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# **TOWARDS A PRACTICE-BASED UNDERSTANDING OF ORGANIZATIONAL MEMORY**

by

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A thesis submitted in partial fulfilment  
of the requirements for the degree of Doctor of Philosophy in  
Management

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# Abbreviations

CPD – Continued Professional Development

BIM – Building Information Modelling

CAD – Computer Aided Design

TMS – Transactive Memory System

BRUKL – Simplified Building Energy Model

RIBA – Royal Institute of British Architects

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A PhD can mean different things to different people at different times in their lives. For me, this programme was primarily a life lesson in humility. Only time and practice will tell whether I am ready to graduate this class, but thinking back to myself from four years ago - I struggle to associate. Which must surely count for something, as it means that I have moved on, both as a person and as a scholar.

John Lennon famously paraphrased Plato's Socrates by suggesting that the more he saw, the less he knew for sure. I am pleased to report that, as an outcome of my Doctoral studies, I am quite possibly more clueless than ever before; and the wonderful people who chose to use their time with me deserve much of the credit. Within academia, Davide Nicolini has done more than anyone to unsettle my thinking process. And Jacky Swan repeatedly awed me with her extraordinary degree of insight by showing me how to put it all back together. I have known the two of you the longest, and you both deserve a very special Thank You for all the wonderful things you have done.

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## Declaration

This thesis is submitted to the University of Warwick in support of my application for the degree of Doctor of Philosophy. It has been composed by myself and has not been submitted in any previous application for any degree. All data collection and analysis was performed by me.

An early version of Chapter 5 has been published as: Kravcenko, D., and Swan, J. (2016). 'Talking Through Objects: The Socio-Political Dynamics Embodied in Boundary Objects in Architectural Work'. In F. Tell, C. Berggen, S. Brusconi and Van de Ven, A. (Eds.) *Managing Knowledge Integration Across Boundaries*, Oxford: Oxford University Press.

## Abstract

*This thesis puts forward a problematization of key assumptions within the field of organizational memory and develops a phenomenology-infused theory of organizational memory as a practice. The aim of the research is to depart from existing theoretical preconceptions of organizational memory in order to observe what organizational memory means, and looks like, to practitioners as they engage with it in their daily practice.*

*Data collected during a 15-month long ethnography of architectural work is used to call into question an existing, broadly anthropocentric, understanding of organizational memory in favour of one where organizational memory is seen as distinct from practice memory (following Schatzki, 2006) and proceeds as an emergent, episodic accomplishment bound by local material arrangements and dynamics of organizational power.*

*A new theoretical framework for classifying the literature is proposed alongside an emergence/submergence model of organizational memory as a practice (for illustrative purposes), implications for industry and further research, and a methodological approach to the study of such temporally-sensitive phenomena.*

# Chapter 1

## INTRODUCTION

### 1.1. TOWARDS A PRACTICE-BASED UNDERSTANDING OF ORGANIZATIONAL MEMORY

The aim of this chapter is to set out the initial outline for understanding organizational memory from the perspective of practice theory. The ensuing discussion is substantiated by data from 15 months of ethnographic research in an architectural firm, as well as in over two years of iterative analysis and an expansive literature review. Primary findings are collated into an illustrative conceptual model where I conceptualize organizational memory as a two types of processes, one broadly related to ‘memorization’, and another to ‘remembering’, as colloquially understood. Four main contributions follow, three to the study of organizational memory and one to the development of practice-based research methods. The first three are: 1) an in-depth empirical appraisal of Schatzki’s (2006) proposed definitions of organizational and practice memory; 2) a different way of positioning the relevant literature along the lines of orientation and scope of organizational memory; and, 3) an illustrative model of organizational memory as a practice. An additional methodological contribution is offered in form of a guide to study long-term, intangible and indirect organizational processes, such as organizational memory, through the practice theory lens but with an emphasis on the experiences of individual practitioners. Smaller/more localized contributions also follow throughout the chapters and are indicated where applicable.

Organizational memory is a field of management and organization studies broadly concerned with examining those aspects of organization, which account for the continuity of collective knowledge, practices, and outputs through time. Indeed, many of these aspects reveal themselves critical to organizational analysis. For instance,

questions such as: why do groups of otherwise unrelated individuals, some of whom may not even engage in conversation all that frequently, manage to consistently produce work in a particular kind of way through time? Or, more puzzling still, why is it that when some of organizational members leave, the specific ways in which the work is performed remains the same? Different answers to these questions have been considered by various organizational scholars throughout the years, but a number of now canonical works in organizational theory (e.g. Levitt and March, 1988; March and Simon, 1958; Weick, 1979) reasoned that, since organizations display various information-processing properties, there ought to be a role for a memory-like capability within them too. This line of research, which has been going strong for just under 30 years, resulted in a number of influential reviews (e.g. Walsh and Ungson, 1991; Rowlinson et al., 2010) and productive interdisciplinary work (e.g. Olick and Roberts, 1998). Much of this work focused on the effects organizational memory has on the organization, whether in the form of organizational learning, innovation, efficiency or commercial effectiveness.

I am not going to focus on the effects of organizational memory in this thesis; much has been written about this before. Instead, I am going to develop an empirically guided account of organizational memory from the perspective of the practice view of organization (Chapter 3). Organizational memory is not something explicit or objective, but rather a fundamentally complex mesh of sociomaterial processes and practices. Thus, the aim of this introduction is to provide a stepping stone for an empirical reconsideration of organizational memory as a practice, performed by practitioners.

## 1.2. PROBLEMATIZATION OF EXISTING SCHOLARSHIP ON ORGANIZATIONAL MEMORY

A significant limitation of the current scholarship on organizational memory is that the vast majority of relevant research is restricted to two or three definitions of the concept. These definitions suggest that 1) organizational memory is contained in some sort of an organizational repository (Walsh and Ungson, 1991), 2) that information and knowledge is encoded into the repository in order to be disseminated through time and space (Levitt

and March, 1988), and 3), that organizational memory is a mechanism by which groups of people understand their place in the social environment (Halbwachs, 1980). Interestingly, these three definitional streams are of purely conceptual origin. While accidental correlations with what people in organizations do exist, neither one of the three core definitions of organizational memory has been arrived at through empirical study of what organizational memory is - they are all, without exception, statements of what organizational memory ought to be. Because so much of inquiry into organizational memory is thus heavily based on theoretical assumptions about what organizational memory is or how it is meant to work (Alvesson and Sandberg, 2011, 2013), it is hardly surprising that so much work operates following cognitive metaphors and analogies.

Within management scholarship as categorised by Rowlinson et al. (2010), for example, organizational memory is that aspect of organization, which allows organizational members the capacity to retrieve specific information and knowledge from the past for the benefit of work in the present. Information and knowledge is expected to be found in memory because it has been learned, recorded, or experienced either by local groups of individuals or by the organization itself (on a collective level). A recurrent theme in management literature suggests that what has been memorized (and what is being remembered on an organizational level), is memorized with the explicit purpose of improving efficiency; usually by cutting waste or duplication. Accordingly, management literature generally depicts organizational memory as a way of improving efficiency through the reduction in the needs of organizational members to “reinvent the wheel” or to repeat previously unsuccessful courses of action.

Various metaphors other than organizational memory are employed to explain organizational continuity. A sub-field of literature on memory loss, variously termed as either ‘corporate amnesia’ (Kransdorff, 1998), ‘organizational forgetting’ (de Holan and Phillips, 2004) or ‘project amnesia’ (Schindler and Eppler, 2003), largely follows suit in omitting questions about what organizational memory is in favour of what it is supposed to do and why it may not be doing that. Thus, preoccupation with the *ought*, rather than with the *is* of organizational memory is pervasive. Even the more recent research, such as studies by Anteby and Molnar (2012), Langenmayr (2016) or Harvey (2012),



continues to focus on either what organizational memory ought to be or on what it is supposed to do for the organization in terms of functional consequences. While causality, of course, is not a synthetic *a priori*, in Wittgenstein's terms, a study of effects without due attention to their causes still seems somehow incomplete.

Thus, in this thesis I will echo and reiterate a note made by Argyris and Schön (1978), who called for attention to the fact that organizational memory is a metaphor to describe some processes within the organization that display memory-like characteristics. These characteristics are memorization and remembering. Memorization is normally understood as a process of committing something to memory, and remembering is the ability to conjure up awareness of something from the past (Parkin, 1999). In the case of human beings, the use of this amalgamation is justified because memory can be broadly pointed to as residing in hippocampus and/or amygdala regions of the brain (*ibid*). This is not so with organizations. Not only do they lack either, organizations are also missing the supporting facilities for the input of information compatible with those organs. Quite clearly, organizations are not brains; and so there is no reason why they should be treated as such in social inquiry. Throughout this thesis I will refer to this phenomenon of treating collective memory-like processes akin to individual memory as 'anthropocentric bias' – a persistent undercurrent within the literature that perpetuates the notion of organizational memory as that which is intended to fulfil similar functions in organizations as the human memory does in individuals; namely retention and recall of information and knowledge (usually for use in managerial decision-making).

While potentially a nuanced point, consideration of organizational memory from an anthropocentric perspective can create empirically significant consequences. At risk of presenting an asynchronistic account, I would like to illustrate by means of an anecdote from when I began fieldwork (Chapter 4), still largely informed by mainstream, anthropocentric assumptions of what organizational memory is or should look like. Having secured research access to the organization, and with a recently completed initial draft of the literature review in hand, I have arrived to the offices of my research subjects

looking to understand effects of formal and informal hierarchy on organizational memory and fully expecting to find ample evidence of:

- interpersonal communication (Wegner, 1987),
- knowledge sharing and (co-)creation (Spender, 1996),
- local collaborations (Luhmann, 1997),
- group-level induction and socialization of newcomers (Lave and Wenger, 1991),
- storytelling (Connerton, 1989),
- engagement with company archives and records (Snyder and Cummings, 1998),
- information-sharing hierarchy (online and offline) (Malhotra et al., 2005),
- profession-based identity construction (Anteby and Molnar, 2012),
- and, at least, rudimentary mechanisms for knowledge capture and management (Kransdorff, 1998).

What I found instead was an open-plan office full of architects who spent the vast majority of their day at individual workstations in almost complete collective silence. Perplexed, I continued with my observations for about a month with no difference in results – interpersonal communication was minimal, digital communication was functional, and there was very little to suggest any variety of organizational memory at play, as per the current literature. If there was an organizational memory within this architectural practice, it was not explicitly collective.

Shortly after a month of observations, I switched focus from trying to identify collective patterns of remembering or memorizing to shadowing individual architects. Most strikingly, the way individual architects interacted with their workstations and with clients via the materiality of work did indeed hint at some patterns associated with processes resembling memory. Unable to locate anything sufficiently relevant within the immediate literature, I deferred to practice view of organizations as a possible lens through which to perceive my empirical data. The work of Schatzki (2006), to be discussed in Chapter 3, proved especially revelatory.

An attempt to derive an empirical understanding of organizational memory via practice view was, even with the help of Schatzki (2006), unprecedented. Traditional tenets of organizational memory did not necessarily apply to what I was observing or conceptualizing with the help of practice view. Elements most frequently found in existing literature such as continuity, grounding in the past, codification, and organizational learning were far less prominent (or wholly absent) than materiality, power, uneven distribution, and pragmatic concerns. As empirical data collection progressed, it became clear that in order for me to be able to provide an authentic account of any properties of organizational memory, it was first necessary to develop an account of organizational memory detached from anthropocentric presuppositions and authentic to the empirical reality that I was observing.

In their literature review, Rowlinson et al. (2010) called for a more 'social' investigation of organizational memory, as an alternative to the more functional managerialist account which expanded rapidly following Walsh and Ungson's (1991) model of organizational memory 'storage bins'. This call was further echoed by Casey and Olivera (2011) and the two recent Special Issues in Organization (Rowlinson et al., 2014; Cutcher et al., 2016). I believe that abandoning 'organization' in place of 'social' is somewhat premature. To be sure, organizations are inseparable from the social, just as the social is not very meaningful without consideration of organizations. However, organizations are very particular types of social arrangements and thus deserve a specialist analytical lens.

Organizations, for example, can serve to artificially improve the existing social order, as was proposed by Weber (1922), or bridge different social orders, as was demonstrated by Roy (1953), or even directly contradict existing social arrangements and regimes (Rothschild and Whitt, 1989). Furthermore, people are not bound to be in organizations in the same way as they are bound to be in the social; but when they are there, they generally act deliberately. Organizations are also composed of specific tools of work intentionally focused towards particular intended outcomes, and they usually congregate people in a set space, physical or virtual (or both). Finally, organizations exchange and transform labour and effort of their members into means for making a living for them. Thereby, while a 'social' lens is certainly suitable to study organizational memory, it is

not as appropriately focused to represent work processes that transpire within organizations as a practice view is.

### 1.3. INTRODUCTION TO THE PHILOSOPHICAL FOUNDATIONS OF THE STUDY

Even though this thesis is not a work in philosophy in any explicit sense, a sound philosophical understanding of the subject matter is of crucial importance to maintaining the clarity of the discussion to follow. Philosophy can be understood as a process of thinking about things; as an emergent property of a discussion. It envelops research ontology and epistemology, both of which inform the choice of methods for empirical data collection. These can include social, physical or even metaphysical aspects of the study. Accordingly, a choice about any particular 'way of thinking' can grant access to certain understandings while restricting access to others (Burrell and Morgan, 1979; Heidegger, 1978). It is thus important to establish a philosophical foundation through outlining key philosophical tenets, in order to ensure clarity and internal consistency of the ensuing discussion.

In this thesis, I intend to set out a new interpretation of organizational memory as a practice, supported by longitudinal empirical data. This will require a nuanced set of assumptions and particular beliefs about the world, the individual, and the relationship between the individual and world. In thinking about organizational memory, it is almost natural to conjure up a subject-object, dependent-independent variable image. On this view, organizational memory becomes a compound of two things: the organization itself and its memory. By this reasoning alone, organizations are seen as objects, independent variables relative to a memory, which, in turn, is a dependent variable, or a subject. What this translates into is that either organizations cause their memory or the memory of organizations causes some particular form of organization. Each of these avenues has been considered in the literature and I will describe each in more detail in the following chapter. Something both ways share in common, however, is the nature of their assumptions about how organizational memory ought to work or look like.

In order to study something as intangible as organizational memory, whether in organizations or elsewhere, an approach more sensitive to the processual and relational nature of organizational memory is required. As Martin Buber (1958/2013: 6) pointed out while describing a tree:

*'Let no attempt be made to sap the strength from the meaning of the relation: relation is mutual. The tree will have a consciousness, then, similar to our own? Of that I have no experience. But do you wish, through seeming to succeed in it with yourself, once again to disintegrate that which cannot be disintegrated? I encounter no soul or dryad of the tree, but the tree itself'*

And so it is with organizational memory - a scholar does not encounter databases, artefacts and stories but a memory itself. The components of it are later put into categories with reversed causality (i.e. databases are a form of organizational memory in place of organizational memory may include databases in certain circumstances).

How does one study organizational memory to avoid reductionism? At least two things need to be preserved: 1) the complexity of the organization and 2) the ability to appreciate the processes of memorizing and remembering. Fundamentally, this means preserving those aspects of the organization that have to do with orderly but potentially disparate aggregations of materially mediated work activities over time. Maintaining an idea of a complete organization alongside empirical data on specific memory-related phenomena can be very difficult using traditional (Cartesian-esque) analysis, as will be shown in Chapter 2. In order to account for this specific predicament I decided to adhere to the process ontology of organization studies, specifically following the practice view (Schatzki, 2006, 2012; Nicolini, 2012).

Practice view, also known as epistemology of practice or simply practice theory, is an approach to the study of social phenomena with an emphasis on the reproductive and politically contested nature of practices that comprise them. Practices can be systems of activities (Engeström, 1988), organized sets of doings and sayings (Schatzki, 2002), discourses and discursive formations (Foucault, 1977), or the resources and procedures

that produce mutually intelligible scenes and courses of action (Atkinson and Heritage, 1984). Importantly, practice theory enables one to perceive the organization in a less reductive way. The situations in which organizational members find themselves as they go about accomplishing everyday work are neither exhibition of the “real world” that is “out there” nor are they products of individual imagination and interpretation. Rather, organizations are material settings populated with ways of doing things that are routinely (re)produced by all organizational members, contingent upon particular socio-epistemic orientations that they may share in (Heidegger, 1978; Schatzki, 2006). As far as the study of organizational memory is concerned, practice view is a potentially fertile lens of looking at the phenomena and I shall describe the practice approach adopted and developed for this study - the phenomenology of practice - in more detail in Chapter 4.

#### 1.4. INTRODUCTION TO THE EMPIRICAL STUDY

Conducting a meaningful investigation into organizational memory from practice view means moving from abstract conceptions of organizational memory towards an emphasis on ‘how people do it’. To do this, a very detailed long-term study in a suitable setting is necessary. Ethnography has been selected as an appropriate method of data collection in order to ensure maximum familiarization with the research site and allow for the unexpected, subtle and/or long-term phenomena to come forth in a way that would not necessarily be revelatory enough using a different method. The central aim of ethnography is to provide rich, holistic insights into what individuals do and say, as well as the nature of spaces they inhabit. This is accomplished by collecting detailed observations and interviews, as well as phenomenological experiences of being present at the site of the study, in order to understand socio-epistemic convictions and motivations of the research subjects (Hammersley, 1992).

There are, however, specific considerations to be borne in mind when embarking on a qualitative study such as this one. First, while I maintain certain principles to identify memory-like processes, namely anything resembling supra-individual memorization and remembering, there is no guiding theory present. Instead, the study is inherently

inductive and analysis explicitly abductive; albeit presented along the principles outlined by Gioia and Chittipedi (1991), who called for the more traditional format of theoretical framing and positioning within the relevant academic discipline to be retained for the benefit of the reader.

Empirical data underlying this research came from an ethnographic study of a large-medium architecture firm in the United Kingdom conducted over 15 months: from late August 2013 to December 2014. The firm, anonymised for confidentiality purposes as ArchitectureCo, is an award-winning practice ranked amongst the top 100 architectural practices in Britain by a leading industry journal. At the time of the study ArchitectureCo employed around 60 staff and pursued work for clients in higher education, housing, commercial and office, community and culture industries. The ethnography focused on the internal processes within the organization and external processes during interdisciplinary work with other specialists from different organizations on two distinct construction projects.

Architecture was chosen as a setting that may be of particular interest for two reasons. First, architecture is a distinctly institutionalized field dating back to first century AD (Fletcher, 1987). In the UK, a professional association for architects, the Royal Institute of British Architects, has existed since 1837 with the intent to set and develop standards of practice, advise on rules and generate new knowledge. A strong degree of institutionalization is a form of practice memory. This suggests that architecture as a profession is at the very least predisposed to operating with some kind of organizational memory as part of its structural integrity.

Second, architecture is an inherently project-based environment. All of the work is structured around specific and, oftentimes, largely unique contracts. This point is noteworthy for two further reasons. First, building design projects, especially the larger ones, consist of spatially and temporally distributed project-based organizations assembled from smaller projects (Grabher, 2004; Whitley, 2006). In such settings, multiple nexuses of interdisciplinary work bring diverse specialists from creative and technical practice domains to collaborate on temporary basis (Boland, Lyytinen, and Yoo,

2007; Newell et al., 2009). In terms of organizational memory, a setting such as this provides an excellent space to investigate how organizational is organizational memory. Second, in the present literature, project-based organizations are notorious for having a faulty or non-existent organizational memory (e.g. Swan et al., 2010; Bartsch, Ebers, and Maurer, 2013). Project-based organizations are a challenging environment for majority of existing theoretical approaches to organizational memory. Which is why it is all the more appropriate to conduct a re-investigation of what organizational memory might be in a setting where established theory struggles to find its footing.

During the study I made a point of both immersing myself into the 'deep end' of organizational life of ArchitectureCo, as well as of following two specific projects in a more traditionally systematic way. Having eventually secured unreserved access to the organization for six months initially, I carried on collecting the data for 15 months in total. During this time, I conducted approximately 1000 hours of observations in the office of ArchitectureCo and a further 120 hours observing meetings for the two projects at various other locations. I also followed my research subjects on a few construction site visits and an occasional corporate social event. While at the office, I had a desk at my disposal and a corporate account to use the computer and to access the database and email lists of my choosing. The company directors allowed me to copy any information of my choice from the database subject to the confidentiality agreement that was put in place between myself, the University and ArchitectureCo. None of ArchitectureCo staff demonstrated any hostility towards the research and quite a few expressed continued interest in the study, its aims and progress.

In order to triangulate the analysis as described in Chapter 4, ethnographic data was supplemented by selective interviews and archival data from ArchitectureCo's information repository. Specific methods and their philosophical underpinnings will be explained further in Chapter 4.



## 1.5. RESEARCH AIMS AND OBJECTIVES

Organizational memory is an important topic in the study of management. Used to explain persistence of organization and/or its characteristics through time, organizational memory introduces a fourth dimension – continuity - to organizational scholarship (in addition to people, spaces and work). Existing theory has paid scarce attention to the experiences of people who do, in fact, make up and interact with organizational memory as a matter of their daily work - as I shall outline in Chapter 2, much of the current research is driven by a small handful of conceptual definitions. While intuitively agreeable, even the more influential of these root definitions consistently display anthropomorphic tendencies – thinking about organizational memory as operating similarly to individual memory. Given how successful the field of organizational memory has been, both within and outside of academia, this is not a limitation inherently. It is, however, problematic with respect to producing good and interesting research that does justice to the subject of what organizational memory is as a practice.

The aim of this thesis is to begin the process of understanding organizational memory through the interpretive lens of the practice view in organization studies. Accordingly, the purpose of this thesis is to begin a dialogue towards a practice-based understanding of organizational memory. The two parts of the title - the ‘towards’ and the ‘practice-based’ - highlight the scope of the thesis and its philosophical commitment. Where the former refers to an aspiration for setting out a trajectory of scientific inquiry into organizational memory as a practice, the latter offers a dictionary by use of which this trajectory is to be made properly legible. Therefore, in this thesis, I am going to report some basic tenets and disclose some nascent findings on what are, and are not, the foundational characteristics of organizational memory when considered as a practice. Accordingly, the guiding research question that I shall follow in my theoretical, empirical and analytical inquiry is as follows:

*What are the primary principles and processes that make up organizational memory as a practice; and in what ways do these allow for a re-conceptualization of memory as an organizational phenomenon?*

The first part of the research question will be explored in Chapters 5-7, and the second part of the research question will be addressed in Chapter 8, building on the foundations laid out in Chapters 2, 5-7.

## 1.6. INTENDED CONTRIBUTIONS

This study is intended to contribute, primarily, to the study of organizational memory and, secondarily, to the ongoing development of practice theory.

Within the academic field of organizational memory, there have been perhaps two significant junctions, or thrusts, which have generated a great deal of research. The first, by Walsh and Ungson (1991) put forward a suggestion that there are distinct and discrete varieties of collective memory within single organizations. This stimulated a body of work focused on discerning the different effects that these varieties – databases, culture, libraries, and networks of individuals - may have on organizational functions (ibid). Originally a review paper, the value of Walsh and Ungson's (1991) contributions did not stem from offering any theoretical tools or empirical findings to the field, but in formulating a convenient and intuitive interpretative lens that would provide sufficient focus and momentum to mobilise a multitude of research into organizational memory as a storage solution.

The second junction, or thrust, came from a relatively recent literature review by Rowlinson et al. (2010), where the authors called for more attention to be given to the 'social' rather than the 'organizational' aspects of organizational memory. Elements such as stories, myths and narratives, spaces and places of remembrance and collective worship were argued to comprise a more authentic and empirically relevant body of evidence of organizational memory compared to their storage-focused predecessors. One

of the key assumptions within this line of thinking was that organizational memory, following the interpretation set out by Walsh and Ungson (1991), neglected the humanity of collective memory in favour of function, and that more effort needed to be devoted to understanding the idiosyncrasies and irrationalities of how groups of people memorize and remember. This junction has so far resulted in at least: two special issues of the *Organization* journal (Rowlinson et al., 2014; Cutcher, et al., 2016) and one special issue of *Organization Studies* (Mordhorst, Popp, and Wadhvani, 2016), two books (Tota and Hagen, 2015; Langenmayr, 2016) and a number of related conference tracks and discussions, big and small.

I interpret the two directions to broadly correspond to the subject-object orientation within organizational memory, where it is either thought of as an attribute of the organization, much like a resource; or a substance of it, usually in the form of stories and narratives. There is little, however, in the current literature to explain how organizational memory is as a regime of sociomaterial patterns of actions within an organization (see Chapter 2). One of the purposes of this thesis is thus to find a path into this un(der)explored territory – practice - by applying methods and principles derived from the practice view of the organization. This present study will offer guidance for any future inquiry into organization memory and sketch out an image of what, following the practice view, it may look like as well as what new insight organizational memory as a practice may contribute to our understanding of how individuals collectively organize their labour.

As far as the practice view is concerned, it was not, at the time of writing, entirely clear whether there was room for collective memory as a primary phenomenon within this emerging tradition. What I mean by primary phenomenon is something that could be directly observed in an empirical setting, as opposed to something that would be analytically superimposed by the researcher at a later stage, as a descriptive category. According to the practice view, all phenomena are emergent and are required to be re-enacted anew at every iteration of practice (Nicolini, 2012; Schatzki, 2012). A degree of continuity ensues between iterations because there are normative, material and networked dimensions to practices. This view of continuity, however, is not of a similar

kind to what is currently understood as 'memory' in organization studies. On the one hand, organizational memory, whatever the interpretation, is considered to have a degree of endurance relative to the passage of time. Practice view, on the other hand, suggests that the passage of time is enacted at every iteration of performance (Orlikowski and Yates, 2002). As a result, there is a conflict between the practice view of organization and the fundamental assumptions supporting organizational memory as a principle of collective work.

A further difficulty between the practice view and the concept of organizational memory, even taken at its most general, is that organizational memory is not specific to any one practice. Nor could it be, because in order for memory to be a meaningful concept, it has to be a memory of something. Could it be that practice view does not account for organizational memory by design? This seems contrary to reason as without memory-like phenomena there could be no continuity through time insofar as groups of people are concerned, and without continuity through time there could be no practices (as practices are also historically rooted - Schatzki, 2006, 2012; Nicolini, 2012; Sandberg and Tsoukas, 2015). Research on routines also attempts to deal with this problem (e.g. Miller et al., 2012), albeit without considering the experience of practitioners who engage with organizational memory as part of their work. It thus seems that it is rather the case that the current conceptions of organizational memory are unable to convincingly account for the enactment of practices, and not the other way around. Therefore, the secondary contribution of this thesis will be to reconceptualize organizational memory in a way commensurate with the practice view of organization.

## 1.7. OVERVIEW OF THE CHAPTERS

Chapter 2 will present a systematic review of the literature to identify any aspects of the debate deemed relevant to formulating a practice-based account of organizational memory, as well as indicate a theoretical point of departure for the discussion to follow. In order to do this in a novel way with intention to yield previously unavailable insight, the literature is positioned on two axes: **orientation** and **scope** of organizational memory

relative to the organization. Orientation axis maps the way organizational memory is defined by the different literatures; focusing on two categories: organizational memory as an attribute of the organization, and organizational memory as a substance of the organization. The two categories are further supplemented by the axis of scope, also split into two categories: organizational memory as an atomistic, and organizational memory as a holistic characteristic of an organization. The axis of 'scope' maps the composition of organizational memory, whether constituted as an assemblage of discrete elements or as an inclusive whole, naturally emergent from the process of collective organizing.

Chapter 3 builds on the literature review in order to elaborate on, and develop further, Schatzki's (2006) ideas of organizational and practice memory. This chapter evaluates theoretical propositions made by Schatzki about organizational and practice memory, as sets out a methodological foundation for developing them in an empirical environment. Overall, an alternative interpretative lens grounded in the works of Heidegger, Whitehead and Schatzki is presented and fine-tuned for the study of organizational memory.

Chapter 4 outlines the methodology deployed in support of this thesis, comprising of an embedded case study within the context of architectural work. The ethnographic component of the case study lasted for 15 months and was performed alongside archival analysis. Research setting, the process of data collection and analysis, ethics and limitations are also discussed in this Chapter.

Chapter 5 begins an empirical investigation of what practitioners understand by organizational memory in their daily practice. This Chapter applies the theoretical point of departure - Schatzki's (2006) proposed understanding of organizational and practice memory - to the ethnographic dataset. The aim of Chapter 5 is to identify which aspects of Schatzki's (2006) theoretical work resonate with empirical data the most, which can be disposed of, and which are missing. The analysis in this Chapter does not yet touch upon what is organizational memory for those practicing it, but rather sets the foundation by assisting in identifying memory-like processes to watch out for in Chapters

5 and 6. These processes have been identified as related to power, materiality and tools of work in the organization.

Chapter 6 focuses on power and materiality, considering these processes as 'submerging' organizational memory into the fabric of work. This chapter is focused on a case study of a £30 million building extension project, with particular emphasis placed on the use of design drawings in collaborative design development. Findings demonstrate that certain objects serve as material mediators for communication across professional boundaries, which maintains power relationships. This is enabled by three processes: 1) the exclusive 'sender-recipient' format of sharing design drawings; 2) an implicit hierarchy governing how professionals from different domains can engage with particular drawings; and 3) authoritative communicative practices – exemplified by expert comments - imposed on the drawings. These three processes 'submerge' ways of performing work into the relevant tools of work to the effect that social orderings, power relations and normative uses of equipment and artefacts gain resilience through time. Organizational memory as a submergent process displays some of the characteristics of what would commonly be referred to as 'memorization'.

Chapter 7 takes the analytical lens to the practitioner by examining how they draw on memory-like processes during the less structured, design stage of the project. This chapter is focused around a case study of a new restaurant project, with particular emphasis placed on describing how architects conceive of, and materialise their design ideas. Further attention is given to what role previous experiences (individual and organizational) play in this process. Findings here demonstrate the key role of non-reflective experience, or 'tinkering', in the translation of ideas, inspirations and principles from individual architects to designs via tools of work and available materiality. These processes, reminiscent of what would commonly be referred to as 'remembering', form the emergent aspect of organizational memory as a practice. Empirical boundary between practice memory and organizational memory is also observed here.

Chapter 8 brings together the submergent and emergent processes into an illustrative model. The illustrative model highlights the roles of power and materiality of work, while

accounting for the role of organization in enabling organizational memory. Implications of the study are presented and limitations are acknowledged. This chapter also features a set of guiding questions that an investigator of organizational memory as a practice may find helpful in the field.

# Chapter 2

## LITERATURE REVIEW

### 2.1 INTRODUCTION

This chapter presents a systematic review of literature on organizational memory and indicates a theoretical point of departure for the empirical component of this thesis to follow. The purpose of literature review in this thesis is not to identify shortcomings and problems with existing state of research, but rather to demonstrate and substantiate observations made in Chapter 1 about how anthropocentric approaches to organizational memory can be insufficient and problematic. Much was written about organizational and other forms of collective memory, but very little of this diverse literature is consolidated in a comprehensive way. Because the aim of my thesis has to do with developing a practice-view account of organizational memory any empirical data, collected or analysed, will benefit from as broad of an understanding of previous thinking about this issue as possible. This is, in large part, due to the socially constructed nature of collective memory.

During the review of the literature, I will position existing research along two thematic axes: orientation and scope. Orientation refers to the way organizational memory is conceptualized by the literature in relation to the organization. Two types of orientation are identified in the literature: organizational memory as an attribute of the organization and organizational memory as a substance of the organization. These are further supplemented by the two types of scope: organizational memory as atomistic and organizational memory as holistic. Scope refers to the composition of organizational memory, whether consisting of different parts or as an inclusive whole that is a product of organizing labour. A theoretical point of departure is identified within the



substance/holistic quadrant of the literature, specifically represented by the work of Schatzki (2006) on organizational and practice memories. This will be explained in more detail in Chapter 3.

The remainder of the chapter will proceed as follows: First, I will introduce the context before describing the method used to derive a systematic sample of studies to be reviewed. Next, I will position and review the literature corresponding to the two types of orientation (attribute and substance) and scope (atomistic and holistic). Finally, I will explain the selected interpretative lens and outline some of the benefits and areas of heightened attention that are to be kept conscious of.

### *2.1.1. Context of literature review*

Drawing inspiration from how individual human memory works, much research on organizational memory has assumed the subject of its study to be knowledge (Walsh and Ungson, 1991; Rowlinson et al., 2010; Argote, 2011; Casey and Olivera, 2011; Harvey 2012). Others have focused on identity and organizational self-representation (Foster et al., 2011; Anteby and Molnar, 2012; Schultz and Hernes, 2013; Adorisio, 2014). Fewer, however, have ventured to define what is meant by organizational memory. This is especially true for research following in the three major trajectories outlined in Chapter One. These are: studies inspired by the ‘retention bin’ model by Walsh and Ungson (1991); studies following the codification and control of information agenda (circa Levitt and March (1988), Yates (1989) and Ackerman (1998)), and studies following the ‘social memory’ view that memory resides in stories and histories (Orr, 1986; Rowlinson and Hassard, 1993). For individuals, memory is an aspect of situating the self within the temporal experience of the surrounding environment (Olick et al., 2011) - it may, in fact, account for the experience of continuity itself - but this does not mean that organizational memory ought to necessarily follow in the same footsteps.

Perhaps due to there not being a distinct, agreed-upon foundational work on what organizational memory is, the literature on the subject is quite fragmented. A plethora of metaphors, analogies and concepts from early psychology (e.g. episodic memory,

embodied memory, more or less concrete memory, distributed, semi-abstract, representative, declarative, etc.) exist scattered throughout both time and subject area. This makes drawing lines and identifying 'schools' of thought difficult, not least because a great number of studies do not consistently adhere to any one understanding of memory. With that in mind, a particular classification gained popularity over the past decade or so - one popularised by Rowlinson et al. (2010), comprises of 'Organizational Memory Studies' and 'Social Memory Studies'. The former is an amalgamation of generally anthropo-sociological thought on collective memory broadly following Durkheim, Halbwachs (1980) and, more recently, Ricoeur (2004), Mizztal (2003), Olick (2008) and Zerubavel (2003), among others; and the latter is a following of and the responding to Walsh and Ungson (1991) and other similar, organization-centred perspectives.

Such a classification, however, might be misleading or unhelpful in some respects. In the case of the former, distinction between 'organizational' and 'social forces an artificial separation where there needn't be one - all organizational memory is also social memory, and all social memory must include an organizational element to it. The primary exception to this is when considering history, which, while frequently conflated with memory, is not the same kind of event. Alternatively, this distinction can result in rather abstract definitions (Hecker, 2012). Lam (2000: 491), for example, offers one such way of seeing organizational memory, suggesting that it "*can be more, or less, than the sum of the individuals' knowledge, depending on the mechanisms that translate individual into collective knowledge*". While this is a perfectly reasonable interpretation, it conceals much of the nuance of organizational memory in favour of breadth.

