later.
> **Nurse:** But look here, Ronnie is going down [to a different unit] then we can put Luke into that room, right?
> **Dr. Karl**: IF he is going to be admitted.
> **Nurse:** Freddie is also not ready. There isn't much…
> **Dr. Karl**: We are tied on our hands and feet.
> **Nurse:** What about Milo? He is a ventriculostomy going into surgery today?
> **Dr. Karl:** I know, but that won't work.
> **Nurse:** No, it is his third surgery…
> **Dr. Karl:** What about Winnie, she is going, right?
> **Nurse:** Yes. She is going home to Bornholm [Danish island] tonight.
> **Dr. Karl:** She is going? Super. So we have space here and space here [points to two locations marked on a sheet of paper].

In this excerpt, the participants in the distribution meeting need more capacity, and are trying to identify which patients they can 'let go'- i.e. discharge to a local hospital or send home. In solving the puzzle of finding a right bed for everyone, the point of reference for the clinical professionals is the overall situation of the unit more than the particular patient's situation, even though this is also taken into account. During the workshops they defend this version of the decision situation as best fitted to deal with the unforeseeable nature of the task of distributing patients. The Lean consultants challenge this theory. In their view the right bed for the patient should be found at a certain time (12 noon), at a certain space (the head nurse's office) through the means of assessing one patient at a time against authoritative principles. If all patients were referred to the right bed in the first place, this would contribute to a solution to the problem of patients being in wrong beds and of non-clinical relocations, the Lean consultants argue

The clinical professionals' objections against this are not only related to the simplicity of the Lean consultants' suggestion. It is also the case

that they are used to operating with a set of more or less defined informal rules; rules which would not be found legitimate in a more formalized decision situation. During a workshop meeting, for example, a nursing head of unit comments on the previous day's handling of the distribution task:

> **Nursing head of unit**: Take yesterday. There were two day-patients in beds on the ward. We did not really touch upon that at the [12 noon distribution] meeting, but with my knowledge [she taps her forehead with her index finger] I know, what was at play. Because it was a liver and some kind of cancer patient. That means that they are regulars and are known by the units. Therefore the units protect them: They want them in *their* unit, even though they perhaps are doing too well [compared to the care level of the unit].

> **Head physician:** That is true. Karla wants her patients with her. All units protect their own patients. And there is an unspoken hierarchy. This is really showing you [the Lean consultants and me] our dirty laundry. A liver for example ranks above a cerebral sclerosis – the [less intensive] unit must deal with that [she gestures as if she were dusting patients to the side, mocking the attitude of the informally high-ranking units].

The nursing head of unit's analysis corresponds to the view of the head nurse of the cancer unit, who, during an interview, complains about how frustrating it is that they have to take in 'snot children', when they know that this means that they have to reject 'their own' patients, who may arrive moments later (cancer children often get a fever from the treatments and then have to be re-admitted).

While the clinical professionals begin by justifying their version of the decision situation as a natural prolongation of the complicated clinical work and the uncategorizable nature of patients, it becomes clear as the clinical professionals 'show their dirty laundry' that actually, decision situations are not always based on merely professional, clinical decisions. As the decision situation is put to trial, it is explicated that personal preferences and hierarchies unspoken of are also informing the decision situation; something which would be difficult to maintain in a formalized and objectivized version of the decision situation, such as the one promoted by the Lean consultants.

Trials about information: What informs the decisions of patient distribution?

What is proper information in making decisions about where to distribute a patient? A key trademark of the Lean approach, often repeated by the Lean consultants, is to 'speak with numbers rather than emotions'. This implies that it is not enough to have a feeling that something is a problem; you have to have calculated evidence. The same goes for solutions – these must be based on sound, numeric information, an average or a calculation. This is illustrated in the following dialogue, where a member of the clinical management team

gets frustrated with the Lean consultants' inquiries into the 'average' path of newly arrived patients through the hospital.

> **Lean consultant 1:** Can you say anything about what usually happens?

> **Clinical manager:** It is difficult to predict, but a little: Of the about twenty patients who arrive in the reception [the emergency unit], maybe fifteen will need a bed**.**

> **Lean Consultant 2:** It would be great to register the distribution of patients over the days of the week. How many come in on Mondays, Tuesdays, Wednesdays…

> **Clinical manager:** You know what? That would have NO value. Infections cannot be planned. We have looked into it before… Approximately every other year there is an RS-virus outbreak. And suddenly there are many cancer children. You don't know why and we cannot have more beds during winter than summer.

> **HLC:** But couldn't we though? If we planned it so that the staffing level was higher during winter, so we could have more open beds?

To the Lean consultants, calculated information is the best principle for organizing. This is in contrast to the clinical manager's view, as the dialogue above shows. The clinical manager continues the conversation in a raised voice, saying "I *will* not spend another minute on this. Can you see that you are making my blood boil?! It is because I am sick of this managerialism. It gets us nowhere!" To her, calculated information about the required number of beds, for example, is not very useful, because patients like 'the liversick boy who came from Århus' she 'cannot reject!' The children's hospital is the most specialized in the country, so there is nowhere else to send the very sick children. The argument of the head of unit is that in the particular situation when a patient is coming, they have to admit him or her, and it is therefore of no use to make more averages. She keeps referring to information that is much less processed: a phone call from Århus about a liver boy, Nurse Pennie from the cancer unit saying that she lacks capacity next week, and Dr Karl's self-obtained overview of the situation.

The propositions about what useful information is, formats the role of the professionals in the hospital. When the clinical professionals claim that nothing is predictable, their role becomes to *respond to* and not to foresee information. According to the hospital professionals themselves, some physicians prefer the work of responding to

emergencies rather than planning and foreseeing. This is reflected in the consideration of a nursing head of unit: "We have to think about how we introduce all this [results of the Lean workshop] to Dr Karl. He is extremely interpersonal – and loves to be a 'fire extinguisher'. All this structure won't be his cup of tea"[6]. The clinical professionals generally take the information generated with statistical techniques with a grain of salt, and rely on more 'unprocessed' information. This formats the task of distributing patients in a certain way, as it relieves them of dealing with the capacity problem through better planning. The HLC tries to challenge this understanding, saying "in the hospital culture we have a bad habit of saying that if it has to with budget, then we do not do anything. But actually, we *can* change things!". The external Lean consultants back her up, saying that while they are not able to provide more beds, they can "calculate the need for beds into the kind of production change [the hospital] needs'. One of them refers to his experience with the successful company Novo Nordisk where, he explains, in the beginning, the culture was also like this [with a belief that they could not make meaningful changes], "but then, all of a sudden, the KPIs[7] became sharp! All of a sudden there *is* something that can be done better! ….It is a journey to get there." The Lean consultants believe that in order for the clinical professionals to be able to solve the capacity problem, they need to reach a 'level of maturity' [Lean jargon], where they recognize their own part of the problem. According to the Lean consultants, the clinical professionals should respond to information with calculations and planning rather than with fire hoses. These trials about what kind of information is of value reflect different formations of the task of distributing patients: If information is statistical and related to budgets, patient distribution becomes a more administrative type of task that requires a calculative and planning-oriented skillset. If information is always acute and based on the current situation it requires a clinical skillset to deal with, and the possibility of improving the current practice becomes marginal and the possibilities of larger scale planning almost impossible.

Trials about authority: Formal principles or professional discretion?

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[6] A 'fire extinguishing culture' is a term often used in Danish management jargon about organizations that always lag behind and only manage to 'extinguish fires' while never managing to predict the next fire and prevent it from being ignited.
[7] Key Performance Indicators

As it has already been indicated through the analysis so far, the question about who holds authority to make decisions about where to distribute patients is a recurring issue in the Lean workshops. Yet, in a workshop situation where the Lean consultants are trying to map the criteria for cancelling elective procedures[8], the discretion of the clinical professionals is explicated to the extent that it even surprises the clinical management team. Once again, the Lean consultants are trying to make the clinical professionals account for a particular element of the current distribution practice; this time the decision to postpone an elective procedure: 'What are the criteria for cancelling or postponing an elective?' one of the Lean consultants asks. Seemingly surprised by her own realization, a clinical manager first pauses, and then bursts out that she has 'no idea!' Her eyes glaring with disbelief, she stares at her clinical colleagues one by one "who decides? Huh? None of us knows!" she shakes her head. Authority to make these decisions is clearly not distributed by the clinical management, and the local decision makers have an extensive professional discretion.

For the Lean consultants, this distributed authority and extended professional discretion is not a premise of the hospital organization. Rather, the unclear decision hierarchy points to a lack of clarity and coherence in the hospital's distribution practice. For the Lean consultants, the fact that distribution decisions are made and remade at different levels in the organizational hierarchy is a prime ingredient of a poor planning culture. The Lean consultants suggest that a first step, therefore, is to simply make the clinical professionals aware of current expectations. Their assumption is that if distribution decisions are based on solid, objective, standardized valuation criteria, they will gain authority and people will (and must) respect them. This would solve at least some of the non-clinical relocations of patients, they argue, and thereby entail a more efficient utilization of the nurses' resources, as they are the ones who have to carry out the practical work related to the relocations.

Currently, however, the clinical professionals enact a relatively widely distributed authority and discretion. While the 12 noon distribution meeting is the main occasion for making distribution decisions, it is

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[8] Typically elective procedures are cancelled or postponed when acutely ill patients need the bed assigned to the planned procedure. The acutely ill patient comes before the elective procedure, because it is estimated that the elective procedure can be rescheduled without serious consequences.

integrated into the existing distribution practice that doctors of a certain seniority have discretion to make additional decisions 'on the side'. While these decisions are sometimes a nuisance to the clinical professionals with the official authority to distribute patients, calling it 'prima donna behavior', this discretion is also regarded as the nature of distributing patients, because patients are an unpredictable 'work material'. Therefore, the task of placing the right patient in the right bed is seen much more as an exercise of making agreements between different units at the hospital, than it is about making authoritative plans that others execute. This is one of the reasons why Dr Karl repeatedly goes to visit many units and departments of the hospital: The practical coordination is done by nurses and often in IT-systems, but the coordination becomes much more durable if people know and respect the authority of the name in the system: Hospital professionals are less likely to cancel an operation or cut in front of a patient booked in the system by someone they know and whose decisions they trust. For instance, a head physician reveals that it is an unspoken rule that if a certain doctor, let us call him Dr Graham, has agreed to anesthetize a patient at a certain time, this implies that you are automatically authorized a good place in line to the MR-scanner. The authority of Dr Graham in this way ranges above the formal line for the MR-scanner.

For the Lean consultants, in contrast, plans are not something that 'probably last for the next 24 hours', but accurate, formal assessments based on carefully defined, objective principles. Authority to conduct distribution decisions lies primarily with the participants in the distribution meeting, or perhaps more precisely in the principles themselves, making the distribution practice a task conducted in an objective manner detached from subjective estimations or personal relationships, such as the ones depicted as the 'dirty laundry' of the hospital unit.

Discussion: The Organizational Propositions of Contesting Valuation Devices

As the Lean consultants, the members of the clinical management team, the doctors and nurses work to optimize the patient distribution practice, the process turns out to be somewhat more complicated. What the participants expected to be a process about formalizing and improving criteria turned out to involve a number of struggles regarding the very task of distributing patients and the organizational reality this task is a part of. The analysis shows how different methods of valuing are embedded with organizational propositions, and reversely, how different organizational propositions render appropriate certain methods of valuation. The Lean workshops therefore become a scene where different programs struggle, and where not only propositions about

valuation criteria, i.e. how to sort out and hierarchize the patients, but also propositions about the organizational reality, are put to trial.

This finding confirms and adds to recent calls by scholars of values and organizations who have pointed to the relevance of not assuming that calculative devices become successful in enacting a certain reality, but to focus on the valuation trials which the device co-constitutes with the organization in which it is introduced (Antal et al., 2015; Gond et al., 2016; Muniesa & Linhardt, 2011). As a means of unfolding these valuation trials, the paper has suggested the relevance of classical organization theory. Classical organization theory offers a practically oriented vocabulary that translates the question about a device's ability to perform into a question about its ability to alter the organizational task. This move renders the question analytically approachable and brings forward the practical relevance of studying performativity and valuation; an activity which has a tendency to resolve to more general and metaphysical discussions (Vikkelsø, 2015). In this paper I have used Mintzberg's four 'flows' to summon central aspects that, according to classical organization theory (including Lawrence & Lorsch, 1967; March & Simon, 1958/1993; Perrow, 1965), format the nature of the task, and thus of the organizational reality. The relevance of these aspects are not unique to the case of optimizing patient distribution at the hospital, but offer a general means of investigating trials of valuation in organizations.

With the category of 'work material' attention is focused on the political work of settling the 'nature' of the material being handled; in this case patients and hospital beds, and the struggles of calculability and rarefaction involved in this work. The category of 'decision situations' points to the moment where the order, or value, is fixed and the struggles involved in settling these moments. In this case, the clinical professionals held that decisions about distributions are intermeshed and made at different occasions (such as when one section is congested, or when there is 'a liver boy from Århus' coming), where the Lean consultants proposed much more firmly organized decision situations. With the category 'information', attention is focused on the close entanglements of information and the character of the task. In this case we saw how the clinical professionals held that relevant information is unpredictable and necessitates extraction and reinterpretation through professional interaction with the patient. The Lean consultants, in contrast, held that good information is calculated and processed from objective observations. With the fourth and last category, 'authority and discretion', focus is on who or what is able to decide what counts. In the children's hospital, clinical professionals around the patients were authorized to make distribution decisions, although this was more a routine than the result of a formal decision. In contrast, the Lean consultants placed authority with guidelines and

principles pushing for an organization where all clinical professionals would make the same decisions, because principles were followed.

Conclusion

Studies of organization and values have been accused of not sufficiently situating and adapting the performativity program, indicating a lack of organizational conceptualizations of performativity (Gond et al., 2016) and a lack of attention to the specific conditions of valuation organizations hold. In response, this paper has suggested translating the question of performativity of devices into a question about their ability to modify the task at hand. I find that this approach avoids some of the criticisms presented against the Callonian performativity program as presented in the introduction. For one, it is not prone to a fascination with economic engineering. Quite the contrary, it could be criticized for being prone to a fascination with organizational tasks. However, as already argued in this journal, it might be useful to reinstall the organization and its core objects in studies of organization (Du Gay, 2015; Lopdrup-Hjorth, 2015; Vikkelsø, 2015). For two, it directs attention to the conditions that enable the devices to perform successfully and make something valuable. While the empirical example of this paper mainly stems from the 'strategy room', the flows of organizational tasks could equally be applied to studies of everyday organizational practices, which would also allow to take the material aspects of such valuation trials more into account. Third and lastly, the use of classical organization theory to analyze organizational trials addresses calculative and mundane valuations symmetrically.

As attempts to modernize the welfare state, for instance in the shape of New Public Management, are increasingly criticized, establishing an improved understanding of management devices and their co-constituted performativity in organizations remains pertinent. The new generations of devices are already lined up to take over the place of Lean and others, including anti-devices such as the new Danish 'hands-off reform' (Blem Larsen, 2016; Villesen & Kristensen, 2016). However, rather than continuing the process of trying-testing-rejecting management devices in public organizations, and expecting the next device to be the perfect fit, this paper gives voice to the relevance of dwelling on the investigation of the co-constituted performativity of devices in organizations in order to enhance our understanding of their ability to transform values and organizations. As John Dewey stated: "The choice is not between throwing away rules previously developed and sticking obstinately by them. The intelligent alternative is to revise, adapt, expand and alter them" (Dewey 1922/2002: 165).

References

4S/EASST. "Track T064, Barcelona Conference 2016." 4S/EASST Conference BCN-2016, accessed June/15, 2016, http://www.nomadit.co.uk/easst/easst_4s2016/panels.php5?PanelID =3973.

Antal, Ariane Berthoin, Michael Hutter, and David Stark. 2015. *Moments of Valuation: Exploring Sites of Dissonance* Oxford University Press.

Austin, John Langshaw. 1962. *How to do Things with Words. the William James Lectures Delivered at Harvard University in 1955.*, edited by James O. Urmson Clarendon Press.

Blem Larsen, Johan. 2016. "Mette Frederiksen Ønsker En Revolution i Den Offentlige Sektor." *Www.Dr.Dk*, September 23. 2016.

Boltanski, Luc and Laurent Thévenot. 2006. *On Justification: Economies of Worth* Princeton University Press.

Butler, Judith. 2010. "Performative Agency." *Journal of Cultural Economy* 3 (2): 147-161.

Caliskan, Koray. 2007. "Price as a Market Device: Cotton Trading in Izmir Mercantile Exchange." *The Sociological Review* 55 (s2): 241-260.

Callon, Michel. 1998. *The Laws of the Markets*. Vol. 6 Blackwell Oxford.

———. 2007. "What does it Mean to Say that Economics is Performative." *Do Economists make Markets*: 311-357.

Callon, Michel and John Law. 2005. "On Qualculation, Agency, and Otherness." *Environment and Planning D: Society and Space* 23 (5): 717-733.

Cochoy, Franck. 2008. "Calculation, Qualculation, Calqulation: Shopping Cart Arithmetic, Equipped Cognition and the Clustered Consumer." *Marketing Theory* 8 (1): 15-44.

Davies, William. 2017. "How are we Now? Real-Time Mood-Monitoring as Valuation." *Journal of Cultural Economy* 10 (1): 34-48.

de Souza, Luciano Brandão and Michael Pidd. 2011. "Exploring the Barriers to Lean Health Care Implementation." *Public Money & Management* 31 (1): 59-66.

Dewey, John. 1922/2002. *Human Nature and Conduct: An Introduction to Social Psychology*. Human Nature and Conduct. New York: Promentheus Books.

———. 1939. *Theory of Valuation*. Chicago, Illinois: The University of Chicago Press.

Diefenbach, Thomas. 2005. "Competing Strategic Perspectives and Sense-Making of Senior Managers in Academia." *International Journal of Knowledge, Culture and Change Management* 5 (6): 126-137.

———. 2009. "New Public Management in Public Sector Organizations: The Dark Sides of Managerialistic 'enlightenment'." *Public Administration* 87 (4): 892-909.

Doganova, Liliana, Martin Giraudeau, Claes-Fredrik Helgesson, Hans Kjellberg, Francis Lee, Alexandre Mallard, Andrea Mennicken, Fabian Muniesa, Ebba Sjögren, and Teun Zuiderent-Jerak. 2014. "Valuation Studies and the Critique of Valuation." *Valuation Studies* 2 (2): 87-96.

Du Gay, Paul. 2015. "Organization (Theory) as a Way of Life." *Journal of Cultural Economy* 8 (4): 399-417.

Du Gay, Paul and Signe Vikkelsø. 2016. *For Formal Organization: The Past in the Present and Future of Organization Theory* Oxford University Press.

Dussauge, Isabelle, Claes-Fredrik Helgesson, and Francis Lee. 2015. *Value Practices in the Life Sciences and Medicine* Oxford University Press.

Espeland, Wendy Nelson and Michael Sauder. 2007. "Rankings and Reactivity: How Public Measures Recreate Social Worlds1." *American Journal of Sociology* 113 (1): 1-40.

Espeland, Wendy Nelson and Mitchell L. Stevens. 2008. "A Sociology of Quantification." *European Journal of Sociology* 49 (03): 401-436.

Felin, Teppo and Nicolai J. Foss. 2009. "Social Reality, the Boundaries of Self-Fulfilling Prophecy, and Economics." *Organization Science* 20 (3): 654-668.

Fourcade, Marion. 2007. "Theories of Markets and Theories of Society." *American Behavioral Scientist* 50 (8): 1015-1034.

Georg, Susse and Kjell Tryggestad. 2009. "On the Emergence of Roles in Construction: The Qualculative Role of Project Management." *Construction Management & Economics* 27 (10): 969-981.

Gond, Jean-Pascal, Laure Cabantous, Nancy Harding, and Mark Learmonth. 2016. "What do we Mean by Performativity in Organizational and Management Theory? the Uses and Abuses of Performativity." *International Journal of Management Reviews* 18: 440-463.

Haberstroh, Chadwick J. 1965. "Organization Design and Systems Analysis." In *Handbook of Organizations*, edited by James G. March, 1171-1211. Chicago: Rand McNally.

Hauge, Amalie Martinus. 2016. "The Organizational Valuation of Valuation Devices: Putting Lean Whiteboard Management to Work in a Hospital Department." *Valuation Studies* 4 (2): 125-151.

Hébert, Karen. 2014. "The Matter of Market Devices: Economic Transformation in a Southwest Alaskan Salmon Fishery." *Geoforum* 53: 21-30.

Heuts, Frank and Annemarie Mol. 2013. "What is a Good Tomato? A Case of Valuing in Practice." *Valuation Studies* 1 (2): 125-146.

Hines, Peter, Matthias Holweg, and Nick Rich. 2004. "Learning to Evolve: A Review of Contemporary Lean Thinking." *International*

Journal of Operations & Production Management 24 (10): 994-1011.

Holm, Petter and Kåre Nolde Nielsen. 2007. "Framing Fish, Making Markets: The Construction of Individual Transferable Quotas (ITQs)." *The Sociological Review* 55 (s2): 173-195.

Holweg, Matthias. 2007. "The Genealogy of Lean Production." *Journal of Operations Management* 25 (2): 420-437.

Hood, Christopher. 1991. "A Public Management for all Seasons?" *Public Administration* 69 (1): 3-19.

Hunt, Raymond G. 1970. "Technology and Organization." *The Academy of Management Journal* 13 (3): 235-252.

Joosten, Tom, Inge Bongers, and Richard Janssen. 2009. "Application of Lean Thinking to Health Care: Issues and Observations." *International Journal for Quality in Health Care* 21 (5): 341-347.

Kirkpatrick, Ian, Stephen Ackroyd, and Richard Walker. 2005. "The New Managerialism and Public Service Professions." *Hampshire: Palgrave Macmillan*.

Kornberger, Martin, Lise Justesen, Anders Koed Madsen, and Jan Mouritsen. 2015. *Making Things Valuable*. United Kingdom: Oxford University Press.