That being said, the "organizational-social memory studies" way of grouping literature is just as good as any other because of how fragmented the field is, especially concerning the object of its study. Even a brief foray into this subject area is likely to reveal that research on organizational memory is actually research on organizational properties and characteristics that have to do with persistence through time. Few contemporary scholars of organization have taken the time to explore what organizational memory **actually is** - most speak of what organizational memory does (e.g. reduces duplication

(Kransdorff, 1998)), but not of what their perspective on organizational memory actually is and why. So, despite the 25 years of organizational memory research (and counting) since the publication of the Walsh and Ungson's (1991) seminal article *Organizational Memory* in *Academy of Management Review*, the following note of caution remains equally apt today:

*Despite the general use of the term organizational memory, it is not clear that we have understood the concept or its implications for the management of organizations. To date, a myriad of unexamined conjectures has defined a concept that has even served as a basis for prescriptive management advice. (Walsh and Ungson, 1991: 84–85)*

In order to set the stage for an empirical study of what organizational memory is to those who practice it, I will first propose another way of positioning the literature on organizational memory. While it will invariably be as good as any other way of classifying currently out there, it is sufficiently different to 1) shed new light on the field and 2) set some of the foundations for the empirical portion of this study and the aims of my thesis. In spirit of a practice view (see Chapter 3 for more details), the proposed classification will centre on how the concept of 'organizational memory' is **used** in the literature. Of these, there are four ways (arranged in two pairs) of how the concept of organizational memory is usually applied in research: as an attribute of the organization versus as its substance, and perceived holistically or atomistically.

## 2.2. METHOD FOR THE LITERATURE REVIEW

The initial aspiration for this section of the thesis was to conduct a systematic literature review in order to obtain as full of a representation of the literature as possible. A Boolean string search for terms "organizational memory", "organisational memory", and "corporate memory" resulted in 1156 papers. However, following the initial overview, it quickly became obvious that vast majority of those papers had very little to do with the subject at hand. Additionally, a number of known key works were absent. In order to

account for the latter limitation, I have included a string for “social memory” into the search, which increased the total amount of papers to 2486. While effective in recovering a number of important works, this course of action significantly diluted what already was a weak sample lacking in focus. Consequently, because my goal was to learn what is known about organizational memory, rather than to catalogue every instance of when the term was used, I have decided to pursue an alternative route.

It appears to be conventionally true that a systematic review equals, or, at the very least, closely approximates an automated review (much like the one attempted above). This need not be so, because a systematic review is supposed to be precisely that – systematic, regardless of whether done by hand or through an algorithm. In this regard, I have decided to employ a snowballing (chain) sampling procedure as outlined by Wohlin and Prikkladnicki (2013), Wohlin (2014). In light of the volume and relevance limitations outlined above, snowballing presented itself as an effective way of conducting a review that was both systematic and optimally meaningful at the same time (Greenhalgh and Peacock, 2005).

In order to begin the snowballing sampling process, it is first necessary to identify a tentative selection of works from which to start (Figure 2.1). Google Scholar was used in order to avoid publisher bias and the same search string of words as presented above was used. This search was not subjected to any particular time-frame. Seven articles were identified as suitable starting points for snowballing, based on the regularity with which they occurred in search results, significant numbers of citations and familiarity (achieved during preliminary stages of the research).

1. Walsh, J.P. and Ungson, G.R. (1991). Organizational memory. *Academy of Management Review*, 16(1), pp. 57-91.
2. Spender, J.C., (1996). Organizational knowledge, learning and memory: three concepts in search of a theory. *Journal of Organizational Change Management*, 9(1), pp. 63-78.

3. Moorman, C. and Miner, A.S. (1998). Organizational improvisation and organizational memory. *Academy of Management Review*, 23(4), pp. 698-723.
4. Stein, E.W. and Zwass, V. (1995). Actualizing organizational memory with information systems. *Information Systems Research*, 6(2), pp. 85-117.
5. Ackerman, M.S. (1998). Augmenting organizational memory: a field study of answer garden. *ACM Transactions on Information Systems (TOIS)*, 16(3), pp. 203-224.
6. Anand, V., Manz, C.C. and Glick, W.H. (1998). An organizational memory approach to information management. *Academy of Management Review*, 23(4), pp. 796-809.
7. Olick, J.K. and Robbins, J. (1998). Social memory studies: From "collective memory" to the historical sociology of mnemonic practices. *Annual Review of Sociology*, pp.105-140.

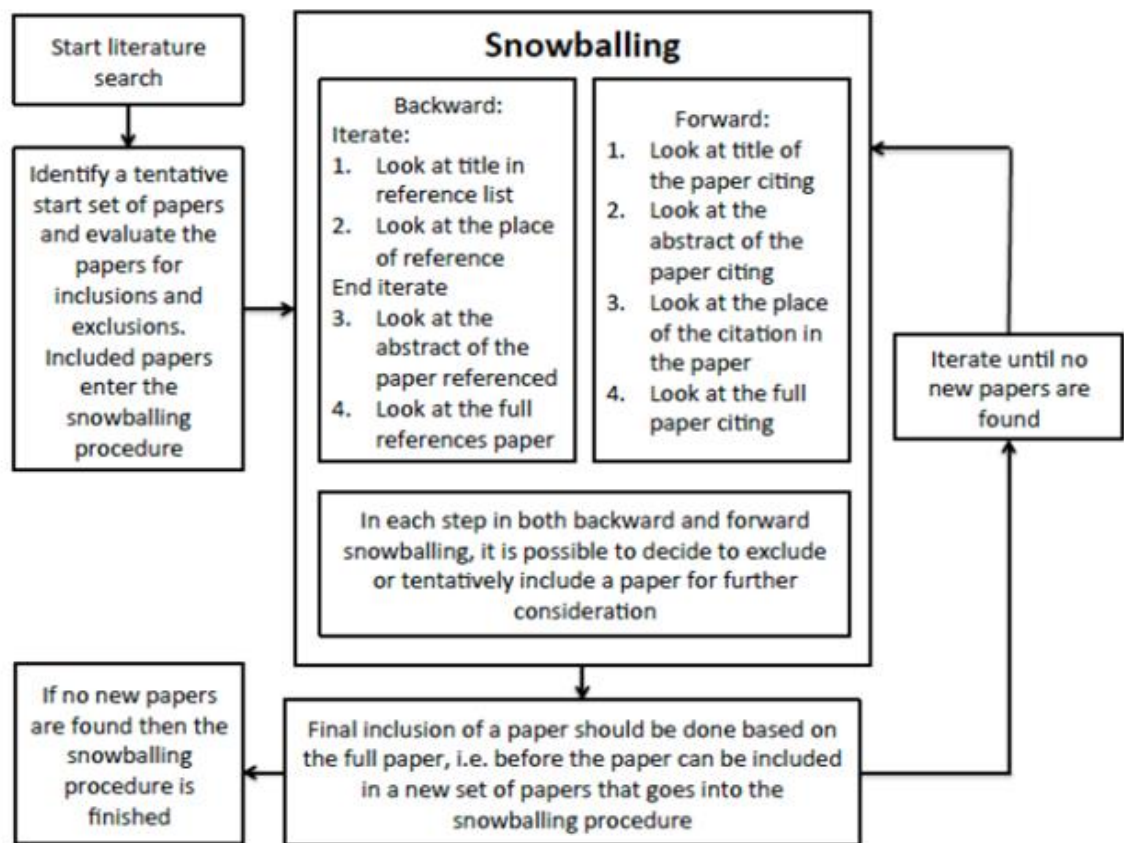
These seven were manually supplemented by additional four works: one recent influential literature review (Rowlinson et al., 2010), two introductions to organizational memory-themed special issues (Rowlinson et al., 2014; Cutcher et al., 2016), and a book that presented an otherwise uncommon yet impactful theory of organizational memory by Niklas Luhmann (Langenmayr, 2016).

8. Rowlinson, M., Booth, C., Clark, P., Delahaye, A. and Procter, S., (2010). Social remembering and organizational memory. *Organization Studies*, 31, pp. 69-87
9. Rowlinson, M., Casey, A., Hansen, P.H. and Mills, A.J., (2014). Narratives and memory in organizations. *Organization*, 21(4), pp. 441-446.
10. Cutcher, L., Dale, K., Hancock, P. and Tyler, M., (2016). Spaces and places of remembering and commemoration. *Organization*, 23(1), pp. 3-9.

11. Langenmayr, F. (2016). *Organizational Memory as a Function: The Construction of Past, Present and Future in Organizations*. Berlin: Springer

From this starting set of 11 papers, both backward and forward snowballing (chain) was conducted. Because the manually added four are considerably more recent than the Google Scholar identified seven, these two groups have been analysed separately in order to generate a more orderly record.

First, the backward snowballing of the first seven papers involved studying the references for each individual work. Only results relevant to the subject matter of organizational memory were retained, which resulted in 22 additional papers selected for the literature review. This was supplemented by a further 64 works identified through the 4 added manually.



**Figure 2.1. Snowballing (chain) sampling procedure (Wohlin, 2014)**

Next, the forward snowballing of the first seven papers added another 12 works to the list, supplemented by 3 from the manually added four. In forward snowballing, the Google Scholar citations tool was used to detect newer books and articles that have cited the selected sample. A great many works did not qualify during this forward snowballing iteration because of their subject matter.

With the initial set processed, the 11 starting works have been taken out of the cycle in order to give way to the 102 works detected during the first iteration of backward/forward snowballing. The 102 papers were then evaluated to exclude non peer-reviewed works (except books) and redundant entries. Redundancy constituted either high degree of similarity (i.e. conference paper and published paper), cataloguing error (two entries for the same work under different years) and multiple works featuring the same author dealing with the same topic in close succession. This eliminated 17 candidates. The snowballing procedure was then repeated with the remaining 85 candidates from second iteration.

The third iteration of snowballing contributed 6 additional works to the literature review, and the fourth iteration did not contribute any new works that survived selection. This is reflected by a 0% snowballing efficiency rate. These results are summarized in Table 2.1.

	Start quantity	Included	Efficiency
Start set	11	11	100%
Iteration 1	11	102	927%
Iteration 2	102	85	83%
Iteration 3	85	6	7%
Iteration 4	6	0	0%

**Table 2.1. Results of snowballing (chain) sampling**

The resultant 204 papers qualified for the review on the basis of their use of the concept of organizational memory, in one way or another, informed the identification of four major themes within the literature as presented in the next section.

### 2.3. TAXONOMY OF ORGANIZATIONAL MEMORY

Drawing on how the concept of organizational memory is applied in the literature, four themes of organizational memory emerged: 1) as an attribute of the organization and 2) as a substance of the organization. The former refers to use of the concept (or metaphor) of organizational memory in a broadly resource-based way - as that which can be deliberately deployed by management in order to satisfy more or less defined objectives, while the latter refers to that literature which conceptualizes organizational memory as indistinguishable from the organization itself. These first two themes address the relationship between organizational memory and the organization. The second two themes, atomism and holism, refer to the scope of organizational memory itself. The two themes bear resemblance to the distinction between organizational culture as either a variable or as a root metaphor (Smircich, 1983). For instance, organizational memory that is atomistic would be composed of a number of defined constituent entities or elements (e.g. transactive memory systems); but organizational memory as that which is holistic, by contrast, would not display such elements but would appear as an encompassing, continuous process. See Table 2.2 for a quick overview of the taxonomy.



<b>Scope \ Orientation</b>	<b>Attribute</b>	<b>Substance</b>
<b>Atomism</b>	<b>The repository model</b> (eg. Walsh and Ungson, 1991); <b>ICT-induced memory</b> (eg. Malhotra et al., 2005);	<b>Routines</b> (eg. Mills et al., 2012); <b>Stories and narratives</b> (eg. Connerton, 1989).
<b>Holism</b>	<b>Identity</b> (eg. Anteby and Molnar, 2012); <b>Transactive Memory System</b> (eg. Wegner, 1987); <b>Narrative</b> (eg. Rowlinson et al., 2014); <b>Culture</b> (eg. Cook and Yanow, 1993)	<b>Systems theory</b> (eg. Luhmann, 1997; 2012); <b>Teleology of practice</b> (eg. Schatzki, 2006; 2012); <b>Institutional remembering</b> (Linde, 2008).

**Table 2.2. Taxonomy of organizational memory**

### *2.3.1 Organizational memory as an attribute*

There is no shortage of research that considers organizational memory to be an attribute of the organization. What this means is essentially that organizational memory is considered to be either another resource for the organization to employ, a source of competitive advantage, or just anything useful. Critically, the studies through which this category emerges almost universally postulate that, implicitly or explicitly, that organizational memory is, or has to be, of use to the management of the organization. A seminal review paper by Walsh and Ungson (1991) conveniently illustrates this approach through its definition of organizational memory as ‘stored information from an organization’s history that can be brought to bear on present decision’ (ibid: 61) and by

observing that 'organizational memory consists of mental and structural artefacts that have consequential effects on performance' (ibid: 58).

The general thesis of organizational memory as an attribute has been well-accepted within management theory. This is a line of inquiry normally rooted in the information-processing model of the organization proposed by March and Simon (1958) and further focused on memory by Weaver and Bishop (1974) and Levitt and March (1988). A key capability that organizational memory as an attribute was intended to bestow on the organization is efficiency. For example, shortly following Walsh and Ungson's (1991) defining work, Sandoe and Olfman (1992) also discussed how organizational memory can be of use to management as an efficiency enhancing tool. Similarly, Stein and Zwass (1995), Smith (1994) and Kransdorff (1998), among others, looked at how organizational memory can be used in order to help achieve specific organizational goals. For these authors, organizational memory is stored within/by organizational attributes - individuals, culture, transformations, structures and the broader ecology (Walsh and Ungson, 1991), or any variation of these. Numerous research projects have accepted and developed this way of thinking about organizational memory (Anand et al., 1998; Argote, 1999; Argote et al., 2003; Cohen and Bacdayan, 1994; de Holan and Phillips, 2004; Fiedler and Welp, 2010; Griffith et al., 2003; Hackbarth and Grover, 1999; Moorman and Miner, 1998; Nissley and Casey, 2002; Suddaby et al., 2010) drawing on themes and topics from a wide range of subfields of management.

Despite this great quantity of research within the "organizational memory as an attribute" orientation, there is virtually no consideration of the scope of this concept; or, what I refer to here as 'atomism versus holism'. For the purposes of this review, scope refers to the type of argument used to determine the extent of the subject area. In positioning the literature based on the interpretation of how the concept is used by the author, it is important to consider the scope of said use, and not just the orientation. Inclusion of scope allows to problematize existing assumptions and perspectives about organizational memory in ways conducive to the moving of the enquiry forward (or sideways, depending on one's point of view) - the primary one being whether

organizational memory is a set of components and distinct capabilities (atomism) or a characteristic of an entire organization (holism).

The majority of management literature concerned with the study of organizational memory as an attribute also considers it in an atomistic way. The six 'storage bins' model by Walsh and Ungson (1991) is an exemplification of this as it proposes a three-stage method for assessing and categorising organizational memory subject to its utility with regards to each of the storage bins - *'successful firms would have retrieved past instances of their company's responses to environmental shocks, evaluated their similarity or dissimilarity to deregulation, and then formulated a new strategy in this context'* (ibid: 79). The studies that followed, while not directly referring to the 'storage bins', did carry on the notion that organizational memory must be retained in some form of repository. For instance, Anand, Manz and Glick (1998: 800) spoke of individuals having to 'locate information before accessing it from organizational memory', while Olivera (2000) framed the problem of organizational memory in the language of systems, writing that *'memory systems are connected to each other through pointers to the location of knowledge in other systems'* (ibid: 826) and that organizational memory consists of *'sets of knowledge retention devices, such as people and documents, that collect, store and provide access to the organization's experience'* (ibid: 815). Similarly, Hargadon (2002) concluded that memories of cognitive, social and structural activities, when properly retained and retrieved, are of great benefit to organizational innovation. More recently, Akgun et al. (2014) mirrored these findings, albeit by means of introducing 'emotional organizational memory' as another attribute.

A common theme running throughout this part of the literature is preservation of past knowledge, usually juxtaposed against potential repercussions of its loss (Gough, 2004; Jennex and Olfman, 2004; Stein and Zwass, 1995). It is then perhaps not at all unexpected that organizational memory as an attribute is studied in particularly atomistic ways within the field of organizational information communication technologies (ICT's). This strand of literature places strong emphasis on the rational organization (Shrivastava et al., 1987) concerned primarily with the codification (Snyder and Cummings, 1998) and dissemination (Robertson and Hammersley, 2000) of past learnings by means, or with

significant aid of technology (Malhotra et al., 2005; Spender, 1996; Trevino, Daft, and Lengel, 1990; Wijnhoven, 1999). Interestingly, such ICT-induced consideration of organizational memory is a topic scarcely discussed in the more recent significant literature reviews in organization studies (e.g. Casey and Olivera, 2011; Langenmayr, 2016; Rowlinson et al., 2010). While this may be in part because of poor compatibility with Olick's (1998) classification of 'social memory studies' made popular by Rowlinson et al. (2010), literature on ICT-induced organizational memory is significant, numerous and composes the majority of those studies which adopt an atomist take on organizational memory as an attribute.

A holistic approach to organizational memory as an attribute is distinct from an atomistic one described above. The studies grouped under this theme consider organizational memory as inseparable from the organization, even if still resource-like. Compared to the studies that approached organizational memory as a component attribute of the organization (atomism), the line of thinking to be presented below approached organizational memory as a dimension of that which makes an organization itself; albeit one that can be used for competitive advantage of sorts. Moorman and Miner (1997), for example, wrote that organizational memory is what gives organizational culture norms and values (p. 93), Boje (2008) spoke of storytelling, Wexler (2002) of intellectual capital, and Anteby and Molnar (2012) contemplated the role of memory in shaping organizational identity. Similarly, Langenmayr (2016) attempted to derive function of organizational memory from its relationship with time via decision-making. Accordingly, the attribute/holistic quadrant of the proposed categorisation is centred on those studies which still stress manageable utility of organizational memory, but consider it to be much less fragmented and far more integrated into the very idea of 'organization'.

Transactive memory systems (TMS) theory is one such example. While closely related to the ICT-induced view of organizational memory, TMS is based around the idea that individuals serve as external mnemonic aids to one another (Wegner, 1987). Structured around the 'who knows what' in the organization, a transactive memory system is built on the assumption that there is internal (individuals) and external (organization) memory. Teece (2007) anointed TMS a 'cospecialized asset', meaning that the value and

efficiency of a TMS is very much subject to how its constituent elements fit together. The core of TMS is, thus, its external aspect - the collective memory of 'who knows what' in an organization - not the individuals who do the knowing, as it were. A number of studies successfully demonstrated a link between transactive memory and group (and firm) performance (Faraj and Sproul, 2000; Hollingshead, 1998; Lewis, 2004; Liang, Moreland and Argote, 1995), especially in uncertain and rapidly changing environments (Lewis, Lange and Gillis, 2005; Ren, Carley and Argote, 2006). Schreyogg and Kliesch-Eberl (2007) and Rivkin (2000) noted that TMS can be very difficult to replicate across organizations due to its social complexity and organizational embeddedness and Argote and Ren (2012: 1380) further underscored this by observing that "*because an organization's transactive memory system develops through experience, is idiosyncratic to a particular organization and hard for outsiders to discern, it is a source of competitive advantage*".

The emphasis on functional qualities of organizational idiosyncrasies is also mirrored by the narrative approach to organizational memory (Argote, 1999; Meindl et al., 1996; Sandelands and Stablein, 1987). Drawing direct lineage from Weick (1979) and his work on sensemaking, research on organizational memory narratives is generally concerned with those processes which create and recreate certain organizational capabilities following episodes of learning and change (Decker, 2014; Nissley and Casey, 2002; Sherman, 1999; Weick, 1979). Kruse (2003: 345), for instance, wrote that '*while past events have the potential to constrain future or current learning, new structures and processes maybe created that allow for interpretations of data and events to be viewed in unique ways*'. Bartel and Garud (2009: 114) further elaborated that "*individuals translate narratives in ways that activate imagination about the future while drawing on both memory and current experience*" thereby allowing organizations to '*set an overall cultural infrastructure within which innovation emerges*', thus linking organization's memory as functional narratives directly to its culture.

Cook and Yanow (1993: 386) made a strong case for the role of organizational memory in ensuring the continuity of culture, which they acknowledged to be key to organizations instrumental '*abilities to do what they know how to do*'. The importance of providing such

ability was echoed by Wexler (2002: 402), who defined this kind of organizational memory as a *'dynamic process that engaged an organizational culture in highly creative revision, modification and adaptation of the past to suit the needs and conditions of the present'*. Similarly, but approaching from a different angle, Berthon, Pitt and Ewing (2001) suggested that organizational memory generates a more structured culture with age. They argued that the longer-lasting organizations produce more *'extensive memories'* (ibid: 147) compared to their younger analogues, which has an effect of impregnating their cultures with a more routinized, technical disposition (as far as decision-making goes). The relationship between culture and memory in such instances, however, is generally not very nuanced – where organizational memory is employed as a cause for culture, as in Cook and Yanow (1993) for example, both the culture and the memory take on a homogenous, monolithic form and function relative to the organization. One result of this is that individuals at work *'reconstitute'* (ibid: 385) the organization as a matter of course and little else. This is problematic because such an account neglects issues of normativity, contestation and irregular distribution of both memory and culture throughout the organization.

The above section of the review demonstrates that there is a rich tradition in the literature to treat organizational memory as an attribute of the organization. The primary manifestations of this are notions of utility and function as well as retention and retrieval; both with respect to organizational performance. Equally, management is considered able and capable of making deliberate use of organizational memory, whether in order to develop or to deploy it. There is, however, a marked difference in the scope of organizational memory as an attribute. The atomistic take on organizational memory paints a picture of component parts, while the holistic one puts forward a view of memory as a single, organization-determining factor. The function of memory, in both cases, is to endure knowledge through time for the benefit of organizational performance.

Both of these positions offer limited insight, albeit the latter less so, when it comes to talking about organizations as empirical and experiential phenomena. Organizational memory as an atomistic attribute of an organization is a naïve interpretative lens that relies on a mechanistic systems architecture type of memory where knowledge inputs

are codified and indexed in order to be retrieved later pending an appropriate environmental stimulus. Such a view of organizational memory rests on the assumption that memory is a perpetual record of the past and that organizations are monolithic, linearly designed bounded systems. Seminal work by Walsh and Ungson (1991), for example, is an illustration of this, where organizational memory closely follows the storage-retrieval model set in a compartmentalized organizational setting.

Research under the memory as a holistic attribute of organization does a better job of presenting organizations in a more sophisticated way but even the more closely aligned to the practice view position of Cook and Yanow (1993) still offers limited insight into how a phenomenon such as organizational memory is empirically performed in a work setting. This is primarily because organizational memory explicitly conceptualized as a managerial tool leaves no room for contestation or non-managerial/anti-managerial aspects of organizational behaviour (Nissley and Casey, 2002).

In both cases, conceptualization of organizational memory as an attribute of an organization raises some important questions about the remit of the idea. As an attribute, organizational memory is compartmentalized to a particular, managerial sphere of influence and, as a result, is restricted to a set of locations within the organization (Walsh and Ungson, 1991). Because the compartmentalization is thus inherently political, the scope of application is not only necessarily functional but also reserved to a narrow section of organizational members – usually managers. This is explicitly true for both atomistic and holistic views of organizational memory as an attribute. Where atomistic approaches are concerned, such groups include managers and other persons of power within the organization, whereas in the case of holistic approaches, the ability to deploy memory for the sake of achieving organizational goals is almost always something that only the very senior leaders are privileged to (unless there are strong unintended consequences to this activity, as in Bell (2012)).

Furthermore, organizational memory as an attribute approaches make some significant assumptions about the relationship of information and knowledge to the passage of time.

Research under this category tends to press on the preservation of what is memorized through time, up to the point of retrieval (Kransdorff, 1998); in the case with culture, this takes form of simply maintaining course once a desired direction has been put in place within the organization. Time, when seen through this prism, is linear, quantifiable and unidirectional (Lee and Liebenau, 1999). When thought of in conjunction with what is the common subject of memory across attribute approaches, organizational memory as an attribute emerges as a function of organizational design the primary purpose of which is to codify and carry information and knowledge within it through time and until recalled by management.

### *2.3.2 Organizational memory as a substance*

Not all research on organizational memory relevant to organization studies is of instrumental persuasion. There is a substantial stream of literature concerned with organizational and collective memory that works, if slightly off-centre with regards to management, around the idea that organizational memory is simply a by-product of any social order. A number of authors grouped under this category do still acknowledge the utility of organizational memory in certain circumstances, but they see this as a favourable outcome of that which is a substance of the organization, not an attribute. Rowlinson et al. (2010) group some of this research under the 'social memory studies' category of their classification; as does Olick (1998), albeit from a slightly more sociological perspective. However, as I outlined in the introduction to the Chapter, such way of positioning the literature is not particularly well-suited to understanding what organizational memory is - it is simply too broad and grants no special priority to the organization within its analytical budget. The attribute-substance/holism-atomism framework that I am proposing here is considerably more sensitive to both the role and form of the organization in question as well as to the scope of organizational memory itself. Also, the framework proposed here is specified for organization studies, having been synthesized from a systematic review of the literature - diverse management literature included - rather than borrowed from the field of culture studies.



The 'social' aspect of social memory studies primarily refers to the sociological roots of these corresponding lines of inquiry. Traditionally stemming from work of Maurice Halbwachs (1980) on Collective Memory, these studies understand memory as continuously (co-)constructed and reconstructed by individuals interacting with each other and with their socio-material environments (Corbett, 2000; van Dijck, 2007) - it is frequently described as a "*representation of the past in a whole set of ideas, knowledge, cultural practices, rituals and monuments through which people express their attitudes to the past and which construct their relation to the past*" (Misztal, 2003: 6), as well as an activity of constituting "*groups and their members simultaneously in the act (thus remembering)*" (Olick, 1999: 324). Most fundamentally, this line of thinking presents collective memory as rooted in the community. Halbwachs (1980), for instance, looked at how communities of people living in close proximity to one another would maintain, develop and socialize into a particular idea of who they were and how they would do the things they do. Accordingly, the object of memory is seen as something that is firmly rooted in the past and the activity of memory is mainly centred on subjects (the people) interpreting the object (the memory).

Social memory studies gained considerable recognition and popularity over the last decade, with recent special issues (Cutcher et al., 2016; Rowlinson et al., 2014), specialist journals (Hoskins, 2009), and edited collections (Olick et al., 2011). At the same time, however, the object of inquiry progressively moved away from organizational memory *in organizations* to various forms of commemoration, remembering and history *of organizations* (e.g. Bell, 2012; Connerton, 1989; Guthey and Jackson, 2005; Decker, 2013; Mills et al., 2016). In other words, and rather paradoxically, social memory studies shift the analytical focal point away from an 'organization' and towards the individual whose understanding of organization is achieved through an interpretative lens of collective memory.

Concerning understanding organizational memory from the practice-theoretical perspective, the category label of 'social memory studies' is unhelpful at best and restrictive at worst. Foss (2007: 33) noted that invoking the entire social into the question of memory "*obscures important micro-mechanisms*" and Hecker (2012: 425)

added that adjacent theories thus “*lack a robust foundation and refrain from providing an explanatory link to the individual as a basic locus of knowledge and action*”. While Feldman and Feldman (2006: 862) influentially argued that the first step in the direction of a “*conceptualization of organizational remembering as a collective, culture and time-specific process and practice*” requires theoretical departure from ‘organizational memory’ towards ‘organizational remembering’. These two critiques point to the overly broad focusing of the social memory studies lens – in neglecting dynamic micro-processes in favour of broad categories this approach is not positioned well to derive insight into collective memory on an organizational level, where idiosyncrasies and particulars matter more than generalizations.

The distinction between ‘memory’ and ‘remembering’ is meant to highlight the processual nature of the phenomenon. Even with this in mind, it seems that there ought to be something more to it because, much like the more managerial take on memory as an attribute, a great deal of ‘social memory studies’ also deals only with consequences of what individual scholars take memory to be - whether organizational, collective or social. Furthermore, as pointed out by both Foss (2007) and Hecker (2012) above, the meaning and value of terms such as ‘social’ and ‘collective’ progressively depreciates as one moves from societal to organizational level of analysis. Moreover, it would be counter-productive to disregard this emergent area of memory research on the basis that it is ‘too broad’. Thereby, in order to reconcile this theoretical conundrum in a way that will be useful to exploring what organizational memory actually is, I will ground the second category (of orientation) in the common denominator present across the three main areas of ‘social memory studies’: commemoration, remembering and history.

Accordingly, the vast majority, if not all, of qualifying research considers memory as a substance of the organization/collective/social; where the substance refers to the essential nature underlying phenomena that are, otherwise, subject to variation. Thus, for example, in the case of organizations, memory is that substance which allows meanings from stories (Adorisio, 2014; Bell, 2012), rituals (Casey, 2000) and places and spaces (Beyes and Steyaert, 2013; Zhang et al., 2008) to continue through time - the substance refers neither to container nor information, but to a potential for memory in

activities and things. In the relevant literature it manifests as either atomistic (as particular acts or things - e.g. Connerton, 1989; Miller et al., 2012; Petani and Mengis, 2016) or holistic (as ways of organizational 'being/existence' - e.g. Balmer and Burghausen, 2015; Luhmann, 1997; Schatzki, 2006).

Scholarship on organizational memory as a substance expressed through particular acts and things is mainly focused around investigations of cultural and symbolic practices (Assmann, 2005; Guthey and Jackson, 2005; Maclean et al., 2014; Nora, 1989; Zerubavel, 2003), as well as events and rituals (Ashley, 2016; Young, 1993) that develop a commonly shared understanding of the past between individuals (Boje, 1991, 2008; Cutcher et al., 2016; Halbwachs, 1980; Ricoeur, 1974). For instance, in her research on sites of memorialization and objects of remembrance, Bell (2012) describes how one event (termination of a historic manufacturing site) generated a distinctly different interpretative lens through which organizational memory was to be made sense of. Ybema (2014), Willmott (2000) and Humphries and Smith (2014) offer similar findings from their respective works, whereas Decker (2013) highlights the role of competing and counter-dominant interpretations of memory. It is also noteworthy that these studies also bring forth the plurality of memories in and around organizations, highlighting that organizational memories, much like organizations, are not monolithic.

With respect to narrative constructions of memory as a substance (as opposed to narratives-as-an-attribute view presented in the preceding section), Petani and Mengis (2016) show how narratives can import aspects of memory into not-yet-existing/future spaces and activities, and Patriotta (2003: 372) notes that stories "*are prompts and reminders, collectors and transmitters of knowledge*", broadly echoing Rowlinson et al. (2014) as well as indirectly supporting propositions by Bruner (1986) and Brown and Duguid (1991) of narratives as a form of memory. Overall, these studies characteristically develop and carry forward original concepts of social memory as proposed by Halbwachs (1980), who outlined how communities of people would produce and reproduce particular memories based on their history, commemorative practices and material environments.

To be sure, while the studies introduced above, and others like them, extend our understanding of collective memory in broad and useful ways, they do so from a macro-perspective (Foss, 2007). A micro-perspective is addressed by the Transactive Memory Systems (TMS) approach, which makes a brief reappearance here by way of organizational routines (Argote and Ren, 2012; Miller et al., 2012). While these do not represent organizational memory directly, it is through the remembering of routines that organizations enact their capabilities - *“learning to perform a routine efficiently depends much more on the rate at which agents remember other agents’ skills than on their rate of remembering task sequences”* (Miller et al., 2012: 1552). Accordingly, organizational memory is operationalized through the performance of routines. However, Essen (2008) suggested that both the performance and composition of routines is subject to organizational memory, meaning that routines are a subset of organizational memory. Mutch (2016: 1) further elaborated that routines *“are not created ab initio but draw on existing templates, and that they are linked to broader bodies of ideas and resources which shape their form”* thus reinforcing Essen’s (2008) point about organizational routines stemming from organizational memory and beyond. Accordingly, routines appear to be either a part, or an outcome, of organizational memory, but not organizational memory as such.

Organizational memory as a substance with atomistic scope is still a nascent and, consequently, messy area of inquiry where a number of different concepts overlap between one another, as well as across disciplines. With the exception of research on organizational routines (Miller et al., 2012), this scholarship borrows heavily from sociology, anthropology and culture studies. Because of such multidisciplinary nature, the scholars concerned managed to import and uncover various valuable macro-level insights into the substance of collective memory. However, there is a marked absence of ‘the organization’ in these works, even where specific organizational elements are put under scrutiny (e.g. Bell, 2012; Mutch, 2016; Suddaby, Foster and Trank, 2016). The result is lack of clarity and relevance with regards to how these forms of memory may (or may not) empirically manifest within organizations.

This is not the case with studies following holistic scope on organizational memory as a substance. While theoretical to a large degree, these works all but equate organization with organizational memory (Balmer and Burghausen, 2015; Cruz, 2014; Luhmann, 1997, 2012; Schatzki, 2006, 2012). In addition to still maintaining the importance of past decisions, experiences and knowledge to the continued existence of the organization, an added emphasis is placed on what effect these characteristics have concerning determining potential future states of the organization. For instance, in her study of informal credit organizations in Liberia, Cruz (2014) empirically illustrates how specific events from the past virtually pre-determined organizational form and conduct in the present and into the future. A similar message comes from Balmer and Burghausen (2015), who focused on effects that organizational heritage has on how organizations interpret themselves through their members. These two works highlight the force with which organizational memory may launch the organization on a very particular trajectory. An important factor there, as the authors repeatedly argue, is that organizations identify with their memories. To a large extent this involves processes and practices that give rise to and maintain the memories in question, but there is also much to be said for how organizational memory 'protects' itself by means of legitimising only compatible information and action - what Cruz (2014: 458) terms the "circuitous approach".

The theme of self-reconstitution is found elsewhere in the literature on organizational memory too. Niklas Luhmann (1997, 2012) referred to this organizational property using a metaphor for a self-replicating system from biology - autopoiesis. Unlike Balmer and Burghausen (2015) and Cruz (2014), Luhmann's understanding of organizations did not necessarily extend to include human agents capable of individual, cognitive memory. Instead, conceiving of organizational memory as "*system's presence of the past and oscillation of the system's presence of the future*" (Luhmann, 1997: 364), the issue of continuity through time was framed as a matter of communication and, specifically, communicated decisions. By this line of reasoning, organizations are systems of communication that are distinguished from their environment, as well as one another, on the basis of the form of networks in which said communication becomes arranged (Luhmann, 2012). The role of organizational memory is, thus, to maintain these

arrangements in spite of an almost infinite quantity and variety of external information and decisions impacting the organization at any given point in time. Organizational memory achieves this by means of constructing, interpreting and defining the past and the future state of the organization with respect to its current present. Using sequences of conversations collected from an R&D department of an entertainment business, Langenmayr (2016) empirically demonstrates how the organization continuously switches between the two temporal states on daily basis. The ongoing repetition of this process is what allows the organization - a network of communicated decisions - to 'oscillate' between the two temporal states in a consistent pattern. The process of oscillation is closely related to organizational identity, identification and the making sense of things (Luhmann, 2012: 49).

Luhmann (1997, 2012) presents some interesting consequences of such a way of conceptualising organizational memory. Determination of the past and the future state of the entire organization, and the oscillation between the two, places organizational memory in a position where its primary function is to maintain the distinction between the organization and its environment at the expense of all non-compatible information. This is achieved by essentially ignoring all new information that may be coming into the system in so far as possible. In other words, for Luhmann (1997, 2012), organizational memory is a way of not distracting the organization from its predetermined end goal.

Another approach to the pursuit of holistic understanding of organizational memory as a substance is proposed by Schatzki (2006). In his work on teleology of practice, Schatzki (2006: 1868) conceptualizes organizational memory as an ongoing performance in relation to the broader "practice memory". First, organizational memory is conceptualized as "*the persistence of organization structure from the past into the present together with the complex of actions, thoughts, experiences, abilities, and readinesses*" (ibid: 1870) which "*contains potential activity pasts and futures beyond the pasts and futures of its actual actions. The totality of these is not open to every or even to any single member of the organization. Rather, different pasts and futures are open to different members depending on such matters as status, experience, abilities, current position in objective time or in space, and the people with whom and in relation to whom a person acts*" (ibid: 1872).

A similar approach is taken by Linde (2008), who demonstrated how the practice of organizational memory was performed by employees of a large insurance company. Unlike Schatzki (2006, 2012), however, Linde (2008) focused on the relationship between collective memory and institutions, specifically discussing institutional memory. Institutional memory is related to the concept of practice memory. That being said, practice memory is a less structured and more materially-determined shade of collective memory than institutional memory as per Linde (2008). Furthermore, unlike practice memory, where the binding agent is performative action, Linde's take on institutions is bounded to memory via identity (ibid: 4).

Thus, in contrast to Luhmann's (1997, 2012) systems understanding of organizational memory, the teleology of practice approach substitutes determinacy of past and future with a purpose - the that-towards-which (Heidegger, 1978; Schatzki, 2006, 2010, 2012) - of organizational work. Additionally, the social fabric which organization is made of is distinctly non-monolithic for Schatzki, even if still holistic in its general scope. Finally, where the role of memory for Luhmann (1997, 2012) was to maintain distinction of organization from its environment, the teleology of practice recognizes a significantly co-constructive relationship between the organization and the broader practices; where practice memory is understood as *"the persistence of the structure of a practice. Its content, this structure, is a complex of practical understandings, rules, teleological orderings, and general understandings. This memory is also a feature of the practice involved, not an aggregation of features of participants in it, for instance an aggregation of individual memories"* (ibid: 1869) and it is related to organizational memory, conceptually, in the same way as a universal is related to a particular - practice memory is not involved with organizational memory, but organizational memory is always involved with practice memory (much in the same way as the relationship between institutional memory and identity works for Linde (2008)).

Research presented in this section of the review is varied and, at times, disparate (especially when compared to the studies under 'organizational memory as an attribute' section). That being said, despite the proliferation of interdisciplinary work and borrowing from sociology, anthropology and cultural studies, the research outlined

above revolves around one central notion - that organizational memory is an irremovable substance of an organization and a necessary (by-)product of organized social activity. There is certainly much less emphasis on the functional value of memory among these works. Indeed, organizational memory is treated as an inevitable fact of organizational and collective being. As such, organizational memory is not as much a managerial tool as it is a distinguishing factor of the working environment.

Unlike the memory as an attribute approach, studies under the substance category do not follow many of the same assumptions. The subject of memory, for example, is not limited to information and knowledge, but also includes more phenomenal issues, such as identity and normativity. Furthermore, the relationship of memory with time is not necessarily linear. Schatzki (2006), for one, demonstrates this through the notion of teleology, where decisions made in the past are not stored as units of information but will rather impact any decision made in the present and in the future. Additionally, both Schatzki (2006) and Linde (2008) introduce additional level of complexity to organizational memory – practice and institutional memory respectively. These help account for extra-organizational processes that describe how individuals learn the practice extraneously of the organization and, by extension, why there may be uneven distribution of not only memory among the individuals but also different interpretations of memory. Unfortunately, neither Schatzki (2006) nor Linde (2008) develop this fundamental issue in sufficient detail, nor do they attempt to draw distinction between practice/institutional memory and organizational memory. This latter point is especially important because it is hardly meaningful to speak of organizational memory without a sufficiently clear understanding of how organizational memory relates to practice memory.

## 2.4 SUMMARY

In this chapter, I endeavoured to offer a different way of interpreting the body of literature behind the concept of organizational memory. Organizational memory is not a well-defined theory or even a commonly understood idea, which makes it particularly



sensitive to the interpretative lens. Based on the review of the literature along the lines of orientation and scope of the concept, certain assumptions about organizational memory came to light. These are the key components found throughout the entire body of scholarship, even where the terminology is different; and they include questions of location of memory, purpose of memory, relationship between memory and temporality, as well as the function of memory in organizations.

One of the aspirations for this literature review has been to learn as much as possible about the different aspects of organizational memory in order to not only identify limitations of various existing literatures, but also to identify the pervasive themes and questions found across all these studies. Of these, there are five:

1. *What is 'organizational memory' a conceptual construct of?*
2. *What is the subject of memory?*
3. *What is the location of organizational memory?*
4. *What is the role of organizational memory in the organization?*
5. *How is time to be thought of?*

These five questions, distilled from the review of all the studies presented above, form the core of thinking about organizational memory. To illustrate, I will apply the five questions to Walsh and Ungson's (1991) seminal work, allocated to the atomism/attribute quarter of the typology (Table 2.2). In their work, organizational memory is a conceptual construct of the continuity of organizational characteristics through time; the subject of memory is information; the location is spread across the five repositories (also known as 'bins'); the role is to contribute to the competitive advantage either by means of cutting waste or accelerating innovation and decision making; and the relationship with time is linear in form and Newtonian in nature. The end product of asking the five questions of Walsh and Ungson's work is a clear representation of their understanding of organizational memory.

To apply the same treatment to Schatzki's (2006) work on the teleology of practice will yield the following results: organizational memory is a conceptual construct of a persisting structure around which individuals re-enact their organization and practice anew every time; the subject of memory is practice; the location of memory is in patterns of action; the role is teleology; and the relationship with time is non-linear, with an emphasis on the present and the future. The end product is a picture of organizational memory that is not as concerned with the events of the past and far more entwined with the everyday regimes of activities within (and outside of) the organization.

In this respect, the ideas espoused by Schatzki (2006) are not only significantly under-explored and in need of empirical validation, but are also more interesting by virtue of presenting a categorically different understanding of organizational memory, its function and its place within time and among space. Next chapter will consider Schatzki's (2006) ideas in more detail.

# Chapter 3

## THEORETICAL POINT OF DEPARTURE

### 3.1 INTRODUCTION

This Chapter is going to develop a theoretical point of departure, based on the works by Schatzki (2006) Heidegger (1978) and Whitehead (1920, 1929). The literature review provided a comprehensive basis on which to make this decision, and, subject to the brief summary of key components outlined there, this thesis will proceed with an empirical investigation broadly inspired by Schatzki's (2006) work on teleology of practice. I will, specifically focus on dissecting and exploring the definition of organizational memory and its relation to practice memory.

In terms of scope and detail, Schatzki (2006) supplies a useful distinction between memory of practice and of organization. This is one of the key contributions of his work, as it grants explanation for why not all organizations that perform the same practice are homogenous. Equally, the practice/organization distinction explains how organizations with very distinct ways of structuring work process can bear a significant degree of similarity to one another (also Kravcenko, 2015). Methodologically, this presents a challenge with respect to determining what organizational memory is and what practice memory is. Practices exist in nested relations to one another as well as to the spaces and places of their occurrence (Czarniawska, 2007; Gherardi, 2012). If organizations are assemblages of practices (Schatzki, 2012; Nicolini, 2012), then how does practice memory become organizational memory? What is the relationship between practice and organizational memory? These questions will be the focus of the next Chapter, where I am going to refine and substantiate Schatzki's (2006) proposed definition of organizational memory using empirical data.

Concerning methodological advantages afforded by selecting Schatzki (2006) as an interpretative lens, his intrinsically Heideggerian approach to practice view foregrounds embodiment of practices, materiality of work and the situational space within which practices occur (Schatzki, 1997, 2006, 2010, 2012). While I will develop these points in Chapter 5, it is worth noting here why it is worthwhile sensitizing this study to those elements. The embodied view of practices places emphasis on the physicality of the practitioner, which not only grants explanatory space to the body and its experiences of and interactions with the material environment, but also secures the individuality of the practitioner within an otherwise social world of practices (Reckwitz, 2002; Schatzki, 2002). This is methodologically significant, as the primary tool of ethnographic research is the embodied researcher. To come into the architectural practice and immerse oneself into its regimes of activities means, primarily, to undertake an embodied experience of what it is like to be an architect. Consequently, a theoretical lens that allows for understanding of embodiment in the workplace is highly beneficial.

With regards to the materiality of work, one of the points of mutual agreement among the scholars adherent to the practice-theoretical approach is that practices are materially mediated (Nicolini and Monteiro, 2016; Nicolini, 2012; Schatzki, 2002, 2012). Much previous research into organizational memory, as was outlined in the review above, places a degree of emphasis on the role materiality plays in facilitating this organizational characteristic. Research further afield also recognizes the importance of materiality to organizational life and work (e.g. Latour, 2005). My own work on boundary objects (Kravcenko and Swan, 2016) highlighted the overarching effect of material objects on the way individuals engage in collective work. It is thus appropriate to sensitize this study to the materiality of work by drawing on Schatzki's (2006) thoughts about organizational and practice memory.

Finally, an interesting point of view afforded by Schatzki (1997, 2002, 2006) as a theoretical choice for this thesis, is the conception of the practice as the site of the social. This is a philosophical position that situates practices within social activities and social activities within the material practices. It is particularly intriguing with respect to organizational memory, as Schatzki's approach, developed from Heideggerian

philosophy, gives space for distinct practices to cause distinct memories, even within the context of the same organization. To the best of my knowledge, such flexibility is not currently well-developed in any of the fields concerned with collective memory.

### 3.2 INTRODUCTION TO KEY PHILOSOPHICAL ISSUES IN STUDYING ORGANIZATIONAL MEMORY AS A PRACTICE

Philosophical foundations underlying research into organizational memory are not discussed as frequently as they, perhaps, ought to be given the abstract nature of the concept (notable exceptions are Schatzki (2006) and Luhmann (1997, 2012)). Because a key area of concern for empirical inquiry is how to operationalize this abstract concept, the two should not come at the expense of each other and a sound and coherent philosophical underpinning should really be articulated where something as intangible as organizational memory is concerned (Bacharach, 1989; Sandberg, 2005). Additionally, a sound philosophical foundation provides something of a semantic vocabulary for the benefit of the reader, clarifying linguistic concepts and meanings and allowing for further development by subsequent scholars (Alvesson and Sandberg, 2011, 2013).

While it may be less important to delve into philosophy when the object of study is tangible and/or readily observable (i.e. out there in the world for all to see), organizational memory does not afford such unmediated access to itself. In fact, organizational memory affords no unmediated access to the researcher. While the definitions vary (see Chapter 2), organizational memory is most akin to a relation between information generating processes and practices and a temporal collocation of people and objects. It is a conceptual construct and must be considered as such. The issue is further compounded by the very real possibility that as far as direct enquiry is concerned, organizational memory is not likely to be found to exist in an unambiguous way. What is it then? As I have briefly mentioned in the preceding Chapter, organizational memory has been used first and foremost as a metaphor to account for the apparent continuity of particular organizational processes that resemble characteristics normally attributed and experienced by humans through their individual memories. More

specifically, these processes centred around 1) ability of organizational members to build on the work performed in the organization in the past and 2) continuity through time in organization despite change in their constituent parts (individuals, artefacts and spaces). To this end, organizations were endowed with the ability to recall previous experiences and information, simultaneously granting them quasi-independent information-processing properties characteristic of human cognition or mechanistic information-processing.

Organizational memory as a conceptual construct raises a number of issues to be addressed in order for a meaningful discussion and investigation to ensue. These issues have been surfaced from the literature review at the end of Chapter 2:

- **What is ‘organizational memory’ a conceptual construct of?** In other words, which organizational phenomenon is being explained when the term is used.
- **What is the subject of memory?** Is organizational memory a conduit for information, knowledge, experiences or some combination of the three? This depends on how the three are to be defined, but as I have briefly outlined in the previous Chapter, the distinction between information and experiences can be roughly traced along the lines of memory as a repository versus social memory. Knowledge can present yet another dimension here when it is understood beyond the traditional ‘true, justified belief’ definition (Tsoukas and Vladimirou, 2001).
- **What is the location of organizational memory?** Is location the function of pooling individual memories, as is the case with the transactive memory systems, or is it literally ‘in the organization’. Following from the previous point on the subject of memory, this issue bears significant methodological consequences to any empirical study of organizational memory. In a basic sense, if, on the one hand, organizational memory is to be taken as a form of collective application of individual memories, then people become the focus of study; if, on the other hand, organizational memory is to be taken to be in the organization proper, then things such as ICT’s and data repositories take centre stage.
- **What is the role of organizational memory in the organization?** This concerns such questions as whether organizational memory is a supportive capacity to

learning and competing, a central driving and defining force that makes an organization what it is, or is it simply a record of past events.

- **How is time to be thought of?** Because organizational memory, indeed any kind of memory, is meaningful only in conjunction with time, a clear understanding of the nature of temporality is important. For instance, attribute/atomism theories of the kind I outlined in Chapter 2, rely heavily on the Newtonian understanding of time, which allows information to be embedded in a 'time capsule' repository and carried forward unaltered until such a point in the future when it may be required once again. Conversely, the understanding of time common across substance/holism theme is closer to the 'lived time' approach. This perspective allows phenomenal and social experiences to shape both the content (by means of alterations) and meanings (by means of interpretations) of that which is to be remembered; as well as perceived chronological durations (Bluedorn and Denhardt, 1988; Liebenau and Lee, 1999; Kravcenko and Morrell, 2015).

The issues highlighted above represent broad categories each of which can be further subdivided into a number of subcategories and sub-questions. They have been arrived at following literature review in Chapter 2. Insofar as the scope of this thesis is concerned, these questions underpin the key methodological challenges. The thinking that went into these questions was also instrumental in deciding on the onto-epistemological position of this study. Most importantly though, it highlighted distinct anthropocentrism permeating existing literature on the subject

Traditional onto-epistemological approaches to the study of management do not fare well in answering the above questions without reverting to either a strongly naturalist or a highly relativist position. On the one hand, in using the term naturalism I refer to the tradition within social sciences that expects the study of the social to resemble the study of subjects such as physics or chemistry - where the whole equals the sum of its parts. Note that while such an approach is inherently positivist, it does not mean that every positivist approach is inherently naturalist. Positivism properly understood is a philosophical position geared towards observing fundamental laws and principles of the phenomenon under study. In a broad sense positivism is a rejection of metaphysics, a

conviction that all knowledge is derived from empirical research of the commonly accessible phenomena. As such, it can very well be applied to interpretative as well as, if to a lesser extent, phenomenological research. This thesis too draws on a positivist philosophy in a very basic sense, albeit diverges from it considerably in a methodological realm. On the other hand, in using the term interpretivism I refer broadly to social constructivism and subjectivism, both of which, when taken to their limits, result in relativism of varying amplitude (subject to unit of analysis). Interpretivism, commonly understood, is a general term for neo-Kantian opposition to the application of naturalist research methods to the social realm. On an onto-epistemological level, however, interpretivism differs little from subjectivism with distinction being that interpretivism requires there to be something to be interpreted, while subjectivism leans towards solipsism.

In order to illustrate how this works with regards to organizational memory, I shall consider the recent work of Anteby and Molnar (2012) who called for integration of organizational memory with organizational identity. Their argument, that identities construct memories (also Nora, 1996), also carries with it an implicit assumption that a way of thinking alone determines the content of (and access to) organizational memory. Accordingly, this means that organizational memory is a choice of the subject of thereof; whether a choice of interpretation or an effort of cognition. What this means is that, according to Anteby and Molnar (2012), two mutually exclusive aspects follow: 1) that organizational memory is holistic and accessed by means of particular ways of thinking about it (i.e. transcendental approach), and 2) that organizational memory is a product of individual consciousness only. In other words, is organizational memory something (note the reference to a static 'thingness') individuals partake in, or is it entirely in individuals' minds? Neither is particularly helpful in delivering a coherent set of answers to the philosophical issues of organizational memory outlined above because, in the case of the former, existence of organizational memory is speculative and, in the case of the latter, unmediated empirical access to individual cognitions is not possible. In a similar manner, much of the literature adopts a pragmatic approach infused with elements of either interpretivism or subjectivism (or both) to explain and describe effects and properties of those characteristics of individual memories reflected in collective



processes. While, as I have mentioned before, this results in some fascinating social science, adopting a pragmatic approach to a phenomenon as broad and poorly defined as organizational memory does limited justice to it.

A different way of thinking about organizational memory and its constituents is by observing what does organizational memory mean to those concerned with it directly. Numerous studies have shown that organizational memory, defined as per their respective modes of inquiry, either constitutes an organization by means of culture or identity, or is a major asset of it in terms of providing knowledge-based competitive advantage (or a limitation where it is faulty – see Chapter 2). There are, of course, significant differences between the two, but the two things all the scholarship on the subject agrees on is that individual organizational members (i.e. people) have the ability to access organizational memory in one way or another, and that organizational memory is a way to bring the past to bear upon the present and/or future of collective organizational work. Because individuals have access to organizational memory, either as a resource or as a collective accomplishment, they (we) are a natural focal point for a study of organizational memory. Such study, however, need not take the much critiqued here anthropocentric model, where collective memory is modelled on individual memory. Instead, it can take a phenomeno-centric approach, where organizational memory is studied in so far as it appears as something meaningful to those concerned with it.

### 3.3. PRACTICE THEORY ANCHORED IN THE PHENOMENOLOGY OF MARTIN HEIDEGGER

An ontological position well suited for considering social phenomenon through the perspective of meaning is phenomenology. In this work I will adopt phenomenology of Martin Heidegger, outlined in a series of lectures preceding and following the publication of *Being and Time* (1926/1978), as well as in the book itself, as a guiding ontology. Heidegger is one of the most prominent philosophers of practice, having drawn attention to a deeply fundamental way in which individuals make sense of activities and materiality

(Braver, 2013; Sandberg and Tsoukas, 2015). To achieve an empirically grounded understanding of how organizational memory, as a phenomenon, is experienced by those concerned with it, I will draw on the post-humanist variety of practice view grounded in the philosophy of Martin Heidegger (e.g. Schatzki, 2002, 2006, 2012 and Nicolini, 2011, 2012). I will operationalize this thinking into research I by means of phenomenologically-infused ethnography. In this section I will describe what that entails, what Heideggerian phenomenology is, as well as how it is different from phenomenology traditionally understood (i.e. following Husserl (Husserl and Welton, 1999)).

Phenomenology is traditionally understood as the study of structures of consciousness as experienced by the individual. Individual experience is structured around intentionality in being directed at something it is an experience of. This directedness is a function of the experiential content or meaning - which represents the object - combined with appropriate enabling conditions for it (Husserl and Welton, 1999). Such phenomenology is geared towards answering the question of 'how and why am I predisposed to experiencing things/events in a particular way' (for a detailed discussion see Holt and Sandberg, 2011).

By contrast, Heideggerian phenomenology rejects the role of consciousness in the human experience, arguing that the focus on consciousness is misleading (Dreyfus, 1991). It is much closer related to the idea of intersubjectivity than traditional phenomenology, where the primary concern is with cognitive experiences and schemas of individual agents (Sandberg, 2005). The reason for this is because inclusion of the concept of consciousness in the phenomenological process inevitably generates a subject-predicate dualism that separates individuals from their environments and, indeed, from themselves. Where consciousness is part of phenomenology, experiences and meanings become the objects of consciousness (thus reverting to subject-object dualism). Because the purpose of phenomenology is to analyze human experience in absence of subject-object dualisms, Heidegger believed that using the concept of 'cognition' was not only irrelevant but also counterproductive (Braver, 2013).

Heideggerian phenomenology, while difficult, concerns itself with very concrete human experiences. Following the outline of the world as per the terminology above, the following picture emerges:

- Individuals care about their efforts and prospects;
- Accordingly, they do their best to interpret, construct and understand the world they find themselves in;
- Part of that activity involves putting the world to use in order to accomplish the aims and goals individuals care about, whether directly or indirectly;
- As individuals put the world to use as equipment, they engage in learning and knowing;
- Such learning and knowing, however, is largely shaped by where in the world they find themselves in.

Such characterisation of the human experience is not uncommon, especially within the broad spectrum of practice view where matters such as social order, knowledge, institutions, identity and power result from, and transpire through, practices and their configurations (Nicolini, 2012). However, as Dall’Alba and Sandberg (2014) duly note with regards to how particular studies make use of the practice view, it is not uncommon for philosophy and application to diverge at the point of methodology when it comes to empirical data collection and analysis. Drawing on the work of Heidegger, with its emphasis on the holistic aspect of human experience, is thus further appropriate in order to maintain integrity between philosophy, methods and analysis.

### *3.3.1 Applying Heideggerian phenomenology of practice to the conceptualization of organizational memory.*

In terms of answering the key methodological questions of researching organizational memory based on the practice-theoretical perspective, Heideggerian phenomenology provides the following answers. These answers represent the boundaries for the thinking

in this work, just as they were identified to form the boundaries of thinking during the review of literature in Chapter 2.

**What is 'organizational memory' a conceptual construct of?** While Heidegger does not explicitly write about organizations, collectives or the memory of either, he does mention individual memories. Because the exploration of organizational memory must begin with the concerned individuals, this is sufficient. According to Heidegger, memory, in its original sense, is not just a thinking or recalling of past events - it is a thinking about what one is engaged in simultaneously with thinking of past, future and now. In light of Heidegger's preoccupation with the question of Being, this means that individual memory is a thinking about work compounded by thinking about individual experiences and aspirations which impregnate this work with meaning (or lack of thereof).

However, despite such thinking being performed by individuals, the environment within which it occurs is not individual. Thinking about work is largely external, being subject to the objects and materiality available to the individual. I shall refer to this as first-order thinking. Thinking about experiences and aspirations is the thinking of work that has generated meaning previously. Such thinking, a second order thinking, is what shapes the sensitivity of individuals to find certain objects and event meaningful. The two things combined generate a state of heeding that which transpires in the present. Memory is then a situation that humans inhabit - it is a form of activity.

This is a crucial point from which I can depart to understand the relationship between individual memory and collective memory. Because individual memory is an activity performed within the allowance afforded by the environment (i.e. materiality) of where it is performed, both the individuals and the organizations share the environment in common. Thus, the question of what organizational memory is a construct of, is answered in terms of environments conducive to activities of memory, which are of concern of the organization/collective. In other words, organizational memory may be understood as a function of the environment of work. The notion of concern is a cornerstone of Heideggerian philosophy and of Schatzki's (2002; 2006; 2012) interpretation of practice

view within organization studies domain. Here I prefer the term 'meaning' to 'concern', but the two can be used interchangeably unless otherwise specified.

**What is the subject of organizational memory?** In the existing literature the subject of organizational memory can be broadly characterized as tools. With the exception of transactive memory systems, where the subject is a group of individuals, organizational memory is described in the context of either the technology that facilitates or inhibits preservation of knowledge through time and space, or in the context of stories and other such methods that assist in constructing and maintaining a particular interpretative lens (organizationally desirable or otherwise).

On the other hand, considering the subject of organizational memory from a phenomenologically inspired practice theory, such as the one broadly proposed by Schatzki (1997; 2002; 2006; 2012) on the basis of Heideggerian philosophy, is misleading because of the rejection of Cartesian dualism. Individuals exist in the world amongst the things in the world, and the relationship between the two is recursively emergent. An Aristotelian concept of hylomorphism may be useful in giving better form to this particular matter, so to speak (Normore, 2007).

Hylomorphism postulates that the separation between subject and object (the inner and the outer) is negotiated through form. For Heidegger, form is understood as substantial form - that which makes matter (objects) intelligible to individuals (subjects) through activity of using equipment in the world (morphism). Thus, the subject-predicate distinction so readily available in the current literature on organizational memory transforms, in light of Heideggerian view of practice, into a holistic activity of making sense of the work through using objects (note that this is not to be understood as a technical term 'sensemaking' (Weick, 1995)). The subject of organizational memory, to return to the initial question, is work.

**What is the location of organizational memory?** In Chapter 2, I outlined what are some of the locations organizational memory has been observed to inhabit. Walsh and Ungson (1991) have done a particularly good job of identifying the 'retention bins' where

organizational memory of different kinds may be found. Casey and Olivera (2011), in their literature review, suggest that the discussion of location of organizational memory shifted from organization to process in the early 2000's. The qualification of these processes ranged from people interacting with one another (Corbett, 2000) to the more contemporary theory on organizational routines (Feldman, 2000; Feldman and Pentland, 2003). Much of this work, however, resembled what Schwartz (2005) referred to as commemorative symbolism - a coming together of individuals to identify and shape patterns from organizational memory in order to meet the needs of the present.

**What is the role of organizational memory in the organization?** Existing literature, as was highlighted in Chapter 2, frequently emphasizes utility as the major role of organizational memory in organizations. The qualification of utility largely depends on whether a study follows the 'memory as an attribute' tradition as set out by Walsh and Ungson (1991), or the 'memory as a substance' tradition that largely follows the work of Halbwachs (1992). Either way, there is something that organizational memory is meant to accomplish, be it competitive advantage via a resource route or organizational cohesion via the organizational culture or identity route.

Within Heideggerian philosophy the role of organizational memory is more akin to 'Aletheia' and/or 'Clearing'. Organizational memory, as all else that human beings concern themselves with, is an activity. However, it is different from most other activities by not being directly concerned with any specific end. This is because organizational memory is not a type of equipment but, as Heidegger would put it, a type of Clearing. Because organizational memory is both intangible and, as a generality, interpersonal it is neither ready-to-hand nor present-at-hand; rather it is a different way in which work can present itself in organizations.

Consider a situation depicted by the image below (Figure 3.1). This is a photograph of myself and a Senior Architect taken by another Architect while visiting a building site of Case 1 on an early morning. On the surface level this is no more than a photograph of two people, one of whom is wearing a reflective vest with a logo of a construction company (blurred for anonymity). In other words, this is meaningless without further information.

If one were to know my role and activity at the time the photograph was taken, a memory of ArchitectureCo as an organization that partook in a scientific study may begin to emerge.

If one were to continue with investigating the picture beyond that and were find a report and two presentations that I compiled for ArchitectureCo, one may begin to build competitive advantage based on very specific and very in-depth information contained in those artefacts. Hypothetically, my findings and suggestions about the role of objects and power contained in those artefacts could be built upon to develop novel (to ArchitectureCo) procedures and practices for knowledge-sharing. This could constitute competitive advantage and the photograph could become part of it within the organizational memory.

A hypothetical situation such as this, describing main existing approaches to organizational memory (very generally), would be considered quite differently from the standpoint of Heideggerian phenomenology of practice. Assume all of the above to hold true and consider that organizational memory as 'not-equipment' practice would look like. Emphasizing the importance of 'meaning' to Heidegger, a person finding the photograph above would partake in performing organizational memory if: 1) the image was meaningful to them in any, even the most irrelevant, way, and 2) they would engage in organizational work (i.e. work towards organizational purposes) as a result. Thus, a person finding this image but having no knowledge of any people in the photograph may get inspired by the way a metal pole barrier is set up to follow the red brick road, for example, and implement such a design feature in whatever hypothetical project they may be working on at that point in time. The reason why such a hypothetical chain of events would constitute organizational memory is threefold: 1) the individual in question is part of the organization (i.e. Being-in-the-world, Thrownness, Aletheia); 2) s/he is using equipment esoteric to the organization (i.e. Equipment, Present-at-hand, Ready-to-hand; Thrownness); 3) the resultant activity is for the sake of organizational purposes (i.e. Care; Clearing).



**Figure 3.1. An example of organizational memory artefact**

By placing an emphasis on primacy and emergent nature of meaning combined with Thrownness, Heideggerian phenomenology of practice does away with one persistent paradigm found in all of current literature on organizational memory - that which has been memorized has to keep a direct link to that which is to be remembered. Such an algorithmic perception of the role that individuals play in collective action prevents development of more complex theory of organizational memory. There is no demonstrable reason why objects and equipment, concepts and information circulating around the organization has to bear something like a one-to-one relationship to the meaning it is impregnated with; it is certainly not how actual human memory or experience works (Parkin, 1997).

**How is time to be thought of?** Time and temporality is simultaneously a key and a disposable concept in the research on organizational memory. It is the former because no conception of memory (or practice, for that matter - Hernes, 2014; Sandberg and Tsoukas, 2015) is meaningful without time, and it is the latter because it is extremely difficult to present anything but a linear narrative in the form of an academic text. Nevertheless, time is not to be swept under the page, so I will take the time to describe what a theory of time consistent with the Heideggerian phenomenology of practice would



look like. It will then be up to the reader to, very kindly, keep this notion in mind while reading the remainder of the work.

Time, as a concept, can provide a useful backdoor to understanding memory. This applies to both existing literature and to this thesis. For instance, the two common perspectives on time, Newtonian time and lived time, can be neatly correlated to the two main perspectives on organizational memory – memory as an attribute models that resemble and/or follow Walsh and Ungson (1991), and memory as a substance interpretations that resemble and/or follow Halbwachs (1992) and Olick (1999).

In the case of the former, memory is an attribute of the organization that is carried forward through linear time until such point that it can be deployed for the benefit of organizational goals. In order for this to be so, two assumptions have to be in place: 1) linear uniformity of time independent of anything else, and 2) memory can be embedded into some form of materiality, which, in turn, can occupy a space in time (Lee and Liebenau, 1999; Starkey, 1989). Interestingly, this view of time is so firmly entrenched in management thought far beyond matters of memory that it has been the basis for scientific management of F.W. Taylor and his followers. Indeed, whether it is the repository model, the transactive memory systems model or the codification model popular in ICT area, the requirement for an objective, chronological time is satisfied when used in concert with theory of organizational memory – the two are inseparable as there could be no organizational memory as an attribute if there would be no possibility to preserve the attribute from morphing through time and associated change (Bakker et al., 2010; Bluedorn and Denhardt, 1988).

Lived time, on the other hand, is prevalent in approaches to organizational memory as a substance (Rowlinson et al., 2010). Time there is seen as something subjectively or intersubjectively experienced (Costas and Grey, 2014; Crowell, 2001; Jaques, 1982; Hernes and Maitlis, 2010; Luhmann, 2002; Ricoeur, 1980; Schutz, 1967) and can be seen as defined by, and through, the human experience (Lee and Liebenau, 1999; Adam, 2000). Where linear time leaves the past behind and the future ahead (hence ‘linear’), lived time brings both into the present (Schutz, 1967; George & Jones, 2000). Living involves a deep

unity of past, present and future (Emirbayer and Mische, 1998; Ricoeur, 1980); or even a transcendence of these categories (Heidegger, 1978; Sartre, 1973). Temporality appears to be an intrinsic property of human consciousness (George and Jones, 2000), and individuals appear to be hard-wired to make sense of their existence in temporal terms, locating information and knowledge in relation to the flow of time (Schutz, 1967). On this basis, aspects of organizational memory including, but not limited to, stories, myths and culture build an argument for memory as an interpretative lens rather than hard fact. In very general terms, organizational memory is a particular way of interpreting work and associated information developed by means of organizational history (subject to manipulation by powerful agents).

The distinction between linear and lived is more of a continuum than a dichotomy; and so provides space for interplay between attribute and substance. Nevertheless, such continuum is still severely restrictive, especially for understanding of the role of objects and materiality. For instance, how is it that codified and stored knowledge (in memory) may become unintelligible or ineffective at the moment of retrieval even if all other things in the organization remain the same? Similarly, what is the relationship between time and things as far as lived time is concerned? Are the objects of work to be found in the experience of subjects, in their inter-subjectivity or in the environments they experience? First two options point towards a deep constructionism which, in itself, presents significant difficulty to anything like collective memory in all but the most abstract sense (Zerubavel, 2003); and the last option suggests transcendental idealism of the Kantian variety (where objects in the world are perceived through intuition but never directly as-themselves).

In either case, the role of material objects in facilitating organizational memory through either linear time or within lived time has not received much attention in the literature. Organizational memory as an attribute brings information (in form of capabilities and/or knowledge) to the fore and organizational memory as substance (conceptualized through stories, culture, etc.), emphasizes conscious agents. Both are fundamentally anthropocentric in the understanding of time and relationship between time and organizational memory.

An alternative perspective on time, one rarely given much attention in the literature (not least due to its complexity) but one that substantiates my empirical observations with theory best, is a view of time as made up of events (Whitehead, 1929). For Whitehead, events are the building blocks of reality and, as such, they are composed of what is normally understood as objects. As Whitehead writes:

*An object is an ingredient in the character of some event. In fact, the character of an event is nothing but the objects which are ingredient in it and the ways in which those objects make their ingress into the event. Thus the theory of objects is the theory of the comparison of events. Events are only comparable because they body forth permanences. We are comparing objects in events whenever we can say, 'There it is again.' Objects are the elements in nature which can 'be again.'* (Whitehead, 1920: 143-144)

Not only does Whitehead suggest that time is fundamentally made up of materiality, he also makes a direct reference to memory-like characteristics of both objects and time by suggesting that objects 'can be again'. To be sure, objects themselves do not constitute experience of time, rather individuals in-the-world achieve experience of time through, and by, interacting with objects. That being said, events (and objects) are neither fixed nor static – they are interdependent units of experience in the process of becoming.

It is the characteristic of becoming of events that allows me to draw on Whitehead's theory despite a broadly Heideggerian orientation of this thesis. Heidegger's conception of temporality, as complicated it is as it is interesting, is of limited use on a collective level because of profound emphasis on personal experience. Through the process of becoming, however, Whitehead's 'events' allow for compatibility with this works ontology in a number of areas but most significantly in the attitude to how individuals relate to their world.

In both philosophies individuals emerge from the world as opposed to the world emerging from individuals, as is the case when looking at it through the linear or lived

time lens. Such shift of emphasis, as well as object-centred interpretation of time, goes a long way towards helping to account for why organizational memory-like processes that I observed resembled instances (or junctions) rather than continuities (Sandberg and Tsoukas, 2015). Even more than that - why the instances were not necessarily consistent in both chronology and locality, which is something that would be reasonably expected from traditional approaches to the study of organizational memory.

### 3.4. A CLOSER LOOK AT THE TELEOLOGY OF PRACTICE

Schatzki's (2006) brief conception of organizational and practice memory considers organizations as sites where work practices are brought together with material arrangements. When combined, the two form episodes, or 'happenings' of practice (p. 1864). As practices are re-enacted in the organization by means of what Schatzki (2006) refers to as teleological structures, they also persist from the past into the future. Organizational memory ensues as long as practices are enacted within the material arrangements of present in an organization. It is thus an aggregation of all practices performed within an organization and, by extension, of memories of all performed practices.