Lawrence, Paul R. and Jay W. Lorsch. 1967. "Differentiation and Integration in Complex Organizations." *Administrative Science Quarterly*: 1-47.

———. 1986. "Organization and Environment: Managing Differentiation and Integration (Harvard Business School Classics)." .

Lopdrup-Hjorth, Thomas. 2015. "Object and Objective Lost? Organization-Phobia in Organization Theory." *Journal of Cultural Economy* 8 (4): 439-461.

March, James G. and Herbert Alexander Simon. 1958/1993. *Organizations*. 2nd ed. Cambridge, Massachusetts: Blackwell Publishers.

Mennicken, Andrea and Ebba Sjögren. 2015. "Valuation and Calculation at the Margins." *Valuation Studies* 3 (1): 1-7.

Mintzberg, Henry. 1979. *The Structuring of Organizations - A Synthesis of the Research*. Englewood Cliffs: Prentice-Hall.

Mirowski, Philip and Edward Nik-Khah. 2007. "Performativity, and a Problem in Science Studies, Augmented with Consideration of the FCC Auctions." *Do Economists make Markets?: On the Performativity of Economics*: 190.

Moor, Liz and Celia Lury. 2011. "Making and Measuring Value: Comparison, Singularity and Agency in Brand Valuation Practice." *Journal of Cultural Economy* 4 (4): 439-454.

Muniesa, Fabian. 2012. "A Flank Movement in the Understanding of Valuation." *The Sociological Review* 59 (s2): 24-38.

Muniesa, Fabian and Dominique Linhardt. 2011. "Trials of Explicitness in the Implementation of Public Management Reform." *Critical Perspectives on Accounting* 22 (6): 550-566.

Newman, Janet and Bob McKee. 2005. "Beyond the New Public Management? Public Services and the Social Investment State." *Policy & Politics* 33 (4): 657-673.

Orlikowski, Wanda J. and Susan V. Scott. 2013. "What Happens when Evaluation Goes Online? Exploring Apparatuses of Valuation in the Travel Sector." *Organization Science* 25 (3): 868-891.

Perrow, Charles. 1986. *Complex Organizations: A Critical Essay*. 3rd ed. New York: McGrawHill.

———. 1967. "A Framework for the Comparative Analysis of Organizations." *American Sociological Review* 32 (2): 194-208.

———. 1965. "Hospitals: Technology, Structure, and Goals." In *Handbook of Organizations*, edited by James G. March, 910-971. Chicago: Rand McNally Chicago.

Pontille, David and Didier Torny. 2015. "From Manuscript Evaluation to Article Valuation: The Changing Technologies of Journal Peer Review." *Human Studies* 38 (1): 57-79.

Preda, Alex. 2006. "Socio-Technical Agency in Financial Markets the Case of the Stock Ticker." *Social Studies of Science* 36 (5): 753-782.

RegionH. "Alle Hospitaler Skal Bruge LEAN.", last modified 1/272013, http://www.regionh.dk/topmenu/Nyt_Presse/Nyheder/2011+arkiv/Arkiv/Lean/.

Rona-Tas, Akos and Stefanie Hiß. 2011. "Forecast as Valuation: The Role of Ratings and Predictions in the Subprime Mortgage Crisis in the US." *The Worth of Goods: Valuation and Pricing in the Economy*: 223-246.

Roscoe, Philip and Barbara Townley. 2015. "Unsettling Issues: Valuing Public Goods and the Production of Matters of Concern." *Journal of Cultural Economy*: 1-6.

Scott, W. Richard and Gerald F. Davis. 2007. *Organizations and Organizing. Rational, Natural and Open System Perspectives*. New Jersey: Pearson Education.

Stark, David. 2009. *The Sense of Dissonance: Accounts of Worth in Economic Life* Princeton University Press.

———. 2011. "What's Valuable?" In *The Worth of Goods - Valuation and Pricing in the Economy*, edited by Jens Beckert and Patrik Aspers, 319-338. Oxford: Oxford University Press.

Thim, Troels, Niels Henrik Krarup, Erik Lerkevang Grove, and Bo Løfgren. 2010. "ABCDE--Systematisk Tilgang Til Patienter Med Kritisk Sygdom." *Ugeskrift for Læger*.

Vikkelsø, Signe. 2015. "Core Task and Organizational Reality." *Journal of Cultural Economy* 8 (4): 418-438.

Villesen, K. and K. Kristensen. 2016. "Mette Frederiksen Lover Opgør Med Kontrol i Det Offentlige." *Information*, September 23. 2016.

Ward, Steven C. 2011. "Commentary." *Journal of Cultural Economy* 4 (2): 205-215.

Womack, James P. and Daniel T. Jones. 1996. *Lean Thinking: Banish Waste and Create Wealth in Your Organisation*. Rockefeller Center, New York: Simon and Schuster.

Young, T. P. and S. I. McClean. 2008. "A Critical Look at Lean Thinking in Healthcare." *Quality & Safety in Health Care* 17 (5): 382-386.

Zuiderent-Jerak, Teun. 2009. "Competition in the Wild: Reconfiguring Healthcare Markets." *Social Studies of Science* 39 (5): 765-792.

Zuiderent-Jerak, Teun and Stans van Egmond. 2015. "Ineffable Cultures Or Material Devices: What Valuation Studies can Learn from the Disappearance of Ensured Solidarity in a Health Care Market." *Valuation Studies* 3 (1): 45-73.

4.3 ARTICLE 3: SITUATED VALUATIONS: THE AFFORDANCES OF DEVICES IN ORGANIZATIONS

This article has been submitted to the journal Organization in February 2017. In contrast to the other two articles, this one contains dispersed examples from my fieldwork, rather than one chronological 'story' as the other two. Accordingly, each of the examples have been presented and discussed on different occasions, including my second work in progress seminar in September 2016. The following version is almost identical to my submission to Organization.

Situated Valuations: The affordances of devices in organizations

Amalie Martinus Hauge

Abstract

How do devices work in organizations? The relationship between devices – or technology – and organization has been a recurrent subject for organization studies since the 1950s. Today most studies approach the relationship between device and organization as one of co-constitution. While this is useful, it does not yet provide a sufficient understanding of the cases where devices in organizations only work in some situations. In this paper, I argue that by drawing on insights from affordance theory and valuation studies, valuable nuances of the relationship between devices and organization are brought forward. Departing from an ethnographic case study of a hospital department's use of Lean management, the paper shows that the relationship between device and organization is established in the interplay between the affordances evoked by the device and the organization's situated valuations of these.

Key words: Management devices, co-constitution, valuation, affordance theory, situated valuation

Introduction: Management devices with answers for everything

Modernization reforms in the public sector have entailed a proliferation of management devices promising to improve the ability of public organizations to create value. These management devices have caused great divisions among professionals, politicians and academics. One position claims that the right management devices can save public organizations from being flooded by waves of demands caused by economic pressure, public expectations and globalization (Moore, 1995; Salamon & Elliott, 2002; Womack, Jones, & Roos, 1990). Another position is that these same management devices are, at best, not that efficient (Apple, 2005; Hood & Dixon, 2015), at worst, pose a greater threat to the survival of public organizations as we know them than the problems they offer to solve (Diefenbach, 2005; Diefenbach, 2009): They are destroying the public ethos (Kirkpatrick, Ackroyd, & Walker, 2005) and generally conflict with the interest of the public (Bevir, Rhodes, & Weller, 2003; Dunleavy & Hood, 1994; Wright, 1994).

What do management devices do to public organizations to justify such polarized responses? Among organization studies, the effects of management devices, or, more specifically, technologies, in organizations have been studied comprehensively, also before the emergence of the reforms associated with New Public Management. The refinement of the understanding of the relationship between devices and organization has passed through causality (Lawrence & Lorsch, 1967; Woodward, 1958) and structuration (Barley, 1986; DeSanctis & Poole, 1994) and now, in contemporary studies, it is most prominently understood as a matter of co-constitution (Chia, 2003; Czarniawska-Joerges & Sevón, 2005; Orlikowski, 2007). However, while the co-constitutive approaches have moved beyond past times' understanding of technology as a 'solid' variable in an organization, there is still a need to nurture further nuances, as the co-constitutive approaches are not capable of dealing sufficiently with cases where the device is only occasionally 'picked up' by the organization.

In order to bring forward more fine-grained details in our understanding of the interplay between devices and organization, the paper employs insights from the theory of affordances and from the emerging field of valuation studies. From affordance theory (Gibson, 1977; Hutchby, 2001; Zammuto, Griffith, Majchrzak, Dougherty, & Faraj, 2007), the paper utilizes the insight that the attributes of a device matter in terms of what the device comes to afford in an organization. Drawing on valuation studies (Antal, Hutter, & Stark, 2015; Dussauge, Helgesson, & Lee, 2015; Muniesa, 2012), the paper suggests that the relevance of these affordances is established in particular situations through 'situated valuations'. Based on examples from an empirical study of Lean management in a children's hospital, the argument is developed that the relationship between devices

and organization is established in the interplay between the affordances of the device and the organization's situated valuations of these.

The remainder of the paper falls into four sections. First a theoretical section in which I account for the co-constitutive understanding of the relation between devices and organization characterizing two prominent approaches to organization studies, namely actor-network theory and process theory. On this basis, I unfold how I suggest employing insights from first affordance theory and then from the field of pragmatic valuation studies. Second, I introduce the empirical study of a Danish children's hospital's use of Lean management and the research methodology. Third, in the analysis, I explore how and why Lean management only comes to work in certain situations in the children's hospital. Drawing on three examples the paper investigates what Lean comes to afford in these situations, and how these affordances are assessed by the organization. Fourth, in the conclusion I summarize how the findings of the paper contribute to the refinement of the co-constitutive understanding of the relationship between devices and organizations, and discuss what these additional nuances may mean for the polarized understanding of what management devices can do 'to' public organizations.

Device and organization – towards the co-constitutive approaches

A 'device' is something that is designed to achieve a particular effect, and can, according to the Merriam-Webster dictionary, both refer to a piece of equipment, a plan or 'something fanciful' (Merriam-Webster, 2017: 'device'). Historically, organization theory tends to address 'technology' rather than devices. I prefer, however, the notion of 'device' in studying Lean management, as Lean management both involves plans, equipment and a more fanciful or elaborate set of ideas. While recognizing the nuances of each of the concepts, in the following I relate the discussions among organization studies about technology and organization to those of devices found in related fields and particularly the field of studies of valuation .

The relationship between technology and organization has, in different ways and with different purposes, been a recurrent issue for organizational scholars since the 1950s, where scholars in opposition to the 'closed logic of the rational model' began to see organizations as 'open systems' (Thompson, (1967)2007: 145). Assuming that the suitable structure of an organization is contingent upon the organization's task environment (Lawrence & Lorsch, 1967; Mintzberg, 1979; Thompson, (1967)2007), many of these studies investigated how technology and organizational structure (as a term for the "arrangements among people for getting work done" (Perrow, 1967: 195)) are best aligned, using comparative analyses (Heydebrand, 1965; Lawrence & Lorsch, 1967;

Woodward, 1958). Where contingency theory primarily deals with technology as moderating the organization, structuration theory, as formulated in the 1980's and (Barley, 1986; DeSanctis & Poole, 1994; Orlikowski, 1992) suggests understanding technology as both 'product and form' (Barley, 1986: 79) or as product and process (Orlikowski & Scott, 2008: 452). Its understanding of technology is thus less solid than what was characteristic of the contingency approach, but still holds an assumption of 'sequential interdependency' (Thompson, (1967)2007; Vikkelsø, 2003: 37): While interested in 'appropriation' (DeSanctis & Poole, 1994) or 'structuration' (Barley, 1986; Orlikowski, 1992) as a reciprocal movement, the movement is still studied as if it went in one direction. The initial moment of 'social construction' is separated from the consecutive process, where it is assumed that the technology 'stabilizes' and offers little variation in terms of what it can do (Orlikowski, 2000; Vikkelsø, 2003; Woolgar & Grint, 1991). Rather than taking organization and technology as separate entities that enter into a unidirectional, reciprocal relationship, the co-constitutive approaches take technology and organization to be mutually constitutive.

The co-constitutive approaches

To make clear how this paper brings forward nuances to the co-constitutive approaches, I will briefly introduce two prominent 'branches' of organization studies employing the idea that organization and technology are mutually constitutive, namely those drawing on actor-network theory and those drawing on process theory.

Organization studies drawing on actor-network theory (Callon, 1984; Latour, 1999) including Scandinavian institutionalist studies (Czarniawska & Joerges, 1996; Czarniawska, 2008; Czarniawska-Joerges & Sevón, 2005), generally focus on how humans and non-humans are assembled and stabilized in processes of 'translation' (Alcadipani & Hassard, 2010; Law, 1999). In these studies, technology is generally addressed as "an endogenous, co-constituent element" rather than a separate variable that influences the social organization other things being equal (Vikkelsø, 2003). The actor-network approaches see everything as local: They object against abstractions or generalizations such as 'cold objectifications', 'superior reasons' or 'mysterious structures' (Latour, 2005: 179), and claim that "an organization is certainly not 'bigger' than those it organizes" (ibid.). Therefore, we should not make these 'invisible factors' explanatory, but rather see them as occasions of inquiry and investigate what constitutes them by 'following the actors'.

Actor-network theory has been used to study a range of organizational phenomena, including management and accounting technologies (Baker, Chiapello, Justesen, & Mouritsen, 2011; Hansen & Mouritsen, 1999; Justesen & Mouritsen, 2009; O'Connell, Ciccotosto, & De Lange, 2014) and Lean management (Papadopoulos & Merali, 2008; Papadopoulos, Radnor, & Merali, 2011), but has been particularly applied to studies of

information technology (Hanseth, Aanestad, & Berg, 2004; Pentland & Feldman, 2007; Plesner, 2009; Vikkelsø, 2010). With the idea of 'translation' these studies part with the dichotomous discussions about 'on which side' the change is activated (Czarniawska-Joerges & Sevón, 2005; Dent, 2003; Vikkelsø, 2003): On the side of the technology (or agency) or on the side of organization (or structure)? Such a modernist understanding, it is argued, is unable to grasp current trends, such as, for example, the globalization of management ideas (Czarniawska & Sevón, 1996).

For organization studies within the branch of process theory and postmodernism a key characteristic is the replacement of the 'modern' preference of stability and order with an understanding of organizations as 'becoming' (Gergen, 2010; Hernes & Maitlis, 2010; Tsoukas & Chia, 2002; Weik, 2011). Where actor-network theory addresses the mutual translation of human and non-human actors, organization studies drawing on process theory operate with an understanding of the world 'in flux' (Gergen, 2010; Hernes, 2007). The effort of human activity is to create 'order out of disorder' and 'cosmos out of chaos' (Chia, 1996; Clegg, Kornberger, & Rhodes, 2005). This implies that 'stable states' are understood as temporary manifestations of an 'ever-fluxing milieu' (MacKay & Chia, 2013: 224). Among studies of organization employing the process perspective, technology - and material objects in general - are "no more than 'stability waves in a sea of process'" (Rescher 1996: 53 cited by Styhre, 2001). Management concepts, Styhre (2002) argues, are 'becoming' and impossible to fix, yet can still serve a purpose (Styhre, 2002: 472).

Both actor-network theory and process-based approaches thus operate with a relational ontology, emphasizing that organization and technology are both accomplishments rather 'solid' entities in themselves. Both approaches are capable of grasping examples where a device comes to do different things in different organizations, or where we cannot capture the 'essence' of a device. Yet, this paper finds that further nuances are required to deal with the question of how a management device like Lean management is only 'occasionally' picked up by the organization. With the analytical figures of 'translation' and 'actor-network', we often see relatively linear accounts of how one actant enrolls other actants in unexpected ways leading to a certain outcome, and with the 'flux' figure, the argument about ontological instability comes to overshadow an understanding of how the 'fluxing' relationship is established in empirical situations. In order to bring forward such nuances, then, the paper suggests consulting the fields of affordance theory and valuation studies.

Affordance theory

Originally suggested by the perception psychologist Gibson (1977), the notion of 'affordances' has been widely used in design studies (Gaver, 1991; Norman, 1988) and was introduced to the discussion about

technology and the social (not organization, in this case) by Hutchby (2001). In suggesting 'affordances' Hutchby positions himself against the radical social constructivist position, which suggests looking at technologies as 'texts' which can then be 'read' by the users, as formulated by Woolgar and Grint (1991). This, Hutchby argues, makes technology a tabula rasa, overlooking the fact that the material attributes of a technology matter (2001: 450). In order to bring attention to these 'attributes', Hutchby suggests the concept of affordances. Affordances "do not impose themselves upon humans' actions with, around, or via that artefact. But they do set limits on what it is possible to do with, around, or via the artefact." (Hutchby, 2001: 453). What I like about the concept of affordances for the purpose of this paper, is that it orients the analysis towards empirical observations of what a technology does in interplay with the organization. However, it leaves something to be desired in terms of grasping the organizational circumstances of situations in which a device comes to afford something. For this purpose, I suggest mobilizing the emerging field of valuation studies.

Valuation studies

Valuation studies are a collection of studies (key contributions being, for example, Dussauge et al., 2015; Helgesson & Kjellberg, 2013; Muniesa, 2012) drawing on different theoretical approaches (such as economic sociology and STS) with a shared empirical interest in valuation devices and practices, rather than a clearly delineable theoretical approach. Valuation studies in this way comprise everything from comparisons of food assessment devices (Christensen & Strandgaard, 2013), analyses of fish quotas (Holm & Nielsen, 2007) and the negotiations of subsidies in medical trials (Sjögren, 2008). Yet, from studies of valuation two central and closely related insights relevant to shedding light on the device/organization relationship can be drawn, namely the 'move' from value to valuation and the focus on 'situations'.

Pragmatic studies of valuation get from Dewey the idea that values are not an intrinsic quality of an object: they are established in empirical situations (Dewey, 1939) through socio-technical processes often involving devices (Muniesa, 2012), hence the focus on valuing and valuation rather than value. Rather than seeing value as an explanatory factor, value is something that calls for explanation (Doganova et al., 2014; Dussauge et al., 2015). Based on Dewey's attention to situations, some studies of valuation operate with a 'methodological situationalism' (Antal et al., 2015; Krafve, 2015), as formulated by Knorr-Cetina (1988). '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 things 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 together these principles, I establish the notion of 'situated valuations' as a way of grasping how the relationship of a device 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.

The empirical case: Lean management at a children's hospital

In the literature, Lean does explicitly not present itself as a tool, but as a particular 'way of thinking' (Womack & Jones, 1996). Its five principles of specifying customer value: identifying the value stream, creating flow, letting customers 'pull' value and pursuing perfection (Bicheno & Holweg, 2009; Womack & Jones, 1996; Womack et al., 1990), are recommended to sectors ranging from car production plants through pharmaceutical industries to hospitals, and to tasks ranging from value analysis and organization of storage rooms to entrepreneurial innovation (Johnstone, Pairaudeau, & Pettersson, 2011; Joosten, Bongers, & Janssen, 2009; Modig & Åhlström, 2013; Stone, 2012). In healthcare, the use of Lean is often criticized for not having 'delivered its promise' (Radnor et al., 2012) and of only existing in 'pockets of best practice' (Radnor et al., 2012; Spear, 2005). A frequent explanation for this is that the hospital organizations set up barriers that disable Lean from working (de Souza & Pidd, 2011; Joosten et al., 2009). The children's hospital under study in this paper is an example of a case where Lean does not work as 'a way of thinking' or in the elaborate way the managers and Lean consultants intended it to. Yet, occasionally, Lean is picked up by the organization, and these situations are what interest this paper.

The children's hospital, Juliane Marie Centret or just 'The JMC', is part of Rigshospitalet; one of Denmark's largest and most highly specialized hospitals. The JMC employs about 1,500 people. Approximately 800 are nurses, midwives and nurse assistants; 200 are doctors; 135 are doctors' secretaries and the remainders are psychologists, dieticians, researchers etc. On a daily basis, the JMC provides out-patient care to 645 patients, has 212 admitted patients, performs 36 operations, cares for 22 children in incubators, does 130 fetal ultrasounds, has 40 couples in for fertility consultation and assists in the births of 18 babies. The JMC began to work with Lean in 2005 inspired by other hospitals such as Virginia Mason in the United States and Karolinska in Sweden, as well as developments in the private sector in Denmark. Since then, the use of Lean has gradually increased due to internal developments, such as the employment of a trained economist as Head Lean Consultant (HLC), and external pressures, such as the regional political demand that all units must have implemented a 'Lean culture' by 2016 (RegionH, 27-01-2011).

I have studied the JMC's Lean practices through an organizational ethnography of approximately 10 months in total, carried out in sequences from 2011-2014. The ethnographic study consisted of planned, participant observations, including 'shadowing' (around 150 hours), qualitative interviews (25), training to become a Lean agent (three days) and informal conversations and encounters when 'at work' in my office at the hospital. I also studied the hospital's strategy work and documents, and did a literature study of Lean in healthcare. In conducting the ethnographic study I worked systematically to gain an overview of what happened in relation to Lean, but also – through shadowing and by having an office in the hospital – came across Lean in situations, where Lean was not really supposed to be and found it doing other things than it was meant to. What interests me is not the extent to which these situations reflect a Lean 'way of thinking', but to understand how Lean was found to be a means in these situations: What did it afford, and why was this found useful?

Setting the scene: Lean at the children's hospital

The JMC works with Lean in primarily two ways: As Blitz Projects and as Kaizen meetings. The Blitz projects typically involve Value Stream Mapping (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 JMC it has, for example, been used to map and redesign the path of patients with imminent abortion through the Acute Reception of the Clinic of Gynecology.

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' (J. Womack, 2016). In the JMC, attention to continuous improvements is cast through 'whiteboard meetings' (which is an amalgamation of different Lean-related tools, found particularly in Scandinavia (Rahbek Gjerdrum Pedersen & Huniche (2011) and Hauge (2016)) but also observed in France by Paring, Pezé and Huault (2017)). Whiteboard meetings are local to particular teams or sections, take place on a set time every week, last 15-20 minutes and operate with a fixed agenda and an appointed whiteboard manager. They 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 at the time. For instance, a target can be that 95 % of incoming patients are assigned a care responsible nurse. During the meetings the manager in collaboration with the participants goes through the status of each target and evaluates whether it is achieved or not, and if not, what actions need to be taken.

At the time of this study, the JMC had been working these activities for some years with varying intensity and success among the different units. In spite of some frequently told success stories, the hospital was not

buzzing with Lean activity. No unit or team had any suggestions for Blitz projects, for example, during what was supposed to be the 'Big Round of Autumn Blitz' in 2014, where multiple projects should have been conducted at the same time to achieve a synergy effect. Additionally, in many units, 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 struggled to interest her colleagues in the results, even though they were put on a large whiteboard (2 x 5 meters or so) and aided by numerous means of nudging in the shape of colored smiley badges, post-its and hand-drawn arrows. During interviews, some informants would even confide that they would duck or take detours through the hospital to avoid Lean activities.

In dispersed situations, however, Lean would suddenly be picked up and used to achieve something. Three examples of such situations will be unfolded in the following: The first example involves the invention of an acute trolley. This invention became possible partly due to the temporal frame afforded by Lean; a temporal frame which is normally highly criticized. The next involves a media scandal about children's fasting times, where the often ridiculed Lean metrics and jargon became useful in organizing a cross-professional effort. The last example involves the detection of problematic details regarding how to assess the catheters of babies; a discovery for which the physical space afforded by Lean played a significant role. I present the three examples one by one and after each example I unfold an answer to the question of how Lean came to be valued as a means in the specific situation.

Example 1: Lean and the acute trolley

"Why don't you try and go out in the corridor and say 'low hanging fruits'? Then I promise you: You will have to duck to avoid the things people will throw at you! People have had enough of that.". This is the answer I get from a head physician from the neonatology unit when I ask him about the status of their Lean work. This particular physician is one out of a handful of physicians who have attended the Lean Agent course; he has a reputation of 'having seen the light', as the phrase goes about people who express some kind of appreciation of Lean. Yet, he is not happy about what Lean is doing to his department: "You know, the principle of continuous improvement, right? Well, it is the same as saying to people over and over again that what they are doing is not good enough – it will always feel like a criticism, and this is what you are imposing on people who are already under pressure and trying to do their best!" However, he also emphasizes particular occasions where Lean has worked well. One of these is echoed in other interviews with informants from his and related units: The invention of the acute trolley.

In the neonatal unit around 1,100-1,200 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 in 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 important that the doctors can begin their work straight away. For this to be possible, certain pieces of specialized equipment and tools – in the right size – are necessary, such as laryngoscopes, a radiant warmer, feeding tubes, an anesthesia bag, an oxygen source, a pulse oximeter, a carbon dioxide monitor and neonatal probes etc. Yet, the rooms are small, and also need to accommodate nurses, doctors, parent beds and the incubators with the arriving children. The equipment, therefore, used to be 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 head physician 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 neonatology 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".

> **What is a Kaizen Blitz?**
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> The Kaizen Blitz (or Kaizen Event) is a focused, short-term project to improve a process. It includes training followed by an analysis, design, and, often, re-arrangement of a product line or area. Process and Value Stream Mapping are important tools. The usual Kaizen Event takes 2-10 days.
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> Source: Bicheno and Holweg (2009)

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, 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 in order to make it easy for people 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 in each of its three teams, and the responsibility for maintaining the trolleys has been delegated, so that it is always ready for use. "It is an enormous success" the head physician concludes.

The acute trolley: How was Lean a means?

Why did the neonatology unit not solve this problem many years ago, before Lean? According to the doctors and nurses from the unit, they did not previously have an opportunity to address the problem. For them, the

role of the Lean consultant and adapted Kaizen Blitz afforded an opportunity they did not experience to have before. But wherein did this affordance exist? In this case, it particularly has to do with the temporal frame afforded by Lean.

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 is the arrival of new patients, changes in patients' conditions, requests of supervision or help from colleagues etc.: 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 commensurated with these 'normal' activities, they often come in 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 the peripheral things are being made central or that the core task is being distorted. The whiteboard meetings in the neonatology unit, for example, are working towards an overall goal of reducing the mortality rate for the admitted children. To achieve this, they have (among other things) decided to increase their meticulousness in assessing catheters; a practice which requires the physicians to make a tick and comments in an IT application. Yet, many physicians feel that reducing the mortality rate is exactly what they are working to achieve in a very literal sense, when they are with the patients; not with the whiteboard or the computer. They experience that Lean requires them to spend more time on ticks and whiteboards than on what – from their perspective – should be on top of their 'list' of priorities. In this way, the clinical professionals' timeframe collides with Lean's: Lean holds a much longer time horizon, looking at 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. So 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 to this has two components.

Firstly, the group who develops the acute trolley used the Kaizen Blitz as a device to temporally mark a period where they will evaluate their current organization; a slot in the calendar, where they agree to work on the equipment and space problem. By using this device, the trolley-process formally and practically gets a 'beginning' and becomes disentangled from daily operations. Even though they modify and shorten the Lean device of Kaizen Blitz, they use it as a label to indicate it is a parallel activity that is worth spending time on. This 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 case it is exactly what makes it valuable.

Secondly, the Kaizen Blitz affords an alternative temporal frame to that which is enacted in most hospital situations. Using the Lean device of VSM as part of the Kaizen Blitz, for example, offers a different way of talking about time than what is usually done in the unit. A VSM typically involves the making of a patient path on a long brown sheet of paper (5 x1 meters or so) using post-its to visually identify the tasks of the different professionals as part of the path. Then 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 particular day, the VSM device offers a different frame, namely one that allows for a more distant future-making. While this temporal frame of Lean in many situations is negatively valued, 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 becomes involved in a case about children's fasting times.

Example 2: Lean and the 'hunger case'

> 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'?[17] 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 is standing in a suit in front of a flip-over, going through his suggestion on how to achieve the improvement. With her arms crossed, the managing head physician is leaning back on her chair, 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

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[17] Speaking in Danish the English words 'target' and 'KPI' are used, which emphasizes the foreign semblance of these words.

someone saying 'let's go to Gemba'[18], 'low hanging fruits' or 'customer' etc. 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 as 'the hunger case' at the hospital, Lean's characteristic jargon and metrics are suddenly found to be useful.

In 2014 the JMC, and particularly the UCY, ended up in a media scandal with headlines such as 'cancer children starving at the hospital' (Politiken, 2014). The parents of some of the child patients at the JMC were dissatisfied with the amount of hours their children had to fast before going into surgery. Not experiencing that their concerns were taken seriously, they alerted the press. This caused a heated situation at the JMC, where managers and staff were at the same time trying to solve the problem and calm down the parents and the press.

In the work of solving the hunger case, a myriad of factors related to the problem are brought to the surface: The operation ward is not properly prepared, the fasting times should be measured differently, it is the parents' own choice not to give the children juice during the night, the referring units do not make proper bookings in the IT-system, there is a lack of resources, the cancer unit forgets to moderate the parents' expectations, the porters are not organized properly etc. The members of the top management team are painfully aware of the fact that they have to initiate a process to solve the problem, but also that the choices of how and where they place the responsibility for this process are highly political.

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[18] Gemba is the Japanese term for 'actual place', often used for the shop floor or any place where value-creating work actually occurs; also spelled genba. The term is often used to stress that real improvement requires a shop-floor focus based on direct observation of current conditions where work is done. For example, standardized work for a machine operator cannot be written at a desk in the engineering office, but must be defined and revised on the gemba (from the Lean Lexicon by Shook, Marchwinski 2014, under "gemba")

They end up putting the Head Lean Consultant; the trained economist employed at the JMC, in charge of organizing the process. In a series of workshops approximately 15 representatives (nurses, doctors, heads of center and even parents) from the different involved units (UCY, cancer, operation and anesthesia etc.) work to solve the problem. As one element in this process, the HLC uses the 'fishbone diagram', which is a method of detecting and grouping the root causes of a problem, as also described in the boxed text[19].The 'head' of the problem is the long fasting times. At the first workshop the Head Lean Consultant asks the participants to write post-its with causes of the long fasting times and place them on a clean whiteboard. For the second workshop she has brought a big poster (see picture) with a fishbone-diagram, and grouped the post-its into six categories each represented by a 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, 5) Test handling.

A Fishbone Diagram is an extremely useful problem solving tool. Also called the Ishikawa diagram or "cause and affect diagram," this Lean tool will assist you in your problem solving and brainstorming sessions. Using a structured approach, the fishbone diagram forces the group to focus on all aspects of the process.

Source: Boersema (2011)

While someone does comment that "you could have made many different bones. One called 'waiting times' or 'prioritization'. There is a subjective angle to the choice of categories!", the discussion generally runs well and doctors and nurses of different ranks brainstorm on where the root causes for the problem are and how to deal with them. The format allows for different people to speak their mind:

HLC: Do we have all the problems now?

Head nurse, cancer: Maybe we should include 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 am but in actuality they come to fast from bedtime around 8pm.

Head physician, UCY 1: And remember waiting time for the service staff!

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[19] In this example I do not try to cover the entire process, as this was a long and comprehensive endeavor, but focus on the work relating to the fishbone diagram.

While the discussion is still, at times, heated, the simple tool of placing the problems on a fishbone diagram seems, in this case, to generate a fruitful discussion where individual interpretations of the problem amount to a general understanding, rather than fueling a discussion about which professional group or medical specialty holds the most correct version of what the problem is and how it can be solved.

The hunger case: How was Lean a means?

It is not only Lean's 'jargon' that irritates some clinical professionals, as with the examples of 'target' and 'KPI', it is also Lean's 'numeric language' – the Lean consultants' way of calculating. This 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 unit:

> 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 generate suspicion and critical scrutiny on the side of the clinical professionals, especially the head physicians, who are not keen on the idea of accepting Lean as a common metric.

However, during the hunger case, instead of resulting in things being thrown, or in a head physician saying 'excuse me!', as were some of the clinical professionals' reactions previously described in this paper, the
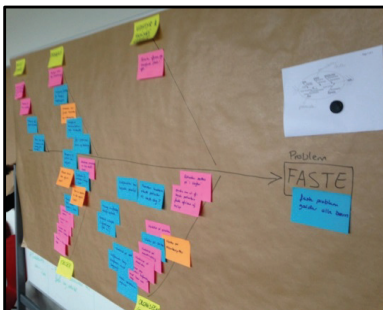
Lean consultant is able to facilitate a discussion by using a tool which in many other cases would be torn apart and ridiculed. How does the particular metrics and jargon afforded by Lean become a means in this situation, even though media crises and root cause analysis is not Lean's home turf? In this case, instead of being dismissed, Lean seems to afford a shared language – a

form of common metric (Espeland & Sauder, 2007; Sjögren, 2008) with which to analyze and work on the problem of the fasting times. By using the fishbone diagram, the Lean consultant is able to commensurate the myriad factors of the problem and make them comparable unities. They are 'sorted out, detached, and displayed within a single space', as Callon and Law phrase it (2005). Rather than setting off an organizational war about the right to define the solution to the problem, the fishbone diagram affords a commensuration of the different roots of the problem, making them parts of a common problem.

When Lean's 'common language' is found useful in this case, it seems to have to do with the organizational setup of the workshops of the hunger case. Usually, Lean projects are initiated by a particular unit or team who wants to solve a problem, as for example a group of doctors and nurses who want to improve the distribution practice, as mentioned above. 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 find that their reality becomes distorted or misrepresented by the 'social scientific' or business-like words and – in their eyes – 'quick and dirty' calculations.

In these cases, thus, Lean comes to afford not a unifying but a 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, in contrast, the participants are of 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. This implies that Lean's fishbone diagram – in spite of 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 the paper goes on to analyze the last example, where Lean plays a central but seemingly coincidental role in discovering a mistake in the unit of neonatology.

Example three: Discovering an important mistake

At the cross-team whiteboard meetings in the neonatology unit, they have decided to use their Lean whiteboard to work systematically to improve the quality of their handling of catheters; a target that relates to their main KPI of reducing the mortality rate of the admitted, prematurely born babies. Yet, judging from what takes place at the whiteboard meetings, this work is not running smoothly.

The neonatology unit was the first to practice whiteboard management, and staff is at the time of my observations very familiar with the practice.

Yet, conflicts from the past have been woven into the current practice of whiteboard management, sometimes making the meetings a battle scene of multiple organizational struggles: Nurses vs. doctors, the old management team vs. the new, the quality team vs clinical management, Lean vs. doctors, etc. The unit has made a decision to improve the frequency with which they assess the continued relevance of the admitted children's central line catheters (CLCs), which are inserted in the patients' veins and used to administer fluids, medication etc. To monitor the improvement of this work, the doctors have to make a tick in the IT application ICIP, every day they have assessed the CLC. Yet, this does not happen as frequently as intended, as also noted in the section on the acute trolley: The doctors think it is too troublesome and do not see the value. Nurses are annoyed that the doctors will not do it and sometimes do it themselves, even though they officially should not, and the Lean consultant and members of staff responsible for quality are concerned with the unit's lack of willingness to monitor this life-saving effort. These tensions have turned the whiteboard meetings into an organizational game of chicken, where the participants repeat the same discussions week after week waiting for one of the other parties to stand down.

> **What is a whiteboard management?**
>
> A visual form of management based on weekly meetings of 20 minutes where staff of a particular unit meet in front of a whiteboard. A Lean manager goes through the unit's objectives (4-5). If they are not achieved, the unit must come up with ideas to achieve the objective the consecutive week. Whiteboards ensure proximity between managers and their employees as well as close follow-up on operational tasks.
>
>
>
> *Source: Author's own observations.*
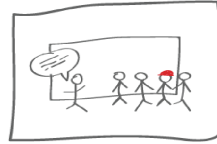
Yet, in the following situation at the end of a whiteboard meeting, something important happens. To round off the meeting, the doctor responsible for quality briefly mentions the agenda of the next week's meeting, saying that now they have made a big effort in getting CLC certifications, the next step 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 brings attention to an important problem: The fact that different ways of measuring the position of the CLCs exist, making it difficult to assess whether a CLC is slipping out, for example. This discovery can potentially contribute to the achievement of the goal of reducing the mortality rate by improving the handling of catheters.

Thus, even in this case where the whiteboard meetings do not work as planned, somehow this particular whiteboard meeting was successful as a means of achieving the goal of improving the safety practice surrounding the use of catheters in the neonatology unit.

The important discovery: How was Lean a means?

As in the other examples, this important discovery was made in relation to a Lean activity, although not directly as Lean's script suggests. The nurse did not follow the structure of the whiteboard meeting; she simply reacted to the doctor's presentation of the next week's agenda. So, while the Lean whiteboard meetings are not going so well – the numbers on the whiteboard do not change and the planned brainstorm of ideas and lively dialogue rarely happens – they do in fact afford something; they 'take place'. They create a spatial encounter 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 encounters afforded by the Lean meetings become a means in two senses. Firstly, they make it possible to convey messages directly to a big group of people. While in other organizations we communicate in big groups through Outlook and multi-recipient e-mails, this means of communication is not as influential in 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 to groups of people possible by their physical co-presence, this affords an occasion for addressing shared problems.

In addition to co-presence, the headlines of these meetings are also important. Naturally, meetings also take place at other occasions in the hospital. Mono- and bidisciplinary conferences, supervision, occasional team meetings, quality/safety-related meetings or staff members' birthdays are just a few examples of this. 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 even to initiate her own explorative study of the measurement practices in team two before she found an outlet for sharing the results of her 'study'. Here, the headline of the next whiteboard meeting made her think of it. 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.

Analytical findings

This paper has studied three situations from the children's hospital where Lean does not work as anticipated, yet in particular situations has been picked up and used as a means for different purposes. Looking across the empirical examples, two things become clear: Firstly, that Lean affords

some alternatives to the prevailing possibilities of organizing, and secondly, that the value of these alternatives is established in practical situations, and therefore not settled once and for all. In the following I will elaborate on these findings.

In the three examples analyzed, different affordances of Lean come to be valuable; namely the temporal frame, a particular language and metrics, and the making of a certain space, respectively. It is useful to underline that these affordances are not attributed to Lean in isolation, but also that the specific features of Lean matter; Lean is not a tabula rasa which can be used for anything. What Lean affords is perhaps not as hard-edged as those of a telephone and a fruit machine, which is what Hutchby compares (Hutchby, 2001: 446), but nonetheless it evokes some affordances that can be assessed – and moderated – in interaction with the organization. The organization can pick these up or not, and they do not necessarily alter the organization (cf. Petrakaki et al., 2016). As shown, many times Lean's affordances create an unproductive tension with the work otherwise taking place in the organization: The clinical professionals' feel Lean takes their time, distorts and misrepresents reality, and makes 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 show, inventing an acute trolley, of mediating in the complicated hunger case, and of discovering an important mistake related to the catheters in the neonatology unit. The relationship between Lean and the JMC is co-constituted in the interplay between the affordances of Lean and the JMC's situated valuations of these.

Conclusion

The paper set out to develop a more fine-grained understanding of the co-constitutive relationship between devices and organizations. Drawing on an empirical case study of a children's hospital use of Lean, the paper has shown how insights from affordance theory and valuation studies can fruitfully be employed in this endeavor. With the concept of affordances it is highlighted that the relationship between device and organization is shaped by the affordances evoked by the device, but it is not given how these affordances are 'picked up' by the organization. Adding the notion of 'situated valuations', it becomes possible, however, to inquire into the practical situation that makes the organization pick up Lean. In sum, the co-constitutive approaches to studies of devices in organization become better equipped to understand how the outcome of this relation is established in the interplay between the affordances of the device and the organization's situated valuations of these.

Where does this lead in terms of the polarized debate on management devices in organizations? Is it possible to say anything general about what they do, when the argument I make is that the outcome is local to a specific organizational situation? I suggest that a way forward is to look for the overall pattern arising from the many and contradictory situated outcomes of employing management devices in organizations. In the case of Lean management, in some organizations the overall pattern of Lean experiences would be very positive, in others the opposite. Most often, however, the pattern would probably be placed somewhere in between, evoking effects that are both good, bad, and something different altogether, depending on the criteria employed. In this way, the development of more nuances in the understanding of what management devices do in organizations can be used to challenge an entrenched debate, where management devices are either praised for optimizing the values of public organizations or shamed for undermining them.

References

Alcadipani, Rafael and John Hassard. 2010. "Actor-Network Theory, Organizations and Critique: Towards a Politics of Organizing." *Organization*.

Antal, Ariane Berthoin, Michael Hutter, and David Stark. 2015. *Moments of Valuation: Exploring Sites of Dissonance* Oxford University Press.

Apple, Michael W. 2005. "Education, Markets, and an Audit Culture." *Critical Quarterly* 47 (1-2): 11-29.

Baka, Vasiliki. 2015. "Understanding Valuing Devices in Tourism through "Place-Making"." *Valuation Studies* 3 (2): 149-180.

Baker, C. Richard, Eve Chiapello, Lise Justesen, and Jan Mouritsen. 2011. "Effects of Actor-Network Theory in Accounting Research." *Accounting, Auditing & Accountability Journal* 24 (2): 161-193.

Barley, Stephen R. 1986. "Technology as an Occasion for Structuring: Evidence from Observations of CT Scanners and the Social Order of Radiology Departments." *Administrative Science Quarterly* 31: 78-108.

Bevir, Mark, R. A. W. Rhodes, and Patrick Weller. 2003. "Traditions of Governance: Interpreting the Changing Role of the Public Sector." *Public Administration* 81 (1): 1-17.

Bicheno, John and Matthias Holweg. 2009. *The Lean Toolbox: The Essential Guide to Lean Transformation* Production and Inventory Control, Systems and Industrial Engineering (PICSIE) Books.

Boersema, Martin. 2011. *Lean Tool: Fishbone Diagram... Add some Fish to Your Diet!*. Leansimulations.Org. www.leansimulations.org.

Bruni, Attila. 2005. "Shadowing Software and Clinical Records: On the Ethnography of Non-Humans and Heterogeneous Contexts." *Organization* 12 (3): 357-378.

Callon, Michel. 1984. "Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St Brieuc Bay." *The Sociological Review* 32 (S1): 196-233.

Chia, Robert. 2003. "Organization Theory as a Postmodern Science." In *The Oxford Handbook of Organization Theory.*, edited by H. Tsoukas and C. Knudsen, 113-140. New York: Oxford University Press.

———. 1996. "The Problem of Reflexivity in Organizational Research: Towards a Postmodern Science of Organization." *Organization* 3 (1): 31-59.

Christensen, B. and J. Strandgaard. 2013. "Restaurant Rankings in the Culinary field." *Exploring Creativity: Evaluative Practices in Innovation, Design, and the Arts*: 235.

Clegg, Stewart R., Martin Kornberger, and Carl Rhodes. 2005. "Learning/Becoming/Organizing." *Organization* 12 (2): 147-167.

Czarniawska, Barbara and Bernward Joerges. 1996. "Travels of Ideas." *Translating Organizational Change.*

Czarniawska, Barbara and Guje Sevón. 1996. *Translating Organizational Change*. Vol. 56 Walter de Gruyter.

Czarniawska, Barbara. 2008. "Organizing: How to Study it and how to Write about It." *Qual Research in Orgs & Mgmt* 3 (1): 4-20.

Czarniawska-Joerges, Barbara and Guje Sevón. 2005. *Global Ideas: How Ideas, Objects and Practices Travel in a Global Economy*. Vol. 13 Copenhagen Business School Press.

de Souza, Luciano Brandão and Michael Pidd. 2011. "Exploring the Barriers to Lean Health Care Implementation." *Public Money & Management* 31 (1): 59-66.

Dekker, Erwin. 2016. "Exemplary Goods: Exemplars as Judgment Devices." *Valuation Studies* 4 (2): 103-124.