Elaborating on how organizational memory as an aggregate property of organizational practices looks like, Schatzki (2006) proposed that organizations enact organizational memory by means of 'the complex of actions, thoughts, experiences, abilities, and readiesses' (ibid: 1870). This five-point definition is what I will be evaluating against the empirical dataset here. Accordingly, organizational memory as a practice may consist of the following:

**Actions:** this refers to organized sets, or regimes, of doings and sayings (Geiger, 2009; Whittington, 2011). As individuals in organizations enact work practices, actions are the basic manifestations of 'performative understanding of reality' (Latour, 2005). In other words, individuals only do what is intelligible, so by performing regimented activity individuals engage in particular understandings

of the world, work and other practices around them. In organizations this is, in part, evident through specialization of skills and division of workforce into specialisms;

**Thoughts:** Schatzki (2006: 1869) positions 'thoughts' as negotiations among practitioners about what constitutes a 'good practice'. This is a normative dimension of organizational memory because thoughts, in this understanding, enact organizational memory by keeping the actions of practitioners '*appropriately regarded as answerable to norms of correct and incorrect practice*' (Rouse, 2001: 190; also Shotter and Tsoukas, 2014);

**Experiences:** the exact meaning of 'experiences' with regards to organizational memory is not entirely clear. It seems that this has to do with where individual practitioners are relative to their peers in the mastery of the practice (Lave and Wenger, 1991; Schatzki, 2002). If so, this dimension also entails coordination of practices along the demarcations of knowledge-based expert power (Hsiao et al., 2012; Kravcenko and Swan, 2016). Alternatively, experiences may refer to socialization of individuals into particular practices;

**Abilities:** this refers to knowledge of how to do something. In a narrow sense it seems that ability is a faculty of an individual that allows repeat performance of particular actions. In a broader sense ability might entail knowledge in general - of how to do things, of how things should be done (i.e. thoughts) and of what to do things with. In regards to the latter, this would involve knowledge of the material world and of which parts of it can be used and in which ways (Gherardi, 2006; Heidegger, 1978; Orlikowski, 2010);

**Readinesses:** related to abilities but with reference to anticipation (Nicolini, 2009). In a sense, practitioners are always anticipating the practice they are performing (Shotter, 2006; Sandberg and Tsoukas, 2011). Closely related to the phenomenological idea of protention (Merleau-Ponty, 2005), readinesses of practitioners can be understood as related to their abilities to enact organizational memory.

It is also worth noting that, regarding the context for these five characteristics of organizational memory, Schatzki (2006) appears to be considering organizational

memory in terms of historical realism. Past enactments of practices that constitute an organization, of which organizational memory is a register of, are seen as trajectories into the future. While the future in this case can consist of multiple potentialities, the past does not appear to be subject to change and re-interpretation (or this is not seen as a relevant issue given anticipatory nature of practices). With reference to the more traditional thinking about organizational memory in management (i.e. following Walsh and Ungson, 1991), such a view is in contrast to that of past and memory as a manageable attribute of the organization (see Chapter 2 section on 'Organizational memory as an attribute'). What follows from this is the reduced importance of past events that are re-classified as actualized anticipations.

Where previous work portrayed the temporal aspect of organizational memory in linear terms - focusing on either bringing the past into the present or interpreting the present through the past (see Chapter 3) - practice memory considers organizational memory to be recursive, which, rather paradoxically, renders it future-oriented. While Schatzki (2006) does not consider this in depth, he does mention that individuals strive towards what they perceive as important and significant out of the past and into the future. This holds true for both organizational memory and for practice memory.

### 3.5 SUMMARY

This chapter has set out a foundation for further empirical investigation of organizational memory from the practice-theoretical perspective. Resting on the ontological and epistemological foundations of Heideggerian phenomenology and Whitehead's view of temporality, this chapter built on, and expanded beyond, Schatzki's (2006) brief outline of what organizational memory as a practice may look like and work as. While Schatzki (2006) provided some intriguing insight via his essay on organizational memory as a practice, such as the inclusion of a distinction between practice memory and organizational memory to which I will pay continuous attention throughout the empirical chapters, he did not present a coherent qualitative investigation of how, or why, organizational memory considered through the lens of practice would work the way he argued it should. Fundamentally, this approach differs little from the

anthropocentric bias presented throughout Chapter 2, and so Schatzki (2006, 2012) still leaves much to be desired in terms of building explanatory theory.

Following the next Chapter, where I am going to present and discuss methods for this study, the remainder of the thesis is going to go beyond existing work on organizational memory as a practice in order to derive empirical foundations, principles and patterns of how mundane activities of individuals and groups of individuals result in temporal assemblages that display characteristics similar to those of what cognitive memory, as is commonly understood. That being said, building on Schatzki (2006, 2012) does provide a valuable point of departure with respect of what to look for in the empirical setting, which is how the initial stages of this study are going to proceed (Chapter 5) before departing and detaching into an independent qualitative investigation informed by the principles outlined in this and the next Chapters.

# Chapter 4

## METHODOLOGY

### 4.1. INTRODUCTION

The research question driving this thesis demands rich data of the type that can assist in identifying contextually specific factors and which is drawn from the experiences and actions of those most concerned with organizational memory - employees. Such data needs to be processual, meaning that it needs to be able to demonstrate how activities, processes and materiality exist and persist over lengthy periods of time. The methods adopted in this research strive to account for all of these desired features. This research adopts an in-depth embedded case study approach (Yin, 2009), involving the collection of longitudinal data on memory-like processes and actions within an architectural practice, and two projects in particular, over a period of 15 months. This time-frame is further augmented by five years of archival data recovered from the organization's records.

This chapter gives details of the units of analysis, provides detail on the philosophical footing critical to the proper understanding of the findings, justifies the research approach and design, and explains the process of data analysis. Considerations for ensuring the validity and reliability of the findings are discussed and the main method - ethnography - is elaborated upon.

#### *4.1.1 The units of analysis*

An embedded case study design refers to an activity of gathering contextual data at multiple levels in the organization, all the while maintaining focus on the primary unit of analysis (Eisenhardt and Bourgeois, 1988; Yin, 2003). The primary unit of analysis is the



individual engaged performing organizational memory-like processes. This level is embedded within the second unit of analysis, the organization. The two are further interrelated by a third unit of analysis - material conditions within which they exist. Such three-tier design is operationalized by observing the second and third levels of analysis in accordance with the way they bear (or don't) upon the first (Eisenhardt and Bourgeois, 1988).

By adopting an existential phenomenological approach (discussed below), individuals performing organizational memory are considered to be purposeful agents necessarily embedded in the temporal, material and teleological events attempting meaningful organizational memory practices at work. This research investigates what is it that such practices reveal about organizational memory-like processes and, eventually, organizational memory. The intention is to understand how organizational memory can be comprehended through the experiences of practitioners alone (i.e. without theoretical pre-conceptualizations of what organizational memory ought to be). Accordingly, all data is grounded, to varying extents, in the terminology and vocabulary of the research subjects.

#### *4.1.2 Interpretative process*

It is important to 'reach beyond the surface' when investigating organizational memory. This is because organizational memory is an intangible organizational phenomenon which is not readily observable. Nevertheless, a meaningful investigation demands analytical and theoretical interpretations of empirical data. The data were first collected by documenting the same phenomena from a variety of sources and in variety of situations. Analytical abduction (see below) followed in order that a grounded interpretation of architectural practices could begin to present itself (Denzin, 1989). Following this process, and upon reaching data saturation, an appropriate interpretative framework needed to have been developed in order to gain access to the phenomenological experiences of research subjects.

## 4.2. RESEARCH DESIGN

This section will briefly introduce the empirical case (ArchitectureCo) and explain, in detail, the process of negotiating access. It will then continue to describe how data was collected, from which sources and using which methods, as well as how it was analysed and what ethical considerations were in place.

### *4.2.1 Introduction to the empirical case*

Empirical research took place in the context of an architectural practice, referred to here as 'ArchitectureCo' for confidentiality reasons. In this section I will first discuss the merits of conducting research on organizational memory within architecture and introduce ArchitectureCo.

#### *4.2.1.1 Why research architecture?*

Architecture was chosen as a setting of particular interest for two reasons. First, architecture is a distinctly institutionalized field dating back to first century AD (Fletcher, 1987). In the UK, a professional association for architects, the Royal Institute of British Architects (RIBA), has existed since 1837 with the intent to set and develop standards of practice, to advise on rules and to generate new knowledge. A strong degree of institutionalization is a form of practice memory in its own right. This suggests that architecture as a profession is at the very least predisposed to operating with some kind of organizational memory at its foundation. Second, architecture is an inherently project-based environment. All of the work is structured around specific and, oftentimes, largely unique contracts.

This latter point is noteworthy for two further reasons. One, building design projects, especially the larger ones, consist of spatially and temporally distributed project-based organizations assembled from smaller projects (Grabher, 2004; Whitley, 2006). In such settings, multiple nexuses of interdisciplinary work along both vertical and horizontal axis of organizations bring diverse specialists from creative and technical areas to

collaborate together on temporary basis (Boland, Lyytinen, and Yoo, 2007). In terms of organizational memory, a setting such as this provides an excellent space to investigate how organizational memory really is. Two, in the present literature project-based organizations are notorious for having a faulty organizational memory (e.g. Bartsch, Ebers, and Maurer, 2013). In other words, project-based organizations are a challenging environment for majority of existing theoretical approaches to organizational memory. For this reason, it is all the more appropriate to launch a re-evaluation of organizational memory in a setting where established theory struggles to find its footing. This is because, on the one hand, theories exist to offer an understanding of the setting for experience (Llewelyn, 2003); but, on the other, much of existing work on organizational memory does not provide for an empirically consistent explanation of organizational memory beyond a monolithic organization.

#### *4.2.2 Introduction to ArchitectureCo*

**ArchitectureCo** is a medium-large, award-winning architectural practice situated the United Kingdom. Established in the late 1960's, they have played an important role in the region where they are situated, not only designing some of the city's most prominent buildings, but also contributing to architectural education, architectural associations and popular awareness of buildings and other such spaces.

At the time of the study the practice employed around 60 full-time staff (Figure 3.2), all collocated in a single open-plan office. The nominal working day lasted from 9:00 to 17:30, but quite a few of the staff would remain at work for a few hours after that. The legal structure of ArchitectureCo was a limited partnership composed of four main Directors, each responsible for a working group of architects as well as for a managerial function. They were aided by six Associate Directors who would partake in the day-to-day management of the practice, and six Senior Architects, who would perform duties similar to those of project managers. There were eight administrative staff to look after most operational issues and manage accounting, marketing, IT and secretarial duties.

Architectural staff was organized around four working groups that were broadly focused on workplace, education, housing, culture and community. Depending on the concurrent workload, the composition and quantity of architects in any one group would vary and it was not uncommon for staff to travel between groups, although this was not a frequent occurrence due to the long-term nature of architectural work.

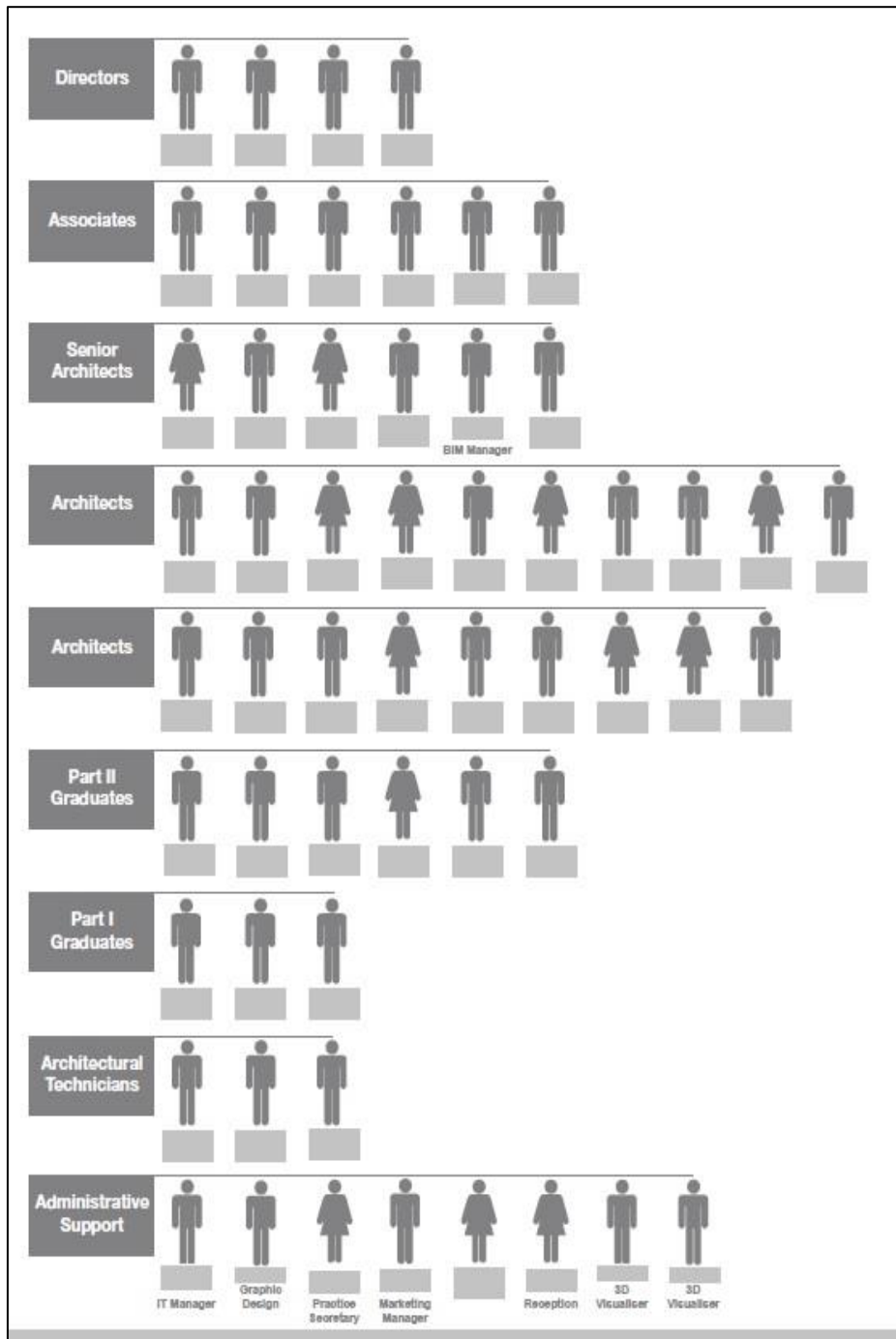
The office within which the practice was situated was of open plan, semi-hot desk design. What this means is that all the workstations critical to performing architecture were co-located in a single open space, but no one person (including Directors), had assigned desks. Each workstation comprised of a large desk, an iMac with a standard software suite, and a cordless telephone that was digitally linked with whichever account was signed in on the iMac. In theory, this meant that on any given morning any one architect could have sat wherever they would wish. In practice, however, architects occupied specific desks on semi-permanent basis subject to which people they were working on a project with at the time. In any case, there were more workstations than personnel at the time of research, so seating arrangements were not contested. The only exceptions were a handful of specialists whose work depended on specific computing requirements. These included visualizers, IT administration and secretarial staff.

Architectural work is inherently interdisciplinary. This characteristic of it is further beneficial to the research into organizational memory because such inherent interdisciplinarity of architectural work should provide a good analytical space for observing the interaction between practice memory and organizational memory (Schatzki, 2006). The main object of architectural work is to resolve a design problem, usually posed by the client. In doing so, architects collaborate with various types of engineers, consultants, suppliers and other relevant professionals. While the scope of the collaboration may vary depending on the role assigned, architects normally perform critical functions and, thus, command a significant amount of expert knowledge. On majority of 'typical' projects - where a structure is designed by the architect and constructed by the building contractor - architects also fulfil the function of administering the contract. This means that, in addition to design duties, architectural professionals

would ensure that the building that was being built was as close to what the client commissioned as possible.

#### *4.2.3 Negotiating access*

An empirical investigation of organizational memory is inevitably going to be an intrusive affair. A generous degree of access is thus required because organizational memory is at the core of what an organization is and/or does. Therefore, on a practical level, it is very important to select an organizational setting that could adequately reflect organizational memory-like processes to the researcher in a reasonable amount of time allocated to empirical work. As I described above, architecture fulfils such requirements well due to its project-based, knowledge intensive and highly institutionalized nature. Simultaneously, gaining access to architectural work is difficult because of how close clients can be involved with the practice as well as because of considerable financial, safety and regulatory interests associated with designing and constructing buildings. Such considerations must, therefore, be given attention before embarking on ethnographic, or ethnography-like, research of commercial architecture.



**Figure 4.2. Official organizational structure of ArchitectureCo**

Following thorough deliberation with my academic supervisors on where to collect data, we settled on architecture as a suitable site for conducting research on organizational memory as a practice. In order to test whether our assumption and this decision were, indeed, correct I scheduled an informal lunch meeting with an architectural assistant I had very briefly known through my avocational interest in photography. The results of

the lunch meeting were generally inconclusive but intriguing enough to request contact details of one of the directors of the firm s/he worked for in order to learn more about architecture, architectural practice and structure in respect to memory-related aspects of commercial architecture. The phone call led to a meeting where I learned more about the firm, which led to another meeting, with a managing director of ArchitectureCo this time, where I requested, and was granted, provisional access to conduct research subject to a confidentiality agreement.

Permission to collect data has not been obtained for the entire 15 months from the very beginning. The initial period agreed was 6 months. Even though, following the meeting with the managing director, I was granted unreserved access to all areas of the organization, a probation period of 1 month was also put in place in order to test whether me collecting data will not cause unacceptable interference with the day-to-day functioning of the company. It was agreed that access could be easily and unilaterally withdrawn during the probation period should it 'not work for us' (Managing Director I). Fortunately, this proved to not be the case and this study was allowed to continue unhindered.

At the beginning of the sixth month, I approached the Managing Director to see whether we can agree on an extension of equal length. In response, ArchitectureCo have graciously granted access for an unspecified duration of time subject to the existing confidentiality agreement carrying forward as well.

Clearly, gaining access to ArchitectureCo has been a crucial part of this research that cannot be taken for granted. This is because, as Burgess (1984) aptly noted, access is a continual process in research - it is a relationship in which the study is being legitimised by a gatekeeper (Managing Director in my case) to the subject or a group of subjects that may not necessarily know, want, or trust the research and the researcher (Denscombe, 2014; Hammersley and Atkinson, 2007; Murchison, 2010; Whyte, 1981). Relationship is an apt way to describe access to research subjects because even though I had an interest in, and was granted permission to get to know the organization better, the organization did not have permission or much interest to get to know me, in a manner of speaking.

Consequently, much like in an interpersonal relationship where one party is just not interested, I have found myself a stranger at a gathering where most of those present did not even know I was coming. In practice this meant that throughout the duration of the study I would have to (re-)negotiate access and (re-)build trust relationships with gatekeepers other than the Managing Director (Barley, 1995).

The need to continually negotiate and legitimize my presence within the organization, especially for as long as 15 months, to individuals and groups of individuals was undoubtedly helped by the support and company of the Managing Director. It also highlighted how fragile such a relationship can be and how important it was for me to continue investing into it throughout. To be sure, after a period of time employees of ArchitectureCo have grown accustomed to my presence (Barley, 1995) and I even accompanied them to a few social events in a non-researcher capacity. Some research subjects even became informants who would proactively seek to share their experiences and opinions with me (Denzin, 1989). Others, a small minority, would remain distant and unwilling to participate for the entire duration of the study.

Securing access to ArchitectureCo has not been excessively difficult and converged mainly to being honest and trustworthy, making realistic and paced requests and not distracting the employees too much. Securing access to ArchitectureCo's clients and collaborators was considerably more difficult and complex. Negotiating further access to some of the clients, in addition to ArchitectureCo, was necessary in line with the interdisciplinary nature of architectural work.

Gaining access to clients was helped greatly by informants and gatekeepers from ArchitectureCo. They would initially mention me to whomever I needed to agree to participate in the study by phone, email, or in person where possible. I would then be introduced and, every time in the presence of a senior ArchitectureCo employee, describe this research project and the confidentiality agreement by which they would be covered. Quite likely because my presence was quite novel and, in many cases, unprecedented, on more than one occasion I would need to introduce the study multiple times and in different ways. In the end, a combination of legitimacies granted by ArchitectureCo, the



University of Warwick brand and my own person (but mainly the former), resulted in all external parties and clients concerned granting varied degrees of access so that my data collection could proceed unimpeded wherever I would choose to follow ArchitectureCo. To illustrate, a construction company responsible for building the office building extension (Case Study 1) granted me full access to the site, which I have visited independently of ArchitectureCo on several occasions while tracing artefacts of work and memory; while a large University client allowed me to observe, but not keep/produce the artefacts of, a meeting where ArchitectureCo representatives conducted interviews to appoint contractors for a new building project.

In some situations, my presence during lengthy meetings would provide material for humour. I recall a particular senior project manager from an engineering firm referring to me as a 'sketch artist' sitting in the corner and drawing the participants. Similarly, me taking notes would be playfully referred to when an odd unflattering comment would be made about a client or a regulator during meetings.

#### *4.2.4. Data collection*

The initial research design for this study specified an interview-enhanced ethnography and documentary analysis as a method of data collection. Having spent a few months in the field, I decided to abandon formal interviews because the results would likely not have been worth the disturbance caused to ArchitectureCo (something management were particularly sensitive about during access negotiations). Moreover, because I spent significant parts of the day observing and shadowing various individuals, as well as getting to know them and building trusting research relationships, I would be conducting informal interviews as a matter of fact of my being there. Therefore, the need for formal, recorded appointments was considered unnecessary, especially given that there was potential to compromise access through doing so; and ethnography and documentary data remained as methods of data collection.

#### 4.2.4.1 *Ethnography*

Ethnography can be described as a qualitative research method by means of which shared and learned patterns of values, beliefs, behaviours and ways of communication can be identified and described (Harris, 1968). This is done through extended observations and, frequently, through participant observation which allows the researcher to immerse into the processes and experiences of the research subjects (Creswell, 2013). Most crucially to the study of organizational memory as a practice, ethnography allows insight into the meaning of things (Forsey, 2010).

It is worth noting that there are different kinds of ethnographies available to a researcher:

- Early sociological ethnographies of Durkheim (1995) and Weber (1978) that aimed at uncovering, through examination of individuals using ethnographic methods, the wider meaning and understanding of social life;
- Phenomenological ethnography of Schutz (1972), who building on Husserlian phenomenology emphasized the importance of social structures and processes in the structuring of meaning by individuals;
- Postmodernist ethnography of Lyotard (1984) and Stanley (1987), who brought to the fore the implicit (and explicit) authority with which ethnographers structure their stories and suggested a considerably more relativist, value-neutral way of documenting the social instead;
- Post-modernist ethnography of Brewer (2000), Hammersley (1992) and Altheide and Johnson (1998) who, in recovering ethnography from postmodernism, broadly argue that it is both impossible to fully uncover social facts through ethnography as well as that it may be difficult to determine to what extent social facts bear on the individuals and vice versa;
- Critical realist ethnography of Porter (2003) which is essentially Kantian in its aspirations and Marxist in its methods; and aims to bridge postmodernist and phenomenological ethnographies.

All of the above broadly adhere to the subject-predicate ontology that is currently underlying vast majority of the literature on the subject. In contrast, I wanted to perform an ethnography within the scope of Heideggerian tradition (to which much of practice-theoretical perspective can be traced back) in order to develop a more authentic understanding of meaning.

The emphasis on meaning is particularly poignant when a defining characteristic of this research project is to distance itself from those frameworks and understandings which anthropocentric bias (see Chapter 2). Accordingly, if organizational memory is to be re-examined in a way that is different, i.e. not *a priori* anthropocentric - finding meaning in the ideas, actions and behaviours of organizational constituents is key (Wolcott, 2008).

Meaning, and what it means for something to be meaningful, is at the centre of Heidegger-inspired view of practice on which this thesis is built. Individuals do not usually pursue that which is devoid of meaning to them, much in the same way as they are unable to understand that which carries no meaning in so far as they are concerned. Objects and other individuals in the world that have no meaning of even the most marginal degree cannot even be said to **be** in the world in any way that would make any difference. People do and say things because the things they do and say are impregnated with meaning, however benign and indirect it may be. Heidegger makes it explicit that it is in the human nature to be in the state of care for someone or something all the time (Heidegger, 1978), which is a different way of saying that, for all intents and purposes, human beings run on meanings.

A key advantage of ethnography over other qualitative methods in studying organizational memory is the allowance for participant observation. First of all, participant observation techniques, as opposed to systematic observation, favour intentions, motivations and meanings of observation subjects rather than detailed descriptions of their behaviours (Denscombe, 2014); which is in concert with the emphasis on meaning, above. The principal concern of such observation is to witness practices in the most natural and unaltered way possible (Fetterman, 2010; Wolcott, 2008). This approach is sometimes referred to as methodological 'naturalism', where a

key tenet is to remain as true to the unaltered phenomenon of study as possible (Hammersley and Atkinson, 2007; Matza, 1964). Of course, the sheer presence of the researcher will inevitably alter any studied situation (at least in the short to medium term) in two fundamental ways: one, by directly altering the spatial deployment of practices and, two, by potentially prompting observation subjects to reflect on their conduct (Wilson, 1977). This is also known as the 'observer effect' or the 'Hawthorne effect' (Shipman, 1997; Spano, 2005). While there is little to be done with respect to the presence of the researcher, the issue of self-reflection by the research subjects will fade with time as they become accustomed to the presence of the researcher. The duration after which such interference will likely be safe to consider negligible should vary subject to the development of trust and rapport between the researcher and the research setting, as well as the physical properties of the researcher him/herself.

In respect to the building of trust and rapport one can rely on one's personal charisma or on the passage of time. In designing this study, I have made a decision to relieve my social skills of unwarranted strain and leave it to the forces of time to pull my relationship with the people I studied closer together. This decision was also supported by access conditions, which implicitly stipulated that I was to keep any interference caused by my study to a minimum. A long-term scope of the study was further accommodating to this strategy.

In terms of reducing my spatial impact, I took proactive steps to 'camouflage' myself in the workplace. During the first few days in the field, I paid especially close attention to how my observation subjects dressed. ArchitectureCo had something of a dress code in place, which could be best summarized as 'business casual'. As Managing Director I told me, the purpose of the dress code was primarily to maintain presentable aesthetic in the office space for visiting clients. This was not forced upon me, however, and when I abandoned my 'camouflage' towards the final few weeks of data collection, I neither sensed nor received any comments as to my new (still presentable albeit more casual than 'business casual') attire. In any case, following my observations of ArchitectureCo fashion choices I acquired grey trousers and a selection of pale shirts of different colours which would be supplemented by dark grey or beige sweaters in the cooler weather. I

was pleased to observe that this not only made me feel less out of place in the office (which I found extremely important to performing a long-term ethnography), but also resulted in clients and collaborators mistaking me for an employee of ArchitectureCo very frequently.

As I have mentioned above, I opted for the participant observation technique. In addition to allowing more in-depth observation of practices and practitioners, participant observation brings with it a different way of attending to observation subjects and spaces - where systematic observation would follow a pre-determined observation schedule, participant observation allows for a more flexible approach where the researcher has the ability to vary spatio-temporal 'vantage point' in response to unfolding and emerging events (Fetterman, 2010; Wolcott, 2008). Accordingly, my observations took me to a number of different locations outside of the office, as I followed groups of architects or, in some cases, their material artefacts.

As I immersed myself into the working life of my research subjects, I made an effort to record as much of my experience and of their activity as was possible without detriment to data collection. By this, I mean that it was not my intention to produce as complete a record as possible, but rather strike a balance between taking notes on paper and taking note of what was transpiring in front of and around me. Three types of technology were used to capture observations: a notepad/iPad, a camera, and a voice recorder. A notepad/iPad was a primary means for capturing data; a camera, whether on an iPad or an iPhone, was used to complement the notes with visual cues as well as to capture seemingly significant events (whenever possible); a voice recorder, usually part of the iPhone, was used for *ad hoc* interviews and/or to record quick exchanges between research subjects. With regards to voice recording, due to the nature of access agreement, I only used this tool within ArchitectureCo and never if any clients were involved.

A key part of capturing data in qualitative social research is the recognition of a researcher bias (Spano, 2006; Van Maanen, 2011). Because the researcher is the main tool for data collection, it is important to develop and maintain awareness of any prejudices and/or dispositions towards the phenomenon of study (Goffman, 1989).

Denzin (1989) warned that all observation is infected with the values of the researcher in some way, at least; and Patton (2002) urged ethnographic researchers to make note of any potential biases within the data. Reflexivity of the researcher, thus, becomes a central metric for establishing the degree to which an ethnographic report can be trusted. While I will explore the questions of data validity in later, the question of reflexivity of the researcher during data collection will be addressed here.

To be reflexive is to exercise an effect on the way in which data is understood and collected (Van Maanen, 2011). As an ethnographer, the researcher *'does not merely report findings as facts but actively constructs interpretations or experiences in the field and then questions how these interpretations actually arose'* (Berg and Lune 2012: 205). Importantly, this is not done retrospectively but alongside the recording of the data (Jackson, 1990). As Geertz (1973: 19) aptly noted, *'the ethnographer 'inscribes' social discourse; he writes it down. In so doing, he turns it from a passing event, which exists only in its own moment of occurrence, into an account, which exists in its inscription and can be reconsulted'*. The central technology for creating such an account in this study was the notepad/iPad. Both were highly suitable for facilitating reflexivity as both allowed me to be flexible with the organization of the page. A typical page in any of the used field journals was structured following a 2:1 ratio, where the larger space was reserved for notes that had to do with phenomenological observations of organizational memory-like practices, and the smaller space was reserved for descriptions of activities and environment. A chief advantage of using such format for capturing ethnographic data was that it embraced the phenomenological aspect of the study while still providing space for simple descriptions of actions and objects. This was of great use when combined with photographic, documentary and interview data during the analysis stage, as I would be able to reflect on whether the actions that transpired during the recorded event had not been contradictory relative to the meanings that I conjectured at the time.

Notes were taken as contemporaneously to the phenomena as possible and, because of my camouflage and a relatively static (in terms of not moving around all that much) nature of architectural work, I rarely felt the need to retreat to a quiet space to catch up on the note-taking (Cahill et al., 1985). During observations of meetings, I would refrain

from joining at the table instead positioning myself in a corner of the room where I could observe events and conversations from 'the outside'. Once again, my camouflage and deliberate minimisation of movement, however physically discomfiting during routinely long meetings, went a long way to consistently hide me in plain sight, on par with furniture perhaps. Similarly, photographs were taken discreetly during the unfolding of the event under observation, but always shown to the research subjects at regular intervals (end of week/month depending on volume of photographs generated) in order to make sure that: 1) they did not object to those photographs being taken as data and 2) my interpretation of what the photograph is of was correct.

Overall, while I did not spend every working day for 15 months in ArchitectureCo I made an average of 3 research visits per week. During this time, I recorded 1120 hours of observations over 720 pages of research notes. In addition to those, I have also gathered and retrieved 12084 e-mail conversations, 4098 architectural drawings, 244 photographs and 93 other artefacts (Table 4.1). These exclude social events that I attended as a non-researcher (and 1 as a researcher) which were not recorded but still contributed to my understanding of architecture as a practice and architects as practitioners.

The total data set from the study can be divided into two cases, each tracing a particular project, and a general set consisting of more traditional ethnographic observations of architectural work and organizational memory. The two cases are: Case 1, focusing on a £30 million building extension project at the stage of construction, and Case 2, focusing on early design of a new, smaller, restaurant project. The two cases were selected to allow a more detailed examination of different aspects of architectural work – design and construction. This is consistent with recommendations by Eisenhardt and Graebner (2007), who suggested that case study research ought to focus on specific areas in need of explanation.

Data type	Total collected	Case 1	Case 2
Observations	1,120 hours	40%	2%
Research notes	720 pages	33%	12%
Emails	12,084	73%	5%
Drawings/commented drawings	4,098/330	84%/86%	3%/10%
Artefacts	93 units	64%	13%
Photographs	244 units	80%	13%

**Table 4.1. Overview of collected data**

An obvious difference in the volume of data collected for Case 1 and Case 2 is evident here - this was primarily due to the longevity of Case 1, which has been ongoing since 2008 and concluded 5 months after the data collection ceased. Case 2, on the other hand, was a brand new project that I was pleased to observe from conception up to the same point as when I began observing Case 1. This permitted me a full overview of the life-span of an architectural project which would not otherwise be possible within the scope of this study due to the amount of time large projects displace. To control for continuity of practice, both cases focused on projects administered by a group led by Managing Director I and Director J, meaning that even though architectural manpower may have been different between the projects, the leadership and strategy remained constant. Data residual to both cases is from general observations of ArchitectureCo as an organization.

An approach to organizational memory as the one I have adopted here (described at the beginning of Chapter) comes with certain difficulties in respect of the disposition and identification of the subject matter. Works on organizational memory as an attribute



(especially psychologicistic stream), following Walsh and Ungson (1991) and Moorman and Miner (1997), make it reasonably clear where one may find organizational memory (i.e. IT systems, archives, culture, etc.); while works on organizational memory as substance, following Halbwachs (1992) and Olick (1999), make it reasonably clear what organizational memory may look like (i.e. buildings, stories, photographs, etc.). Relegating both to the status of memory-like processes and features at the same time as assigning primacy to what it is that organizational members *do* makes it very difficult, especially at first, to plan where to be, what to do and whom to follow while collecting data. In other words, increasing the empirical area of catchment has had an initial effect of reducing the volume of data I would generate simply because it was not clear what is relevant to organizational memory as a practice, where I can find it, and for how long I ought to continue observing it.

In order to calibrate my perception and to achieve a better understanding of the ways of ArchitectureCo, I selected two cases on which to focus my ethnographic efforts. The thinking behind this was that instead of observing organizational memory in the organization proper, and then moving on to specific cases where emergent hypothesis can be verified in more detail, I would begin with cases which would educate me in the ways of architecture and architectural work.

Entering this community of practitioners as a novice meant I was able to ask 'naïve' questions about things I do not understand and learn about the work of ArchitectureCo as architects engaged in collaborative work with people outside of their organization. Having identified instances of organizational memory and/or memory-like processes in these specific cases, I would then look for them in the broader organization. I do feel it important to note that while, in written form, this makes my search for organizational memory in practice appear linear, in operational terms the identification of areas of interest in cases and the application of those to ArchitectureCo as an organization was a recursive process and I did not attempt to force it into a sequence, rather following a logic of abduction (to be described below).

Within ethnographic research, a case study is not a methodology but rather a choice of what it is to be studied (Stake, 2005). While such interpretation of the 'case study' is contrary to what is traditionally understood by this term (i.e. Creswell, 2013; Denzin and Lincoln, 2005; Merriam, 1998; Yin, 2003), I see it to be a better fit for qualitative research of the variety presented here. The nuanced difference between the two is in whether the case is a product of study, as used here, or an object of study, as used traditionally. Case, as a product, is emergent from ethnographic work parts of which require a closer investigation/exposition; while case as an object is *a priori* bound to particular definition, requirement or spatio-temporal duration (Denscombe, 2014).