Dent, Mike. 2003. "Managing Doctors and Saving a Hospital: Irony, Rhetoric and Actor Networks." *Organization* 10 (1): 107-127.

DeSanctis, Gerardine and Marshall Scott Poole. 1994. "Capturing the Complexity in Advanced Technology use: Adaptive Structuration Theory." *Organization Science* 5 (2): 121-147.

Dewey, John. 1939. *Theory of Valuation*. Chicago, Illinois: The University of Chicago Press.

Diefenbach, Thomas. 2005. "Competing Strategic Perspectives and Sense-Making of Senior Managers in Academia." *International Journal of Knowledge, Culture and Change Management* 5 (6): 126-137.

———. 2009. "New Public Management in Public Sector Organizations: The Dark Sides of Managerialistic 'enlightenment'." *Public Administration* 87 (4): 892-909.

Doganova, Liliana, Martin Giraudeau, Claes-Fredrik Helgesson, Hans Kjellberg, Francis Lee, Alexandre Mallard, Andrea Mennicken, Fabian Muniesa, Ebba Sjögren, and Teun Zuiderent-Jerak. 2014. "Valuation Studies and the Critique of Valuation." *Valuation Studies* 2 (2): 87-96.

Dunleavy, Patrick and Christopher Hood. 1994. "From Old Public Administration to New Public Management." *Public Money & Management* 14 (3): 9-16.

Dussauge, Isabelle, Claes-Fredrik Helgesson, and Francis Lee. 2015. *Value Practices in the Life Sciences and Medicine* Oxford University Press.

Espeland, Wendy Nelson and Michael Sauder. 2007. "Rankings and Reactivity: How Public Measures Recreate Social Worlds1." *American Journal of Sociology* 113 (1): 1-40.

Gaver, William W. 1991. "Technology Affordances."ACM, .

Gergen, KJ. 2010. "Co-Constitution, Causality, and Confluence: Organizing in a World without Entities." *Process, Sensemaking, and Organizing*: 55-69.

Gibson, James. 1977. "The Theory of Affordances." In *Perceiving, Acting, and Knowing: Toward an Ecological Psychology*, edited by Robert Shaw and John Bransford, 67-82: Lawrence Erlbaum Associates.

Hansen, Allan and Jan Mouritsen. 1999. "Managerial Technology and Netted Networks.Competitiveness' in Action: The Work of Translating Performance in a High-Tech Firm." *Organization* 6 (3): 451-471.

Hanseth, Ole, Margunn Aanestad, and Marc Berg. 2004. "Guest Editors' Introduction: Actor-Network Theory and Information Systems. what's so Special?" *Information Technology & People* 17 (2): 116-123.

Hauge, Amalie Martinus. 2016. "The Organizational Valuation of Valuation Devices: Putting Lean Whiteboard Management to Work in a Hospital Department." *Valuation Studies* 4 (2): 125-151.

Helgesson, Claes-Fredrik and Hans Kjellberg. 2013. "Introduction: Values and Valuations in Market Practice." *Journal of Cultural Economy* 6 (4): 361-369.

Hernes, Tor. 2007. *Understanding Organization as Process: Theory for a Tangled World* Routledge.

Hernes, Tor and Sally Maitlis. 2010. *Process, Sensemaking, and Organizing*. Vol. 1 Oxford University Press.

Heuts, Frank and Annemarie Mol. 2013. "What is a Good Tomato? A Case of Valuing in Practice." *Valuation Studies* 1 (2): 125-146.

Heydebrand, Wolf V. 1965. *Bureaucracy in Hospitals: An Analysis of Complexity and Coordination in Formal Organizations* Department of Photoduplication, University of Chicago Library.

Holm, Petter and Kåre Nolde Nielsen. 2007. "Framing Fish, Making Markets: The Construction of Individual Transferable Quotas (ITQs)." *The Sociological Review* 55 (s2): 173-195.

Hood, Christopher and Ruth Dixon. 2015. *A Government that Worked Better and Cost Less?: Evaluating Three Decades of Reform and Change in UK Central Government* OUP Oxford.

Hutchby, Ian. 2001. "Technologies, Texts and Affordances." *Sociology* 35 (2): 441-456.

isixsigma.com, www. "Kaizen Blitz." www.isixsigma.com., accessed 11/07, 2016, https://www.isixsigma.com/dictionary/kaizen-blitz/.

Johnstone, Craig, Garry Pairaudeau, and Jonas A. Pettersson. 2011. "Creativity, Innovation and Lean Sigma: A Controversial Combination?" *Drug Discovery Today* 16 (1–2): 50-57.

Joosten, Tom, Inge Bongers, and Richard Janssen. 2009. "Application of Lean Thinking to Health Care: Issues and Observations." *International Journal for Quality in Health Care* 21 (5): 341-347.

Justesen, Lise and Jan Mouritsen. 2009. "The Triple Visual: Translations between Photographs, 3-D Visualizations and Calculations." *Accounting, Auditing & Accountability Journal* 22 (6): 973-990.

Kirkpatrick, Ian, Stephen Ackroyd, and Richard Walker. 2005. "The New Managerialism and Public Service Professions." *Hampshire: Palgrave Macmillan*.

Knorr-Cetina, Karin D. 1988. "The Micro-Social Order: Towards a Reconception." .

Krafve, Linus Johansson. 2015. *Valuation in Welfare Markets: The Rule Books, Whiteboards and Swivel Chairs of Care Choice Reform*. Vol. 645 Linköping University Electronic Press.

Latour, Bruno. 1999. "On Recalling ANT." *The Sociological Review* 47 (S1): 15-25.

―――. 2005. *Reassembling the Social: An Introduction to Actor-Network-Theory* Oxford university press.

Law, John. 1999. "After ANT: Complexity, Naming and Topology." *The Sociological Review* 47 (S1): 1-14.

Lawrence, Paul R. and Jay W. Lorsch. 1967. "Differentiation and Integration in Complex Organizations." *Administrative Science Quarterly*: 1-47.

MacKay, R. Bradley and Robert Chia. 2013. "Choice, Chance, and Unintended Consequences in Strategic Change: A Process Understanding of the Rise and Fall of Northco Automotive." *Academy of Management Journal* 56 (1): 208-230.

Medical.Dictionary, www. "Medical Dictionary, Search: "Imminent Abortion"." http://medicine.academic.ru/. medicine.academic.ru/, accessed 10/26, 2016 http://medicine.academic.ru/98746/imminent_abortion.

Merriam-Webster. "Device." Merriam-Webster.com. Merriam-Webster, accessed 2/7, 2017, https://www.merriam-webster.com/dictionary/device.

Mintzberg, Henry. 1979. *The Structuring of Organizations - A Synthesis of the Research*. Englewood Cliffs: Prentice-Hall.

Modig, Niklas and Pär Åhlström. 2013. *Dette Er Lean*. Halmstad, Sverige: Rheologica Publishing.

Moore, Mark Harrison. 1995. *Creating Public Value: Strategic Management in Government* Harvard university press.

Muniesa, Fabian. 2012. "A Flank Movement in the Understanding of Valuation." *The Sociological Review* 59 (s2): 24-38.

Muniesa, Fabian, Yuval Millo, and Michel Callon. 2007. "An Introduction to Market Devices." *The Sociological Review* 55 (s2): 1-12.

Norman, Donald A. 1988. *The Design of Everyday Things*. London: The MIT Press.

O'Connell, Brendan, Susan Ciccotosto, and Paul De Lange. 2014. "Understanding the Application of Actor-Network Theory in the Process of Accounting Change."

Orlikowski, Wanda J. 1992. "The Duality of Technology: Rethinking the Concept of Technology in Organizations." *Organization Science* 3 (3): 398-427.

―――. 2007. "Sociomaterial Practices: Exploring Technology at Work." *Organization Studies* 28 (9): 1435-1448.

―――. 2000. "Using Technology and Constituting Structures: A Practice Lens for Studying Technology in Organizations." *Organization Science* 11 (4): 404-428.

Orlikowski, Wanda J. and Susan V. Scott. 2008. "10 Sociomateriality: Challenging the Separation of Technology, Work and Organization." *The Academy of Management Annals* 2 (1): 433-474.

Papadopoulos, Thanos and Yasmin Merali. 2008. "Stakeholder Network Dynamics and Emergent Trajectories of Lean Implementation Projects: A Study in the UK National Health Service." *Public Money and Management* 28 (1): 41-48.

Papadopoulos, Thanos, Zoe Radnor, and Yasmin Merali. 2011. "The Role of Actor Associations in Understanding the Implementation of Lean Thinking in Healthcare." *International Journal of Operations & Production Management* 31 (2): 167-191.

Paring, Géraldine, Stéphan Pezé, and Isabelle Huault. 2017. "'Welcome to the Whiteboard, the New Member of the Team': Identity Regulation as a Sociomaterial Process." *Organization*: 1350508416686407.

Pentland, Brian T. and Martha S. Feldman. 2007. "Narrative Networks: Patterns of Technology and Organization." *Organization Science* 18 (5): 781-795.

Perrow, Charles. 1967. "A Framework for the Comparative Analysis of Organizations." *American Sociological Review* 32 (2): 194-208.

———. 1970. *Organizational Analysis: A Sociological View*.

Petrakaki, Dimitra, Ela Klecun, and Tony Cornford. 2016. "Changes in Healthcare Professional Work Afforded by Technology: The Introduction of a National Electronic Patient Record in an English Hospital." *Organization* 23 (2): 206-226.

Plesner, Ursula. 2009. "An Actor-Network Perspective on Changing Work Practices: Communication Technologies as Actants in Newswork." *Journalism* 10 (5): 604-626.

Politiken. 2014. "Kræftsyge Børn Sulter På Rigshospitalet." *Politiken*, 1/27.

Radnor, Zoe, Matthias Holweg, and Justin Waring. 2012. "Lean in Healthcare: The Unfilled Promise?" *Social Science & Medicine* 74 (3): 364-371.

Rahbek Gjerdrum Pedersen, Esben and Mahad Huniche. 2011. "Determinants of Lean Success and Failure in the Danish Public Sector: A Negotiated Order Perspective." *International Journal of Public Sector Management* 24 (5): 403-420.

RegionH. "Alle Hospitaler Skal Bruge LEAN.", last modified 1/272013, http://www.regionh.dk/topmenu/Nyt_Presse/Nyheder/2011+arkiv/Arkiv/Lean/.

Salamon, Lester M. and Odus V. Elliott. 2002. *The Tools of Government: A Guide to the New Governance* Oxford University Press.

Scott, W. Richard and Gerald F. Davis. 2007. *Organizations and Organizing. Rational, Natural and Open System Perspectives*. New Jersey: Pearson Education.

Shook, John and Chet Marchwinski. 2014. *Lean Lexicon: A Graphical Glossary for Lean Thinkers* Lean Enterprise Institute.

Sjögren, Ebba. 2008. "Deciding Subsidy for Pharmaceuticals Based on Ambiguous Evidence." *Journal of Health Organization and Management* 22 (4): 368-383.

Spear, Steven J. 2005. "Fixing Health Care from the Inside, Today." *Harvard Business Review* 83 (9): 78.

Stone, Kyle B. 2012. "Four Decades of Lean: A Systematic Literature Review." *International Journal of Lean Six Sigma* 3 (2): 112-132.

Styhre, Alexander. 2001. "The Nomadic Organization: The Postmodern Organization of Becoming." *Tamara Journal of Critical Organisation Inquiry* 1 (4): 1-12.

Styhre, Alexander. 2002. "Thinking with AND: Management Concepts and Multiplicities." *Organization* 9 (3): 459-475.

Thompson, James D. (1967)2007. *Organizations in Action: Social Science Bases of Administrative Theory*. Classics in Organization and Management Series. 5th ed. New Brunswick, New Jersey: Transaction Publishers.

Tsoukas, Haridimos and Robert Chia. 2002. "On Organizational Becoming: Rethinking Organizational Change." *Organization Science* 13 (5): 567-582.

Vikkelsø, signe. 2003. "Electronic Patient Records and Medical Practice - Reorganization of Roles, Responsibilities and Risks." PhD, Department of Organization and Industrial Sociology, Copenhagen Business School.

Vikkelsø, Signe. 2010. "Mobilizing Information Infrastructure, Shaping Patient-Centred Care." *International Journal of Public Sector Management* 23 (4): 340-352.

Weik, Elke. 2011. "In Deep Waters: Process Theory between Scylla and Charybdis." *Organization* 18 (5): 655-672.

Womack, J. 2016. "In Praise of Lji." 2016 (20/10).

Womack, James P., Daniel T. Jones, and Daniel Roos. 1990. *The Machine that Changed the World*. New York: Rawson.

Womack, James P. and Daniel T. Jones. 1996. *Lean Thinking: Banish Waste and Create Wealth in Your Organisation*. Rockefeller Center, New York: Simon and Schuster.

Woodward, Joan. 1958. *Management and Technology* HM Stationery Off.

Woolgar, Steve and Keith Grint. 1991. "Computers and the Transformation of Social Analysis." *Science, Technology, & Human Values* 16 (3): 368-378.

Wright, Vincent. 1994. "Reshaping the State: The Implications for Public Administration." *West European Politics* 17 (3): 102-137.

Zammuto, Raymond F., Terri L. Griffith, Ann Majchrzak, Deborah J. Dougherty, and Samer Faraj. 2007. "Information Technology and the Changing Fabric of Organization." *Organization Science* 18 (5): 749-762.

Zuiderent-Jerak, Teun and Stans van Egmond. 2015. "Ineffable Cultures Or Material Devices: What Valuation Studies can Learn from the Disappearance of Ensured Solidarity in a Health Care Market." *Valuation Studies* 3 (1): 45-73.

5 CONCLUDING DISCUSSION

As a way of gaining a nuanced understanding of what happens to values and value practices in an organization when a management device is introduced, this dissertation suggests to investigate the specific affordances of the device, unfold the practical, organizational relations and not to overestimate what the device can do.

5.1 TOWARDS A PRACTICAL UNDERSTANDING OF VALUES IN ORGANIZATIONS

This dissertation has inquired into the problematic situation concerning the establishment of values in public organizations. This is particularly pertinent today, where valuation devices from the private sector proliferate in public organizations; devices which are increasingly being accused of undermining the 'true' values of the public sector in the name of economic value. At the same time, the political and academic debate about what the management devices of New Public Management do to organizations is becoming increasingly polarized. One position claims that these devices carry with them market values which are harmful to the welfare state; another that management devices are necessary to save the values of the welfare state by making it more agile. Rather than fueling this polarization, this dissertation has taken a pragmatic stance and investigated what happens when Lean management is introduced into a public organization, namely the hospital department the 'Juliane Marie Center'. The idea has been to generate a practical understanding of the relationship between device, valuation and organization, which may serve as a resource for future inquiry into the question of how to improve the management of public organizations without undermining 'their' values.

In order to guide this inquiry the dissertation has incurred two sub questions. The first: 'How can insights from pragmatic studies of valuation practices and classical organization theory usefully be combined to help establish a nuanced understanding of the relationship between devices, values and organizations and the practical challenges that this may involve?' The second: 'How does Lean organize values and value practices at the Juliane Marie Center?' In the following I will answer these questions, beginning by

illuminating the most important empirical findings across the dissertation's articles. I will also discuss how these conclusions sit with the existing literature on Lean in hospitals, and what advice they offer to the field of hospital management. Then I will continue to the theoretical question, where I will evaluate the experiment of making insights from the two theoretical fields of valuation studies and organization theory interact. I begin by providing key examples of how I have created interaction between the fields, continuing with a discussion about how this work contributes to each field.

On this basis, I turn to the conclusions of the main research questions of the dissertation: What happens to values and value practices in a public organization when Lean management is introduced? And how may a practical and situation-based understanding of this question serve as resource for further inquiry? I relate these to the multiple and conflicting views upon the effects of devices of New Public Management on the values of public organizations. Further, I discuss how the dissertation potentially can serve as a resource for further inquiry into the question of how to improve the use of management devices in public organizations without undermining 'their' values.

5.1.1 HOW LEAN ORGANIZES VALUES AND VALUE PRACTICES AT THE JMC

How does Lean organize values and value practices at the Juliane Marie Center? To give a concluding answer to this question, I will point to three empirical examples each representing a central finding, namely: 1) that Lean comes to increase rather than streamline the organizational complexity at the JMC; 2) that Lean not only enacts value in a particular way, but also operates with propositions about the organization's reality; and 3), that Lean comes to

work by evoking a number of affordances, the usefulness of which is established in practical situations.

Example 1: Increased complexity rather than smooth streamlining

The first example is related to the use of whiteboard management in the unit of neonatology (unfolded in Article 1). In this unit the clinical management team introduced whiteboard management as a means of releasing time from administrative tasks to spend on more important ones such as research and patient care. This, however, was not quite what happened: The whiteboard meetings ended up increasing the complexity of the unit both in terms of the amount of administrative tasks and in terms of organizational misalignment. The first had primarily to do with the practical conducting of meetings, the latter with the metric of measuring value instigated by the meetings.

The whiteboard meetings came to increase the amount of activities that staff had to attend besides their core tasks of research and patient care. The meetings became the only meetings in the unit of which attendance was not up to the individual professional's assessment; they were mandatory. These meetings thus came to increase the complexity of the individual staff member's daily assessment of where to be and what to do, as they did not rank at the top of important activities on many staff members' professional scale of valuation, yet were put at the top of management's formal scale. While the decision of making the meetings mandatory seemed innocent to the unit's management team, it thus contributed to an organizational dissonance in terms of what the core task of their organization was: To treat patients or to improve the way in which patients are treated? Also, the whiteboard meetings came to be one of the few meetings that gathered – in principle – all members of the neonatology unit. This practical constellation sometimes had

productive outcomes, as it, for example, led to an important discovery in relation to the procedure of handling catheters (as described in Article 3), yet it also ignited otherwise settled tensions and conflicts. During the whiteboard meetings, existing tensions between different groupings in the unit (doctors/nurses, clinical management/staff, planning oriented doctors/acute oriented doctors etc.) were fueled, which was both an outcome of the requirement of them to be there, and of what took place at the meetings.

Example 2: Enacting value and organizational reality

The second example is related to the use of Lean in the process of reorganizing the hospital department's practice of distributing patients to beds (unfolded in Article 2). Here, a team from the Unit of Children and Youth invited external Lean consultants to assist them in improving their way of distributing patients, which should both increase the department's capacity and ensure that every patient was in the right bed. Through the workshops organized to achieve these goals, however, conflicting propositions regarding the task of distributing patients were brought into play. The parties' struggles to establish their own version of the organization's task and associated 'reality' resulted in ongoing trials regarding questions as to what kind of work material a patient is, what usable information is, what the key decision process in the organization is, and who has the authority to make decisions regarding the distribution of patients.

The Lean consultants, for example, argued that the authority to make decisions on patient referrals should rest with centralized principles and guidelines. In contrast, the clinical professionals proposed that authority should remain decentral, so that individual professionals have discretion to make decisions about the patients of which they are in charge. So even

though the group of clinicians and Lean consultants worked with a shared goal of improving the distribution practice by clarifying and tightening the assessment criteria, the workshops were characterized by misconstructions, quarrels and a process which was neither satisfactory to the two groups nor viable in the sense of accomplishing the desired improvements to the distribution practice. This testifies to the entanglement of organization and valuation, as it shows how tweaking the valuation criteria involved in an organizational task almost unavoidably come to involve a political or professional dispute regarding the organizational 'reality' related to that task.

Example 3: Lean works by affording alternatives

The third example is related to the different ways in which Lean comes to work in the JMC (unfolded in Article 3). The dissertation has shown how Lean affords a certain temporality, spatiality and a certain metric. The specific outcome of these affordances, however, are not given but established in empirical situations: For instance, in many situations, the temporality of whiteboard management collides with other temporalities of the hospital organization. It is, for example often unpractical for the clinical professionals to have to attend the mandatory whiteboard meetings when they have other things on their schedule which – in their view – are more important. Furthermore, because the meetings are scheduled on a weekly cycle, it is only some objectives that can be worked on during the meetings, whereas other objectives are temporally 'misaligned' and thus excluded from the agenda. However, in other situations, the whiteboard meeting's temporality is found practical. This is true, for example, in the case where a group of clinical professionals from the unit of neonatology develop an acute trolley. Here, the temporal affordance works both as a means of marking a period in their calendar where they are unavailable for 'regular' work, and as a way of

thinking about the 'future state' of the organization, rather than that of the priorities of the day.

5.1.2 AN ALTERNATIVE MEANS OF ORGANIZING

From these examples, and many others, it can be concluded that in order to understand how Lean changes values and value practices in the JMC, it is not enough to look at Lean or at JMC's Lean strategy in isolation: How Lean gets to organize values at the JMC is negotiated in particular situations. In the JMC Lean comes to afford an alternative means of organizing which in certain situations is considered practical and in others problematic. By means of visualizations, a certain vocabulary, human resources and opportunities for practical organizing, Lean affords a way of making 'value' something that can be organized in the hospital. From being established through relatively black-boxed professional judgment and calculation processes, value becomes something that can be mapped, measured, released and shown on a whiteboard or a brown paper; at least in theory. For the JMC, this has resulted in a much greater appreciation of the relevance of organizing as a means of creating results that count for the patients, as the slogan of the JMC's Lean work goes.

Yet, the way in which Lean articulates value is not perceived as neutral, and not all hospital professionals agree with the way in which value is established by Lean. In offering its version of how to establish what value is, Lean not only provides a means of making value a manageable object, it also gives rise to practical and organizational tensions that sometimes increase the level of conflict and complexity in the organization. Summing up, Lean has organized values and value practices in the JMC by turning them into objects and

making them an outcome of 'organization'; an alteration that in some situations worked productively and in others problematically.

5.1.3 CONTRIBUTION TO THE DIVIDED LITERATURE ON LEAN IN HEALTHCARE

In many respects, the debate about Lean in healthcare reflects the debate on New Public Management: there is a great divide between proponents and opponents. Also in this debate, the positions inhabit separate fora. In some circles an almost religious vocabulary is used to describe the 'conversion' from being against Lean to 'seeing the light'. For example, almost all presentations at the 'Lean in healthcare' conference I attended in Umeå (for a conference description see Miller 2014) were opened by a personal transition narrative, along the lines of 'I, like many of you, used to be critical about Lean at the hospital. But then [an experience] and now, I have [used Lean with great success]'. On the other hand, in sociological circles – or related fields such as organization studies – there is an ill-concealed assumption that 'we' all think that Lean is ludicrous; a passing fad (McCann, Hassard et al. 2015) at best, the embodiment of everything that is wrong with contemporary capitalism at worst (Smith 2000). This polarization exists also in the literature on Lean in health care, which I will briefly summarize. After that I will return to the problem of the polarized and decoupled valuations of Lean.

To some scholars, it is clear that Lean works to 'release' value in healthcare. This counts for guru-like experts such as Womack and Jones, the authors of the milestone *The Machine that Changed to World* (1990) and Swedish authors Modig and Åhlström, who frequently use examples from the healthcare sector (Womack, Jones 1996: 50ff, Modig, Åhlström 2013: 7ff). This viewpoint is also found in healthcare organizations all over the world

who employ Lean as part of their official strategies, including the NHS (NHS 2013) in England, Flinders medical Centre in Australia (Ben-Tovim, Bassham et al. 2007), the Karolinska Institute in Sweden (Choi, Holmberg et al. 2011, Mazzocato, Stenfors-Hayes et al. 2016) and the Institute for Healthcare Improvement in the US (2005). Also in academic circles there is a widespread belief that Lean works to release value (Fillingham 2007), as long it is not done superficially and tools-based but systematically and throughout the organization (see, for example, Radnor, Holweg et al. 2012).

In a different branch of management and organization studies, unwelcoming approaches to New Public Management in general and Lean in healthcare in particular are the rule rather than the exception. In different ways, these scholars draw attention to 'the dark sides of managerialistic 'enlightenment' (Diefenbach 2009). Under headlines such as 'All they lack is a chain' (Carter, Danford et al. 2011), for example, a 'humanitarian' critique is presented (McCann, Hassard et al. 2015), arguing that Lean is inappropriate in healthcare organizations, because you cannot – and should not – compare a patient to a car (Drotz, Poksinska 2014). Part of this is also a 'translational' criticism, implying that the principle of 'identifying value' is out of sync with public healthcare organizations, because here customer and commissioner are in principle the same (Curatolo, Lamouri et al. 2014). Another major line of critique is concerned with the professional values of the hospital: The worry is that the 'logic' of managerialism is going to replace the 'logic' of professionalism (Waring, Bishop 2010, Kitchener 2000). It is argued, for example, "that Lean is fundamentally inappropriate to professional bureaucracies and is creating widespread dysfunction and employee disengagement" (Carter et al., 2011, 2013).

As this brief overview reflects the debate about whether Lean works in healthcare, and what would happen if it did, is heated and polarized. Some scholars see Lean as a highly suitable tool to improve healthcare by 'releasing time to care', where others find it misplaced in – and even damaging to - healthcare organizations. Neither conclusion, however, is supported by the study presented here. At the JMC there are both loud proponents and opponents, but generally Lean does not seem to dramatically improve or dramatically damage what takes place in the hospital or how values are enacted. To both positions the contribution of this dissertation is the same: Lean is not intrinsically good or bad; its value and usefulness is established in particular situations in which it is put to work. Lean's ability to perform (both in the business sense and the Austinian or Callonian sense of the phrase) is only an option when it is valuated as practical in the particular situation. It may, of course, affect people's focus or attention in offering certain ideas about what is valuable (such as quality work rather than acute clinical work), yet, this enactment of what is valuable is only one among many others in the hospital organization, where multiple modes of valuation are at play. While these modes are not completely fixed and bounded in the hospital, they are also not necessarily altered by a management device. In section 5.1.5 I will expand further on how this dissertation suggests understanding, then, the establishment of the relation between a management device and an organization.

First, however, I will return to my experience of researching a phenomenon – Lean management – the value of which is established so radically differently on each side of the application-oriented and the critical-sociological divide. While more moderate accounts of the role of Lean in healthcare exist, the lack of mutual interest from each side of the divide is noteworthy. Having

become somewhat familiar with both application-oriented and critical-sociological arenas' understandings of Lean in healthcare, I find that both sides could learn from the other. It seems that currently the maintenance of the two opposing 'sides' stems from the fact that it is difficult to voice practical reflections or give advice without first answering the 'truth' question if you 'believe' Lean is good or bad[20]: Do you reflect on how to make Lean work or on why it does not or should not work? However, the ethnographic approach and the pragmatic stance provide a different opportunity of dealing with this question, as they invite concrete and detailed accounts of how Lean may end up as sometimes 'good' or 'bad', rather than taking one of them as a point of departure.

5.1.4 PRACTICAL IMPLICATIONS: MAKING TOOLS RIGHT

Within the body of literature concerned with gathering experiences and sharing principles about how Lean can or cannot work in hospitals, a frequent conclusion is that the implementation of Lean fails due to 'barriers' (Brandao de Souza 2009, Radnor 2011, Radnor, Holweg et al. 2012, Edwards, Nielsen 2011). Barriers include, according to the authors, a 'lack of understanding of Leanprinciples among healthcare professionals', 'terminology', 'professional differences between manufacturing and healthcare workers', 'hierarchy and management roles', among other things (de Souza, Pidd 2011). The ideal – which is defined either implicitly or explicitly – of these studies, is thus to

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[20]An example of this is the article in International Journal for Quality in Health Care, where the authors on the first page state that "We believe lean thinking has the potential to improve health care delivery" (Joosten, Bongers et al. 2009).

overcome the barriers and establish a fully *lean* hospital, or a hospital with a 'complete' Lean culture – in contrast to the negatively valuated "tool-based approaches" or "pockets of best practice" (Radnor, Holweg et al. 2012). For this literature, the overall recommendation of this dissertation is to leave the ideal of a completely *lean* hospital behind. Below are some reflections on why, and some alternative suggestions to consider, when working with and/or evaluating how Lean works in hospitals.

Coexistence rather than contest

Lean is a management device applied - among other things - to find out what is valuable in the hospital organization and make more of this. As this dissertation has shown, however, Lean is not alone in establishing what is valuable at the hospital. In fact, multiple tools, practices and other means of judgment exist that also decide what is valuable. The ideal of a completely Lean organization would entail either the abolishment of these other modes or for Lean to gain the ability to serve as a common metric (Sjögren 2008, Mol 2002, Callon, Law 2005) for these modes; something which it is only succeeding with in particular situations, as this dissertation has shown. Often it seems, that in forums 'for' Lean (both in the literature and in practical contexts observed as part of the dissertation's fieldwork), the general assumption is that Lean comes with this ability: that its tools, categories etc. are neutral and equally useful regardless of the goal, the practical arrangements, the professions and tasks of the targeted organization. This dissertation suggests that in the practical work with Lean, it may be useful to adjust the Lean-as-culture approach, and rather consider the peaceful co-existence between Lean and other devices of valuation a positive achievement and not a failure.

Practical organization matters

In working to 'optimize value' and 'eliminate waste', Lean's tool and practices operate with practical establishments of time, space and language. These particularities are not neutral in the hospital organization, as mentioned above. This, however, is of itself only a problem if the Lean proponents are not reflexive about this and the organizational challenges it may entail. By insisting on Lean's neutral ability to unite and improve the organization, the risk of conflict and complexification increases. Rather than considering how to overcome the 'barriers' raised by the hospital organization, this dissertation suggests that a key concern in working with Lean should be about how to achieve useful alignment between Lean and other modes of valuation at the hospital. Such an alignment is not only relevant in terms of the definitions of what is valuable (which is already being reflected upon), but also in terms of the practical organization. To address this question, it could be relevant to explore the Lean activity in question's propositions about, for example, timing, space and metrics and reflect upon how these propositions are aligned with the propositions of the core tasks of the people it aims to involve.

Means for alternative organizing

As I mentioned above, an ideal both in the regional administration in Denmark (RegionH 2011) and in the literature is the 'Lean Culture'. This is considered the most advanced 'level of maturity' an organization can achieve in many Lean circles. The ideal of a Lean Culture – as a culture of constantly reflecting on why we do what we do (asking 'five times why?' for example), and how we can improve what we do to increase value for the customer (kaizen) – seems in itself to be a relatively uncontroversial and even useful

ideal. Yet, when looking at what the work of obtaining this culture does in some organizations, or what some organization does to this culture, the impression changes. The culture-ideal seems to be related to a 'see the light'-rhetoric, which brings with it a dichotomy between those of 'us' who have seen the light and those of 'you' who have not (yet). In the hospital organization, this does not always work to create supporters of Lean; it also generates a certain hostility and, in some instances, the impulse to pull the rug from under the Lean proponents, by contesting their calculations and results.

This dissertation suggests that in hospital organizations the ideal and rhetoric of a Lean culture should be toned down in favor of a pragmatic approach, where Lean management is kept available for use alongside other modes of valuation, such as professional judgment, natural science, case-based reasoning etc. This would entail that Lean Management is sometimes assessed as a practical 'device' and at other times as the opposite, depending on the total situation. Furthermore, it implies that this pragmatism is considered a virtue rather than a flaw.

5.1.5 PRODUCTIVE ENCOUNTERS BETWEEN VALUATION STUDIES AND ORGANIZATION THEORY

With the goal of developing a more nuanced understanding of what practically happens to values and value practices in situations when a management device is introduced, the dissertation has pursued the experiment of establishing increased interaction between the fields of valuation studies and organization theory. This is not just a theoretical exercise, but a response to the observation that valuation devices of different kinds are playing an increasingly dominant role in organizations. Before

(e)valuating these efforts, I will repeat the three suggestions on how to do this as presented in the dissertation: First through the notion of modes of valuation (Article 1); then by studying organizational trials of valuations (Article 2); and lastly by relating 'affordances' and situated organizational valuations (Article 3). Through the description of each concept, I will try to define how it has enriched each of the two theoretical fields.

Mode of valuation

The concept 'mode of valuation' is developed as a way of grasping the entanglement of valuation and work in organizations. The motivation was to be able to grasp the ways in which valuation is involved in aspects of organizational life that are not defined by a particular technical tool or formalized event. So far, studies of valuation practices have primarily been concerned with devices with relatively unambiguous 'interfaces', such as rankings (Espeland, Sauder 2007), guidelines (van Loon, Bal 2014) or the establishment of prices (Beckert, Aspers 2011). Based on the empirical observations of what took place in JMC, however, I wanted a concept that could shed light on what happens when a management device 'meets' prevailing establishments of what counts in an organization. Inspired by classical organization theory, I thought of this as a concept that could tie together the conducting of tasks in an organization with the notion of valuation. To grasp these work practices and their establishment of value, I found the concept 'modes of valuation' useful.

The first part of the concept; 'mode' has been used previously in many theoretical traditions including organization theory, STS and valuation studies (see, for example, Barley, Kunda 2006, Law 1994, Stark 2011) to, in related ways, describe 'fairly regular patterns' (Law 1994: 83) of order. The

idea of adding 'valuation' to modes is thus to grasp the relation between order and worth (albeit in a different way than Boltanski and Thévent (2006), as Article 1 describes). The term 'mode of valuation' or 'mode of valuing' is also used en passant by Espeland and Stevens (1998: 332) [21] and Stark (2011)[22], but is not unfolded in detail. This is what I have aimed to do, by attaching to it four dimensions from primarily organization theory, namely grammar of assessment (Foucault 1988, Owen 1995, Barley 1986), goal (see, for example, Simon 1964, Barnard 1938 (1968), Schein 1965), task (Vikkelsø 2015), and time (Lawrence, Lorsch 1967: 8, Bakhtin 2002). Through these dimensions it is possible to investigate how practical organizing is entangled with valuation.

'Modes of valuation' is a notion which combines conceptual figures already present in organization theory and studies of valuation. In organization theory, for example, the notion of 'subsystems' as presented by Lawrence and Lorsch (1967) similarly reflect the idea that the accomplishment of a particular task installs a certain time and goal orientation. Conversely, among scholars of valuation studies, Stark writes about the coevolving but not converging 'value frames', involving 'different conceptions of value' (2009: 35). Similarly to both 'sub systems' and 'value frames', 'modes of valuation' is a useful notion to bring out the multiplicity of complex organizations,

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[21] 'We suspect that claims about incommensurables are likely to arise at the borderlands between institutions, where what counts as an ideal or normal *mode of valuing* is uncertain, and where proponents of a particular mode are entrepreneurial' (Espeland, Stevens 1998: 332).
[22] 'Beckert notes that one's valuation of the good depends not only on properties of the object but also on one's knowledge of how to use it. Positional performance refers to the *mode of valuation* according to which a good locates its owner in a differentiated social world.'(Stark 2011: 328).

where several tasks are being accomplished. Yet, the notion does not only repeat existing arguments, it also enriches the existing theoretical conceptions. The notion is primarily developed to expand the scope of valuation studies, but also contains a contribution to organization theory.

Mode of valuation: Contributions

As an elaboration of the existing concept within the field of valuation studies, the dissertation's conceptualization of 'modes of valuation', adds some practical and organizational dimensions. By relating valuation to the practical conduct of organizational tasks, the concept is inclusive of more mundane acts of valuing than the more frequently employed focus on metrics and formal criteria. As such, the concept can be seen as a response to Heuts and Mol (2013), Vatin (2013) and Zuiderent-Jerak (2009, 2015), who, in different ways, call for increased attention to those forms of valuations that do not come with a formal metric or other kinds of clear-cut 'interfaces'. 'Modes of valuation' is thus inclusive of acts such as 'care', with which Heuts and Mol call attention to the ways in which acts of establishing things as (more) valuable (cf. 'valorizing', as suggested by Vatin (2013)), can take many different forms, including mundane acts such as pruning tomatoes.

With this argument we are reminded of Dewey's discussion of the notion of valuation. Dewey compares 'valuation' to the notion of 'liking' and argues that valuation refers to the act, where 'liking' sometimes only refers to the feelings of a person (Dewey 1939). Yet, when liking 'is used as a name for a mode of behavior', Dewey finds that the notion of 'caring' is a useful designatum, because 'caring' and 'caring for' are, as modes of behavior, closely connected with 'liking', and […] 'looking out for or after' 'cherishing, 'being devoted to, 'attending to', in the sense of 'tending',

'ministering to', 'fostering', words that all seem to be variants of what is referred to by 'prizing,' which […] is one of the two main significations recognized by the dictionary [as valuing or valuation] (Dewey 1939: 14). The suggestion of 'modes of valuation' and its symmetric treatment of acts associated with formalized criteria and more mundane acts is thus supported by Dewey's original idea with the notion of valuation.

'Mode of valuation' is also an alternative to Vatin's idea of professional judgment, with which he argues that 'evaluation' is associated with the market, and 'valorizing' with the production process. With the division between a 'production process' and an 'assessment process' Vatin assumes the determination of a price as the final outcome, which is not the case for hospitals in publicly funded welfare states such as the Danish. The employment of 'modes' may then be useful especially for studies where the assessment part and the improvement part are not a 'rule' in the field (cf. Heuts, Mol 2013). Lastly, 'mode of valuation' offers an alternative to the framing of the 'context' of valuation devices as 'culture' (Zuiderent-Jerak, van Egmond 2015) or as 'forms of the probable' (2009); namely one that is particularly useful to study valuation in organizations. 'Modes of valuation' approaches organizations as settings usually filled with multiple and sometimes mundane modes of valuation, without imposing metaphysical or un-observable explanations.

'Multiple modes of valuation' also offers an expansion of the understanding of 'dissonance' (Stark 2009); a frequently used term in valuation studies (see, among many others, Barman 2015, Hutter 2015, Farías 2015). Generally, with the use of 'dissonance' attention is drawn to 'clashes' of values or to colliding frameworks of assessing the worth of something. With 'mode of valuation', we gain a more detailed understanding of misalignment in

organizations on two aspects. First, attention is drawn to the fact that dissonance – for example as in my case between a device and an organization's prevailing modes of valuation – is not necessarily about 'what counts'; it may equally be about the organization of the activity of counting. In other words, it is not necessarily the 'results' of opposing counting procedures, in the broadest sense of the term; dissonance may also emerge between opposing practical arrangements related to the counting activity, such as its location or its timing.

Secondly, the idea of 'dissonance' as generating 'noisy clashes' (Stark 2009: 27), may not always be the most useful; particularly if we take more mundane forms of valuation into account. If we are expecting noisy clashes, we may overlook less openly dramatic situations, such as an absent head physician or a left-behind whiteboard; phenomena which may equally provide opportunities for uncovering what is at play (cf. Boltanski, Thévenot 2006 (see dispute), Dewey 1939 (see perplexing situation), Latour 1987: 7 ('controversies as way in'), Dussauge, Helgesson et al. 2015: 272 (see the valuographic tactic of 'exploiting controversies')).

To organization theory, then, the concept of mode of valuation offers a more precise understanding of the active role of devices in establishing organizational goals. While organization studies is a rich and differentiated field, it is probably safe to say that valuation studies generally operate with a more 'performative' understanding of devices than organization studies (compared to, for instance, Lawrence & Lorsch, 1967; Orlikowski & Barley, 2001; Woodward, 1958). Rather than asking how well a means (device) serves to achieve a goal, valuation studies would ask how a goal is established and what role devices play in this establishment, not assuming that the goal preceded or is separable from the device; or in this case, from

the 'mode' of valuation. One of the sources of inspiration for valuation studies, Latour (2002), argues that 'technologies never truly appear in the form of means' (p. 248). Using the example of a hammer, Latour shows how time and space is folded (referring to Deleuze, 1993) into the hammer, making it an 'end' of a historical and material development process at the same time as a 'means' of a handyman. This makes it impossible to say that the hammer merely 'fulfills a function'. Rather, Latour says, the hammer alters the man who holds it in his hand making him envisage a 'flux of new possibilities'. From this way of approaching modes of valuation, organization theory could learn how elements of grammars of assessment, such as specific practices of goal, task, and time, may become enacted differently and enter this array of new possibilities.

Organizational trials of valuation

A second way in which the dissertation has generated an encounter between the fields of valuation studies and organization theory is by addressing organizational trials of valuation, as unfolded in Article 2 (and inspired by, among others, Gond, Cabantous et al. 2016). Where a focus on modes of valuation is relevant in order to understand how multiple versions of value may be at play in an organization, the idea of organizational trials of valuation points to the ways in which a valuation device or a valuation practice is associated with certain propositions about the task-reality of the organization. The basis of this conceptualization was the empirical observation that as Lean was put to work in the JMC, it was not only ideas of value that caused 'dissonance' or were put to trial, struggles also took place between converging propositions about the reality of the organization.

To investigate the organizational trials of valuation, this dissertation has suggested mobilizing four aspects from classical organization theory related to the configuration of the task (Perrow 1965, Haberstroh 1965, Lawrence, Lorsch 1967). These are summoned with Mintzberg's notion of 'organizational flows' (1979). In his book *The Structuring of Organizations*, Mintzberg describes 'flows' as what joins the elements of an organization together, as it deals with the opposing requirements of division of labor into various tasks and coordination between these tasks respectively (Mintzberg 1979, 3). The flows consist of (1) work material, (2) decision processes, (3) information and (4) authority. The first flow, work material (Mintzberg 1979, 35), is about the material transformed along the assembly line. The second, decision processes (Mintzberg 1979, 58), is about what a decision situation looks like: How is it identified and designed? The third flow, information (Mintzberg 1979, 45), is about how intelligence flows. The fourth flow, authority (Mintzberg 1979, 43), is about the vertical division of 'decision making labor'. Using these flows as point of departure provides a useful way of unfolding trials of valuation.

Trials of valuation offer a detail-attuned way of understanding how valuation devices work in organizations, and particularly also of exploring how and why they do not work. By investigating trials of valuation, it becomes possible to disentangle and juxtapose different versions of the work material, for example, and to investigate what their political consequences are. This approach thus expands the scope formatted by the notion of 'dissonance' in organizations to not only include conflicting ideas about what counts as valuable, but also involve conflicting versions of the task-reality of the organization.

Organizational trials of valuation: Contributions

To valuation studies the focus on organizational trials of valuation offers an alternative to the sometimes overly 'linear' accounts of the 'value effects' of valuation devices. By unfolding trials of valuation in organizations attention is drawn to the collaborative or competitive effort of settling trials in order to solve practical tasks and thus, in essence, to organize. By studying organizational trials of valuation, the scope of analysis expands to include not only efforts to establish something as valuable, but collective, bargained efforts to establish 'what' is being assessed, and 'who' has the authority to do the assessment. The ability of a valuation device to organize, then, is determined through organizational trials of valuation.

The idea that different devices and practices operate with their own versions of 'reality' confirms some central ideas of the broader field of STS, including Mol's ideas of multiplicity and ontological politics (Mol 1999, 2002). The notion of organizational trials of valuation brings attention to the ways in which alterations of valuation criteria involve political struggles about the ontology of the task at hand. By visiting Mol's vocabulary, as Sjögren does (2008), it would become possible to investigate how different strategies are used to settle the 'ontopolitical [23] ' trials of valuation. This could be 'calibration', 'addition' or 'privileging' (Mol 2002, Mol 1999, Sjögren 2006, Sjögren 2008), but also 'rarefaction' or 'proliferation' (Callon, Law 2005).

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[23] 'Ontopolitical' is an adjectivized contraction of 'ontological politics' (used by, for example, Munk, Abrahamsson 2012).

In line with the dissertation's interest in the practical vocabulary of organization theory, however, it would be even more interesting to explore how concepts such as 'coordination' and 'integration' (Lawrence, Lorsch 1967) could be useful to investigate if and how such trials are settled. This would format the co-existence of multiple ontologies as a practical issue evoking not only questions about the 'nature' of things, but also about how local ontologies are managed and coordinated. This would then constitute another possibility for future studies of exploring the potential of combining the practical focus of classical organization theory with more contemporary approaches.