Overall, in the conduct of this ethnographic study I aimed to follow the performance of work as opposed to following particular people or events. This was because the collective performance of memory was philosophically determined to occur during the performance of organizational work, as opposed to individual work. What does this mean? Primarily that work conducted by individuals, where no recourse to organizational processes could be found, would be of secondary interest (but of interest nevertheless). I identified such recourse by observing 'corrective' behaviour. For instance, because the practice of architecture is not part of organizational memory of an architectural firm, any more than digestion is part of individual memory of any human (see Chapter 5 for a more in-depth discussion), the ability to do what one needs to in order to perform architecture was considered to be of secondary interest. The ability to do what one needs to *in a particular way*, however, was considered more relevant. Consequently, corrective behaviour would occur when a qualified architect would need to correct his/her way of doing architecture, in order to converge with the *particular way* of doing architecture as recognized by ArchitectureCo. Similarly, other architects and even external collaborations would find themselves subject to corrective behaviour at times. Such instances of work would give a glimpse of memory-like processes within the organization which could then be explored further and in more detail. The reason I qualified these processes as memory-like is because of patterned regularity. The practitioners would correct themselves and others based on a combination of: a) past experiences of being corrected by others, and b) future expectations of being corrected by others. This was most frequently expressed by comments such as "*this is how we did*

*this that time*”, “*you may not know/remember, but...*”, and “*you should change this for the [upcoming] design review*”. I will explore these themes in more detail in Chapter 4.

Of course, in practice, this translated into following individuals and groups of individuals for most of the time. In all cases, I would aim to linger around those individuals who took part in organizational work in order to reserve the opportunity for informal discussions, hear opinions and ask questions. Assuming, in an ethnographic spirit that data is everything and everywhere, I would listen in on telephone conversations, stare into computer screens and attentively ‘eavesdrop’ whenever and however I could. All these data were copiously recorded, as shown in Table 4.1 above, for later analysis.

#### 4.2.4.2 *Documentary data*

The primary source of documentary data was the organization's archive. ArchitectureCo maintained an archive, as required by law, of all their projects going back 10 years. These were stored in a non-networked location on Blu-ray disks. A smaller subset that included more recent projects as well as some projects of particular interest/distinguished projects was available on one of access controlled networked hard-drives. Thus, the entire archive was a collection of directories of completed projects.

Directories committed to archive bore no difference to current, active project directories. In so far as I could tell, once a project has been completed, the entire directory would be transferred into the archive, first digitally and, following an unspecified period of time, physically. Not all of working data has been maintained in a digital form, however. Architects would routinely carry and use voluminous folders in which a portion of the digital directory would exist in a physical state. Most specifically these would include print-outs of design drawings and various specifications/samples of materials and services relevant to the project at hand. Following the completion of the project these would be destroyed leaving only the digital copy for posterity.

The organization of project directory would follow the same format, presented in Figure 4.3. This was a hierarchy of empty folders and subfolders into which appropriate

documentation was to be placed. Depending on the size and complexity of the project, the degree to which all of these would be used varied.



**Figure 4.3. A sample of ArchitectureCo's project directory**

The two primary types of documentary data that were accessed were emails and design drawings. The three secondary types of documentary data that were accessed were client reports, project briefs, and meeting minutes. Email conversations and design drawings were selected as primary sources of documentary data because of their prevalence in interpersonal and inter-organizational communication - a great deal of architectural work transpired through the sending of drawings via email. Client reports, project briefs and minutes were mainly referred to in order to understand what are the formal boundaries and accountability procedures within any single project. Overall, this archival data was used to anchor and inform ethnographic data collection process by supplying information on how work should proceed, in which direction, with whom and when. It further served the purpose of verifying how well individuals remember, or how much in alignment are their interpretations, of different documented events of work. To a lesser

extent, such data was used to help me familiarise with architectural issues, from which I could derive some specific questions for the research agenda (Yin, 2009).

Auxiliary forms of documentary data from the public domain were also accessed. Architectural publications, relative performance rankings, newspapers and other news media were located and deployed to assist with understanding the general state of the industry, emergent and historic issues and debates, accounts of construction projects and successful, as well as unsuccessful applications for such projects, and the general 'feel' of what it is like to be an architect in an architectural practice. ArchitectureCo held a small library which contained some books which explained how to practice architecture both on individual and organizational level, as well as subscribed to industry-leading journals, such as Architectural Journal (AJ), all of which were helpful not only towards understanding the variety of architecture valued by and within ArchitectureCo, but also towards familiarizing myself with the broader practice of architecture.

#### *4.2.5 Data analysis*

This section will discuss how data was analysed. I will first introduce the principle for this analysis – analytical abduction – before moving on to the discussion of saturation, validity and ethics.

##### *4.2.5.1 Principles of abduction*

In analysing the resultant large body of ethnographic and documentary data I followed main tenets of the interpretive tradition in general and the principle of abduction in particular (Tavory and Timmermans, 2013, 2014; Timmermans and Tavory, 2012; Yanow and Schwartz-Shea, 2006). Analytical abduction, much like the grounded theory it relates to, is based on the concept of iteration between data and theory (Timmermans and Tavory, 2012). Unlike grounded theory, however, abductive analysis privileges surprising research evidence and the cultivation of multiple theoretical explanations of observed and recorded phenomena. Consequently, data analysis functions as an

ampliative form of reasoning in which the researcher strives to process unexpected findings into coherent theoretical explanations (Mantere and Ketokivi, 2013).

The analytical path unfolded in two stages and four phases. Stage 1 consisted of analysis of data from the two case studies and the following stage 2 applied emergent constructs from stage 1 to the general organization data. At the onset of the first phase of Stage 1, I outlined both cases, paying particular attention to the interactions among the main professional groups. The reason for this was to build on my position within ArchitectureCo as someone on the fringes of both the organization and the practice, thus experiencing a form of situated learning (Lave and Wenger, 1991). This, in turn, allowed me to ask questions about mundane interpersonal and inter-organizational behaviours and practices in order to understand the underlying assumptions and rituals supporting the ways of doings and sayings of those involved. As mentioned previously, in absence of a clear theoretical construct which to investigate, it was important to focus on patterns with memory-like characteristics (i.e. some forms of memorization and remembering). An overview of these can be found in Table 4.2.

<b>Aggregate dimensions</b>	<b>Second order codes</b>	<b>First order codes</b>
Processes of memorization	Adjustment of design drawings Design Review corrections Influence from wider practice	Building models CAD Drawings Delivering training to new staff Training received Staff turnover Quality control Showcasing of awards Professional literature
Processes of remembering	Design alterations Challenges brought by colleagues and management	More recording and admin work Hierarchy of communications on projects Pragmatic interests Former contacts and invoking experience Power relations Contract bids
Organizational memory	Materiality of work Normativity	Workstations and IT systems Library Material samples Completed projects Office manual Rules and routines

**Table 4.2 Coding schema for memory-like characteristics in ArchitectureCo**

These patterns were shared and discussed with the supervisory team for purposes of feedback and independent (from the ethnographic burden) validation. This stage revealed a very dynamic nature of memory-like processes, partially exemplified by the boundary dynamics that emerged as professionals collaborated on projects under investigation - divisions, separations and flawless integration would interchange and morph into each other depending on the focus of work and practical interests present (Nicolini, 2012). These dynamics were particularly evident during work that involved tools of work that would take on the role of boundary objects (Kravcenko and Swan, 2016). Professional groups continuously erected distinctions and alliances between themselves when those were involved, suggesting strong catalytic effect that such objects had on their respective ways of performing work. Having observed this, I concluded that situations such as those presented by the cases are suitable for a continued investigation of organizational memory-like processes. Such investigation would begin with the application of existing theoretical constructs of organizational memory in practice, as found in Schatzki (2006), to the empirical data from the case studies.

Having compiled and processed all empirical materials relevant to memory-related processes in the organization, I proceeded onto phase three to explore the relation of the data to the existing literature on organizational memory. At this point, it became clear that existing theory on organizational memory could not account for a practice-based perspective on organizational memory in such a way that would do justice to my observations; and existing theory of practice did not account for organizational memory. The former generally lacked the tools necessary for a processual understanding of collective memory proper, and the latter was not very convincing in reconciling 'heavily' processed philosophical foundation with something as apparently stable as memory.

Finally, armed with this emergent theoretical model as a sensitizing device, I revisited all the episodes in the data highlighted for their relation to organizational memory-like

processes and used the main tenets of the approach to identify, reconstruct and explain the processes by which organizational memory in ArchitectureCo was enacted.

#### *4.2.5.2 Data validity*

Sound, transparent criteria for how empirical data is validated is one of the fundamental attributes of what makes a piece of writing 'academic' and 'scientific', as opposed to speculative. Traditionally stemming from naturalistic traditions and the philosophy that research ought to be replicable and applicable in order to be considered valid, there is more to issues of validity than measuring correlation with an objective reality (Sandberg, 2005). This is because the qualification of what counts as 'real' or 'objective' is significantly different in the study of the social than in the study of the natural (Giorgi, 1994).

An in-depth discussion of what those differences are would warrant a separate thesis in its own right, but for the purposes of justifying the interpretation of data presented here it will suffice to mention that any system of validity control ought to follow from and be consistent with the underlying ontological and epistemological foundations of the study concerned (Salner, 1989; Denzin, 1994; Sandberg, 2005). Because this study follows Heideggerian tradition, the corresponding validity criteria of intersubjective reality apply (Bengtsson, 1989).

Intersubjectivity is a position whereby reality of the world is subject to individual experiences of existence. However, because individuals do not exist in the world independently of other individuals, collaboration, negotiation, common material arrangements and pragmatic pressures and interests, among other things, all serve to constitute an agreed meaning of a shared reality (Sandberg, 2005). Similar to Heideggerian idea of 'clearing', where certain meaning present themselves subject to material and technical environment, the content of intersubjectivity is hedged against sociomaterial conditions prevailing for individual actors in their existential environments (Bengtsson, 1989).



Two validity criteria follow from this ontology: reflexivity and transparency. In terms of the former, the researcher ought to maintain awareness of how the research subjects, results, and conditions are represented by ensuring that the knowledge and information that does make it into the study is relevant (Giorgi, 1990). In this study, reflexivity was especially important considering the role of power and power relations both within and across disciplines. Representing pragmatic concerns accurately and accounting for individual motivations, as reported by research subjects, was key to getting this part of data right.

In addition to the above, there are two further aspects to ensuring phenomenological data validity when it comes to transparency. The First is primacy of description in place of explanation when presenting data and the Second is validation of presented data with the research subjects (Giorgi, 1988; Sandberg, 2005). In terms of the First, the primary effort is on description of what has happened rather than on what the practitioners think has happened and why. Ethnography is especially well suited for such an approach as majority of observations are done from the outside anyway. The main purpose behind prioritization of descriptive over explanatory is to keep the researcher in check against surpassing 'what is given in their experience' and using theories and models instead (Sandberg, 2005: 60).

In terms of transparency, giving research subjects the opportunity to validate researchers' interpretations ensures that the 'measurement' of intersubjectivity is relevant and accurate in as far as possible. Because the researcher is most often entering the research setting in the middle of things (Heidegger, 1978; Braver, 2013), as it were, their ability to harmonize with research subjects is at a significant starting disadvantage. This disadvantage, however, can be mitigated by allowing practitioners to validate the interpretations of data, which is what has been done here towards the end of study.

#### 4.2.5.3 *Some limitations*

While the practice-theoretical approach allows unique insight into organizational memory by foregrounding such aspects of human existence as embodiment, materiality and acute perception to power relations, it also backgrounds a number of other issues that may be important. One of these, for example, is discourse. The variety of practice view mobilized here does not account well for discursive matters. This is a potential limitation because part of the literature on organizational memory (see Chapter 2) directly deals with stories and narratives. It is, however, worth noting that none of those studies analyse organizational memory matters by means of conversational, discursive or linguistic analysis. It is, therefore, reasonable to deduce that the omission of discourse in the framework of phenomenology of practice is very limited value to the overall aims of the study.

Another area of deliberate omission is quantitative measurement of organizational memory. A stream of studies in transactive memory systems and ICT-induced organizational memory perform simulations or other algorithmic manipulations of quantified data in order to derive patterns attributable to the empirical experience of the phenomenon by practitioners. These parts of the field of organizational memory are neglected by design in this study as incompatible with the selected ontology. As practice view places emphasis on enactment, emergence and social construction of reality, use of dependent and independent variables has no place within this framework.

Finally, the primary limitation of this research has to do with its scope. Despite being a longitudinal ethnographic work, this is still a study of a single organization in a single industry at one, continuous, 15 month period of its existence. Data collected from multiple organizations across variety of industries and at different times of their lifecycle would have yielded a more comprehensive and representative dataset (Denscombe, 2014).

#### *4.2.5.4 Ethical considerations*

In order to secure research access to ArchitectureCo and its clients and collaborators, a signed guarantee of anonymity of the organization and all of its members, clients, and other involved parties was made. Such a guarantee was rooted in the Data Protection Act of 1998 and University of Warwick Ethical Guidelines and Requirements. These included ensuring that all the narrative and all the documents cited in the thesis and/or any other research output were to be scrutinised to ensure that no reference could be made that would potentially reveal the identity (directly or indirectly) of the organization and its work or the individuals involved. Accordingly, all original documents and/or photographs have been redacted to a sufficient degree and all sensitive content was blurred out or removed. Where data suitable for supporting the argument could not be redacted, it was not used and different data was found instead (or the argument was either abandoned or redeveloped).

Ethnography, as a research method, carries with it further ethical requirements due to very close and prolonged contact of the researcher with the researched. However, because this thesis is not operationalized as pure ethnography, but rather as an 'ethnographic study anchored in the phenomenology of Martin Heidegger', a great deal of those ethical issues is avoided. This is because grounding ethnography in phenomenology, Heideggerian or otherwise, sways the descriptive focus away from actions and activities of research subjects towards the acquired perception of those by an informed researcher - meaning that I am careful to leave out anything but the meanings relevant to identifying organizational memory-like processes (at which point the focus is no longer on individuals proper); and that this is an ethnography of a practice (where I examine my take on the phenomena I observed). Either way, in conjunction with a sweeping guarantee of anonymity, the only ethical issue related to ethnographic study that remains is reimbursing the participants.

In terms of reimbursing the participants for their time and accommodation, I have submitted a report outlining main findings pertinent to ArchitectureCo, and performed two presentations: one, more detailed, to the executive team and, another, less detailed,

to the entire staff of the office. The latter presentation was also accompanied by celebratory pastry so well received by all those present.

### 4.3 SUMMARY

In this Chapter, I outlined methodological foundations of this study. A key, albeit brief by necessity, description of the philosophical underpinning of this work was supplemented by information about the case and its selection, data gathering methods (ethnography and archival sources) and procedure for analysis (abduction).

The next three chapters will present empirical data arrived at by means of these methods, and Chapter 8 will synthesize the thesis and deliver a final discussion.

# Chapter 5

## FOUNDATIONS OF ORGANIZATIONAL MEMORY AS A PRACTICE

### 5.1. INTRODUCTION

As was outlined in Chapters 2 and 3, while empirical and theoretical research provided rich insight into the effects and forms of organizational memory (Rowlinson et al., 2010), much of that work was conducted around a limited and restrictive set of definitions. The themes of organizational memory as an attribute and as a substance are not only readily traceable to their founding works - Walsh and Ungson (1991) and Halbwachs (1980) respectively – but still bear a significant degree of similarity to their predecessors with regards to the conceptual understanding of organizational memory. This characteristic of the field was one of the chief reasons why I chose Schatzki (2006) as an initial analytical lens.

Schatzki's (2006) work falls within the domain of the practice theory, which means that it sensitizes the research lens to the issues of materiality, processual nature of the world, and teleological-affective structures in organizations. Unlike the work done on organizational memory as an attribute or as a substance, the thinking about organizational memory as a practice is still underdeveloped. More specifically, Schatzki's (2006) hypothesis is as intriguing as it is lacking in empirical grounding, and Linde's (2008) study is only adherent to the practice view of organization on a methodological level. Consequently, it is still not clear how organizational memory as a practice is empirically distinct from practice memory, which aspects of organizational life count as organizational memory and which do not, and whether Schatzki's (2006) definition of five elements is wholly appropriate and/or empirically sound.

This is a key chapter of the thesis as it establishes the foundation for all analysis and discussion that follows. As I mentioned previously, Schatzki (2006) offered a tantalizing concept of organizational memory without providing any empirical justification to go with it. This chapter is aimed at applying Schatzki's (2006) concept to an empirical dataset in order to understand how (and whether) his interpretation works in practice, as well as to develop the multiple unexplained and/or underexplored areas of that work. In effect, this chapter builds the initial framework key parts of which will be later explored in more detail in Chapters 6 and 7.

The remainder of this section will unpack Schatzki's (2006: 1870) five-part definition – *'the complex of actions, thoughts, experiences, abilities, and readinesses'* - in order to better understand the thrust and relevance of its component elements.

## 5.2. ACTIONS: ARRIVING AT A CATEGORIZATION

Actions as organized regimes of activities that enable individuals to enact a collective practice are meaningful units of analysis only in so far as it is clear what the subject of such organization is. Importantly, for Schatzki (2006), organizational memory is a type of activity made regular by relevant practices. Additionally, regularity also stems from organizations, which are enacted by a complex array of socio-material practices (Giddens, 1984; Schatzki, 2002, 2005; Czarniawska, 2007; Nicolini, 2009). Therefore, activity is one of the building blocks of both the organization and the practices. Accordingly, in order to make sense of regimes of activity in an empirical setting, it is important to identify what are the practices around which actions and activities are organized.

There are a number of ways to categorize, group and/or otherwise divide an organization into meaningful patterns of actions. For instance, activity following job descriptions in a popular way of doing this, as is division by the subject of work (i.e. activity following aims and objectives). Concerning project-based organizations, the latter is of limited explanatory value because subject of work can change and vary as individuals travel

between projects (DeFillippi and Arthur, 1998); and the former, grouping by job description, is not necessarily representative of activities that individuals actually undertake. For instance, according to the official organizational structure of ArchitectureCo (Figure 4.2), the company's employees performed 12 distinct job roles: Architect, Architectural Assistant, Building Information Modelling (BIM) Manager, Architectural Technician, Interior Designer, Financial Controller/Secretary, Marketing Assistant, IT Manager, 3D Architectural Visualizer, Graphic Designer/Administrator, Team Administrator, and Receptionist. Because architectural work is organized around projects of limited duration, only the supporting staff (receptionist, IT manager, marketing assistant, administrators and the financial controller) would experience long-term stability in the orientation of their work.

The majority of employees would be allocated to work on projects by the directors of the firm and re-appointed as and when required or at the completion of the project. In a typical project, an Architect would lead design work while Architectural Assistants and Technicians would provide supporting roles. Directors and Associate Directors, all of whom were also architects by specialization, would perform client and contract management duties, and consult and supervise the designing architect when needed.

Following a Heideggerian take on practice theory, considering actions and activity with regards of "that-for-the-sake-of-which" is a more phenomenologically authentic way of establishing distinctions between practices and practitioners. A decision of how to distinguish activities in which practitioners engage must be informed, first and foremost, by the reasons behind why practitioners do and say what they do and say (as they do and say those things!).

Despite the 12 different job types offered by ArchitectureCo, in practice, the staff were grouped into architectural and non-architectural categories. The architectural staff would include those individuals who were directly involved in the design of the building, and non-architectural staff would include everybody else. This particular way of differentiating between regimes of action was repeatedly enacted by ArchitectureCo itself – in describing the firm, for example, both the architectural and non-architectural

staff would reliably mention the 'architects/non-architects' dichotomy. The following extract from my field notes below illustrates this point further:

*“Arrived this morning to find most of the office shifting towards the breakout area where two people I haven’t met before are setting up a presentation. Went to find G (Senior Architect) to ask about what is going on but he was on the phone. Went to see L (Receptionist) and found out that these are the people from RIBA here to do a presentation as part of the firm’s CPD (Continued Professional Development) commitment – ‘they are here for the architects’. Went back to the breakout area to find that most of the office was already there either sitting or taking up seats/preparing hot and cold drinks. Found a place in the corner and observed the beginning of the presentation. Because of location could not hear much so asked J (Architectural Technician) what this is about and was told that this is a presentation of the new Plan of Work framework [a ‘best practice’ of building design developed by RIBA]. Observed some more of the presentation and the people watching the presentation. Some taking notes others just watching. [...]. Still couldn’t see/hear much of the presentation and did not seem that much was transpiring so went to look around the office while it was empty to examine the ‘work-in-progress’ drawings and tools that were left behind on the desks by people at the presentation. Noticed N (Graphic Designer) and A (3D Visualizer) quietly exit the kitchen carrying food and go towards the opposite end of the office towards T (Marketing assistant) speaking progressively louder the farther they walked from the presentation space. Caught up with N and asked about what is going on – ‘this is an architectural thing, it’s not for us’. When asked why N and A are not joining in, they reiterated that ‘it’s for the architects’. [...] Approached G (Senior Architect) and asked about the presentation and to comment on what N and A said – ‘Well, they wouldn’t be here. This is an architecture thing and they are not doing that. They do other things’. \*\*\*Later in the day J (Architectural Technician) and K (Architect) expressed similar opinions” (Field notes, 28/01/14).*



The extract above is particularly useful as it demonstrates implicit and mutually observed division of activities between those in the organization who are 'doing architecture' and those who are not. Overtly, there was little to no apparent differentiation of this kind because people were getting on with doing their jobs, as well as because of the inherently inclusive physical layout of the open-plan office (see Chapter 4). The situation with representatives from RIBA visiting the firm to give a presentation on a new architectural framework caused a 'breakdown' in the normal functioning of everyday activities of ArchitectureCo (Tsoukas and Mylonopoulos, 2004). The breakdown was constituted by the interjection of a distinctly architectural activity into a regular working day; causing a kind of imbalance, or oversaturation of 'architectural stuff' in the workplace. This quite literally displaced all the architects in the office into a breakout area leaving only those behind who did not consider attending an architectural CPD event relevant to their practice (Figure 5.1).



**Figure 5.1. Architects attending a RIBA CPD event**

Observing 'breakdowns' in practices such as this one presents a rewarding opportunity to gain understanding into the underlying assumptions and tenets of work activities that practitioners routinely engage in as part of their practice (ibid). This is because practices are mainly achieved in a way difficult to notice for the outsider, in the background of everyday life (Nicolini, 2009). While not the only instance of this architects/non-architects separation, the situation presented in the vignette above does especially well to bring a key organizational practice out into the fore, demonstrating a pattern of relationships rooted in distinct sets of activities.

It follows then that there are two broad types of activities within ArchitectureCo as experienced by employees. The vignette above exemplifies classes of activities which they perceive their work to consist of (i.e. those who do architecture and those who do other things). Those who '*did architecture*' included: all the architects including directors, architectural technicians, all architectural assistants and interns. Those who '*did other things*' included: 3D Visualizer and Graphic Designer, Marketing assistant and all secretarial and administrative staff who were not also architects, as well as IT manager. The unity with which architecture was identified by all employees as a central practice suggests, rather unsurprisingly, that majority of activities in ArchitectureCo were oriented towards architecture in one way or another. Following Orr (1998), in doing what they do, most if not all employees of ArchitectureCo made sense of their respective practices with reference to architecture because that is what their activities were informed by.

By observing the ways in which employees of ArchitectureCo understood their respective fields of activity, it became possible to ascertain what the focus of further analysis ought to be - a meaningful understanding of activity did not centre on projects, subjects groups or even levels of seniority; it centred on superimposing one evidently primary practice on an amalgamation of a number of secondary practices. Importantly, the primary-secondary distinction here does not invoke hierarchical or authoritative dimension (i.e. I am not suggesting that architects enjoyed intra-organizational hegemony). It was simply a way in which employees of the firm found it meaningful to orientate between different

regimes of activities they were involved in. In other words, employees of ArchitectureCo understood their activity in terms of the practice of architecture.

### 5.3. THOUGHTS: NORMATIVITY AND ARCHITECTURE

The way thoughts affected the work of ArchitectureCo was not merely esoteric - what it means to do 'good' architecture in ArchitectureCo fed back into what it was considered to do good architecture generally. This is most acutely seen in how the firm approaches the work that it does. As one structural engineer reported in an interview, when asked about what it is like to work with ArchitectureCo: *'working with them is very easy - everything gets done and all the drawings are very detailed. But it's not like that with all other firms. ArchitectureCo have a bit of a name behind them so they can afford to ask higher prices for their work. That gives the architects more space to concentrate on their jobs, I think'* (Structural Engineer C). The striving towards a particular way of practicing architecture that is considered 'good' by ArchitectureCo not only serves the purpose of organizing work activities within the organization but also (re)produces an experience of architecture as a whole. These attitudes, as was suggested by the Structural Engineer C, also feed into related and entangled practices, such as engineering is this case. Accordingly, the normative dimension of 'thoughts' through which actions acquire meaning and enact organizational memory has far reaching implications for the wider practice (Rouse, 2001).

Since thoughts inform actions, and actions shape the way in which organizational practices are arranged and made sense of by practitioners (section 5.2 and Schatzki, 2006), it then follows that 1) thoughts play an important role in shaping a memory of an organization that is distinct from memories of other organizations, and 2) that organizational memory does not relate to the organization on a one-to-one basis (i.e. it is not monolithic). As I demonstrated in section 4.1.1, ArchitectureCo displayed clear differentiation between organizational members who were architects and those who were not. As a result, the thoughts informing actions of the two groups would be different as well, even though all members of ArchitectureCo work in a single, collocated, open-

plan office together. One question that emerges from this observation is whether the difference in thoughts and actions of the two groups is because the individuals concerned simply do different things as part of their work (i.e. practice memory (Schatzki, 2006)), or is there something on an organizational level that is facilitating this as well? Answering this question will go towards understanding the relationship between practice memory and organizational memory, as well as clarify the role of the organization in the definition of organizational memory (to be addressed in further detail in Chapter 7).

Empirical observations of ArchitectureCo suggested at least three distinct mechanisms responsible for maintaining a certain way of thinking about architectural work: awards and distinguished cases, contract bids and design reviews. Each one of these represents a certain way of thinking about ArchitectureCo as an organization, about the past achievements of its employees and owners, as well as about its future aspirations.

### *5.3.1 Awards and distinguished cases*

The literature on the effects of awards and prizes on the formation of practices and spaces of collective intelligibility notes that not only do these recognize paradigmatic achievement and confer prestige and status, but also align interests and sustain networks (Anand and Jones, 2008; Anand and Watson, 2004; Lampel and Meyer, 2008; Monteiro and Nicolini, 2014; Watson and Anand, 2006). In doing so, awards and other distinguished cases build and perpetuate particular ways of thinking about the organization. Different aspects of the organization and of its practice are recognized in different ways. For instance, the Royal Institute of British Architects (RIBA) gives out an annual award for the best new building (The Stirling Prize). They also give out a number of regional, national and even client awards, an award for a distinguished portfolio of works over time (The Royal Gold Medal), an award for buildings with a budget of under £500,000 (The Stephen Lawrence Prize), a President's Award for Research for research in architecture as well as a three-tiered President's Medal awarded for outstanding work of architectural students (RIBA, 2015). In addition, the British Council for Offices, a research and best practice dissemination association for the office sector, has an award

for 'excellence in office space' (BCO, 2015). There are also awards for conservation, civic, quality and environmental awards as well as awards from leading industry publications. In other words, there are many different ways in which architecture can be legitimately thought of based on various awards and distinguished cases, with each one emphasizing a particular aspect of architectural practice.

ArchitectureCo made explicit emphasis on their ability to win awards. Since their founding in the late 1960's they have averaged a major RIBA award once every two years and many other award annually. In 2014 ArchitectureCo received 10 different awards from 6 awarding bodies, including 3 of the 4 buildings winning a combined 5 RIBA awards and one building winning a total of 6 awards from various awarding bodies. These various awards played a prominent role in three different aspects of organizational life at ArchitectureCo: they were displayed at the entrance to the office, they figured prominently in the email signature of all employees, and there was stress on the award-winning character of the firm in both the orientation programme for new employees and the office manual.

In terms of the awards displayed at the entrance corridor of the office, these were presented in the form of a gallery with framed A4 size certificates in two rows taking up an entire wall spanning the length of half of the office (Figure 5.2). The corridor itself was described by one senior partner as intended '*to guide the person into the practice and showcase, tell the story of it as they make their way into the office*' (Director I). In terms of the email signature, the practice made use of a standard signature generated by a marketing assistant in conjunction with the IT manager. This signature would display the name of the company followed by the address and some legal information about the status of the firm. It would then display a banner consisting of up to three images, two showing different views of the same building and a third a logo of whichever prestigious award that building won. The final part of the signature would change regularly to reflect the most recent achievement of ArchitectureCo and would accompany every email sent from the corporate account (which was also the only account in use for work-related correspondence).



**Figure 5.2. A corridor wall displaying the various awards of ArchitectureCo**

There are two ways in which awards and distinguished cases relate to organizational memory. On the one hand, displaying awards in these two ways is not purely an effort in marketing or interior design, but also a mechanism of importing past achievements to bear on the present organization. While displayed awards and email signatures do not serve as repositories of knowledge as such, they do play a role in what is referred to by the literature as communities of memory (Boje, 2008; Pickering and Keightley, 2012; Suddaby et al., 2010; Zerubavel, 2003). Communities of memory are particular environments within which recorded information is translated '*into discourse about the present and the future*' (Irwin-Zarecka, 1994: 53-54). They can be seen as discursive spaces between individuals and their material surroundings (Keightley and Pickering, 2012: 109) or as interpretive lenses through which individuals and collectives perceive the past (Apfelbaum, 2001; Olick, 2001; Yanow, 1998). Communities of memory are groups of people and objects that perpetuate a particular way of interpreting the events that have happened, or are thought to have happened, in the past (Halbwachs, 2001). With this in mind, the basic idea for using something like a corridor with displayed awards and email signatures highlighting recent achievements is to foreground unique characteristics of the firm. ArchitectureCo is actually displaying a continuous ability to make valuable decisions that brought about success in the past. It is a reminder to the

architects and other professionals working for ArchitectureCo of the significant legacy that they share with those who came before them; a legacy they are responsible for carrying forward into posterity.

It follows then that awards and distinguished cases did play a significant role in the organizational memory of ArchitectureCo, albeit not in the same way as was observed by Nissley and Casey (2002) in their study of corporate museums. In that case, awards were manipulated in such a way as to present a particular image of the organization to the external world. In contrast, ArchitectureCo's display of their awards and accolades was also aimed at the organization itself. While it is, of course, worth noting that awards are usually displayed for the benefit of the customer, the effect is also strongly felt in the way employees absorb that information. After all, customers only spend a small fraction of their time in the architect's offices, whereas architects themselves are there most of the time.

Recognizing that organizations may direct their normative efforts inwards paves way for a more nuanced understanding of how organizational memory works and where the transition between it and practice memory may be found. Specifically, individuals employed by the organization join as already qualified and skilful practitioners. Accordingly, it is not up to the organization to socialize their employees into the practice (Lave and Wenger, 1991). Observing the ways in which awards were used in ArchitectureCo, however, suggests that the role of the organization was to educate employed practitioners in the norms of what constitutes 'good architecture' by that particular organization. Such normative filtering is echoed by Schatzki's (2006) concept of teleological-affective structures and is thus an aspect of organizational memory.

### *5.3.2. Contract bids*

One of the most obvious areas where remembering and reminding took place was during the preparation and submission of contract bids to potential clients. At the time of research, a sizeable portion of ArchitectureCo's work was done for the public sector. As working for the public sector in the UK almost always entails submitting prospective

design to a competition, thinking how to best position themselves in favourable light to other architectural firms was not alien to ArchitectureCo employees. The process of submitting a bid is a potential organizational memory event because it brings forth those characteristics of the organization that are, or may be, considered unique to it (such as norms, awards, achievements etc.). These usually include past awards and distinguished cases, but also novel capabilities (e.g. ability to use latest 3D design software) and organization-specific interpretation of how to do architecture. The way the process works is that a client retains an architect who then prepares a number of proposed building designs of which the clients selects one they prefer to others. If the options provided by the architect are not satisfactory, the client may wish to change the architect a restart the process at this point. Once the selection is complete, the architect will release selected designs to a select group of construction companies who will then bid for the contract on the basis of their ability to construct the building and the costs they expect to incur on the client.

Considering the normative dimension of thoughts in organizational memory, contract bids appear to go hand in hand with awards and distinguished cases in terms of connecting the organization with particular stakeholders and practitioners. For one, contract bids are explicit efforts on behalf of the organization to not only display the kind of work it can produce but also to educate the client in the benefits of that particular approach to architecture. As Associate Director R described:

*“putting together a bid is about getting into the right state of mind, you know? It is very important to stick to the brief but, at the same time to show them how... what is it that we can bring that others may not be able to. Part of this is the team, of course. Showing who the architects are and what they achieved is important, but also telling a story about the practice and its successes”.*

In repeatedly mentioning the ‘showing’ aspect of putting together a bid, Associate Director R is not only referring to the actual physical document through which architectural ideas will be communicated (see Chapter 7), but also the activity of telling about past achievements or ArchitectureCo, the skill and knowledge of its employees, and



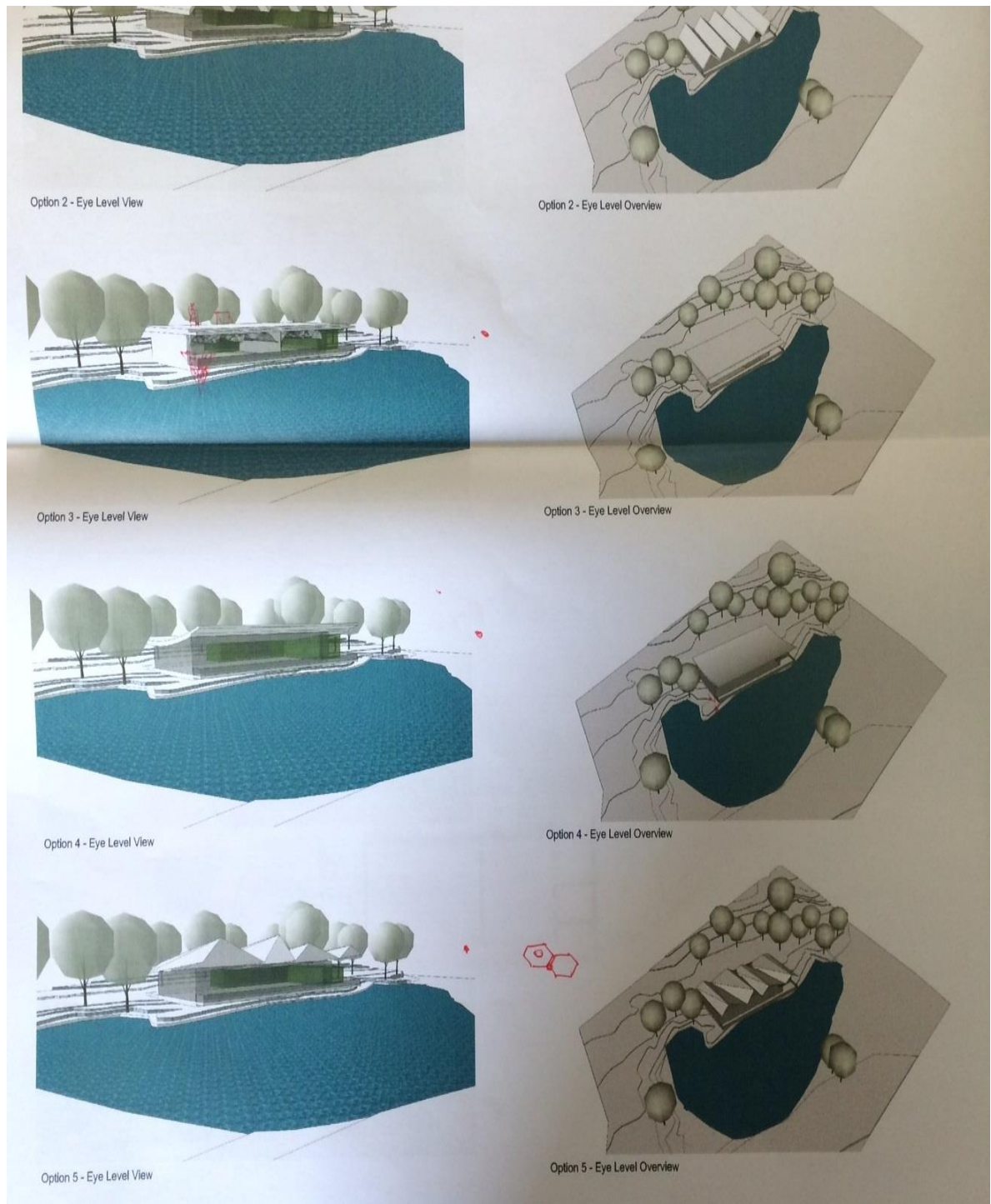
the importance of understanding what the clients need. All of these are characteristic of organizational memory.