Affordances and situated organizational valuations

The third way in which this dissertation has experimented with interaction between the fields of valuation studies and organization theory is through the idea of *situated organizational valuations*, which I have related to the concept of *affordances* (Hutchby 2001, Norman 1999, Gibson 1977). This conceptualization or conceptual pairing is developed in response to the empirical observation that a device can become a means in different ways and for different goals within the same organization. In making sense of this observation, I found several concepts useful from the literatures of valuation studies and organization theory, but I also found that in order to grasp the particular phenomenon of 'situationally working devices', a new pairing of these concepts would be valuable. The conceptualization draws on the idea of 'organizational valuations' and relates this to 'situation' and 'affordances'. Delineating the situation as the focus of attention is a way of refraining from overarching and abstract explanatory models, and it is also a way of drawing together space, time and socio-material rigs into one analytical container. Affordances, then, comes from psychology and design studies, and,

generally, refers to 'action possibilities' (Gibson 1977: 346). In relation to the study of valuation I use the concept to emphasize that one device can come to work by lending different qualities to use in particular situations, or in other words, by affording certain outcomes.

With 'situated organizational valuation' I emphasize that the socio-technical process of establishing the value of something (valuation) takes place in specific situations (Stark 2009, Dewey 1939), and that the particularities of these situations are part of establishing the value of something. By adding the concept of affordances, I draw attention to the idea that in order to understand what devices do in organization, and particularly to understand how they come to do different things, it is useful to investigate the affordances a device comes to evoke in an organization, and on what occasions they are 'picked up'.

Affordances and situated organizational valuations: Contributions

To valuation studies, this pairing of known concepts offers a modification of the performativity program as it is adopted in some studies of valuation practices. The point of departure of some studies of valuation, it seems, is to show that valuation devices such as rankings, ratings or guidelines do not simply take photographs of values or the orders they make, but rather shape and format what is considered valuable. As argued in this dissertation this way of adopting the performativity program implies a tendency to focus on success stories (Hébert 2014) rendering the performing valuation device both the entry point and the outcome of analysis. How, more specifically, does the understanding of situated organizational valuations of affordances modify the taken-for-granted-performativity often at play?

The literature on performativity generally differs between two 'versions' of performativity; (1) the act of bringing something into being and (2) the act of altering the ongoing situation (Butler 2010, Clarke 2012, MacKenzie 2004). Some scholars refer to the first as 'Austinian performativity' (Clarke 2012: 262, MacKenzie 2004: 304), hinting at Austin's notion of speech-acts, which I come back to below. The second version of performativity is also referred to as a more 'generic' performativity (Clarke 2012: 262, MacKenzie 2004: 304). Generic performativity is the idea that 'material-discursive practices, enact both 'models of' as well as 'models for' reality' as Orlikowksi and Scott put it (referring to Geertz 1973) (2013).

With the question about how things are made valuable, many valuation studies are interested of both acts that bring into being and acts that alter the ongoing situation: The former involves analyses where valuations act in a way which fulfill their own prophecies (Espeland, Sauder 2007), such as when a ranking names a university as number one (ibid) or when a journal article is approved (Pontille, Torny 2015). In these studies a key argument is that such nominations are not natural or to be taken as a given (MacKenzie 2004: 305), but rather the result of a process of configuration (Callon 1998: 22). The latter involves analyses of the 'orders' (Boltanski, Thévenot 2006), 'value systems' (Antal, Hutter et al. 2015), 'schemes' (Orlikowski, Scott 2013) or 'registers' (Heuts, Mol 2013) used to assess the worth of something – and the role of these socio-technical 'grammars' in altering the situation. As such, valuation studies are generally both interested in values as the result of calculative or judgement practices (Callon, Law 2005, Karpik, Scott 2010) and as the 'grammars' of such practices.

However, as the amount of studies which in different ways and in different empirical fields 'document' the performativity of a device accumulates, the

precision in describing this performativity has, arguably, weakened. According to Butler (2010), the tendency to exclude the conditions on which 'a performative' depends, has to do with the way performativity is translated in, for example, studies of markets. Butler argues that the Callonian version of performativity largely overlooks 'perlocutionary' acts. In his seminal work on speech-acts, *Doing things with words* (1962), Austin distinguishes between illocutionary and perlocutionary speech-acts. Illocutionary speech-acts are utterances which bring something into being or 'take effect' (Austin 1962: 117), such as a judge issuing a sentence: 'I hereby sentence you…'. This is what is typically referred to as 'Austinian performativity'. Perlocutionary speech-acts, on the other hand, refer to utterances which only take place 'if certain intervening conditions are met' (Butler 2010: 151)). The perlocutionary acts depend on other conditions in order to perform (Butler 2010: 147) and are therefore only the possibility of an effect (151), not the effect itself.

By drawing attention to the situated organizational valuation, this dissertation offers a way of bringing attention to the 'conditions' of the performativity of a valuation device as they are constituted in organizations. Further, with the concept of affordances it is highlighted that the performativity of a device in an organization is shaped by the affordances of the device, but also that we cannot know what affordances the device comes to evoke and how they are 'picked up' by the organization. In adding the nuances that the co-constitutive relationship is shaped by both the affordances of the valuation device, but also by the situated organizational valuations of these affordances, I find that this conceptualization makes valuation studies better equipped to investigate the relationship between devices, valuation and organization.

To organization theory, where the understanding of technology is sometimes more fixed and even deterministic (although there are many versions of this, as already mentioned), the conceptualization presented here lends more agency, but also open-endedness to technology. Rather than investigating, for instance, how different organizational setups can make the technology work differently (cf. Barley 1986), looking at the situated valuations of a device's affordances emphasizes the co-constitutive outcomes of the relation. Using the situation as entry point equips the investigation to take into account the many differentiated outcomes of the interplay between technology and organization, as it does not 'bind' the outcome to neither the organization nor the technology; it binds the outcome to that which becomes an affordance in the given situation.

5.1.6 EVALUATING THE THEORETICAL 'EXPERIMENT'

While I have used the pragmatic stance to downplay classic disputes among theoretical stances and allowed what could elsewhere be interpreted as 'logical fallacies' involved in bringing valuation studies and organization theory together, it may be time to evaluate this experiment more critically. For this, I find the 'warnings' presented by Neyland (2016) and Oswick, Fleming & Hanlon (2011) to be a relevant input, as they describe some of the challenges related to making inter-theoretical or interdisciplinary combinations.

Neyland (2016) and Oswick et al. (2011) argue that making theoretical combinations poses some potential problems in terms of the 'role' each theoretical field gets. Based on a comprehensive review of management and organization studies, Oswick et al. (2011) argue that management and organization studies have a tendency to rely on theories from adjacent

disciplines; a reliance which places the focus on the process of 'domesticating' foreign theories rather than inquiring into managerial and organizational problems. This dislocation of focus is problematic because, first, it is a less creative and relevant endeavor than the development of theory grounded in organizational issues and, second, it often flattens the potency of the original theory (Oswick al. 2011: 328). Neyland further adds that attempts at interdisciplinary work, which are often endorsed in grant applications, for example, involve the danger of empirical, methodological, or epistemological imperialism as well as disciplinary punishment (Neyland 2016).

A central part of this dissertation's inquiry has been to develop a practical understanding of the relationship between devices, valuation and organization; the purpose of which the theoretical combinatory work was presented as a means. With Oswick et al (2011)'s concern, however, it becomes relevant to consider whether the theoretical work came to dislocate the focus of the inquiry. Looking back on the dissertation as a whole, I could perhaps have assembled the theoretical parts of the arguments in a more efficient manner, leaving more space and focus for concrete, empirical problems. Yet, the theoretical work related to defining the pragmatic stance and occupation with concrete and practical problems is as much an outcome of this work as a predefined gauge. In that way the theoretical combinatory work has formed the inquiry and the position from which I look back, and has in that sense been a necessary 'harbor' in the journey of this inquiry.

As Neyland points out, in making fields and disciplines interact there is a danger of making one field imperialist to the other. In this regard, I have probably been more occupied with valuation studies, which was where I 'began', and which have also been a key to a lively research environment

with good opportunities for interacting with others about my work. Accordingly, this dissertation perhaps displays a more fine-tuned sensitivity to the problems and details of valuation studies in comparison to organization theory, which has occupied primarily the last phase of the PhD study. This kind of reflection, then, underscores the relevance of Neyland's argument about disciplinary punishment. By visiting two fields, one is subject to academic scrutiny from two positions where different ideas about what counts as good inquiry are at play. This can, however, also be a constructive tension.

The two fields generally operate with different centers of attention; the 'figure' of organization studies, the organization, often being the 'background' in valuation studies, and vice versa, providing the fields with different assumptions and interests. Relating the two fields has therefore challenged my theoretical awareness, as assumptions from one field would be questioned by the other. Sometimes this happened in a very literal sense, when interacting with scholars from 'one side' about my work, who questioned the relevance of 'the other'. The academic craftsmanship of learning to handle this mutual interrogation, I find, has at once presented complicated challenges and provided useful insights that have been central to the inquiry.

Yet, in assessing the 'successfulness' of the theoretical combination the most important question springs from the inquiry itself. Did the theoretical experiment work as a resource in generating a practical understanding of what happens to values and value practices in an organization when Lean management is introduced? In my opinion it did: While, perhaps, the conceptual operations came to take up more space than intended, I find that the two approaches together bring out a richer and more practically oriented

understanding of what happens in concrete situations when Lean is introduced than either of the perspectives would have on their own. On this note, I will return to the final remarks of this dissertation.

5.2 CONCLUDING REMARKS

With this inquiry the dissertation has aimed to push forward the detached and polarized debates over tools of New Public Management, their potential successors and their consequences for organizational values. The dissertation has suggested that a practical and situation-based understanding of the relationship between devices, valuation and organization could be a useful resource in this endeavor. I will not here provide an alternative to Lean or other existing management tools, but summarize the key 'ideas' of this dissertation. According to Dewey, every idea begins as a suggestion, of which the 'functional capacity' is examined in scientific inquiry. The final test of an idea comes when it is "put into operation so as to institute by means of observations facts not previously observed, and […] then used to organize them with other facts into a coherent whole" (Dewey 1938: 110). In less grand jargon; here are three ideas which I hope to see others pick up. They sum up the dissertation's answers to the research question and provide some suggestions on how to proceed in the polarized debate about management devices in public organizations and what they do to values and value practices: (1) Investigate the specifics of the device (2) Unfold the organizational relations and (3) Do not overestimate what management devices can do.

5.2.1 INVESTIGATE THE SPECIFICS OF THE DEVICE

The first idea is that the specifics of the management device matters. While this idea may seem banal, I find there is a need to reestablish a focus on the 'qualities' of particular devices and to emphasize that management devices – including those associated with New Public Management - are not all the same, and do not all work similar strategies with similar results. In order to push forward the understanding and usage of management tools, it is relevant to bother with the particularities of the tools rather than pool them into a pile of failed attempts. In this endeavor, I do not suggest that we should return to study the design or the instructions with which a device arrives. Rather I suggest investigating the specific effects a device comes to have in an organization as a result of the device-organization relations that are established. To generate such investigations, the dissertation has found the question 'by what means does the device come to work?' useful, as it brings attention to the specific qualities of a device that come to offer themselves as a means in particular situations.

In highlighting that the qualities of devices matter, it makes sense, now, to reflect on the effects of Lean management's roots in car production and how they shape the characteristics that Lean comes to have in the hospital organization. As mentioned, the pragmatic stance of the dissertation implies parallelization, which means that I do not employ metaphysical concepts to explain empirical phenomena, but look for effects of this derivation in car production that 'exist in fact and are capable of empirical observation' (Dewey 1939: 58). Accordingly, a central outcome of Lean's derivation in car production is that it is being used politically by opponents. Both among researchers and hospital professionals Lean is criticized for being inappropriate in healthcare because – in short – 'patients are not cars', as

already mentioned. The derivation of Lean from car production thus becomes an easily available means of reproaching Lean in organizational battles of defining the reality of the organization. In addition to this more strategic use of Lean's derivation, more substantial effects on what Lean comes to afford can also be found.

In this dissertation I have shown how Lean comes to afford alternative propositions of time, space and of assessing the value of things, compared to how things are usually done in the JMC. These alternatives seem to reflect a type of organization where, for example, teams are more internally aligned, and where the role of standards and professionalism play different roles than in the hospital. This could very well be attributed to Lean's derivation in car production plants, where the professions of the team members, for instance, are more aligned. At the hospital, these alternative understandings of the organizational reality come to work as means of organizing differently. Through these alternative means, Lean does not only offer a different way of making value an object of management and organization, but also a different way of organizing, which was not previously considered available.

5.2.2 UNFOLD THE ORGANIZATIONAL RELATIONS

The second idea is to pay close attention to the relations between values, devices and organization. In order to be able to use management devices to create value or identify valuable aspects of a patient path, for example, it is imperative to consider not only what the management device can do according to its manuals and proponents, but also what happens to the device and its 'abilities' when it is related to practical organizational arrangements, where ideas about the core task and the organization's goals are already at play.

This dissertation has emphasized three ways in which value and organization are entangled: (1) The calculative practices of particular devices, while presenting as 'neutral', are often entangled with propositions about the organization. Therefore they will often be better suited to deal with some work materials and tasks than others. For instance, whiteboard management offers a particular metric and practice of assessing what organizational activities are valuable; metrics which give preference to organizational problems that fit the metric, which in the case of whiteboard management often means problems related to quality, safety or administrative tasks. As a means of optimizing value, whiteboard management classifies only certain organizational activities as even relevant for optimizing, which – as the analyses show – ends up altering not only what goes on at the meetings, but also how the organizational members value the device of whiteboard management as such; they find that it in some cases distorts organizational goals and attentions.

Valuation and organization is further entangled through (2) the practical organization of the Lean activities. An example of this is the Lean workshops that are part of the Kaizen Blitz projects, which require people to be at a particular place at a particular time with a particular agenda. Decisions about 'where to be, when', evoke complex situation-based judgments about how time is spent in the most valuable way, where the individual healthcare professional has to juggle contrasting grammars for assessing what counts as important. This is illustrated both in Article 1 about whiteboard management and Article 3 with the example of the invention of the acute trolley. Most prominently in these examples, the professionals have to shift between their 'task-grammar' on the one hand, established through routines and professional training, and the device's grammar on the other.

The last way in which the dissertation has shown the entanglement of valuation and organization is through (3) the implicit representations of the organizational reality of some calculative value practices. For example, when in a Lean forum hospital professionals are tinkering with the procedure on how to handle catheters, they are not only altering the procedure in question, but also tweaking professional identities and collaborations by representing their function in a particular manner. This is also illustrated in the second article, which shows how Lean's work of optimizing patient distribution gives rise to struggles between the participants' different versions of the organizational realities.

As the three aspects illustrate, it is difficult to think of valuation without organization; you cannot estimate what counts as valuable without organizing and you cannot organize without making things count as valuable. To the debate about management devices in public organizations, the close entanglement of valuation and organization underscores that it is not enough to evaluate management devices' ability to create economic value, as is often done. Even if the primary aim is to increase economic value, it is central to be able to understand the entanglements of the device and the organization, as this may both hinder and enable economic value creation. The idea of simply 'de-plugging' the tools of New Public Management by declaring them useless seems to rest on the assumption that this would turn off their effects. However, this idea overlooks to co-constitutive aspects of valuation and organization, and stands in the way of moving beyond the dichotomous approach to management of public organizations.

5.2.3 Do not overestimate what management devices can do

The third idea is that the effects of valuation devices in organizations should not be overestimated. As the dissertation has shown, the fact that a management device operates with certain ideas about what counts and how it should be counted, should not be mistaken for the claim that the introduction of a valuation device necessarily changes the values of organizations. As this dissertation has argued, multiple tasks are handled in an organization to which a particular grammar of valuation is attached. This is to say that the organization is – even before the introduction of a management device – operating with particular establishments of what counts as valuable, even though these establishments may be less formally displayed and less event-based than those instigated by the management device.

Therefore, in understanding what happens to values and value practices in organizations when a management device is introduced, this dissertation has emphasized the role of organizational valuations. This emphasis is related to the question of whether devices are considered useful in a particular situation, where several modes of valuation are at play. Examples of organizational valuation include the head physician's judgment of the way the Lean consultant speaks (Article 3) and the physicians' silent refusal to make a tick in a computer program in relation to the catheter assessments (Article 1). The results of these situated, organizational valuations are part of the shaping of the fates of management devices.

To the debate about management of public organizations and the role of management devices, this conclusion suggests bringing attention to the ways in which values are established in organizations in both formal and everyday situations. To attribute the alleged demise of values in public organizations to the choice of management device is a problematically blinkered approach,

where the role of other things than the management devices is overlooked. Rather than continuing to replace or add management devices to public organizations, I find that we should modify the expectations as to what devices can do in organizations, and, accordingly, focus on improving our ongoing awareness of, and responses to, the organizational implications of valuation practices regardless of their derivation.

5.3 OUTRO

Do these considerations imply, then, that New Public Management should be kept alive? Not necessarily. The pragmatic stance on management devices in public organizations holds that no device is intrinsically good or bad. I am arguing, rather, that we should not take for granted that new tools will solve the problems of public organizations. They will most likely solve some problems, leave others unattended, and create still new problems. In order to approach these problems, the dissertation encourages a more practical and situation-based orientation of the discussion about the relationship between management devices, organizations and values of public organizations. We should not hold expectations that a device exists that is only for the better, or that the removal of a device will only have positive consequences. The question about management of public organizations is not a question of finding the perfect solution once and for all, but of remaining attuned to the unexpected outcomes, complicated dilemmas and ongoing controversies that may emerge as the result of relating valuations and organizations. This dissertation hopes to have offered some useful suggestions on how to facilitate such a practical attunement.

REFERENCES

4S/EASST, 2016-last update, Track T064, Barcelona Conference 2016 [Homepage of 4S/EASST Conference BCN-2016], [Online]. Available: http://www.nomadit.co.uk/easst/easst_4s2016/panels.php5?PanelID=3973 [June/15, 2016].

ALVESSON, M. and WILLMOTT, H., 1992. Critical theory and management studies: An introduction. In: M. ALVESSON and H. WILLMOTT, eds, *Critical Management Studies.* London: Sage, pp. 1-20.

ANTAL, A.B., HUTTER, M. and STARK, D., 2015. *Moments of valuation: exploring sites of dissonance.* Oxford University Press.

ARIZTÍA, T., ESPINOSA, J.F., FRANKEL, C., OSSANDÓN, J. and PALLESEN TRINE, 2016-last update, The organization of multiple modes of valuation [Homepage of www.laemos.com], [Online]. Available: http://laemos.com/streams/ [April 1st, 2016].

ATTARDO, D., 2016, 9th of December. Morten forlader Rigshospitalet i protest: Nu svarer ministeren igen - men hun glemmer noget. *ekstrabladet.*

AUSTIN, J.L., 1962. *How to Do Things with Words. The William James Lectures Delivered at Harvard University in 1955.* Clarendon Press.

BAK-BERNT, T. and VINTERBERG, J., 2010. *Lean på hospitalet i praksis.* Hillerød: Region H.

BAKHTIN, M.M., 2002. Forms of Time and of the Chronotope in the Novel: Notes toward a Historical Poetics. In: B. RICHARDSON, ed, *Narrative Dynamics: Essays on Time, Plot, Closure, and Frames.* Ohio State University Press, pp. 15-24.

BARLEY, S.R., 1986. Technology as an occasion for structuring: Evidence from observations of CT scanners and the social order of radiology departments. *Administrative Science Quarterly,* **31**, pp. 78-108.

BARLEY, S.R. and KUNDA, G., 2006. Contracting: A new form of professional practice. *The Academy of Management Perspectives,* **20**(1), pp. 45-66.

BARMAN, E., 2015. Of Principle and Principal: Value Plurality in the Market of Impact Investing. *Valuation Studies,* **3**(1), pp. 9-44.

BARNARD, C.I., 1938 (1968). *The Functions of the Executive.* Cambridge, Massachusetts and London, England: Harvard University Press.

BATE, S.P., 1997. Whatever happened to organizational anthropology? A review of the field of organizational ethnography and anthropological studies. *Human relations,* **50**(9), pp. 1147-1175.

BECK JØRGENSEN, T., 2003. *På sporet af en offentlig identitet.* Aarhus: Aarhus Universitetsforlag.

BECKER, H.S., 2008. *Tricks of the trade: How to think about your research while you're doing it.* University of Chicago Press.

BECKERT, J. and ASPERS, P., 2011. *The worth of goods: Valuation and pricing in the economy.* Oxford University Press.

BEN-TOVIM, D.I., BASSHAM, J.E., BOLCH, D., MARTIN, M.A., DOUGHERTY, M. and SZWARCBORD, M., 2007. Lean thinking across a hospital: redesigning care at the Flinders Medical Centre. *Australian Health Review,* **31**(1), pp. 10-15.

BICHENO, J. and HOLWEG, M., 2009. *The Lean toolbox: The essential guide to Lean transformation.* Production and Inventory Control, Systems and Industrial Engineering (PICSIE) Books.

BILDE, L., HANSEN, A.R., SØGAARD, J. and SUNDHEDSINSTITUT, D., 2010. Økonomi og styring i sygehusvæsenet. *Dansk Sundhedsinstitut,* .

BLOOR, D., 1997. Remember the strong program? *Science, Technology, & Human Values,* **22**(3), pp. 373-385.

BLOOR, D., 1991. *Knowledge and social imagery.* University of Chicago Press.

BOERSEMA, M., 2011. *Lean Tool: Fishbone Diagram... Add some fish to your diet!* www.leansimulations.org.

BOLTANSKI, L. and THÉVENOT, L., 2006. *On justification: Economies of worth.* Princeton University Press.

BOYNE, G.A. and MEIER, K.J., 2013. Burdened by Bureaucracy? Determinants of Administrative Intensity in Public Organisations. *International Public Management Journal,* **16**(2), pp. 307-327.

BRANDAO DE SOUZA, L., 2009. Trends and approaches in lean healthcare. *Leadership in Health Services,* **22**(2), pp. 121.

BRINKMANN, S., 2013. *John Dewey: Science for a Changing World.* Transaction Publishers.

BRYSON, J.M., CROSBY, B.C. and BLOOMBERG, L., 2014. Public value governance: Moving beyond traditional public administration and the new public management. *Public administration review,* **74**(4), pp. 445-456.

BURKE, T., 1994. *Dewey's new logic: A reply to Russell.* University of Chicago Press.

BUTLER, J., 2010. Performative agency. *Journal of Cultural Economy,* **3**(2), pp. 147-161.

CALLON, M., 2010. Performativity, misfires and politics. *Journal of Cultural Economy,* **3**(2), pp. 163-169.

CALLON, M., 2007. What does it mean to say that economics is performative. *Do economists make markets,* , pp. 311-357.

CALLON, M., 1998. *The laws of the markets.* Blackwell Oxford.

CALLON, M., 1984. Some elements of a sociology of translation: domestication of the scallops and the fishermen of St Brieuc Bay. *The Sociological review,* **32**(S1), pp. 196-233.

CALLON, M. and LATOUR, B., 1992. Don't throw the baby out with the bath school! A reply to Collins and Yearley. In: A. PICKERING, ed, *Science as practice and culture.* Chicago: University of Chicago Press, pp. 343-368.

CALLON, M. and LAW, J., 2005. On qualculation, agency, and otherness. *Environment and Planning D: Society and Space,* **23**(5), pp. 717-733.

CALLON, M. and MUNIESA, F., 2005. Peripheral vision economic markets as calculative collective devices. *Organization Studies,* **26**(8), pp. 1229-1250.

CARTER, B., DANFORD, A., HOWCROFT, D., RICHARDSON, H., SMITH, A. and TAYLOR, P., 2011. 'All they lack is a chain': lean and the new performance management in the British civil service. *New Technology, Work and Employment,* **26**(2), pp. 83-97.

CHIA, R., 2003. Organization theory as a postmodern science. In: H. TSOUKAS and C. KNUDSEN, eds, *The Oxford Handbook of Organization Theory.* New York: Oxford University Press, pp. 113-140.

CHOI, S., HOLMBERG, I., LÖWSTEDT, J. and BROMMELS, M., 2011. Executive management in radical change—The case of the Karolinska University Hospital merger. *Scandinavian Journal of Management,* **27**(1), pp. 11-23.

CHRISTENSEN, B. and STRANDGAARD, J., 2013. Restaurant rankings in the culinary field. *Exploring Creativity: Evaluative Practices in Innovation, Design, and the Arts,* , pp. 235.

CINI, S., 2017-last update, How to do a Kaizen meeting. Available: http://www.ehow.com/how_8641892_do-kaizen-meeting.html [01/19, 2017].

CLARKE, C., 2012. Financial engineering, not economic photography: Popular discourses of finance and the layered performances of the sub-prime crisis. *Journal of Cultural Economy,* **5**(3), pp. 261-278.

COCHOY, F., 2008. Calculation, qualculation, calqulation: shopping cart arithmetic, equipped cognition and the clustered consumer. *Marketing theory,* **8**(1), pp. 15-44.

COCHOY, F., 2002. Figures du client, leçons du marché. *Sciences de la société,* (56), pp. 3-23.

CUNLIFFE, A., 2009. Retelling tales of the field: In search of organizational ethnography 20 years on. *Organizational Research Methods,* **13**(2), pp. 224-239.

CZARNIAWSKA, B. and SEVÓN, G., 1996. *Translating organizational change.* Walter de Gruyter.

CZARNIAWSKA-JOERGES, B., 2007. *Shadowing, And Other Techniques for Doing Fieldwork in Modern Societies.* Denmark: Copenhagen Business School Press.

CZARNIAWSKA-JOERGES, B. and SEVÓN, G., 2005. *Global ideas: how ideas, objects and practices travel in a global economy.* Copenhagen Business School Press.

DAVIES, W., 2017. How are we now? Real-time mood-monitoring as valuation. *Journal of Cultural Economy,* **10**(1), pp. 34-48.

DE SOUZA, L.B. and PIDD, M., 2011. Exploring the barriers to lean health care implementation. *Public Money & Management,* **31**(1), pp. 59-66.

DESANCTIS, G. and POOLE, M.S., 1994. Capturing the complexity in advanced technology use: Adaptive structuration theory. *Organization science,* **5**(2), pp. 121-147.

DEWEY, J., 2008/1938. The Pattern of Inquiry. In: L.A. HICKMAN and T.M. ALEXANDER, eds, *The Essential Dewey. Volume 2. Ethics, Logic, Psychology.* pp. 169-179.

DEWEY, J., 1939/2008. Theory of Valuation. In: J.A. BOYDSTON, ed, *John Dewey. The later works, 1925-1953.* SIU Press, pp. 195.

DEWEY, J., 1939. *Theory of Valuation.* Chicago, Illinois: The University of Chicago Press.

DEWEY, J., 1938/2013. Logic - The Theory of Inquiry. In: L.A. HICKMAN and T.M. ALEXANDER, eds, *The Essential Dewey, Volume 2, Ethics, Logic, Psychology.* Read Books Ltd, pp. 157.

DEWEY, J., 1938/1998. The Problem of Logical Subject-Matter, From Logic: The theory of Inquiry. In: L.A. HICKMAN and T.M. ALEXANDER, eds, *The Essential Dewey, volume 2, Ethics, Logic, Psychology.* Bloomington and Indianapolis: Indiana University Press, pp. 157.

DEWEY, J., 1938. *Logic - The Theory of Inquiry.* New York: Henry Hold and Company.

DEWEY, J., 1922/2002. *Human Nature and Conduct: An Introduction to Social Psychology.* New York: Promentheus Books.

DEWEY, J., 1915/1998. The Logic of Judgments of Practice. In: L.A. HICKMAN and T.M. ALEXANDER, eds, *The Essential Dewey. Volume 2. Ethics, Logic, Phsychology.* Bloomington and Indianapolis: Indiana University Press, pp. 236.

DIEFENBACH, T., 2009. New public management in public sector organizations: the dark sides of managerialistic 'enlightenment'. *Public administration,* **87**(4), pp. 892-909.

DOGANOVA, L., GIRAUDEAU, M., HELGESSON, C., KJELLBERG, H., LEE, F., MALLARD, A., MENNICKEN, A., MUNIESA, F., SJÖGREN, E. and ZUIDERENT-JERAK, T., 2014. Valuation Studies and the Critique of Valuation. *Valuation Studies,* **2**(2), pp. 87-96.

DROTZ, E. and POKSINSKA, B., 2014. Lean in healthcare from employees' perspectives. *Journal of health organization and management,* **28**(2), pp. 177-195.

DU GAY, P. and VIKKELSØ, S., 2016. *For Formal Organization: The Past in the Present and Future of Organization Theory.* Oxford University Press.

DUNLEAVY, P. and HOOD, C., 1994. From old public administration to new public management. *Public money & management,* **14**(3), pp. 9-16.

DUNLEAVY, P., MARGETTS, H., BASTOW, S. and TINKLER, J., 2006. New public management is dead—long live digital-era governance. *Journal of public administration research and theory,* **16**(3), pp. 467-494.

DUSSAUGE, I., HELGESSON, C. and LEE, F., 2015. *Value Practices in the Life Sciences and Medicine.* Oxford University Press.

EDWARDS, K. and NIELSEN, A.P., 2011. Improving Healthcare through Lean Management: Experiences from the Danish Healthcare system, *17th International EurOMA 2010 Conference* 2011, Papers from the NOHR2011.

EMERSON, R.M., FRETZ, R.I. and SHAW, L.L., 2011. *Writing ethnographic fieldnotes.* University of Chicago Press.

ESPELAND, W.N. and LOM, S., 2015. Noticing Numbers: How Quantification Changes What We See and What We Dont. In: M. KORNBERGER, L. JUSTESEN, A. KOED MADSEN and J. MOURITSEN, eds, *Making Things Valuable.* Oxford University Press, USA, pp. 18-37.

ESPELAND, W.N. and SAUDER, M., 2007. Rankings and reactivity: How public measures recreate social worlds1. *American journal of sociology,* **113**(1), pp. 1-40.

ESPELAND, W.N. and STEVENS, M.L., 1998. Commensuration as a social process. *Annual review of sociology,* **24**, pp. 313-343.

FARÍAS, I., 2015. Epistemic Dissonance: Reconfiguring Valuation in Architectural Practice. In: A.B. ANTAL, M. HUTTER and D. STARK, eds, *Moments of Valuation: Exploring Sites of Dissonance.* Oxford: Oxford University Press, pp. 271-289.

FILLINGHAM, D., 2007. Can lean save lives? *Leadership in health services,* **20**(4), pp. 231-241.

FOUCAULT, M., 1988. Politics, Philosophy, Culture, ed. LD Kritzman. *New York and London: Routledge,* .

FOURCADE, M., 2011. Cents and sensibility: Economic valuation and the nature of "nature". *American journal of sociology,* **116**(6), pp. 1721-1777.

GARCIA, M.-., 2007. The social construction of a perfect market: The strawberry auction at Fontaines-en-Sologne. In: D. MACKENZIE, F. MUNIESA and L. SIU, eds, *Do Economists Make Markets? On the Performativity of Economics.* Princeton: Princeton University Press, .

GIBSON, J., 1977. The theory of affordances. In: R. SHAW and J. BRANSFORD, eds, *Perceiving, acting, and knowing: Toward an ecological psychology.* Lawrence Erlbaum Associates, pp. 67-82.

GIDDENS, A., 1979. *Central problems in social theory: Action, structure, and contradiction in social analysis.* Univ of California Press.

GOND, J., CABANTOUS, L., HARDING, N. and LEARMONTH, M., 2016. What do we mean by performativity in organizational and management theory? The uses and abuses of performativity. *International Journal of Management Reviews,* **18**, pp. 440-463.

GRAEBER, D., 2013. *On the phenomenon of bullshit jobs.* Printed at the Guardian Print Centre.

HABERSTROH, C.J., 1965. Organization Design and Systems Analysis. In: J.G. MARCH, ed, *Handbook of Organizations.* Chicago: Rand McNally, pp. 1171-1211.

HACKING, I., 1999. *The social construction of what?* Harvard university press.

HAUGE, A.M., 2016a. Indblik i en hospitalsafdelings erfaringer med tavletræthed. *Tidsskrift for Dansk Sundhedsvæsen,* **92**(2), pp. 24-34.

HAUGE, A.M., 2016b. The Organizational Valuation of Valuation Devices: Putting Lean whiteboard management to work in a hospital department. *Valuation Studies,* **4**(2), pp. 125-151.

HÉBERT, K., 2014. The matter of market devices: Economic transformation in a southwest Alaskan salmon fishery. *Geoforum,* **53**, pp. 21-30.

HERNES, T. and MAITLIS, S., 2010. *Process, sensemaking, and organizing.* Oxford University Press.

HEUTS, F. and MOL, A., 2013. What is a good tomato? A case of valuing in practice. *Valuation Studies,* **1**(2), pp. 125-146.

HEYDEBRAND, W.V., 1965. *Bureaucracy in Hospitals: An Analysis of Complexity and Coordination in Formal Organizations.* Department of Photoduplication, University of Chicago Library.

HICKSON, D.J., PUGH, D.S. and PHEYSEY, D.C., 1969. Operations technology and organization structure: An empirical reappraisal. *Administrative Science Quarterly,* **14**(3), pp. 378-397.

HINES, P., HOLWEG, M. and RICH, N., 2004. Learning to evolve: a review of contemporary lean thinking. *International Journal of Operations & Production Management,* **24**(10), pp. 994-1011.

HOOD, C., 1991. A public management for all seasons? *Public administration,* **69**(1), pp. 3-19.

HOOD, C. and DIXON, R., 2015. *A government that worked better and cost less?: Evaluating three decades of reform and change in UK central Government.* OUP Oxford.

HUNT, R.G., 1970. Technology and Organization. *The Academy of Management Journal,* **13**(3), pp. 235-252.

HUTCHBY, I., 2001. Technologies, texts and affordances. *Sociology,* **35**(2), pp. 441-456.

HUTTER, M., 2015. Dissonant Translations: Artistic Sources of Innovation in Creative Industries. In: A.B. ANTAL, M. HUTTER and D. STARK, eds, *Moments of Valuation.Exploring Sites of Dissonance.* Oxford: Oxford University Press, pp. 57-88.

INSTITUTE FOR HEALTHCARE IMPROVEMENT, IHI, 2005. *Innovation Series 2005 / Going Lean in Health Care.* Cambridge: Institute for Healthcare Improvement.

ISIXSIGMA.COM, W., 2016-last update, Kaizen Blitz. Available: https://www.isixsigma.com/dictionary/kaizen-blitz/ [11/07, 2016].

JOOSTEN, T., BONGERS, I. and JANSSEN, R., 2009. Application of lean thinking to health care: issues and observations. *International Journal for Quality in Health Care,* **21**(5), pp. 341-347.

JULIANE MARIE CENTRET, R., 2011. *Forbedringspolitik, eng: Improvement policy (author's translation).* København: Rigshospitalet.

JUSTESEN, L.N. and MIK-MEYER, N., 2012. *Qualitative Research Methods in Organisation Studies.* Gyldendal.

JUSTESEN, L. and MOURITSEN, J., 2009. The triple visual: Translations between photographs, 3-D visualizations and calculations. *Accounting, Auditing & Accountability Journal,* **22**(6), pp. 973-990.

KARPIK, L. and SCOTT, N., 2010. *Valuing the unique: The economics of singularities.* Princeton University Press Princeton.

KEATING, M., 1989. Quo vadis? Challenges of public administration. *Australian Journal of Public Administration,* **48**(2), pp. 123-131.

KITCHENER, M., 2000. TheBureaucratization'of Professional Roles: The Case of Clinical Directors in UK Hospitals. *Organization,* **7**(1), pp. 129-154.

KNORR-CETINA, K.D., 1988. The micro-social order: towards a reconception.

KORNBERGER, M., JUSTESEN, L., KOED MADSEN, A. and MOURITSEN, J., 2015. *Making Things Valuable.* United Kingdom: Oxford University Press.

KRAFVE, L.J., 2015. *Valuation in Welfare Markets: The Rule Books, Whiteboards and Swivel Chairs of Care Choice Reform.* Linköping University Electronic Press.

KURUNMÄKI, L., MENNICKEN, A. and MILLER, P., 2016. Quantifying, Economising, and Marketising: Democratising the social sphere? *Sociologie du Travail,* **58**(4), pp. 390-402.

LAMONT, M., 2012. Toward a comparative sociology of valuation and evaluation. *Sociology,* **38**(1), pp. 201.

LAPSLEY, I., 2009. New public management: The cruellest invention of the human spirit? 1. *Abacus,* **45**(1), pp. 1-21.

LATOUR, B., 2012. *We have never been modern.* Harvard University Press.

LATOUR, B., 2005. *Reassembling the social: An introduction to actor-network-theory.* Oxford university press.

LATOUR, B., 1999. On recalling ANT. *The Sociological review,* **47**(S1), pp. 15-25.

LATOUR, B., 1991. *We have never been modern.* Cambridge, Massachusetts: Harvard University Press.

LATOUR, B., 1990. Technology is society made durable. *The Sociological review,* **38**(S1), pp. 103-131.

LATOUR, B., 1987. *Science in action: How to follow scientists and engineers through society.* Harvard university press.

LATOUR, B. and VENN, C., 2002. Morality and technology the end of the means. *Theory, culture & society,* **19**(5-6), pp. 247-260.

LATOUR, B. and WOOLGAR, S., 1979. *Laboratory Life: The Social Construction of Scientific Facts.* New Jersey: Princeton University Press.

LAW, J., 1994. *Organizing modernity.* Oxford: Blackwell Publishers.

LAWRENCE, P.R. and LORSCH, J.W., 1986. Organization and environment: managing differentiation and integration (Harvard Business School Classics).

LAWRENCE, P.R. and LORSCH, J.W., 1967. Differentiation and integration in complex organizations. *Administrative Science Quarterly,* , pp. 1-47.

LOPDRUP-HJORTH, T., 2015. Object and objective lost? Organization-phobia in organization theory. *Journal of Cultural Economy,* **8**(4), pp. 439-461.

LÖWSTEDT, J., 1985. Contingencies or cognitions? Two paths for research on organization and technology. *Scandinavian Journal of Management Studies,* **1**(3), pp. 207-225.

LYNCH, M., 2013. Ontography: Investigating the production of things, deflating ontology. *Social Studies of Science,* **43**(3), pp. 444-462.

MACKENZIE, D., 2008. *An engine, not a camera: How financial models shape markets.* MITPress.

MACKENZIE, D., 2004. The big, bad wolf and the rational market: portfolio insurance, the 1987 crash and the performativity of economics. *Economy and society,* **33**(3), pp. 303-334.

MARCH, J.G. and SIMON, H.A., 1958/1993. *Organizations.* 2nd edn. Cambridge, Massachusetts: Blackwell Publishers.

MAZZOCATO, P., STENFORS-HAYES, T., VON THIELE SCHWARZ, U., HASSON, H. and NYSTROM, M.E., 2016. Kaizen practice in healthcare: a qualitative analysis of hospital employees' suggestions for improvement. *BMJ open,* **6**(7),.

MCCANN, L., HASSARD, J.S., GRANTER, E. and HYDE, P.J., 2015. Casting the lean spell: The promotion, dilution and erosion of lean management in the NHS. *human relations,* **68**(10), pp. 1557-1577.

MCFALL, L. and OSSANDÓN, J., 2014. What's new in the 'new, new economic sociology'and should Organisation Studies care? In: P. ADLER, P. DU GAY, G. MORGAN and M. REED, eds, *Oxford Handbook of Sociology, Social Theory and Organization Studies: Contemporary Currents.* Oxford: Oxford University Press, .

MENNICKEN, A. and MILLER, P., 2012. Accounting, territorialization and power. *Foucault Studies,* (13), pp. 4-24.

MENNICKEN, A. and SJÖGREN, E., 2015. Valuation and Calculation at the Margins. *Valuation Studies,* **3**(1), pp. 1-7.

MERRIAM-WEBSTER, 2017-last update, device [Homepage of Merriam-Webster], [Online]. Available: https://www.merriam-webster.com/dictionary/device [2/7, 2017].

MILLER, C., Marts, 2014-last update, Patientflow og løbende forbedringer [Homepage of Effektivitet.dk], [Online].

MINTZBERG, H., 1979. *The Structuring of Organizations - A Synthesis of the Research.* Englewood Cliffs: Prentice-Hall.

MODIG, N. and ÅHLSTRÖM, P., 2013. *Dette er Lean.* Halmstad, Sverige: Rheologica Publishing.

MOL, A., 2002. *The body multiple: Ontology in medical practice.* Duke University Press.

MOL, A., 1999. Ontological politics. A word and some questions. *The Sociological review,* **47**(S1), pp. 74-89.

MOORE, M.H., 1995. *Creating public value: Strategic management in government.* Harvard university press.

MORROW, E., ROBERT, G., MABEN, J. and GRIFFITHS, P., 2012. Implementing large-scale quality improvement: lessons from the productive ward: releasing time to care™. *International journal of health care quality assurance,* **25**(4), pp. 237-253.

MUNIESA, F., 2012. A flank movement in the understanding of valuation. *The Sociological review,* **59**(s2), pp. 24-38.

MUNIESA, F., MILLO, Y. and CALLON, M., 2007. An introduction to market devices. *The Sociological review,* **55**(s2), pp. 1-12.

MUNK, A.K. and ABRAHAMSSON, S., 2012. Empiricist interventions: strategy and tactics on the ontopolitical battlefield. *Science & Technology Studies,* **28**(1),.

NEYLAND, D., 2016. Challenges of Organizational Ethnography: Reflecting on Methodological Insights. In: F.C. DYKES and R. FLACKING, eds, *Ethnographic Research in Maternal and Child Health.* New York: Taylor & Francis, pp. 179.

NEYLAND, D., 2008. *Organizational ethnography.* London: Sage.

NHS, E., 2013-last update, Lean case studies - NHS Institute for Innovation and Improvement. Available: http://www.institute.nhs.uk/quality_and_value/lean_thinking/leean_case_studies.html [7/23, 2013].

NORDISK MINISTERRÅD, 2., 2014. *Vækst, velfærd og værdier* . Denmark: Rosendahls-Schultz Grafisk.

NORMAN, D.A., 1999. Affordance, conventions, and design. *interactions,* **6**(3), pp. 38-43.

O'FLYNN, J., 2007. From new public management to public value: Paradigmatic change and managerial implications. *Australian journal of public administration,* **66**(3), pp. 353-366.

ORLIKOWSKI, W.J., 2007. Sociomaterial practices: Exploring technology at work. *Organization Studies,* **28**(9), pp. 1435-1448.

ORLIKOWSKI, W.J., 2000. Using technology and constituting structures: A practice lens for studying technology in organizations. *Organization science,* **11**(4), pp. 404-428.

ORLIKOWSKI, W.J., 1992. The duality of technology: Rethinking the concept of technology in organizations. *Organization science,* **3**(3), pp. 398-427.

ORLIKOWSKI, W.J. and SCOTT, S.V., 2013. What happens when evaluation goes online? Exploring apparatuses of valuation in the travel sector. *Organization Science,* **25**(3), pp. 868-891.

ORLIKOWSKI, W.J. and SCOTT, S.V., 2008. 10   Sociomateriality: Challenging the Separation of Technology, Work and Organization. *The Academy of Management Annals,* **2**(1), pp. 433-474.

OSBORNE, D. and GAEBLER, T., 1992. *Reinventing Government: How the entrepreneurial spirit is transforming government.* Reading, MA: Addison-Wesley.