The contract bidding process can be thought of as consisting of two stages. During the first stage, architects focus on designing something agreeable to the client based on the requirements outlined in the 'brief' (a short statement from the client describing the basic properties they want a building to have). This stage is generally centred on delivering an initial design and explaining why it is superior to competing designs. The second stage is internal to the organization and consists of ensuring the proposed design fits within the organization's approach to architecture (i.e. 'thoughts'). The first stage requires skill and familiarity with the practice of architecture, while the second stage has more to do with normative design reviews (discussed below). Accordingly, the first stage is best understood as referring to 'practice memory', while the second stage is closer related to 'organizational memory' (Schatzki, 2006).

In the remainder of this section, I will explore the first stage of the contract bidding process by drawing on an empirical case study of a new building design (Case 2 – see Chapter 4). The second stage – design review - will be discussed in the following section (5.2.3). The reason why such close attention to the bidding process is warranted is twofold: 1) it forces the architects to reflect on their own organization and practice relative to competition, and 2) it foregrounds internal normative practices that dictate what qualifies as ArchitectureCo and what does not. Both of these aspects of the bidding process expose elements of organizational memory.

Turning to the initial design of the new building, a significant design decision in the conception of this restaurant building was concerned with the shape of the roof. Arguably the roof was the only element of the building where an architect could make an aesthetic difference through design because of the restrictions presented by the site (limited space by a lake) and a specific design brief with precise specifications for the building (size, purpose, facilities, etc.). Accordingly, the document produced for the client by ArchitectureCo presented five building options differentiated only by the variation in the design of the roof. In other words, the 'body' of the building has been designed to

requested requirements with '*traditional use of brick and curtain walling to form external envelope*' (Contract Bid document) and remained the same - it was essentially only the roof that varied across the five options presented to the client for consideration. Two of the options had very similar curved roofs, third option had a flat roof with the possibility of being used for a green roof, fourth option had a curved roof, and the fifth option had a complex 'stealthy' folding roof. Four of these options are visible in Figure 4.3, below, which is a photograph I took of a document presented to the client at the end of one of the design meetings. The document was destroyed shortly after the client selected three of the initial five design options (visible as red dots next to options 3-5).



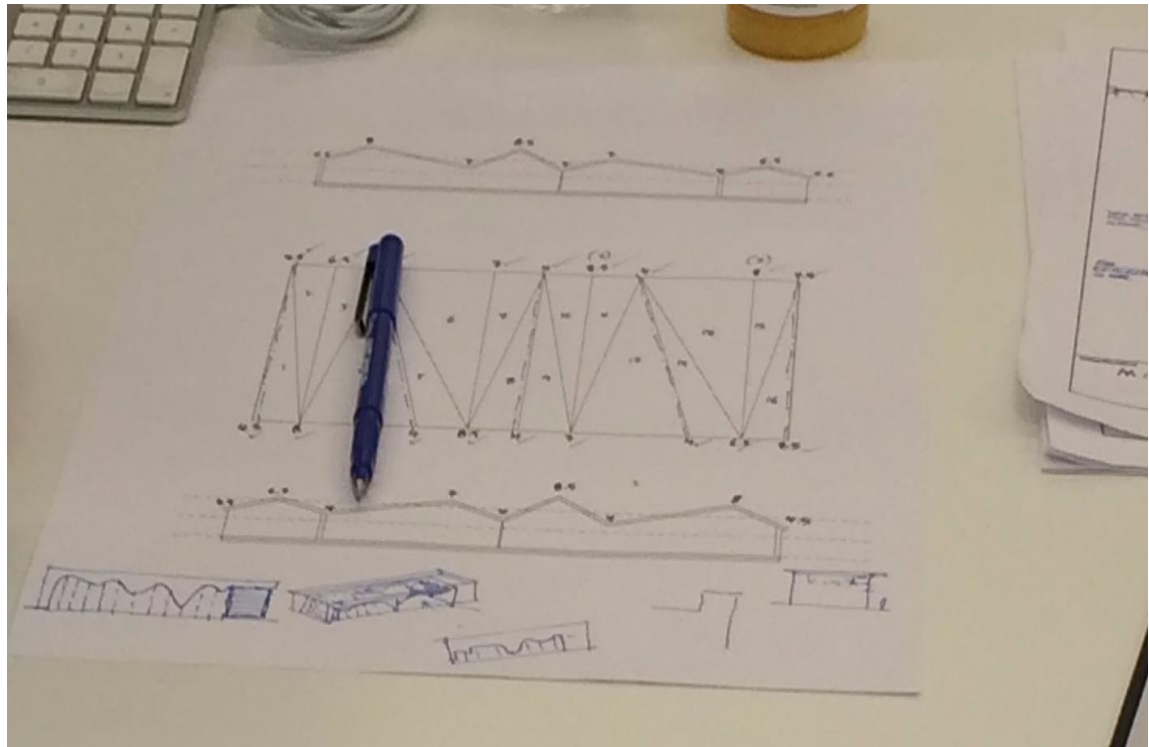
**Figure 5.3. Design options from the contract bid document**

Processes associated with organizational memory were evident throughout the preparation of these five options. For instance, while options one and two were prepared by means of looking at existing traditional designs for a kind of roof a building of this type would have, options three to five were prepared in line with the practicing principles of

ArchitectureCo - *'to be imaginative and pragmatic in delivery of service'* (Director W). In addition to the more 'traditional' flat roof option number three the architects on the project explored two alternative designs - a curved roof and a folding roof. Amongst the three, if the flat roof was the most 'pragmatic' design option and the folding roof the most 'imaginative', it was the curved roof that fell in the middle ground and, eventually, generated the most excitement amongst the architects and, later, the client. The qualification of different design types as either 'traditional', 'pragmatic' or 'imaginative' was only possible in relation to past experience of designing buildings. By labelling design work along these categories, Director W invoked elements of organizational memory into the design process (see also Chapter 7).

The three roof options (options 3-5 in Figure 5.3.), while designed with explicitly different intentions, all had correspondence with the values and principles that ArchitectureCo identified the products of their work with: imagination in the case of the folding roof (option 5), pragmatism in the case of the flat roof (option 3), and design in the case of the curved roof (option 4). The flat roof was considered to be a tried and tested solution as it could support a green roof that would allow the building to better 'relate directly to the surrounding ecology' (Senior Architect G). When working on the design the architects frequently referred to it as 'conservative', 'basic' and, most frequently, 'traditional' on the basis of it being the simplest to build but least 'interesting' as far as design went. Consequently, flat roof was not a personal preference of project architects during design. Option 5, the folding roof, initially generated most enthusiasm for the use of unorthodox shapes that it afforded. Asymmetric angles could provide for 'interesting' play with lighting subject to the use of different materials and the shape itself would add a 'dynamic' property to the building as it would appear slightly different depending on the vantage point from which it was to be observed once built. This design was described as *'orientated to maximize views across the lake from the dining/break out spaces'* and to *'relate to the different heights of the surrounding tree canopies'* (Contract Bid document). Project architects spent quite a lot of time determining the possible arrangement of shapes necessary for such a roof by going through hundreds of images found via Google Images. Some of those images were saved onto a project directory folder in the database.

A sample of the ones used as examples in the contract bid later on can be found in Figure 5.5.



**Figure 5.4. A sketch of one of the proposed roof designs.**

After a few attempts to sketch out a possible structure using CAD (Figure 5.4), the asymmetric roof design (option 5) fell out of favour as the architects concluded that it would 'cost too much to build' due to high degree of complexity (Senior Architect G). While the more current version of work-in-progress of a folding roof was included into the contract bid proposal, it was hoped by the project architects that the client does not select it. The final, curved roof, was given most detailed attention after the previous two options were dismissed, in a weak sense of the word, for their respective reasons. The curved roof was envisioned to also allow for a green roof but with the added benefit of extra space and light allowed by curving up towards the lake.

The curved roof (option 4) became a personal favourite for the project architects who believed it would create scenic 'visual spectacle' (Architect K) from the inside of the building as well as allow 'a multitude of possibilities for acoustic treatments and lighting'

(Senior Architect G). This was consistent with key design principles that project architects determined for this contract bid. The principles for this project were *'to provide a striking feature adjacent the lakeside and enhance views from the building across the lake'* (Director I). An appropriate design of the roof and ceiling were perceived to be key to actualizing these principles. Curved roof became an appealing option to the architects because it achieved these principles by means of a simple yet aesthetically interesting solution.

Preference for a particular design based on principles internal to the organization is in itself an instance of organizational memory. Design principles are not generated from new with every project but emerge from practice as the work on a conceptual outline of a new building begins. With the onset of this work, project architects attempt to determine a visual approximation of the brief provided by the client. In many ways this is an iterative process of arriving at a compromise between design and function, where function is the desired capability of a building expressed by the client. Observing three project go through conceptual design phase, two superficially and one in detail (Case 2), I witnessed that designs produced by ArchitectureCo would undergo a pragmatic-imaginative-pragmatic oscillation. This means that following the initial process of using web-search for visual representations of ideas for solutions to the design brief, architects would actually veer off, or get inspired, and produce more elaborate designs than perhaps necessary. At that point, they would reflect on whatever complex and/or innovative solution they had generated and return to a more pragmatic ground. The restaurant project was a model case for this as the design of the roof began with a very simple concept proceeding to a folding roof (which was determined as too complex to build within budgetary constraints) before settling preference on a compromise curved roof.





**Figure 5.5. Sample images for the design of the curved roof**

So what does this have to do with memory-like processes in organizations? First, the design brief came from the outside of the organization and was invariably influenced by the presence of other buildings of this type in the vicinity and elsewhere. Because the restaurant building was not the first building of its kind to be constructed, certain key constraints were imposed on the design even prior to the initial conception. Second, the normative dimension of what constitutes good architecture simultaneously preceded and emerged from the performance of work in a recursive way. Awards and distinguished cases, for instance, played a part in arriving at potentially successful principles, as did personal experiences of previous work.

The observations presented above suggest that organizational memory is most distinct from practice memory where a strong interpretation of some particular way of doing architecture is present. This was the case with ArchitectureCo who repeatedly designed buildings following certain design principles thought to be important/preferential by organizational decision makers. Interestingly, while the exact principles were never

coherently articulated, the designs produced by different teams in ArchitectureCo would still bear strong internal resemblance to one another at the same time as being significantly different from competing designs produced by competitors.

Observing how a contract bids are constructed can reveal much about processes with memory-like characteristics at the level of the organization. For one, manipulations of existing representations of the practice (existing buildings), whether from within or from the outside of the organization, reveal tendencies of what constitutes 'good architecture' for the organization. It can be readily surmised what the tenets of 'good architecture' are from observing how project architects interacted with the five options that needed to have been prepared for the bid document - the more traditional options have been determined to not be 'imaginative' enough and the most 'imaginative' option fell out of favour for pragmatic reasons. When juxtaposed with the project principle '*to provide a striking feature adjacent the lakeside and enhance views from the building across the lake*' (Director I), the choice of the curved roof option reveals the benchmark for what may constitute a 'striking feature'. This, in turn, brings forth the normativity of 'thoughts' that shape the organizational memory of ArchitectureCo.

### 5.3.3 Design reviews

Previous sections highlighted the importance of normativity for the performance of organizational memory. Normativity is an ongoing effort of monitoring and appraisal. Both of these are done by architects who are also managers, or in charge of managerial functions. This overlap between practices of architecture and business administration is worth noting as it has a strong claim to constituting a process which makes organizational memory normative (which, as I discussed above, is what distinguished organizational memory from practice memory). During the 15 months' observation period, those architects most aligned to ArchitectureCo's vision of architecture AND consistent at winning awards and clients were the ones promoted into managerial roles. Conversely, a successful architect who repeatedly pushed in a direction not supported by management's vision for ArchitectureCo left the firm 7 months into the data collection period. Architects who did get promoted and maybe even made partners in the Company



would then find themselves in a position to review the design work of their colleagues. In the absence of any formal metrics, the experience of producing ArchitectureCo-approved work in the past became a primary yardstick against which I observed them evaluate designs decisions of their peers and employees. This is not to suggest that architects newly promoted to managerial roles vehemently maintained status quo – what they did was draw on their best judgement to do the best job they could do. The following examples provide illustration:

*“it’s not enough to make something interesting – it is very important to make sure that what they [fellow architects] work on does not stand out too much [from the organizational portfolio]” (Director W)*

*“the way I go about it is by looking at the technical quality of the design but also at whether it would be possible for me to have someone else continue working on it should that person [the author of the design] leave the project for any reason” (Associate Director R)*

*“all of our new recruits are exceptionally bright and have great potential to become great architects. There is no problem here. What I do try to foster in them is a sense of appreciation of what our practice [ArchitectureCo] stands for – where it came from and why. I think this is very important for them to understand if they wish to succeed.” (Director I)*

The organizational memory is made noticeable in that the values and priorities exposed by the senior architects in the quotes above were contingent on the particular interpretation of architecture as perpetuated by ArchitectureCo (and reified via their numerous awards).

Continuing with the example of the roof design for the restaurant project, the curved roof that both the project architects and the client were very keen on failed the design review and had to be changed (Figure 5.6). In effect, following the presentation of the project to the design review team project architects received feedback on which parts of their

design of the restaurant project building need to be adjusted. In terms of the roof design, ArchitectureCo directors on the design review team pointed out a few shortcomings in the existing plans. For one, they disagreed with the project architects that a curved roof would deliver enhanced views over the lake from the inside so it had to be changed despite this also being a preferred option for the client. As the architect explained to the client in an email a few days later:

*“We have given serious consideration to the roof / ceiling design, especially when using both the dining and break out space as one area for banqueting. We felt the sweeping form of the ceiling set against the downstand supporting the moveable wall would detract too much from the visual spectacle you expect to see when stood within the dining space looking back along the ceiling line. The horizontal downstand provides an uncomfortable junction against the sweeping form of the ceiling. Other elements of concern regarding this roof design are acoustics and AV requirements. We are now proposing to use a flat ceiling approach as this helps us resolve a number of these issues” (Architect K).*

It is noteworthy that in this letter to the client Architect K is using the pronoun ‘we’ to refer to ArchitectureCo. In many ways, this highlights the normative dimension that ‘thoughts’ bring to the memory of the organization. On the one hand, a record (Figure 5.3) of how project architects for the restaurant facility were guided towards a more ArchitectureCo appropriate choice of design exists in the corporate archive. On the other hand, external actors will only remember that ArchitectureCo adjusted a previously agreed-upon design because due to pragmatic concerns. This facilitates a certain image of the organization as remembered by both the internal and external actors. Given that internal records received little attention from organizational members, it is safe to suggest that, in this case, the way organization is going to be remembered by external actors will probably have a stronger impact on organizational memory.

## GENERAL DESIGN REVIEW CHECKLIST

Project: [REDACTED] *R. D. [REDACTED]*

Client: [REDACTED]

Date: *5/9/16* Job No: ..... RIBA Stage: *6/10*

Project Architect / Presenter: [REDACTED] Director Present: *R. D. [REDACTED]*

Colleagues Present: [REDACTED]

Construction Budget: *\$2.5 million construction*

Programme: .....

### NOTES / COMMENTS

- OCCUPANCY 315
- SEPARATE DINING + FUNCTION
- RE-HEAT KITCHEN
- GRILL FRAME
- LOOKING AT TIMBER SOFFIT
- KITCHEN/ BACK OF HOUSE LOOKS SMALL - FLIP ROUND 90° TO MOVE STORAGE TO REAR WALL.
- SCISSOR/FOLDING DOOR INTERNALLY WOULD BE AN AWKWARD DETAIL AGAINST THE CURVED SOFFIT.
- ENTRANCE SPACE LOOKS RESTRICTED (ESPECIALLY IF THERE WERE 2 EVENTS HAPPENING AT ONCE).
- BACK OF HOUSE COULD BE LOWER SEPARATE BLOCK (COULD BE MASSIVE)
- REVIEW AV REQUIREMENTS + HOUSING.
- REVIEW ROOFORM.
- EPC
- EPC A EXCELLENT.
- BREEM
- DIRECT HEATING.
- TRYING TO AVOID PV ON ROOF FOR AESTHETIC REASONS.

Key Considerations Sustainability  
CDM

Figure 5.6. Results of a design review

This episode, and others like it, suggests a disproportionate role in the determination of the normative aspect of the organizational memory of ArchitectureCo that more senior architects play. While it is difficult to correlate whether being part of the senior

management team produces more bearing on the decisions of what constitutes 'good architecture' the fact remains that in ArchitectureCo there are no senior architects who are not on the senior management team in either a direct or associated position. Similarly, during a different design review for a building restoration project, significant changes were made because of comments by one of the directors who was also the most senior member of the senior management team on the design review team. When asked about the purpose and process of design review meetings, he elaborated that:

*'She is a good architect but this is a very sensitive building and she's never done anything like this before. I have worked on restoration before and there are some things that you need to be aware of when working with older buildings. Some things that you would do on normal projects you just can't do here. This is something I showed her and we'll see if it's right when she makes the changes [in the design]'*  
(Director W).

The desired changes were made and, after the renovation of the building has been completed, it went on to win a number of significant awards and was even featured in regional news outlets.

For the normative dimension of organizational memory-like processes within organizations, it certainly seems plausible that thoughts on what makes 'good architecture' for ArchitectureCo are well grounded in the broader environment of their practice. The last design review example clearly shows how thought-influenced experiences of previous work translate into awards and distinguished cases, which, in turn, are very likely to influence thoughts that will inform future experiences. Because awards find their way into email signatures sent both within and outside of the organization, and onto the walls of the entrance to ArchitectureCo's offices, these buildings become visual artefacts. Having observed the process of preparing a new contract bid, it is clear that the main thrust behind developing an initial design comes from visual artefacts of distinguished cases and/or award-winning buildings (not least because those are much easier to find when looking for visual cues and elements of design).

A ready comparison of this normative dimension of collective memory to organizational memory as constituted in organizational culture comes to mind (Barney, 1986, Pfeffer, 1981). Both appear to shape, and be shaped, by prior experiences of collective work and both can be used in procreation of organizational storytelling. However, ‘thoughts’ (Schatzki, 2006) as a component of organizational memory are different to culture as organizational memory. The latter is normally conceptualized in terms of collective habits described by a ubiquitous “this is how we do things around here” (Deal and Kennedy, 1982), whereas the former represents a minority opinion of “how things should be done around here”. A key point being that if ‘good architecture’ was ingrained in ArchitectureCo as a ‘culture’, no design reviews would be necessary to adjust any work as organizational members would simply do the things the usual way. What I observed, on the other hand, clearly demonstrates that even experienced architects with long tenures at the firm are subject to realignment in how they approach particular designs. This is because normativity is not a property of the entire collective but rather a small, managerially endowed, subset of it (Nissley and Casey, 2002). It is worth further noting that I am not interpreting a tyrannical portrait of norm-setters but merely the caretakers of prior successful (as determined by peer-recognized awards and distinguished cases) experiences.

#### 5.4. EXPERIENCES: VISCERAL PERFORMANCES OF ORGANIZATIONAL MEMORY

The ‘experiences’ component of Schatzki’s (2006) definition of organizational memory foregrounds the thoughts and actions of its most experienced members, i.e. experts (Hsiao et al., 2012; Kravcenko and Swan, 2016; Lave and Wenger, 1991; Schatzki, 2002, 2012); as well as the ways in which new members are socialized into particular attitudes and practices of architecture. Accordingly, these are closely related to the concept of knowledge. Because Schatzki (2006) is positioned within a broadly Heideggerian tradition, he is likely to be avoiding the more objective and static term ‘knowledge’ in favour of a more phenomenological and idiosyncratic term ‘experience’. A fundamental

concept of Heideggerian phenomenology (Chapter 3) is 'being-in-the-world', which, both for Heidegger (1969, 1978) and for Schatzki (1997, 2002, 2006, 2012) is rooted in the degree to which individuals are attuned to their environments (Umwelt – see section 3.2). This means that individual experiences of practices have a degree of uniqueness and that there are limits on how well these experiences can be communicated to others. This, of course, is an issue for organizational memory because organizational memory is inherently social.

Practice-theoretical perspective does offer a way to bridge the gap between tacit experiences of individuals and shared attitudes to collective practices arising from them. This is done through material arrangements and through regimented activities that make up practices. Both of these will be considered in this section. The role of materiality is especially noteworthy, as it routinely has an effect on, and participates in, everyday work practices (Kravcenko and Swan, 2016; Monteiro and Nicolini, 2013; Nicolini, Mengis and Swan, 2012). Because ArchitectureCo was based in a single location, all materiality was also collocated as well as shared by all employees of the firm. Kelleher (2001) noted that shared materiality performs an important organizing function by making up the 'connective tissue' of an environment where people interact (p. 224). Writing about homes, Rochberg-Halton (1984) suggested that shared materiality not only distinguishes one house from another, but also designates the function of different spaces within a house (i.e. pots and pans mean kitchen). Similarly, the shared materiality of ArchitectureCo (the office, desks, storage units, awards, computers etc.) facilitated the sharing of tacit experiences between architects by providing the 'connective tissue' - it made it possible for architects to have point of reference in the external world when reflecting or communicating their experiences to each other.

However, shared materiality can only partially be attributed to organizational memory. This is because much of what makes up architectural firms is tools of architectural work. Neither the physical models nor the blueprints or drawings, or even iMacs with CAD software were specific to ArchitectureCo. In fact, vast majority of shared materiality found in ArchitectureCo was there because ArchitectureCo was an architectural firm – it was a shared materiality of a practice, consisting mainly of appropriate tools of work. If

this is so, how is shared materiality relevant to organizational memory or even to experiences? The starting question was how individuals are able to translate their personal and idiosyncratic experience of the world onto a collective level where it can be made intelligible by others. Practice view sensitizes research to a number of social aspects, materiality being one of the key ones. Establishing the means by which individuals can relate their respective experiences to one another – through shared materiality – highlighted the role of practice memory (Schatzki, 2006). Practice memory, however, does not equal organizational memory. Therefore, having established that practitioners communicate their experiences with reference to the tools and conditions of their work (shared materiality) I will now attempt to discern what is it that organizations do to qualify individual experiences as parts of organizational memory.

A finely tuned frame of reference is required in order to understand whether individual experiences feed into organizational memory or remain at the level of a practice. This is because separating practice memory from organizational memory is difficult because of organizational memory largely consisting of practice memory (Schatzki, 2006). Yet, the two are clearly different, not least because not all organizations engaged with the same practice are identical. Brown and Duguid (2000) propose a way to navigate this conundrum by suggesting a way of thinking about how practices relate to organizations. According to them, practices become ‘organizational’ only as far as processes keep them together. Visualizing processes as “*vertical structures creating an organizational spine*” (p. 93), Brown and Duguid argue that the productive characteristics of practices need to be structured by processes in order to allow coordination. Similarly, organizational processes require practices in order to avoid becoming “*increasingly static*” (p. 94). With regards to arriving at a frame of reference needed to understand the role of experiences in organizational memory, Brown and Duguid’s (2000) way of conceptualizing organizational practices is very useful because it shows that a) practices span organizations, consistent with Schatzki (2002, 2006, 2012), and b) organizations coordinate their activities by imposing processes upon practices. Individual experiences, in the context of Schatzki’s (2006) definition discussed above, arise from practices and the shared materiality of practices. It then follows that what makes experiences organizational is processes, or, to be more specific, the coordinating effects of processes.

While there is a lack of consensus in the management literature about what a 'process' is (Sandberg, Loacker and Alvesson, 2015), Brown and Duguid (2000: 94) mention that process entails the setting of organizational agendas. Organizational agendas overlap with organizational goals as well as with practical concerns of individuals (Lave and Wenger, 1991; Wenger and Snyder, 2000; Nicolini, 2011), meaning that individual experiences of work traverse into the realm of organizational memory following orthogonal interaction between process and practice. For example, a major practical concern for architects is safety and sustainability of a building; this is unrelated to the concept of organizational memory as a practice. Similarly, key organizational agendas are profitability and repeat business; neither of which relate to the concept of organizational memory as a practice either. However, the ways in which architects balance responsibility for producing safe and sustainable designs with the organizational goals of staying in business is relevant to the concept of organizational memory as a practice. Individual experiences then contribute to organizational memory, as defined by Schatzki (2006), by means of reflecting how practitioners negotiate the competing forces of process and practice.

The following excerpt from Case 1 (the £30 million office building extension project) will illustrate this by reporting on how a team of ArchitectureCo attempted to balance a practical concern for sustainability with an organizational agenda for delivering contract on time and to commissioned specifications. Interacting with a number of colleagues from other disciplines, members of ArchitectureCo made use of shared materiality in order to both safeguard their practical concerns and maintain organizational interests (perhaps leaning more towards the latter in the end).

The vignette below picks up at a point when part of building design came under most the significant threat of being altered, much to the dismay of ArchitectureCo who developed it. The proposed alterations had to do with the results of a thermal model which showed unsatisfactory thermodynamic performance of a design already under construction. ArchitectureCo were the leading architects on the project as well as contract administrators. Other parties comprised various engineers, the construction company



and a quantitative survey company (i.e. financial control). These specialists (see table 5.1 for details) were assembled into a 'Design Team' for the project. The purpose of a design team is to integrate design drawings and other technical information into an ongoing construction of a building.

While the different professionals on the design team were expected to work collaboratively and towards a common goal, they were not part of the same organization. In fact, majority of their work was spent at separate locations (e.g. ArchitectureCo and EngineersCo were based 130 km apart) and they would only ever convene for regular meetings. These were called design team meetings (DTMs) and during the early and middle stages of the project the team would assemble for a DTM at ConstructionCo's site offices on a fortnightly basis. The DTM was a space in which specialists to update each other on the progress of construction and development of the design, as well as to address more complicated issues not readily resolved by phone or email. DTMs lasted for an average of five hours with some of the longest ones falling just short of eight.

Approximately three months into the construction of the building members of the design team recognized that they lacked a detailed and reliable understanding of how the building was expected to perform in terms of its thermal signature and environmental impact. More pressingly, ArchitectureCo, as the party responsible for the design of the building, was required to submit evidence in the form of a thermal model to the local regulatory authorities for approval. Securing this approval was crucial to ensuring uninterrupted construction process. The model, however, was not available and could not be readily produced because EngineersCo, a party responsible for producing this particular artefact, did not understand nor agree on the interpretation of data that was supposed to be inputted into the model.

A design meeting was convened to address some of the assumptions relevant to thermal appraisal and an existing, presumably incorrect, thermal model was interrogated. Discussions during this initial meeting not only surfaced divergent experiences of construction work but also gave first glance of how multiple parties may be attempting to sway each other's respective experiences for own benefit. Unlike ArchitectureCo,

members of EngineersCo and ConstructionCo were convinced that the project was at high risk because the existing thermal model indicated non-compliance with the local authority regulations and, consequently, contractual obligations. To exacerbate the matter, it was not possible to verify the accuracy of data in the existing thermal model without considerable input from an external party (ConsultantsCo) which proved difficult to obtain.

	<b>ArchitectureCo</b>	<b>EngineersCo</b>	<b>ConstructionCo</b>	<b>ConsultantsCo</b>
<b>Professionals on the design team</b>	Senior Architect	Senior Engineer	Construction Manager	Consulting Engineer
	Architect	Engineer	Quantitative Surveyor	
<b>Affiliation</b>	Independent	ConstructionCo subsidiary	Independent	Independent
<b>Affiliation on project</b>	ConstructionCo	ConstructionCo	Client	Client

**Table 5.1. Composition of the design team and respective practical concerns**

Thermal models depend on complex mathematical equations that involve incorporating data on design and building specifications (e.g., predicted energy consumption, number of building users) into a two and/or three-dimensional model (IES Virtual Environment in this case). This is then used to simulate the energy consumption of a building over a period of a year. Some of the information that goes into the thermal model can include variables such as regulated energy consumption (fixed lightings, heating, etc.), unregulated energy consumption (any item that can be plugged into a socket), and renewable energy production to offset consumption (solar panels, wind turbines, etc.). Within the region where the building was being constructed, local planning authorities

required 10% of the predicted energy consumption of a building to be produced on site, or in from a renewable energy source nearby. The core of the issue, as will be seen below, was that professionals on the design team were unsure about whether the 10% renewable energy generation figure was to be calculated opposite the regulated energy consumption alone, or also on predictions for the unregulated energy consumption.

Although the thermal model was within the expertise domain of EngineersCo, ArchitectureCo were the ones responsible to submitting the results of thermal modelling to local planning authorities as part of their contract administration responsibilities. This resulted in the following experiential alignments - EngineersCo had the specialist knowledge about the workings and constitution of the thermal model, while ArchitectureCo were well informed on the wider business and regulatory environment surrounding the construction project in general given their higher understanding of building regulations and various practicalities associated with them. Table 5.2 represents overall positions and awareness of each group in relation to the thermal model.

	<b>ArchitectureCo</b>	<b>EngineersCo</b>	<b>ConstructionCo</b>
<b>Position regarding the Thermal Model</b>	To be completed as soon as possible. Negotiation and interpretation of inputs acceptable.	Requires comprehensive data and calculations. Needs to be fully compliant with the contract and regulations.	Is a risk to the construction process that needs to be overcome as soon as possible.
<b>Knowledge about thermal modelling</b>	Low	High	Low
<b>Knowledge of regulations</b>	High	Low	Intermediate

**Table 5.2. Relative positions of expertise with respect to the thermal model**

Events in the following sequence demonstrate how a senior project architect navigates collaborative work in order to achieve acceptable balance between process and practice.

Consequently, there is significant space to observe symptoms of memory-like processes as architects interpret architecture in light of ArchitectureCo's interests. The vignette is presented in two parts: 1) emergence of distinctions between agendas of different practitioners and 2) the use and production of experiences from negotiating process and practice. The first part begins when issues caused by the thermal model were first brought up in an email exchange between ConstructionCo, ArchitectureCo and the rest of the design team (see email trails below). The conversation centred on a request for an overdue item from EnginnersCo:

Email from Construction Manager (ConstructionCo) to the Design Team:

*ArchitectureCo is desperate for all remaining info to be forwarded to them for issue to Building Control, at the moment we are constructing the building at risk as they have not signed off any of the calcs etc. We asked for this info for over four weeks ago and each agreed date has been missed. Therefore can you please issue all information as requested by end of this year.*

Simultaneous email from ArchitectureCo to EngineersCo:

*We really need to issue your thermal model that is in line with your design [for mechanical and electrical services]. The ConsultantsCo results are not conclusive and cannot be submitted as this will cause confusion down the line with Building Control.*

Reply by EngineersCo to ArchitectureCo:

*[...] we need to evaluate and check all the revised AV [Audio Visual equipment] requirements issued last Thursday, also we need to complete our preliminary lighting design. We also need to carry out full due-diligence checks. We apologize for any inconvenience this may cause, but we need the thermal model to be as correct as possible and not lead us into a false sense of security.*

As is evident from the above exchange, the thermal model and all associated work has been collectively established to be in the domain of the engineers. That being said, the submission of the thermal model to local authorities fell on the ArchitectureCo. While the

architects had no capability to produce such a complex, technical engineering artefact they, nonetheless, bore responsibility for ensuring that the construction process followed through all the proper judicial-administrative protocols maintained by the local building control. It is for this reason that they requested the thermal model from the engineers via the design team as well as directly. EngineersCo declined the request stating that it would take another few months for them to produce a satisfactory model that would be able to meet contractual and regulatory obligations. Following this initial virtual interaction, the construction manager then made another attempt at pressing for the thermal model by email, which was formally rebuffed by EngineersCo. All parties then agreed to resolve the situation in a joint phone call the following day. During that discussion, mechanical engineers from EngineersCo convinced the construction manager and the architects that it would be neither possible nor wise to submit an incomplete thermal model to building control at this time.

The situation brought to the fore the practical concerns of each group. Obtaining planning permissions and keeping in line with regulatory procedures is within the field of responsibility of ArchitectureCo, so the architects were obviously keen to submit the required documents to local authorities on schedule. However, these documents (thermal model results) could be only sourced from mechanical engineers from EngineersCo, who were reasonably reluctant to produce anything that might 'lead us into a false sense of security'. Not accountable for the progress of the project as far as contract administration was concerned, engineers were determined to continue working on the model for as long as they deemed necessary. ConstructionCo found themselves in a situation of high uncertainty in relation to ArchitectureCo and EngineersCo, unable to expedite the production of the thermal model nor fully appreciating the position ArchitectureCo found themselves in with regards to contract administration duties. At this point this position enveloped conflicting priorities - from the point of view of architectural practice, it was important to make certain the thermal model represented energy production and consumption in the best possible way; from the point of view of architectural process, however, inability of EngineersCo to produce something they were responsible for on time was an unwelcome nuisance that could, potentially, delay other work and incur penalties.

Fifteen weeks from the initial interaction presented above, the design team was no closer to a satisfactory thermal model than before. Minor progress was made towards identifying why the existing model seemed inadequate, and the design team was approaching a scheduled DTM where a discussion devoted to this issue would take place. As anticipated, the aim of that part of the meeting was to assure that 10% of building's energy consumption would come from renewable sources, as per regulations. The fact that the current thermal model still indicated non-compliance with the 10% requirement was an unexpected finding since, as was discovered by the senior architect, ConsultantsCo submitted the thermal performance principles that were approved by the planning authorities some time prior to the onset of construction. In light of this, the design team attempted to make sense of the data and the assumptions embedded in the existing thermal model. Simultaneously, an effort to interpret the terminology of the regulatory document in order to understand the grounding of the issue took place. Both of these processes resulted in the detailed checking of the validity of the input data in EngineersCo's thermal model.

The initial statement by the quantitative surveyor (ConstructionCo), who was to examine the regulatory documents prior to the meeting, suggested that the thermal model results should be in line with the required indicators:

*[...] the way in which the total predicted energy amount is calculated is based on regulated and unregulated emissions ... the predicted energy consumption of the building, which seems to be 54.83 Kw/m<sup>2</sup>, as has been suggested by ConsultantsCo, seems to be based on just the regulated amount ... [as for] the renewable energy [it] creates 6.28 Kw/h per m<sup>2</sup>, I guess that would be then 11.4% of the regulated energy (Quantitative Surveyor, fieldwork notes DTM13).*

Following this, the quantitative surveyor quickly added that the document supplied to the local authority did not seem to be correct, as it did not include unregulated energy consumption. This was met with widespread approval throughout the design team as it confirmed pre-existing apprehensions about regulatory requirements. Accepting the

quantitative surveyor's suggestion as true for the time being, the design team began to interrogate validity of raw input data that went into EngineersCo's non-compliant thermal model as shown by the dialogue below.