OSWICK, C., FLEMING, P. and HANLON, G., 2011. From borrowing to blending: Rethinking the processes of organizational theory building. *Academy of Management Review,* **36**(2), pp. 318-337.

OWEN, D., 1995. Genealogy as examplary critique: reflections on Foucault and the imagination of the political. *International Journal of Human Resource Management,* **24**(4), pp. 489-506.

PEDERSEN, K.Z., 2013. *Failsafe Organizing?* Copenhagen Business School [Phd].

PEDERSEN and HUNICHE, M., 2009. *Offentlig Lean.* Copenhagen: Djøf/Jurist-og Økonomforbundet.

PERROW, C., 1986. *Complex organizations: A critical essay.* 3rd edn. New York: McGrawHill.

PERROW, C., 1967. A framework for the comparative analysis of organizations. *American Sociological Review,* **32**(2), pp. 194-208.

PERROW, C., 1965. Hospitals: technology, structure, and goals. In: J.G. MARCH, ed, *Handbook of Organizations.* Chicago: Rand McNally Chicago, pp. 910-971.

POLLITT, C. and BOUCKAERT, G., 2011. *Public Management Reform: A comparative analysis-new public management, governance, and the Neo-Weberian state.* Oxford University Press.

POLLOCK, N. and D'ADDERIO, L., 2012. Give me a two-by-two matrix and I will create the market: Rankings, graphic visualisations and sociomateriality. *Accounting, Organizations and Society,* **37**(8), pp. 565-586.

PONTILLE, D. and TORNY, D., 2015. From manuscript evaluation to article valuation: the changing technologies of journal peer review. *Human Studies,* **38**(1), pp. 57-79.

PORTER, M.E., 2010. What is value in health care? *New England Journal of Medicine,* **363**(26), pp. 2477-2481.

QUIGLEY, J.M. and SCOTCHMER, S., 1989. What Counts? Analysis Counts. *Journal of Policy Analysis and Management,* **8**(3), pp. 483-489.

RADNOR, Z., 2011. Debate: How mean is Lean really? *Public Money & Management,* **31**(2), pp. 89-90.

RADNOR, Z., HOLWEG, M. and WARING, J., 2012. Lean in healthcare: The unfilled promise? *Social science & medicine,* **74**(3), pp. 364-371.

RAMBØLL, 2007. Lean i den offentlige sektor: Anvendelse af Lean Management i kommuner, regioner og stat.

REGIONH, 1/27, 2011-last update, Alle hospitaler skal bruge LEAN. Available: http://www.regionh.dk/topmenu/Nyt_Presse/Nyheder/2011+arkiv/Arkiv/Lean/2013].

RITZAU, 2016, 11/29. Kronprinsesse Marys og prinsesse Maries fødselslæge forlader Rigshospitalet i protest. *Belingske*.

SALAMON, L.M. and ELLIOTT, O.V., 2002. *The tools of government: A guide to the new governance.* Oxford University Press.

SAUDER, M. and ESPELAND, W., 2006. Strength in numbers? The advantages of multiple rankings. *Indiana Law Journal,* **81**(1), pp. 205-227.

SCHEIN, E.H., 1965. *Organizational psychology.* Englewood Cliffs, N.J.: Prentice-Hall.

SCOTT, W.R., 1981. Developments in Organization Theory, 1960-1980. *American Behavioral Scientist,* **24**(3), pp. 407-422.

SHOOK, J. and MARCHWINSKI, C., 2014. *Lean Lexicon: a graphical glossary for Lean Thinkers.* Lean Enterprise Institute.

SIMON, H.A., 1964. On the Concept of Organizational Goal. *Administrative Science Quarterly,* **9**(1), pp. 1-22.

SJÖGREN, E., 2008. Deciding subsidy for pharmaceuticals based on ambiguous evidence. *Journal of health organization and management,* **22**(4), pp. 368-383.

SJÖGREN, E., 2006. *Reasonable drugs: Making decisions with ambiguous knowledge*, Economic Research Institute, Stockholm School of Economics (EFI).

SMITH, T., 2000. *Technology and capital in the age of lean production: a Marxian critique of the" New Economy".* SUNY Press.

SMITH, J. and RUDD, C., 2010. Implementing the productive ward management programme. *Nursing standard (Royal College of Nursing (Great Britain) : 1987),* **24**(31), pp. 45-48.

SPICER, A., ALVESSON, M. and KÄRREMAN, D., 2016. Extending critical performativity. *Human Relations,* **69**(2), pp. 225-249.

SPICER, A., ALVESSON, M. and KÄRREMAN, D., 2009. Critical performativity: The unfinished business of critical management studies. *Human relations,* **62**(4), pp. 537-560.

STARK, D., 2011. What's Valuable? In: J. BECKERT and P. ASPERS, eds, *The Worth of Goods - Valuation and Pricing in the Economy.* Oxford: Oxford University Press, pp. 319-338.

STARK, D., 2009. *The Sense of Dissonance: Accounts of Worth in Economic Life.* Princeton University Press.

STOKER, G., 2006. Public value management a new narrative for networked governance? *The American review of public administration,* **36**(1), pp. 41-57.

STYHRE, A., 2001. The nomadic organization: The postmodern organization of becoming. *Tamara Journal of Critical Organisation Inquiry,* **1**(4), pp. 1-12.

SUNDHEDS- OG ÆLDREMINISTERIET, 2016. *Sundhedsloven, LBK 1188.* LBK nr 1188. Denmark: Sundheds- og Ældreministeriet.

THOMPSON, J.D., (1967)2007. *Organizations in action: Social science bases of administrative theory.* 5 edn. New Brunswick, New Jersey: Transaction Publishers.

TSOUKAS, H. and CHIA, R., 2002. On organizational becoming: Rethinking organizational change. *Organization science,* **13**(5), pp. 567-582.

VAN FRAASSEN, B., 2002. *The Empirical Stance.* The United States: Yale University Press New Haven.

VAN LOON, E. and BAL, R., 2014. Uncertainty and the Development of Evidence-Based Guidelines. *Valuation Studies,* **2**(1), pp. 43-64.

VATIN, F., 2013. Valuation as evaluating and valorizing. *Valuation Studies,* **1**(1), pp. 31-50.

VIKKELSØ, S., 2015. Core task and organizational reality. *Journal of Cultural Economy,* **8**(4), pp. 418-438.

VIKKELSØ, S., 2003. *Electronic patient records and medical practice - Reorganization of Roles, Responsibilities and Risks*, Department of Organization and Industrial Sociology, Copenhagen Business School.

VILLESEN, K. and KRISTENSEN, K., 2016, September 23. 2016. Mette Frederiksen lover opgør med kontrol i det offentlige. *Information.*

WARING, J.J. and BISHOP, S., 2010. Lean healthcare: rhetoric, ritual and resistance. *Social science & medicine,* **71**(7), pp. 1332-1340.

WEST MADSEN, F., 2016, 30th of November. Hjalp TV2-vært ovenpå efter livstruende fødsel: Nu skrider fødselslæge i protest. *BT.*

WILSON, G., 2009. Implementation of releasing time to care – the productive ward. *Journal of nursing management,* **17**(5), pp. 647-654.

WOMACK, J.P., JONES, D.T. and ROOS, D., 1990. *The Machine that Changed the World.* New York: Rawson.

WOMACK, J.P. and JONES, D.T., 1996. *Lean thinking: Banish Waste and Create Wealth in Your Organisation.* Rockefeller Center, New York: Simon and Schuster.

WOODWARD, J., 1958. *Management and technology.* London: H.M.S.O.

WOOLGAR, S., COOPMANS, C. and NEYLAND, D., 2009. Does STS mean business? *Organization,* **16**(1), pp. 5-30.

WOOLGAR, S. and GRINT, K., 1991. Computers and the transformation of social analysis. *Science, Technology, & Human Values,* **16**(3), pp. 368-378.

WOOLGAR, S. and LEZAUN, J., 2013. The wrong bin bag: A turn to ontology in science and technology studies? *Social Studies of Science,* **43**(3), pp. 321-340.

WOOLGAR, S., 1998. A New Theory of Innovation? *Prometheus,* **16**(4), pp. 441-452.

ZUIDERENT-JERAK, T., 2009. Competition in the Wild: Reconfiguring Healthcare Markets. *Social Studies of Science,* **39**(5), pp. 765-792.

ZUIDERENT-JERAK, T. and VAN EGMOND, S., 2015. Ineffable Cultures or Material Devices: What Valuation Studies can Learn from the Disappearance of Ensured Solidarity in a Health Care Market. *Valuation Studies,* **3**(1), pp. 45-73.

APPENDIX A: OVERVIEW OF EMPIRICAL STUDY

Starting points	Activity Unit	Observations	hours	Methods							Hours total
				Shadowing	hours	Interviews	hours	Documents Photos etc.	Other things	hours	
Pilot study		Meeting with Head Lean consultant; Book event "This is Lean"; Unit for children and youth; Unit for Infusion; Unit for Obstetrics; Unit for Operations; Unit for Oncology; Introduction new employees	1 2 5 2 2 7 5 2			5 interviews with pro + opponents of Lean, selected by heads of center; 1 head of center	6	Lean policy documents; Websites; 'Improvement policy'			30
White-board meetings (WB)	Unit for Neonatology. WB practice	13 whiteboard meetings of app. 30 minutes; Strategy workshop	7 2	1 day Lean manager; 2x1 day head physicians; 1 day Nurse	2 7 4	2 nurses; 4 head physicians; 3 clin.mgt.; 1 Lean consult.; 1 secretary	2 4 3 1 1	Photos; Material for mini genealogy; Electronic documentation	Informal talks with same floor-colleagues	2	35
	Gynecology's, WB startup	4 Meetings about planning and introduction	6,5	1 day head nurse	4	2 nurses	1,5				13
	Unit for rare diseases/WB startup	1 planning meeting	1	Head physician	4				Informal kitchen talk	1	5
Projects	Unit for Children and Youth	9 planning meetings; 5 distribution meetings of app. 30 minutes	16 3	2x1day, heads of center; 2x1 day head physicians	8 14	1 external lean consultant; 2 informal/HLC; 1 head physician consultant; 2 interview mgt nurse	1 2 1 2				48
	Fertility project	4 workshops, value stream mapping	10,5								10,5
	GYN-abortion	2 planning meetings	4	1 nurse	4,5						8,5
Top level mgt	Strategy work	6 meetings/workshops	7			1 head of unit	1	Strategy documents / KPI development	Introduction for new employees; Strategy day	5 5	18
	Lean meetings	4 meetings	2								2
Other things	Network activity	1 presentation	1			1 regional representative; 1 rep. from Rigshospitalet	1	Lean literature review; Danish policy documents	Training – as a Lean Agent Conference on Hospital Lean	24 30	55
	Hospital clown project	1 meeting	1								1
Hours total			87		47,5		27,5			67	229

Unscheduled presence at the hospital, including on-site observations, interviews and shadowing, app. 2,5 day of 5 hours pr. week for 10 months, approximates to (564)

ENGLISH SUMMARY

With this dissertation I take up a problem currently traversing popular, political and academic arenas, namely the potential demise of values in public organizations allegedly instigated by management tools deriving from industrial sectors. Taking a pragmatic stance, inspired by John Dewey, this dissertation sets out to develop a practical and situation-based understanding of the relationship between these management tools, values and organizations, which can contribute to pushing forward the currently detached and polarized debates over New Public Management. In this endeavor the dissertation engages with the conceptual operations of creating increased interaction between two relevant theoretical fields namely valuation studies and organization theory, as well as the observational operations of conducting an empirical study in a Danish hospital department. All this is introduced in the dissertation's chapter 1.

Chapter 2 lays out the groundwork for the theoretical experiment of combining insights from pragmatic studies of valuation practices and classical organization theory. The dissertation's point of departure is the emerging body of pragmatic studies of valuation practices, which hold that value is not an intrinsic quality of a thing, but established through socio-technical arrangements. The pragmatic studies of valuation practices provide highly useful optics and concepts to understand how management tools make something count as valuable, without adding to the polarized debate described above. However, while valuation studies are increasingly concerned with organizational questions, they do not by themselves foster a sufficiently organizational orientation for this particular inquiry. In search of such a focus, then, the chapter turns to organization theory. Yet, many

contemporary organization studies are more occupied with 'abstract' ideas such as organizational becoming or how to denaturalize models of managerial change than with practical organizational problems. Therefore the chapter finally consults classical organization theory, which in many ways shares the pragmatic interest in inquiring into practical problems or situations. The chapter ends by foreshadowing three theoretical conceptualizations that draw on both fields, which are used analytically in the dissertation's fourth chapter.

Chapter 3 presents the dissertation's setup, methodology and empirical study. The dissertation draws on an ethnographic study of the Lean practices of a Danish hospital department called the Juliane Marie Center (the JMC). The JMC is a highly specialized center of Rigshospitalet of the Capital Region of Denmark with 228 beds for inpatients and among 180,000 outpatient visits annually. The center houses the specialities pediatrics, gynecology, infertility, reproduction, childbirth among others. Through an ethnographic study I followed the Lean activities of the JMC in sequences from 2012-2015. The JMC has been working with Lean management for several years. Lean management is often presented as a particular way of thinking, as well as a set of tools to promote 'Kaizen' or 'continuous improvement'. In the dissertation I focus on particular Lean tools and activities, and analyze their role in establishing what is valuable in the JMC.

Chapter 4 holds the three articles of the dissertation. The first article is called 'The Organizational Valuation of Valuation Devices. Putting Lean whiteboard management to work in a hospital department'. This article shows how a particular Lean tool, whiteboard management, aims to create greater alignment between the different 'modes of valuation' of the unit of neonatology, but ends up increasing the organizational complexity in the unit,

as the specific 'grammar' with which it operates collides with other 'grammars' of the unit. The second article, Organizational Trials of Valuation, is about how the unit of children and youth through Kaizen project worked to improve the unit's way of distributing patients to beds, by improving the criteria involved in this practice. The article shows how this work came to involve much more than criteria, namely questions about the nature of the task of distributing patients, and the role of the clinical professionals when conducting this task. The third paper, 'Situated Valuations: The affordance of devices in organizations', deals with the phenomenon that Lean is only 'occasionally' picked up by the hospital organization. It discusses how Lean comes to have certain affordances at the hospital, the usefulness of which can only be assessed in practical situations.

Chapter 5 is the dissertation's conclusion. It summarizes the findings across the empirical analyses, as well as of the theoretical experiment, and relates these to the dissertation's ambition of developing a nuanced and practical understanding of what happens to values and value practices when a management tool is introduced in an organization. The conclusion argues that values are established in organizations in both formalized and everyday situations. To attribute the alleged demise of values in public organizations to the choice of management tool is a problematically blinkered approach, where the role of other things than management tools is overlooked. Further, it suggests that rather than continuing to replace or add management tools to public organizations, we should modify the expectations as to what these tools can do in organizations. Accordingly, we should focus on improving our ongoing awareness of, and response to, the unexpected outcomes, complicated dilemmas and ongoing controversies that may emerge as a result

of relating valuations and organizations. This dissertation hopes to offer some useful suggestions on how to facilitate such a practical attunement.

DANSK RESUME

Denne afhandling handler om værdier i organisationer. Helt specifikt handler den om, hvad der sker med værdier i offentlige organisationer, når en ledelsesteknologi fra den private sektor bliver introduceret.

I 1980erne slog en moderniseringsbestræbelse igennem i den offentlige sektor under fællesbetegnelsen 'new public management', som medførte, at ledelsesteknologier typisk forbundet med markedet er blevet introduceret i offentlige organisationer. I takt med at flere og flere af disse ledelsesteknologier er blevet indført, har der rejst sig en bekymring om, hvad der sker med den offentlige sektors 'sande' værdier, når ledelsesteknologierne sætter økonomisk værdi i centrum. Dette har ført til en polarisering af den offentlige og akademiske debat, som nu er karakteriseret ved, at ledelsesteknologier enten ses som nærmest universelle løsninger på organisatoriske problemer, eller som selve årsagen til disse problemer.

I denne afhandling forsøger jeg, inspireret af den amerikanske pragmatiker John Dewey, at etablere en mere situationsbaseret og praktisk forståelse af værdier i organisationer, end den, der karakteriserer den nuværende debat. Som en del af dette projekt, foretager jeg i afhandlingen et teoretisk 'eksperiment', som handler om at kombinere to teoretiske retninger, nemlig det nye relativt nye felt 'valuation studies' og klassisk organisationsteori. Empirisk trækker afhandlingen på et etnografisk studie af, hvordan Juliane Marie Centret (JMC) arbejder med ledelsesteknologien Lean management. JMC er den afdeling af Rigshospitalet, som tager sig særligt af børn, fertilitet, graviditet, kvindesygdomme, vækst og reproduktion og klinisk genetik. Lean management består af en samling af værktøjer og principper som bruges til at

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understøtte 'Kaizen', som er japansk for 'konstant udvikling'. En overordnet introduktion af afhandlingen gives i kapitel 1.

Kapitel 2 præsenterer udgangspunktet for det teoretiske eksperiment. Til dette trækker jeg på 'valuation studies', som består af en samling af studier af, hvordan værdier rent praktisk bliver 'skabt'. Udgangspunktet er, at værdi ikke er en iboende i en genstand, men skabes igennem sociale og tekniske processer. 'Valuation studies' bibringer på den måde et blik og en række koncepter, som gør det muligt at undersøge, hvilken rolle ledelsesteknologier spiller i værdiskabende processer - uden at opskalere den polariserede debat, som skitseredes ovenfor. Mange valuation-studier fokuserer på mere teoretiske spørgsmål og i mindre grad på praktiske og organisatoriske problemer. Derfor vil afhandlingen også trække på organisationsteori. Mange af de organisationsstudier, som publiceres i disse år, er i endnu højere grad end 'valuation studies' optaget af abstrakte ideer som 'organizational becoming' og ser f.eks. teknologi 'som en bølge af stabilitet i et hav af forandring'. Derfor bygger denne afhandling især på klassisk organisationsteori, som på mange måder deler den pragmatiske interesse i at undersøge praktiske problemer i konkrete situationer. Kapitlet slutter med at opridse de tre konkrete teoretiske kombinationer, som afprøves og udfoldes i afhandlingens tre artikler.

I kapitel 3 præsenterer jeg undersøgelsens metodologi og empiriske studie. Jeg reflekterer over det dilemma, at en undersøgelses retning formes af datasamlingen, men samtidig også skal opsætte pejlemærker for, for hvilke data, der skal indsamles. Kapitlet beskriver, hvordan jeg har brugt 'situationen' til at navigere i valget mellem forskellige kvalitative metoder og empiriske muligheder: Jeg forklarer, hvordan 'forstyrrende' (unsettling) situationer, som opstod under dataindsamlingen omhandlende etiske,

praktiske og relationelle problemer, kom til at forme undersøgelsen. I kapitlet beskriver jeg også hvordan tre analytiske opmærksomhedspunkter (sensibilities) skabte retning for projektet fra analysefasen til skrivefasen, og diskuterer hvordan selve det at skrive artikler og kapitler ikke kun er et spørgsmål om form, men også kommer til at have betydning for afhandlingens indhold og fokus.

Kapitel fire indeholder afhandlingens tre artikler. Den første artikel hedder 'The Organizational Valuation of Valuation Devices. Putting Lean whiteboard management to work in a hospital department'. Denne artikel handler om Leanværktøjet 'tavleledelse' i neonatalklinikken i JMC. Den viser, hvordan klinikken forsøger at bruge tavleledelse til at skabe en fælles retning for de forskellige 'værdipraksisser' (modes of valuation), som er til stede i organisationen. Artiklen konkluderer, at tavleledelse bidrager til at øge den organisatoriske kompleksitet i afdelingen, da tavlens specifikke måde at begribe værdi og organisering på kolliderer med andre forståelser af værdi i klinikken. Den anden artikel, Organizational Trials of Valuation, handler om, hvordan Børneungeklinikken gennem en række workshops forsøger at bruge Lean til at optimere afdelingens visitationspraksis ved at skærpe kriterierne for, hvilke børn der skal være i hvilke senge. Artiklen viser, hvordan disse workshops kom til at handle om meget mere end kriterier; nemlig om spørgsmål om, hvad selve visitationsopgaven egentlig går ud på, og hvad de professionelles rolle egentlig er i visitationen. I den tredje artikel 'Situated Valuations: The affordances of devices in organizations' undersøger jeg, hvorfor Lean kun i visse anledninger bliver brugt af JMC. Artiklen viser, hvordan Lean i interaktion med hospitalet kommer til at have bestemte 'rådemuligheder' (affordances), og at anvendeligheden af disse kun kan afgøres i praktiske situationer.

Kapitel 5 er afhandlingens konklusion. Kapitlet opsummerer undersøgelsens konklusioner på tværs af de empiriske analyser og det teoretiske eksperiment. Konklusionerne relateres til afhandlingens forsøg på at udvikle en nuanceret og praktisk forståelse af, hvad der sker med værdier og værdipraksisser, når en ledelsesteknologi bliver introduceret i en organisation. I konklusionen argumenterer jeg for, at værdier i organisationer ikke kun bliver skabt via ledelsesteknologier og formelle situationer, men også i hverdagssituationer som en del af det at udføre organisatoriske opgaver. Derfor må vi kigge udover disse ledelsesværktøjer og 'new public management', hvis vi vil forstå, hvad der egentlig sker med værdier i offentlige organisationer og flytte den polariserede debat et mere konstruktivt sted hen. Derudover argumenterer jeg for, at vi i stedet for at blive ved med at udskifte eller tilføje ledelsesteknologier i offentlige organisationer hellere skulle modificere forventningen til, hvad disse teknologier overhovedet kan gøre i organisationer: Vi bør fokusere på at forbedre vores evne til at opfange og reagere på utilsigtede konsekvenser, komplicerede dilemmaer og vedvarende konflikter, som ofte opstår, når offentlige organisationer forsøger at bruge ledelsesteknologier til at skabe værdi. Med denne afhandling håber jeg at bidrage til, hvordan vi skærper denne evne.

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