Construction Manager (ConstructionCo): *... you said here that the output [from the thermal model] is from the BRUKL total certificate [energy consumption document submitted with the planning application by ConsultantsCo]. How would you establish that?*

Senior Engineer (EngineersCo): *Through the thermal model.*

Construction Manager: *So you drew your thermal model?*

Senior Engineer: *... we drew our thermal model, put in the renewables based all the PV [solar energy panels] on the roof etc., and we come up with that figure.*

Construction Manager: *So you come up with the same 54.83?*

Engineer (EngineersCo): *Yeah, that ... As far as I'm aware.*

Construction Manager: *In our view, how you came to that statement is what we're struggling with...*

Engineer: *We've re-issued our model to you ...*

Quantitative Surveyor: *...it just seems a remarkable coincidence that these [thermal model results] would be the same [as those suggested by ConsultantsCo but based on regulated energy consumption only]!*

Drawing on the information available to all parties (such as the BRUKL certificate submitted much earlier in the project, basic knowledge of building thermodynamics) as well as construction experience, the construction manager attempted to further interrogate professionally inaccessible mechanics of thermal modelling. However, since materiality used to create the model was not part of the shared materiality available to ConstructionCo, it was not clear to them how EngineersCo's thermal model was showing identical results to the one provided by ConsultantsCo but still remained non-compliant with the 10% requirement was unclear. On the other hand, for the engineers from EngineersCo, such questioning of the way they did their work was most bewildering.

In an effort to defuse the growing tension caused by the failure to reach a common understanding of the mechanics behind the thermal model, EngineersCo purposefully shifted the thrust of the conversation towards the terminology surrounding the regulatory requirement. As far as EngineersCo were concerned, interrogating the way a thermal model is put together was irrelevant and what required investigation was the data that went into the model.

Engineer: *What I would've done, if I would be looking at this job as a consultant - I'd probably say, "look we've been looking at regulated; we can't work out the unregulated, but we can do benchmarks and we can do calculations on benchmarks, which then we could give you an indication".*

Construction Manager: *They [ConsultantsCo] just can't be asked.*

Quantitative Surveyor: *In principle, in our documents, are instances when it can come down to variations.*

Construction Manager: *Yes, it's somewhere. The caveat where you can say that for certain reasons... this is why we haven't... [met the requirements] I've read it yesterday*

Engineer: *Yeah, I mean, now at this point in time we could do it - we could make assessments, footplans, but then we'd have to go to them and say "look, it's not 10% - it could be whatever!"*

Senior Engineer (EngineersCo): *It's a double barrel there because all the information ConsultantsCo provided, PV [solar energy panels], etc., that was all compliant with that requirement. But now, all of a sudden, we may have to find money for extra PV [solar energy panels] to meet that requirement.*

Senior Architect (ArchitectureCo): *How much more PV would you require and where would we put it?*

Engineer and Senior Engineer: *Well, we don't know.*

Architect: *And where would we put it?*

Senior Engineer: *Yes, where would we put it!?*

While it may appear that up until now there was little to no explicit input from the architect in the presented situation, it is important to recognize that architectural



practice is only possible in conjunction with other specialists. What was observed thus far was a glimpse of architectural practice, but not of architectural process (Brown and Duguid, 2000). Performing their work largely in the absence of process, these specialists displayed limited structure but heightened contestation (Engestrom, 1987; Nicolini, 2007) and indeterminacy (Rouse, 2007). Brown and Duguid (2000) suggested that practices devoid of processes may take on a rather haphazard form. This is observable in the data above, especially when considered in light of Schatzki's (2006) emphasis on the purposiveness of both the organizational and practice memory. In the absence of shared materiality and of adequate process, it repeatedly proved troublesome for the design team to build upon their individual experiences to resolve the matter. These results support the thinking that preceded the vignette, where it was anticipated that process plays a key role in enabling the translation of individual experiences of and from practice into organizational memory.

The following part of the vignette continues observations of the same situation. Here, however, the architects introduce a degree of process into collective work with the result being a more structured, directed and ArchitectureCo-solicited decision concerning the thermal model. The observations presented below not only demonstrate that importing process into a practice gets the work done, but also that organization-specific process can import organization-specific agendas into the said work. This theme will emerge again in Chapter 6, foregrounding how 'thoughts' (see section 5.2) making up organizational memory of ArchitectureCo shape the way collective work is done even on an inter-organizational level. Here, however, the introduction of process by the architect allowed for the emergence of experiences relevant to the resolution of the thermal model problem.

Commenting on the events presented as part of the vignette above, Senior Architect G reported the following:

*If ConsultantsCo, who have been on this project since day one, are not worried then neither am I [...] planners signed it off, and not as a condition but actually signed it off, so I wouldn't be worried about this [...] the whole thing will just go away, but if*

*not it's up to EngineersCo to sort this out – they are the ones making the [thermal] model. [...] It is a responsibility of EngineersCo and a conversation between EngineersCo and ConsultantsCo, not my problem really (conversation with Senior Architect G after DMT13).*

When later approached to elaborate on the above statement more, Senior Architect G shed further light on his experience of practicing architecture concerning the issues around the thermal model:

*You have to learn that you are in a very specific place in a project and that you are there for a reason. Your job is to make sure other people do theirs and not do it for them. I really dislike... there is nothing worse for me then having to get on the phone and tell people to do what they're supposed to be doing anyway. And everybody knows what they're supposed to be doing! We've all been practicing this for a while. But every so often others will try to put [part of their workload] on you... It's something I had to learn early on when I started out as an architect – I'm really happy to be a nice guy and non-confrontational but when you end up spending Sunday evening at the office because the other guy didn't do it and you have to pick up the slack... and it's not his fault, it's yours for allowing others to put you in this position! [...] basically I learned through doing this over time that it's important to keep those professional boundaries in place [...] not only for my own sake in terms of spending time with my family [...] but, ultimately, for the good of the project because I really can't be going around doing other people's work for them (conversation with Senior Architect G prior to DTM 14).*

The two conversations above shed insight into the role of experience in the organizational memory ArchitectureCo. The comments by Senior Architect G repeatedly alluded to the distinction between practicing architecture and architecture as a process. Specifically, references to “everybody knows what they’re supposed to be doing” and “we’ve all been practicing this for a while” point to individual experiences that have to do with qualification for the job; while references to do with learning to “keep professional boundaries in place” indicate the more functional role of individual experiences of

practicing architecture within the bounds of organizational processes. This suggests that individual experiences of doing architecture contribute to organizational memory only in the context of organizational processes as defined by Brown and Duguid (2000).

This part begins when the construction manager (ConstructionCo) proposed increasing the generation of renewable energy by adding more solar energy panels (PV). This would alter the design of the building and require procurement of additional units of this expensive technology. Yet, it would increase the share of renewable energy that could potentially offset the perceived shortfall in meeting the regulatory requirement of 10% renewable energy generation.

While adding solar panels would be merely inconvenient for EngineersCo (on account of re-doing large amounts of calculations) and ConstructionCo (on account of having to purchase the PV panels), it was highly undesirable for ArchitectureCo because it would involve many hours of (unwarranted) design and redesign work. For architects, altering the design would change the aesthetics of the roof of the new building as well as generate numerous additional drawings of these changes and coordinate them with all other technical drawings that were already agreed upon and signed off. Furthermore, a change of such magnitude would require formal approval from the client. Gaining such approval of design changes from the client involved starting a highly formal, lengthy and energy consuming process of cross-organizational bureaucracy. In a nutshell, ArchitectureCo now faced the challenge of constructing a space that would make their practical concerns (to not alter existing design) intelligible to others and, in the event they fail to do so, to propose an alternative course of action.

Construction Manager (ConstructionCo): *That would mean almost doubling the PV's, going up to 12%.*

Architect (ArchitectureCo): *Can't we take... we can agree with ConsultantsCo that they can adjust the equation, because in theory CHP [combined heat and power] is a form of renewable as it were. And could we work in the district heating for the whole location?*

Quantitative Surveyor (ConstructionCo): *Consulting Engineer (ConsultantsCo) did mention that was a possibility. I think the difficulty with that is that he's got a hell of a lot calculation to do to prove consumption of energy by every building.*

Architect: *Well, we really can't have more PV.*

Engineer (EngineersCo): *Yeah, we know that...*

Architect: *If we put more PV on the new building where the only real place is the plant room roof behind the parapet, then we'd have to re-check all the loadings for the roof.*

Engineer: *Yeah... I mean if you went through all the methods...*

Senior Engineer: *One of the problems at the moment is that there is nobody in the council who can provide the information on where or if that's needed.*

Architect: *That's one question that may determine what we're going to do. The council may consider reducing the 10% requirement if combined heat and power usage is implemented and the building can demonstrate that this provides sufficient carbon savings. Percentage reduction will depend on individual circumstances of development and the size of the CHP. So this may be key to getting this 10% to work.*

ArchitectureCo purposefully established a firm boundary between themselves and the design team on anything that had to do with proposing design changes to the roof of the building. The boundary was clearly manifest by active refusal to engage in any kind of deliberation, hypothetical or not, on design alterations. This is because from an architectural perspective such change was undesirable, so, instead, the architects put forwards an alternative course of action. Note that this course of action is consistent with what Senior Architect G reported at the beginning of the second part of the vignette above. In it, s/he talks about learning to manipulate boundaries in interdisciplinary work as one of the key skills of being a 'good' architect as far as process is concerned. Drawing on their extensive knowledge of the industry, architects proposed that instead of trying to make sense of regulatory requirements within the team, the design team ought to contact the local authority under a guise and enquire about this one particular clause in the regulations (the one about which type of energy, regulated and/or unregulated, to include in thermal modelling). This would alleviate uncertainty over potential non-

compliance with the 10% requirement with minimum effort and, most importantly, no additional architectural work.

Senior Architect (ArchitectureCo): *I can contact them on another project and discuss it.*

Engineer (EngineersCo): *As in?*

Architect: *To say, you know, what is your opinion? We're looking to put a scheme together in your area.*

Engineer: *If I was ringing the council cold, the question I would like to ask is how strict are the council about meeting this 10% regulation on unregulated energy?*

Senior Architect: *A lot of councils have dropped this. Furthermore, we're enclosing the whole building, we're reaching BREEAM Excellent and EPC A rating [both top environmental performance ratings], and we've got PV, lots of it! And OK, the calculations are showing 5% but in reality we're doing a lot more for the environment, so will you allow that to be dropped in terms of unregulated energy.*

Engineer: *Well that's the email we had from Consulting Engineer, which we are basically in agreement with. We agree that it's all better than building up to regulation. But then there is the contract clause that we should comply with.*

Senior Architect: *I did speak to the regional planning consultants on this matter as well, and asked their opinion. Their opinion, on the sustainability team, is that they had this problem in the past on other big projects and the way they got around it is by keeping stumped. Basically, because the planners generally don't have people to monitor this until next year, when they will have to employ a monitoring person who could pick up on this, and by then it's too late to start monitoring this - if it's been discharged and you've finished.*

Engineer: *Right...*

Senior Architect: *So he said if you can avoid having this condition discharged, it's really best not to open this can of worms. So that was his recommendation.*

Drawing on a deep understanding of the regulatory framework, Senior Architect proposes that instead of engaging in definitional struggles with each other, the design team should continue with construction as it is. This proposal was based on the

experiences of the architect and a consultation with trusted colleagues who are experts on the matter. The conclusion was that because it is practically difficult for local authorities to oversee compliance with this particular clause on every occasion it might be best to proceed with construction as normal and not attract too much attention to the project by asking for clarifications from external parties. In the event the project would, after all, be challenged the architect expressed certainty that in light of the generally impressive environmental performance of the building, local authorities would overlook the violation. In the end, the combined pressure of thermal model submission deadlines and uncertainty over a risk-free course of action effectively paralyzed any action by the engineering part of the design team – an outcome most eagerly facilitated by ArchitectureCo.

In summary, it appears that experiences contribute to organizational memory only where practices are performed with reference to organizational processes, as defined by Brown and Duguid (2000). This seems intuitively correct, as in order for experiences of practice to traverse into the realm of the organization there ought to be some kind of contextual framing in place (similar to Tuertscher, Garud, and Kumaraswamy, 2014). Consequently, it is key to consider how experiences of practices interplay with organizational processes in order to understand the contribution of what practitioners do to organizational memory. At the same time, this aspect of Schatzki's (2006) definition illuminates the importance of organizational processes and the coordinating effect they have on practices. As Brown and Duguid (2000) pointed out, too much process runs the risk of suffocating practices whereas too little process negates the organization altogether. This seems to hold true for organizational memory as well – as experiences of practices inform organizational processes, organizational processes enable the experiences to contribute to organizational memory. However, too little process not only disengages organizational memory from individual experiences needed for it to grow and continue, but also exposes existing processes to the outside influence of external organizations. This is what happened in the vignette above, as ArchitectureCo imported their organizational process into the otherwise poorly structured interdisciplinary performance of architectural practice in order to press for a favourable result.

## 5.4 ABILITIES AND READINESSES

In this section, I will consider the role of abilities and readiesses in organizational memory together. This is because, as was outlined at the beginning of section 4.1, abilities and readiesses are closely related; with readiesses being a future state of abilities (similar to Nicolini, 2009). The function of abilities in organizational memory is closely related to the technology and other equipment available to architects. Because organizational memory as a practice is largely reliant on individuals performing particular actions in particular ways and in particular environments, abilities to do architecture (afforded by the tools of work and shared materiality) form the basis of this aspect of Schatzki's (2006) definition. In turn, readiness, in organizational memory, is a measure/quality of whether abilities can be actualized. Empirical data suggests that abilities contribute to organizational by legitimizing the practice; and readiesses allow for the emergence and submergence of organizational memory.

### *5.5.1 Abilities as a form of legitimacy*

A degree of legitimacy that a practice has plays an important role in indicating the relative position of that practice to its direct competitors within the broader social environment. Practices are both historically situated and exist in a perpetual state of friction (Nicolini, 2007, 2012). It thus follows that in order to understand how organizational memory as a practice works, the historical conditions of inter-practice frictions ought to be considered as these are very likely to have an effect on organizational memory. This is what I mean by the term "legitimacy" – the historically informed relative standing of complementary practices (e.g. architecture, construction and engineering).

Schlaich (2006) provides an informative outline of an uneasy historical relationship between the architectural and the engineering practice. It is noteworthy that this relationship was largely predicated on the availability of particular technologies and tools of work. The division in the practice of building occurred during the industrial revolution when, following advances in techniques for manufacturing iron and steel structures of predetermined geometry and strength, the practices of architecture and

engineering emerged. Architects succeeded a large portion of the work previously done by the master builder, whereas focused on the physical properties of materials. As a result, the engineering practice gained legitimacy over the architectural practice in so far as erecting structures was concerned, with the architects retreating to academic and decorative roles due to lack of expert power. Schlaich (2006) writes that this initial divide still has an effect on the relationship between the two practices (p. 6).

The dominance of the engineering practice continued until the early 1900, when developments in the technology of reinforced concrete allowed the architects to bypass the restricted and highly specialist knowledge base of structural engineering. Using reinforced concrete allowed architects to “free themselves” from the “shackles” bestowed upon them by the engineer and push the boundaries of what, at the time, was considered to be the limit of building design (Giedion, 1967: 325). Giedion (1967) writes of a significant shock sustained by the engineering practice because of this ‘switch’ where they ceded knowledge expertise concerning physical properties of building materials (the dominant one becoming reinforced concrete). One of the consequences of this change is that the prevailing attitude between the two practices today is that the architect is responsible for the design and the engineer for structural integrity of the building (Schlaich, 2006).

This relationship was still palpable during the period of data collection, with architectural practitioners not only exercising formal authority in the area of project administration, but also, in the words of Giedion (1967), taking initiative and imposing demands. Chapter 6 will touch upon some of these issues in more detail, but with regards to how abilities of architects to manipulate the materiality of all practices involved – the building materials (reinforced concrete) in this case – contribute to organizational memory, tools of work deserve particular attention.

The primary tool of work used by the architects was Computer Aided Design Software suite (CAD). This particular tool of work was not exclusive to the architects and was, in fact, used by all specialists partaking on the project, at least to some extent. However, it was the architects who had the ability to use CAD to produce building designs. While



evocative of practice memory, not least due to the design-focused process of architectural education and socialization, the ability of architects to design buildings using a standard tool of practice does not count towards organizational memory, as defined by Schatzki (2006). It is, nevertheless, clear that abilities of certain professional groups to skilfully perform key parts of practices place them at a dominant position with respect to their colleagues. The challenge is then, once again, to untangle the practice from the organization in order to understand whether abilities play a part in organizational memory or not.

In this respect, a survey of what architects can and cannot do is not particularly revealing. Instead, because abilities are tied to legitimacy via historical inter-practice relations and technology, it is worth concentrating on what ArchitectureCo does when, during project work, responsibilities as to how to use the tools of work are negotiated. As part of that, I will also consider which tools of work, exactly, are available to ArchitectureCo.

To begin with which tools of work are available to architects in ArchitectureCo, two types of systems are noteworthy. First, the previously mentioned CAD software suite, and, Two, a high-end Building Information Modelling (BIM) software package. The former, being an established tool of work for a number of different specialists within the construction industry was the 'standard', whereas the new and emerging BIM system was at the stage of implementation. An in-depth description of BIM is not necessary here, but it will suffice to say that it functions in a significantly different way from CAD. As Architectural Technician J described the difference between the two: "*Transitioning to BIM from CAD is like going from drawing to coding – it is very different from what everyone here is used to, and so many are struggling with this*". The two key differences between the two design tools were that: 1) BIM offered a 3-D, immersive way of experiencing a blueprint of a building, allowing the designer to "fly" and "walk" through the exterior and interior of the building in virtual reality concurrent with designing them, and 2) BIM did not require the designer to draw out every single element of the building, relying instead on pre-made 3-D representations of actual products available from suppliers. Architect K summarized this as "*playing with Lego's instead of actually designing*". The significance of this information is that, while still in its early days during the time of the study, BIM was

considered by a number of practitioners in the area of building design and construction to potentially enable the engineers to side line the architects concerning the design process. In other words, even though the architects were strategically positioning themselves to learn and transition to the BIM infrastructure, this technology posed a very real threat to the legitimacy of their practice.

While BIM was not yet an established part of architectural practice at the time of the study, ArchitectureCo invested considerable time and resources in developing this ability for their staff. Not all BIM software suites are alike, with available ones ranging both in terms of price and in terms of things that they can do. Accordingly, there is a limit on organizational ability to utilize BIM in their work. This is contingent on personnel training and infrastructure (i.e. level of sophistication of the available software). While novice architects can only do so much on even the most upscale software available, even someone very experienced will be limited by a basic software. With this respect, there is the actual ability to make use of what is available, and the potential ability of how far 3-D building design can be developed within such an organization. In many ways, this is very similar to the historical struggles between structural steel and reinforced concrete (Giedion, 1967; Schlaich, 2006), and is potentially evocative of how abilities contribute to organizational memory.

ArchitectureCo appeared to be most persuaded to develop its BIM design abilities. The organization procured a number of BIM workstations (each costing an annual £90,000), hired a BIM manager and purchased a series of training sessions from the manufacturer of the BIM software they bought. Whereas the BIM manager was already in place before I began collecting data, the training sessions and proliferation of workstations became readily observable only about a year later. It was evident that ArchitectureCo was fast preparing to transition from CAD to BIM as their primary tool of work.

This behaviour, however, was very different when it came to dealing with engineers already proficient with BIM. During the early stages of the office extension project (Case 1), the Design Team was making a decision as to whether to use CAD or BIM for the dissemination and circulation of design drawings. Structural Engineers had, by that time,

fully embraced BIM and so were keenly advertising the technology to the rest of the design team. A particularly heavy emphasis was placed on the real time collaboration made possible by that version of BIM, as well as the 3-D representation of the building. While other engineers seemed persuaded, ArchitectureCo, despite having invested heavily in this capability and undergone considerable training, refused the notion and reiterated, in strong terms, the necessity to use CAD. One of the main reasons for this given to me post-meeting was that:

*“BIM is interesting and a great system but we cannot work with it here. We haven’t yet tested what we can do with it and there is no way to know if it will work for others. They [Structural Engineers], I think, know what they are doing but we can’t know and we will need to stay ahead of all that is being done, design wise. This is not the right project for that” (Director J).*

*“I haven’t worked with it [BIM] yet so I don’t know. It seems very interesting but I prefer to stick with something I know at this stage” (Senior Architect G).*

In addition to indicating lack of certainty over their ability to work with BIM, these interview extracts allude to concern over losing control over the design process. Most specifically, anxiety over being potentially side lined by the engineers, or over appearing insufficiently knowledgeable about the performance of practice was substantial. Having defended the role of CAD in the design process ArchitectureCo also maintained their superior degree of legitimacy as a professional practice.

The role of organization in relating abilities of practitioners to organizational memory has most to do with making particular technologies and developmental opportunities in place. ArchitectureCo recognized the significance that maintaining a leading role in a project may have on the design decisions, and were keen to remain in a position of dominant legitimacy when CAD is superseded by BIM on a level of practice in the future.

### *5.5.2 Readinesses: how anticipation 'emerges' and 'submerges' organizational memory in practice*

In addition to highlighting the concerns over legitimacy borne out of the potential application of the BIM system on the offices extension project, the observations I presented above also draw attention to a developing a 'readiness' to use certain abilities. Schatzki (2006) did not specify what this aspect of organizational memory means, nor what is the role of the organization in committing 'readinesses' to its memory. It stands to reason that readinesses relate to abilities in so far as organizations and practitioners anticipate (or do not) ways of performing various practices (Nicolini, 2011). In the case of ArchitectureCo this was visible as the organization prepared to transition their design abilities from CAD to the new BIM technology.

Considering 'readinesses' with regards to their effects on the routine performance of organizational practices, two characteristics stand forth: submergence and emergence (in this order). Both of these terms refer to the ways in which organizational memory is made 'ready' by and for the practitioners. The reason for the proposed terminological choice is to break up the intuitively linear conception of time (see Chapter 3) in order to highlight how practices are situated in the spatio-temporal manifold of the organization. This particular linguistic choice was made to capture the processual aspect of these processes. The terms 'submergence' and 'emergence' are intended to invoke an association with a semi-conscious/controlled event. Alternative terms that have been considered include 'imprinting', 'inscription', and 'impression'. However, these were considered too strong or too stiff to communicate the two phenomena.

Submergence of practices "into" organizational memory refers to how particular ways of doing and saying things become embedded in the shared materiality and tools of work (see Chapter 6), and emergence of practices "from" organizational memory refers to how individuals plan and execute new work with reference to regimes of actions, thoughts, experiences and abilities enveloped by the organization (Chapter 7).

With this in mind, the role of 'readinesses' in organizational memory has most to do with whether an organization can provide the necessary 'thoughts' (see section 5.2.) and

shared materiality (see section 5.3) to perpetuate ‘abilities’ (see section 5.4.1) into the future. When satisfied, these three aspects of Schatzki’s (2006) definition of organizational memory make it possible for practitioners to submerge ways of doing work into their organizational surroundings, as well as to emerge it from these surroundings when conceiving new designs.

During my time with ArchitectureCo neither the thoughts, the shared materiality nor the organizational abilities have been interrupted. This allowed ArchitectureCo to remain consistent in its design output even when moving offices 6 years prior to the commencement of the study. While archival analysis uncovered that some elements of the pre-move ArchitectureCo were discontinued after the change in their physical surroundings, these had no visible effect on how ArchitectureCo did architecture. Consequently, it is not possible to compare the effects of not- “readinesses” on organizational memory using this data. However, the effects of “readinesses” are, indeed, readily observable as will be illustrated in the following two Chapters.

## 5.6 CONCLUSION

Empirical analysis of Schatzki’s (2006) theoretical definition of organizational memory revealed a nuanced picture of the relationship not only between the elements of the definition but also between the practice and the organization. A persistent effort was required to discern which parts of empirical observations had to do with the organization, and which with the practice. On the one hand, this illustrated that a 5-part definition of organizational memory proposed by Schatzki (2006) is not focused on the organization enough, frequently overlapping with those aspects of work most readily attributed to practice as a whole. *Activities*, for example, are almost entirely unrelated to the organizational memory. *Thoughts*, however, play a key role in forming the organizational topography of power relations, thus making a key contribution to organizational memory. *Experiences* take part in organizational memory mainly by means of shared materiality, and *abilities* highlight why shared materiality is there in the

first place. Finally, *readinesses* have been observed to be organizational only in an analytical sense.

On the other hand, an empirically sandblasted definition of organizational memory as a practice is now able to suggest the three elements in need of further examination: thoughts, experiences and abilities. Because only parts of these elements have been qualified as relating to organizational memory, however, I will reconceptualise these as power, materiality of work, and the site of practice respectively. The ensuing investigation of these three elements in Chapters 6 and 7 will first consider them during submergence (in Chapter 6) and then during emergence (in Chapter 7).

## 5.7 SUMMARY

This Chapter subjected the definition of organizational memory proposed by Schatzki (2006) to empirical data collected from ArchitectureCo. Each of the five elements of the definition has been evaluated separately with one of the elements (Activities) suspended and parts of all other elements refined to a more organization-focused understanding. The remaining aspects of the original definition have been reconceptualised as power, materiality of work and the site of practice in order to avoid analytical confusion during further analysis. The final element in the definition – readinesses – will be used as an analytical frame in order to present power, materiality of work and the site of practice during a more in-depth evaluation of organizational memory in Chapters 6 and 7.

# Chapter 6

## ORGANIZATIONAL MEMORY AS A SUBMERGENT PROCESS

### 6.1. INTRODUCTION

Building on the empirically refined definition of organizational memory suggested at the end of the previous Chapter, this part of the thesis will evaluate how practitioners perform organizational memory via power, materiality of work and the site of practice during the 'submergent' type of readiesses.

In order to do so, I will focus on the data from the office building extension project (Case 1). Focusing on the use of materiality of practice – design drawings – I will demonstrate how practitioners 'submerge' regimes of doings and sayings into their tools of work. More specifically, I am going to explore the relationship between power, esoteric materiality, and organizational memory by looking at how tools of work perpetuate (or not) certain regimes of doing things (Nicolini, 2013; Schatzki, 2002) through both situations and environments. This is broadly what I refer to as the 'submergent' part of the organizational memory spectrum. The reason why the processes to be discussed here are 'submergent' is because of observable effects that ArchitectureCo's tools of work had on the conduct of work in other organizations. It was empirically observable how objects used by the architects had an impact on the working practices of other specialist, even in the absence of the architect – hence the metaphor of submerging experiences, thoughts and abilities into materiality of work.

An interdisciplinary work setting was chosen to illustrate this phenomenon is because of the close relationship between work practices in organizations and organizational memory as a practice. As was suggested by Schatzki (2006), as well as shown during the

analytical untangling of practices and organization in the previous Chapter, it is very difficult to consider organizational memory separately from practice memory. Accordingly, in order to study organizational memory of ArchitectureCo in practice, it is key to maintain all the aspects of the said practice, other professional groups included.

The remainder of this Chapter is structured as follows: First, I will expand on what materiality of organizational memory is. This will be followed by methodological considerations about where the materiality of organizational memory is best observed and why design drawings are a suitable unit of analysis/convergence. The next three sections will look at the process of submergence of organizational memory and its different characteristics. The Chapter will then conclude with a summary and some final remarks.

## 6.2. ABOUT MATERIALITY OF ORGANIZATIONAL MEMORY

The focal point of analysis in this Chapter is materiality of work. There are two ways in which organizational memory-related materiality manifests itself: 1) through materiality around which practices revolve and 2) through materiality which revolves around practices. For the purposes of clarity, I will refer to these representations of materiality as exoteric and esoteric objects respectively. This analytical distinction will help me highlight important power relations later on in the Chapter.

Exoteric objects are those instances of materiality on which practices are centred. For instance, some parts of architectural practice are only concerned with looking at and documenting existing buildings. Similarly, landscape architecture is most primarily concerned with the existing materiality of the landscape. Exoteric materiality is that materiality which is freely available in the world; that which is explicitly public. Esoteric materiality, on the other hand, is that materiality which exists as a function of organizational processes and is, therefore, exclusive to those organizations and practices. These include design drawings and blueprints of buildings for specific projects. These instances of esoteric materiality may be more key to the successful performance of



practices than those of exoteric materiality, but they are also more restricted and hidden from observation.

Making this distinction is warranted primarily because of the current work on organizational memory concerned with exoteric objects. As introduced in Chapter 2, there has been a recent resurgence in interest for research in organization studies on 'places and spaces of remembrance and commemoration' (Cutcher et al., 2016) where power, identity and material relationships of organizational memory are expressed (Dale and Burrell, 2008). The objects then bring out the practices and memories located in memory. This area of collective memory research is almost exclusively concerned with exoteric materiality.

Compared to exoteric materiality, esoteric materiality works in different ways. It is not meant to elicit a reflexive response in individuals and collectives (in the same way as places of commemoration are). Moreover, esoteric materiality normally fulfils a role instrumental to a particular organization and to enabling the performance of practices there. Some examples of esoteric materiality found in ArchitectureCo include: design drawings, sketches, archive disks, workstations, notes, design review reports, photographs, and physical models of building designs.

Practices are performed by applying tools of work to appropriate situations and environments (Schatzki, 2012). These environments, as well as the tools of work, are examples of esoteric materiality; not only because they would not normally be available to individuals outside of spaces where practices are performed (i.e. organizations), but also because the performance of practices is dependent on esoteric materiality in the first place (Orlikowski, 2007; Orlikowski and Scott, 2008, 2010). The next section will consider the circumstances in which esoteric materiality is most revealing concerning organizational memory.

### 6.3. INTER-ORGANIZATIONAL BOUNDARIES AS AN OBSERVATION POINT FOR ORGANIZATIONAL MEMORY

Throughout analysis performed in Chapter 5 it became increasingly evident that a significant amount of memory-like processes in ArchitectureCo occurs with some consideration of material objects AND normative regimes, emergent or otherwise. As this aspect of organizational memory in practice has been markedly absent from Schatzki (2006), this chapter will explore the relationship between objects and power in relation to the topic at hand in more detail.

An immediate methodological difficulty arises at this stage – if organizational memory is actualized through objects and power in some way, is it going to be possible to reverse the link and arrive at organizational memory by looking at power and objects? Out of concern for importing too much power and materiality into the concept of organizational memory, it seemed appropriate to not attempt a reverse causation and, instead, find a space within organizational practice where the issues of power and materiality might be most visible. In other words, a Heideggerian ‘clearing’ needed to have been found for those aspects of organizational memory which could be observed *in situ* (Heidegger, 1978; Dreyfus, 1991).

Looking back on initial empirical investigations from Chapter 4 (section 4.2.3), a suitable clearing was already encountered during interdisciplinary work between architects and various engineers. In fact, similar struggles among professional groups to establish authority and expertise over knowledge claims in collaborative work are well documented in the relevant literature (e.g., Carlile, 2002; Kimble et al., 2010; Lindkvist, 2005; Bechky, 2006; Bruns, 2013). These are normally attributed to misaligned interests, understandings, professional norms and practices – many of the same attributes that Schatzki (2006) ascribed to organizational memory. A number of different ways to mitigate said misalignments have been explored and one particularly relevant to the issues of power, materiality of practice and site of practice – boundary objects – was repeatedly highlighted by research subjects during data collection.

Boundary objects have been found to play a critical role in mitigating the socio-political struggles found in multidisciplinary work (Quick and Feldman, 2014; Bechky, 2003; Carlile, 2002; Nicolini et al., 2012; Swan et al., 2007; Barrett et al., 2012). Previous research has explored the use of objects in problem solving across occupational and professional boundaries (Bechky, 2003); the role of objects in reducing conflict and enhancing collaboration across professional disciplines (Keshet et al., 2013); the impact of power differences in helping or hindering object-centred collaboration (Levina and Orlikowski, 2009); the ways in which boundary objects help to reconfigure boundary relations among occupational groups (Barrett et al., 2012); the implications of such reconfigurations for the jurisdictions, status and power of professional groups involved in interdisciplinary work (Levina and Arriaga, 2014); and the symbolic power of objects in legitimizing claims to knowledge and expertise (Swan et al., 2007). Thus, this stream of research pays close attention to the ways in which a myriad of objects influence social and power relations that unfold around them. There was, however, little to no direct study of the role of boundary objects in organizational memory processes (Chapter 2). Moreover, little attention has been paid to what kind of work these objects actually do in and by themselves (notable exceptions include Osterlund (2008) and Kravcenko and Swan (2016)). Given the prominent role that these organizational artefacts play in integrating and relating knowledge of work between different practitioners, and drawing on Shatzki's (2006) inclusion of abilities as a component of organizational memory (see section 4.2.4) makes investigation of boundary objects with regards to organizational memory very pertinent.

Additionally, repeat observations of architectural work (to be outlined below) suggest that an emphasis on activity *around* objects by individuals is unnecessarily restrictive. When considered in conjunction with the note on time and temporality presented in Chapter 3, section 3.2.1, a considerably more profound contribution of material objects to organizational memory is brought to attention. The literature, with some notable exceptions (e.g., Levina and Vaast, 2013; Huvila, 2011), tends to present boundary objects as more or less stable artefacts that enable social interaction by allowing differences and dependencies across interacting groups to be realized and worked through (Carlile,

2002). The work they perform is usually depicted as that of helping individuals to recognize, smooth and overcome (or submit to) potential sources of conflict and vested interests, allowing arrival at shared understandings or monochrome portrayals (e.g. Nissley and Casey's (2003) study of corporate museums or Decker's (2014) work on building design). Despite the fact that it has long been noted that 'creating and reshaping boundary objects is an exercise of power that can be collaborative or unilateral' (Boland and Tenkasi, 1995: 362; also Ewenstein and Whyte, 2009; McGivern and Dopson, 2010), boundary objects are still comfortably situated in the 'attribute' perspective on organizational theory. In addition to this, the empirical focus of that research which does consider such objects in socio-political terms is centred on how actors interact and communicate around a focal object, or objects.

### *6.3.1 Design drawings as both the materiality of work and the site of practice*

These characteristics of boundary objects demonstrate a large degree of overlap with what Schatzki (2006) suggested organizational memory as a practice should do. The empirically distilled definition arrived at in Chapter 4 similarly highlights many of the same communicative and normative aspects. In fact, many boundary objects can be seen to embody 'talk and text' – the comment or 'red line' scrawled on a technical drawing, for example (Osterlund, 2008; Bechky, 2003). Indeed, this can be a major mechanism in performing organizational memory. In complex projects, like the ones I observed, where specialists may not always be able to interact face-to-face this holds especially true. Such ways of performing practices, 'from within' the objects, were regular and commonplace throughout the ArchitectureCo dataset. If one is to consider objects as spatio-temporal events of the organization – instances of time within which work (or parts of thereof) take place – then the embedded power relations of those objects must necessarily echo into other parts of the organization, memory included. For example, Huvila's (2011) study of archaeological reports as boundary objects between specialists with conflicting interests, shows how these objects acted as devices for creating and maintaining hegemonic power and achieving authority over marginal groups. Huvila's (2011: 2537) study highlights that: 'boundary objects incorporate articulations of power even if a boundary object may appear as a seemingly neutral consensual device'. Precisely how

power dynamics and negotiation occur *through objects themselves*, however, remains little understood (Hardy and Thomas, 2014). Whilst exploring the knowledge integration properties of boundary objects is not the aim of this work (this has been done in Kravcenko and Swan, 2016), understanding the different ways in which particular visual objects – architectural design drawings – embody practices relevant to performing organizational memory is key to understanding how organizational memory is submerged into the fabric of collective work.

Design drawings in particular tell a rich story because they qualify as ‘ideal’ types of boundary objects (cf. Star and Griesemer, 1989) and play an important role in the enactment of work among geographically and temporally dispersed individuals. In multidisciplinary projects, based on a common relevant knowledge base among distinct specialisms involved in the building construction and design, design drawings provide a practical means of cross-professional communication and negotiation of how to do work (Bechky, 2003; Carlile, 2004; Levina and Vaast, 2014). They thus constitute not only one of the key tools of work, but also a site within which performance of work takes place. For example, drawings are commonly passed between professionals to demonstrate and/or seek approval for the parts of accomplished work that they are responsible for (Boland et al., 2007). Design drawings embody various kinds of communicative practices, including visuospatial, technical and aesthetic (intended layout of the intended building), but also discursive (written text, sketches, queries and annotations – Ewenstein and Whyte, 2009).

To identify a process of submergence of organizational memory into these objects, I will focus on design drawings as they pass back and forth between the professionals on the design team of the office building project (e.g., architect to structural engineer and back), who ‘edit’ them based on their respective knowledge specializations and pragmatic concerns (Sahlin-Andersson, 1996). Following Osterlund (2008), design drawings that incorporate communicative practices in three respects are particularly interesting to understanding how organizational regimes of activities are memorized into an organizational memory in a setting where multiple organizations and practices are present and at play. This is because such drawings act as an object for evaluation, they

are expressive communication mediums, and they are part of an ‘actional field’ of communication.

#### 6.4 HOW ORGANIZATIONAL MEMORY GETS SUBMERGED INTO DESIGN DRAWINGS

Design drawings are two-dimensional technical depictions of a building project, produced to a set of standards and conventions that render them recognizable and intelligible to relevant practitioners (i.e. they are the tools of work). As far as their utility goes, however, not all design drawings qualify as ‘boundary objects’ in architecture and construction and, even those that do facilitate meaningful work among and between practitioners, do so not by virtue of their intrinsic properties of a particular kind, but because they mediate aspects and patterns of practice-related information that carry pragmatic meaning (Levina and Vaast, 2014). In other words, boundary objects and other associated tools of work can be seen as ‘restricted agents’ of work in as much as the site of practice that they are capable of providing is very specific – design drawings, for example, allow limited textual communication around technical issues, thus requiring a certain level of experiences and abilities (see sections 5.2.3 and 5.2.4.1). Figure 5.1 is an example of a design drawing, prepared by a cladding sub-contractor, and commented on by the architect, in one of the projects observed.

Design drawings not only provide a site for practice by means of enabling particular types of communication. Practitioners can physically interact with design drawings in a variety of ways – they are regularly printed out and collated in huge project folders, they can be drawn on (as in Figure 5.1), they can be passed around and mailed between different individuals either directly or as email attachments, and they can be (and routinely are) torn, crushed, damaged or disposed of in any other physically damaging way. In other words, they are both an active part of the work process and a work process in their own right. For the duration of the project, design drawings are stored in digital and physical project folders, but after the project is completed and the building is ‘signed-off’ by the client, they remain preserved in the archives of participating organizations either on blu-

ray disks or in some other form, for an additional ten years as a record of collective work. On the face of it, they are different from more abstract objects, such as linguistic labels or metaphors (cf. Czarniawska-Joerges and Joerges, 1990), in that design drawings objectify the information embedded in them for more than one person and in a time-enduring form (insofar as they represent events of work in their own right – more on this below). Concurrently, design drawings also embody material manifestations of more abstract concepts and labels such as mathematical formulae and building dimensions (see Figure 6.1).

One way in which boundary objects, and other associated tools of work, were observed to commit ways of performing work to organizational memory was by ‘sponging up’ information, rules and instructions of one or more particular practices and making them available for translation by someone else. This was only possible, however, when the object already embodied some commonly held ideas and concepts to which different professionals can refer (Forty, 1986) – in other words, if the object in question was part of the shared materiality and not completely unfamiliar in the context of work.

Design drawings displayed this by communicating information on the progress of one professional's work to another. As discussed above, design drawings are physical objects, but they refer to abstract concepts in restricted, concrete ways (i.e. design of a building that does not yet exist). Referencing an abstract concept in a concrete way is done by constructing a ‘representational space’ where any relevant information can be made intelligible, even across boundaries (Ewenstein and Whyte, 2009; Osterlund, 2008).

#### *6.4.1 The two stages of organizational memory as a submergent process*

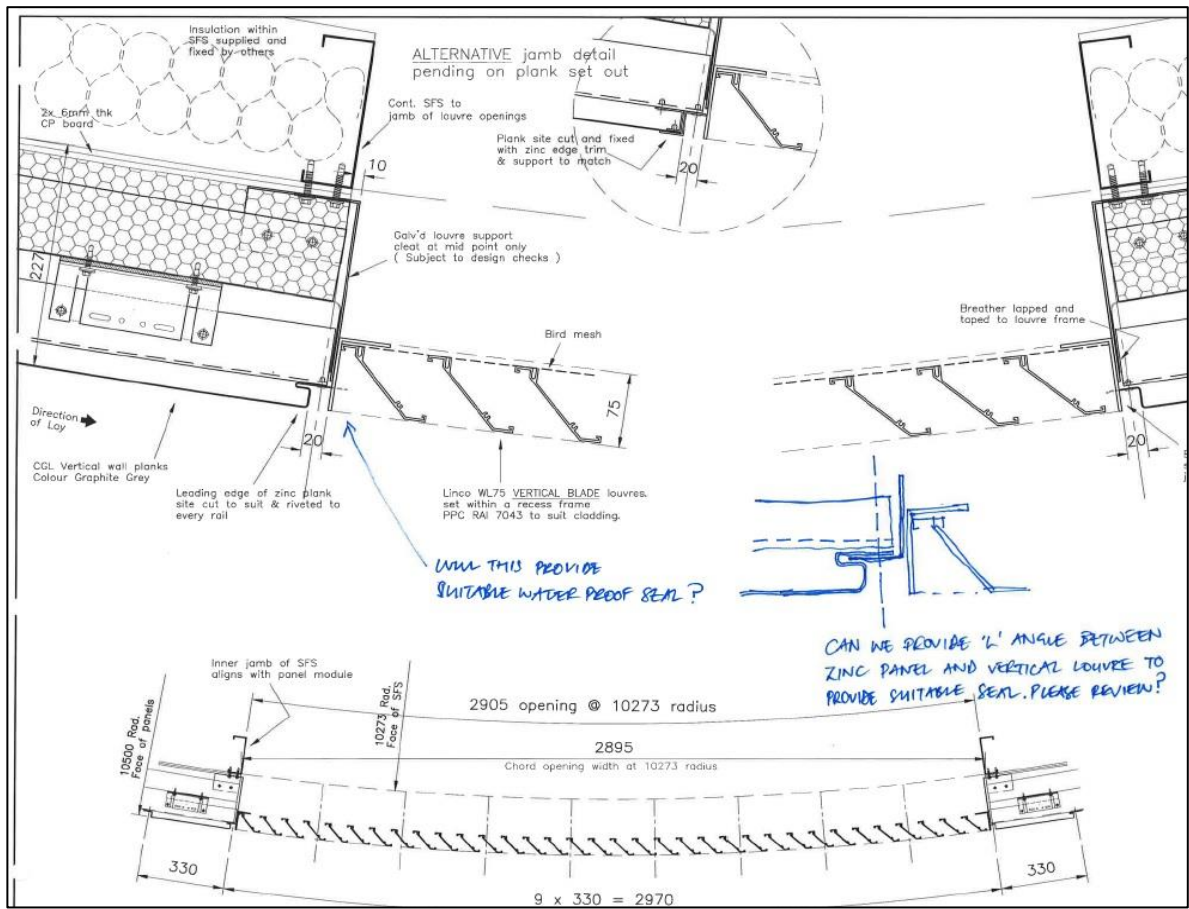
Submerging practice into organizational memory is a two-stage process. First, the originating author must adhere to a set of normative conventions that qualify the object they produce as a ‘design drawing’. This entails the use of an appropriate software suite, a particular page size, and the use of institutionally and, sometimes, locally agreed upon symbols and shapes for particular types of materials and arrangements. Second, the author must encode information about the specific design work performed, and arrange

it in a way that will be intelligible by whomever the drawing is intended for. As shown in Figure 6.1, on the one hand, when the architect made a comment enquiring about whether a particular angle 'between the zinc panel and the vertical louvre' is possible, s/he did not sketch out the entire section of the building, only the element in question. The information embedded in that very specific sketch was deemed sufficient since it was provided in a context appropriate for the cladding sub-contractor to understand. On the other hand, the sub-contractor did not draw out the entire building to contextually position the particular elements depicted in Figure 6.1 for the benefit of the architect. Instead, the title of the drawing refers to the location of the relevant elements within the building, on the assumption that this amount of information will be enough for the architect to make sense of the design drawing.

Assumptions about which information to include, and in which form, rest upon perceptions of the relative levels of expertise and authority amongst participating parties. These, of course, are equally perpetuated by the use of such tools of work for this kind of work as a matter of practice.

In addition to manifesting a site of practice in which communication is to take place and, simultaneously, facilitating a temporal environment in which organizational and cross-organizational work is to occur, communications via design drawings reveal power dynamics by showing how, for example, a sub-contractor working on an element of a building is in a position of less authority and expertise relative to the architect in the area of building design, but is in a position of high(er) expertise (but still lower authority) where more technical specifications are addressed.





**Figure 6.1. Example of a CAD drawing with comments by the architect**

Such discrepancy of powers and authorities among participating practitioners, inevitable in work practices (because practices are always contested (Nicolini, 2012)), is key to understanding how work practices become submerged into organizational memory. Power, and issues of power, were repeatedly highlighted in multiple components of organizational memory in Chapter 5 (following Schatzki, 2006). From there it can be extrapolated that one of the principal ways in which practices qualify as organizational memory is through application of processes of power and authority. As I have noted before, such processes are most visible during interdisciplinary work. Interestingly, however, even though interdisciplinary work taken place 'away' from the organization (in projects), because projects are still types of organization (Hobday, 2000), an organizational memory of projects still, in theory should form from the materiality imported by different specialists.

In contrast with other types of brand new organizations, which are yet to develop both the infrastructure for organizational memory and the memory itself, projects are always composed of parts of different existing organizations, or different subsets of the same organizations. What this means is that from the very beginning a project setting becomes an arena where elements of different memories of different organizations will converge in a power struggle. Neither single one is likely to prevail absolutely, of course, as is also indirectly evident in the literature on knowledge dissemination in project-based work (e.g. Swan et al., 2010), but, as I have repeatedly observed, a greater or lesser degree of dominance will be established by one.

Boundary objects, as focal points of communication between different specialists, are key to achieving such dominance. This is because boundary objects are fundamentally objects and, more specifically, particular tools of work. Accordingly, tools of work are always tools of some particular work/practice, which means that they are not only endowed with a particular temporal property generated through their application in said practice but also with a specific way in which relevant practitioners put them to use. The latter is not prescribed by their physical potential but rather by acceptable terms and conditions of use. These, in turn, are a normative product of those practitioners in charge - i.e. thoughts (section 5.2.2.) and abilities (section 5.2.3).

Tracing normative affiliations of objects to their organizational memories for each of the participating organizations comprising a project will reveal, with some overlap (because projects are still made up of compatible specialisms, e.g. construction, specific research, film, etc.), the shared materiality in which organizational memory may be submerged. Recall an example provided in section 5.2.4.1. earlier, where, as part of the office extension project, structural engineer attempted to propose the use of a 3D Building Information Modelling software (BIM) for design needs of the project team. The proposition was welcome by the construction firm but rejected by the ArchitectureCo. Mechanical engineers remained indifferent, albeit slightly curious about applying this emergent technology. However, because design is a very much architecture-driven practice, the proposal was swiftly and decisively rejected in favour of using 2D Computer Aided Design (CAD), which was '*the way things were done*' in ArchitectureCo (Senior

Architect G; Director W). Therefore, it was that all design and design-related information handled by the project design team (which was virtually all the information) was handled through CAD drawings. Interestingly, which the structural engineer did continue preparing structural drawings using BIM, anything they produced was always translated to CAD before being issued to the rest of the team and, most specifically, to the architect.

Two memory-related factors in this episode are worth noting. One, ArchitectureCo did not insist on CAD because they lacked technical capability or knowledge in BIM, quite the opposite. As Senior Architect G and Director W pointed out, this was because of how they did things. Not because they could not otherwise, but because of a choice of a particular way of performing their practice. In other words, because a particular prevalent ArchitectureCo organizational memory was there to commit this work to (the one where BIM is a dominant tool of work was still emerging). Two, the democratically unfavourable odds of not selecting BIM (2 for, 1 against, and 1 indifferent but sympathetic) were of no consequence in this situation because of an already existing demarcation of power between these practices. In other words, the respective practice memories underlying a project were such that it was up to the architect to make design decisions (Schatzki, 2006). This occurred in the first weeks of work on the office extension project as, facilitated by the practice memory, boundaries were being tested and (re-)established and the organizational memory of the project team was beginning to form around explicitly architectural tools of work – design drawings.

## 6.5 HOW ORGANIZATIONAL MEMORY SUSTAINS CROSS-BOUNDARY POWER RELATIONS THROUGH MATERIALITY OF PRACTICE

Empirical observations of architectural work indicated that design drawings can carry, in themselves, information on which actions are possible for which participants (Osterlund, 2008). This means that, far from being an open site of practice, design drawings sustain pre-established power relations and constrain ways of performing work in a number of ways. First, circulation of the information in the design drawings is exclusive to the sender and the recipient. The constraints of project work, and the

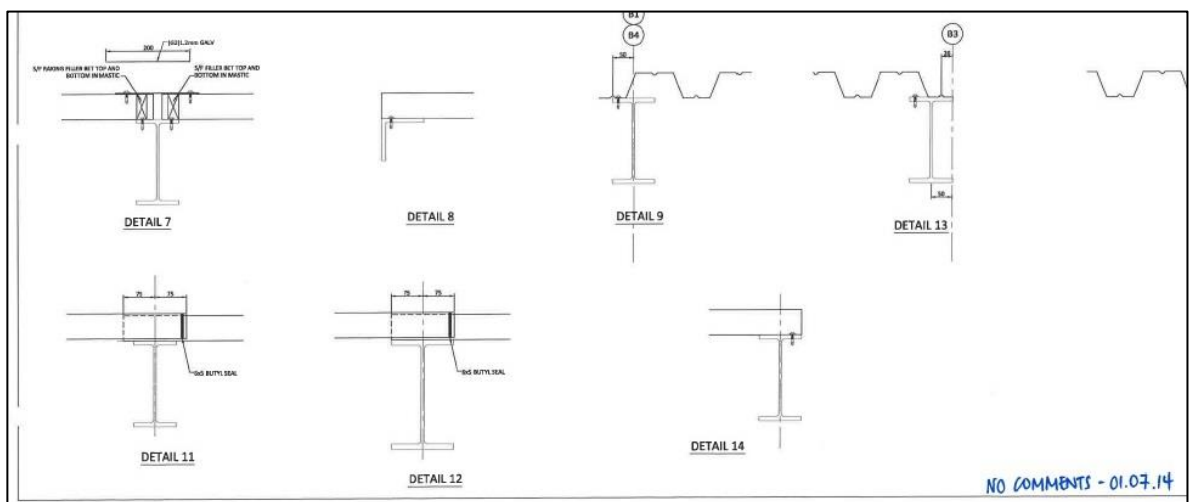
specialized nature of the knowledge sometimes communicated in design drawings, prevent open dialogue around them. For example, a drawing by the cladding sub-contractor (Figure 6.1) was sent only to the architect and the construction manager - to the architect in order to obtain approval that this particular design was in line with the general design of the building, and to the construction manager in order to confirm that the design was feasible. Other professionals on the design team were excluded *a priori* (likely as a consequence of the ArchitectureCo-centred organizational memory of the design team).

Such point-to-point form of communication is not merely a by-product of the technology involved (email, in this case); it is an inherent feature of specialized work. The pattern of exclusion, along 'who needs to know' lines, is mirrored also in meeting spaces. When members of the design team gather to discuss on-going progress and any arising issues, all the printed design drawing are openly available for anyone on the design team to scrutinize. However, over 120 hours of observations of such meetings on the office extension project firmly indicated that those individuals with specialisms not direct relevant to the particular issue being discussed would quickly lose interest and, generally, refrain from engaging in the discussion. Similarly, the architects would generally be excluded from the conversations between different types of engineers, who share very technical, often tabulated, information with each other.

Second, there is an implicit hierarchy according to which professionals from different knowledge domains engage with the design drawing. When a drawing is sent to the construction manager and the architects, as in Figure 6.1, it is the architect who is the first to comment. Others follow thereafter (if at all). One outcome of the presence of such a hierarchy is that the architects on the project maintain virtually unchallenged editorial power (Sahlin-Andersson, 1996), meaning that they have the power to completely close-off chosen drawings and other acts of communication. I shall henceforth refer to such object as a 'closed-off drawing' - which is a forceful way of submerging work practices into organizational memory - whose use has been made restricted by a powerful party. The restriction of drawings does not take place through hostile acts, such as isolation, destruction or demarcation of some sort, but is achieved through a final 'stamp of

approval' – a note, in large capitals, reading 'NO COMMENTS' (see Figure 6.2). Absence of comments from the architect has the effect of removing the drawing from the space of collective work and returning it to the specialist domain it came from, thus solidifying the way in which work is expected to be done. While it can be argued that the whole point is that the architect should approve the sub-contractor's work, in fact, once the drawing is closed it is no longer functioning as a site of practice. Instead, it becomes an accomplishment of architectural practice; or, in other words, an exercise of organizational memory of ArchitectureCo onto other members of the project (both individual and organizational).

It may be argued here that if sub-contractors work has been deemed appropriate by an architect, without contestation or correction, then no effect has been made in so far as sub-contractors experience of organizational memory is concerned. From the practice-theoretical perspective, where work is a performance, a performance that is approved by someone else is inherently a performance on someone else's terms (by virtue of it being at an equal risk of disapproval). Thus, a closed-off drawing is not only a drawing deemed 'good' by a particular practice based on their respective normative convictions (as determined by their dominant organizational memory), but is also a drawing that can no longer be altered. Such a drawing, created by the sub-contractor in this case, is in other words, committed to the organizational memory by the architect.



**Figure 6.2. An example of a 'closed-off' drawing**

Third, the communicative practices embodied in design drawings are dominated by expert power, which can be exercised in quite heavy-handed, coercive ways. This has to do with the degree of ownership over this particular materiality of work. As Figure 6.3 shows, the material space afforded by the object, far from depoliticizing communication among specialists (as shown by Carlile, 2002, and others), allows dominant professional groups (ArchitectureCo) to express themselves more assertively than might otherwise be tolerated within the usual norms of 'polite behaviour' and, sometimes, to effectively silence others. For example, red pen lines literally cross out, check or correct others' suggestions. Annotations 'shout' orders (UPDATE LOCATIONS!!!) and exhibit frustration (CLASH WITH STRUCTURE!!), sarcasm (GOING THROUGH SHEAR (sic) WALL? NEED TO REROUTE) and so on (see Figure 6.3). Contestation is clearly manifest in these visual objects. Yet, despite this, performance of practices occurs through them speedily and without interpersonal offence. These visual boundary objects seem to allow for overt expression of power and conflict (in the text), but, at the same time, enable continued practicing of work. Not only does this suggest that the oft-claimed opposition between conflict and collaboration, with boundary objects dampening the former and encouraging the latter, is too stark it is also evidence of performance of organizational memory of ArchitectureCo (specifically of its normative aspect).

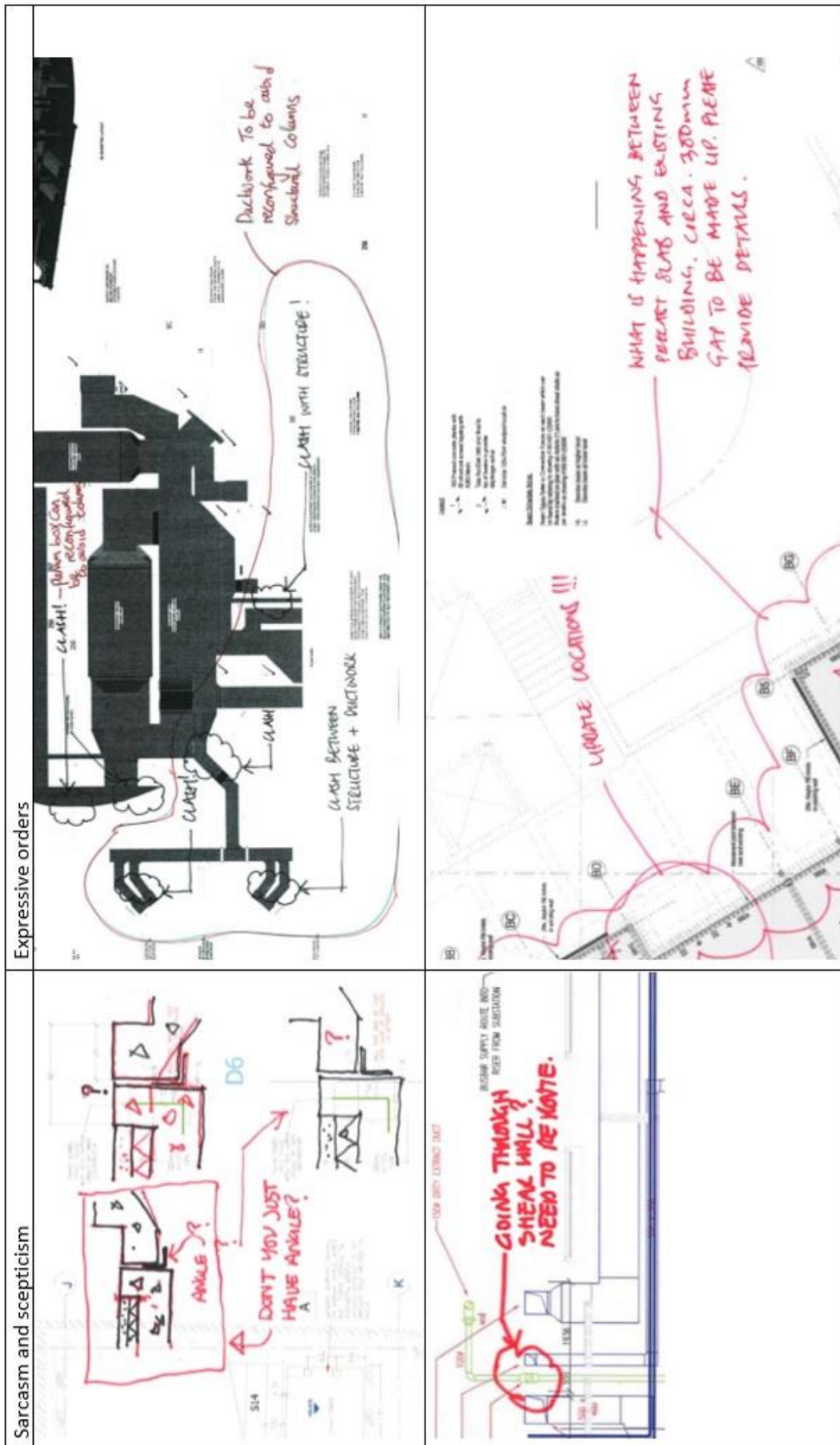


Figure 6.3. Examples of assertive communication

## 6.6. WHY ORGANIZATIONAL MEMORY CAN ONLY BE SUBMERGED IN THE PRESENCE OF A DOMINANT PRACTICE

Submerging practices into organizational memory via design drawings is not an inevitable consequence of collective work. On the contrary, empirical observations showed that dominance of one practice over other may be required in order to actualize this process. This claim is supported by data from when an architect was not present during the use of design drawings. Not all work on a project necessarily includes architects – different specialists also communicate with one another using design drawings. It is interesting to see how the dynamics change when two parties in relatively equal positions of power communicate. Figure 6.4 provides an example of communication between structural and mechanical engineers. This is a drawing by mechanical engineers sent over to structural engineers to ensure there are no issues with the way mechanical engineers were planning to install water drainage. The comments in pink are the initial response by the structural engineers, delivering some sharp critiques of proposed plans (e.g., 'it will be virtually impossible'). Mechanical engineers followed up with a response (in blue) to the comments from the structural engineers, asserting some of the proposals presented initially, and commenting on the comments. Words such as 'need' and 'do not' were underlined for added poignancy, and some suggestions were made (e.g., 'would this help?'). The structural engineer's response to this (in red) appears to communicate some form of strong emotion, using heavy red ink and making statements such as 'resolve clashes with ground beam/pole caps!!' and writing over the mechanical engineers' previous comments.





Compared to the situations above where an obviously dominant party was involved in directing the process of work, the situation presented in Figure 6.4 far more resembles a quarrel than a report. This is because, First, the two groups of engineers had difficulty using a tool of work that was not their own. The significance of this is that tools of work, as I have mentioned previously, are not just inert 'stuff' but loaded concoctions of temporality, memory, power and wider practices. Consequently, performing work via a design drawing was not inherent to either of the parties (engineers have different work tools to those of architects), so the exact intent of communication may have been unclear, causing initial confusion as to what was going on or being proposed.

Second, the relative power and knowledge bases of each of the groups of engineers were not readily compatible – the mechanical engineers were enquiring about a mechanical issue, and the structural engineers were responding from a structural point of view. In addition to uninformed use of the tool of work, the environment and the circumstances were not aligned so there was no mutually beneficial way out of this situation after the initial comments were returned. Third, neither party had, or was seeking, the authority to make any final decision on the validity of the ideas and knowledge embedded in this design drawing. Unlike the architects, who have a clear mandate for decision-making as far as the building design is concerned, neither of the engineer groups had legitimacy in this area of work. The situation depicted in Figure 6.4 is a great example of when organizational memory, through tools of work, is actually preventative to certain types of learning and communication (see Luhmann (1997, 2012) for a broadly similar approach).

This is further interesting because performance of work such as the one captured in Figure 6.4, suggests the need for power asymmetry between participating practices in order for them to be able to perform work collaboratively. There are at least two reasons for this: in a situation that includes a dominant party there are restrictions on how 'their' objects can be used, and in a situation where the distribution of power is most clearly established there is little need to (re)negotiate power bases. It should be noted that this is subject to particular ways of working, and that these observations are based on a highly

professionalized, project-based setting. In the most basic sense, this means that the individuals are coerced into collaborative work by the constraints of a project because, in the event of delays or defects, the liability is not restricted to any one party. With this in mind, however, it does appear that boundary objects actually generate an imbalance of power in interdisciplinary work because they carry with them submerged organizational memories (of ArchitectureCo in this case).

In a situation where a dominant party is present there are particular ways and restrictions in which tools of work that act as boundary objects can be used. Most of the time such restrictions and particularities are what comes with the normativity of organizational memory of origin, although some limited use of inter-personal power was observed during the data collection period too. In the case of design drawings, architects enjoyed dominance over other professionals not least because the communication of information by way of design drawings is an inherently architectural way of doing work. In addition to this, the communication of information in a particular way (e.g. Figure 6.4) was an inherently ArchitectureCo's way of doing work (and even then, of that particular subset of ArchitectureCo). Accordingly, as was discussed above (Figure 6.3), architects enjoyed ownership over what can be said and in which ways. Figure 6.2 is a good example of this – an engineer sent a drawing to the architect with the intention of *reporting* work conducted on a number of details; this use of a drawing was expected and sanctioned by the architect who used the 'No comment' cue to approve the work and *command* it to the next work stage.

Overall, this seemingly eventless drawing actually served to enact performance of work across a professional and spatio-temporal boundary – an engineer applied the object (a CAD drawing) in a way deemed appropriate by the architect (to *report* in this situation) who, in turn, received and processed the information and returned it with a 'stamp of approval'. Approval of design issues by the architect secured continuation of construction work. Figure 6.4, on the other hand, depicts a situation where misuse of an architectural tool of work obstructed and prevented enactment of performance of work. As was described above, lack of clear authoritative demarcation when using that object to enact work was very counter-productive. The issue discussion of which was attempted in

Figure 5.4 had to be resolved later by the engineers over the phone, because the drawing itself had ceased to be useful by the time it reached the stage depicted here.

A clear and established distribution of power seems to be an outcome of organizational memory as a practice. This ties in very closely with the previous point about acceptable ways of using tools of work. This aspect, however, is important to illustrate that (re-)negotiation of power-relations where new organizational memories emerge out of multiple existing ones, like in project environments, occur primarily through objects. Elements of sarcasm, shown in Figure 6.3, for instance, are typical of when a new group of professionals enters the project, or a new section of work begins. In both cases a process of establishing areas and degrees of power would take place. The use of multiple exclamation marks, sarcasm and even the red pen were only observed as being employed by the architect as a means of reinforcing ownership over the use of particular, memory-inducing, tools of work. A further interesting demonstration of this, albeit one beyond the remaining scope of this chapter, occurred when an architect exercised great displeasure at receiving technical information about the ceiling layout produced by the mechanical engineer (using engineering work tools, mainly tabulated data), but felt much more comfortable exploring, examining and adjusting the same data when it was produced in the form of a CAD drawing, thus drawing on the submerged memory of architectural power, materiality of work and a site where to practice.

## 6.7. SUMMARY AND CONCLUSIONS

These observations highlight that the political dynamics and communicative practices embodied in tools of work acting as boundary objects need to be understood with reference to the wider issues of organizational and practice memories. In other words, it is not enough for esoteric materiality to be something around which organizational memory can take place – esoteric materiality and its use, in many practical ways, is organizational memory in a submergent state.

In this chapter, I provided a number of illustrations of how this appears to be so. Materiality, in form of design drawings, has served as an imported infrastructure on the foundations on which multidisciplinary work could take place, with guidance from those familiar with operating said infrastructure, of course. In more abstract terms, esoteric materiality of a practice carries with it particular conventions of such practice. When applied to the performance of practices *in an appropriate way* (see section 5.2.2. on 'thoughts') it can commit work to memory and, presumably do the reverse too.

With this in mind, it is important to emphasize that esoteric materiality is not a storage device. It is objects that, through their use, instantiate temporality, implicit restrictions on (and possibilities of) power relations between practitioners thus guiding performance of work in a particular way. They are not vessels for information and knowledge (Walsh and Ungson, 1991; and Kransdorff, 1998); neither are they gateways to any such similar things (Decker, 2014). Esoteric materiality observed in a new setting, such as a project, when married to its functional situation and environment provides a way for practices to be performed in ways similar to those of their origin. This is because materiality of practice can be very receptive to having organizational memory submerged into it. An outcome of this 'submerging' is the effect tools of work have on practices and processes of both the architects and other practitioners.

In the next chapter, I am going to focus more on these effects. Most specifically, I am going to look at how organizational memory works as an emergent process.

# Chapter 7

## ORGANIZATIONAL MEMORY AS AN EMERGENT PROCESS

### 7.1. INTRODUCTION

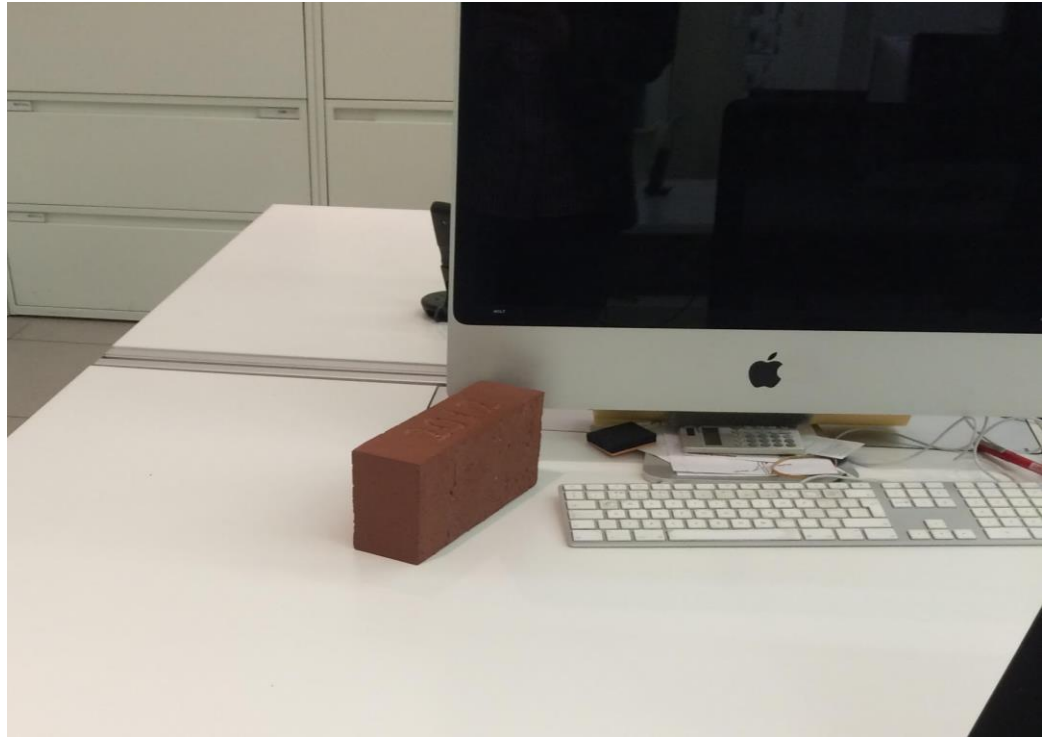
In the previous chapter, I discussed how particular ways of performing practices get 'submerged' by organizational members into tools of work that allow for communication. This chapter will look at how organizational memory functions as an emergent process. Following analysis presented in Chapter 5, particular attention is going to be paid to the role of the individual in this process. The relationship between the physical practitioner, the practice and the performance of actions is well acknowledged across various perspectives within the practice-theoretical approach (Nicolini, 2012). Architecture is an especially material practice, both in terms of what the outcome of architectural work is and the processes that go into achieving it. Acker (2006) suggested that practitioners are never be fully aware of how they perform practices, nor can they articulate or represent their performances fully. This is largely due to the embodied nature of practices that allows practitioners to practice unreflectively (Fine, 1996; Sandberg and Tsoukas, 2011).

#### *7.1.1. Emergence of organizational memory through the embodiment of practice*

When considering organizational memory from the perspective of the practice approach, this embodied aspect of practices becomes of particular interest. One, by now commonplace, question comes forth as a result – if embodiment of practices is inherently individual, what is the role of the organization and what is the role of organizational memory? If it is up to the individual practitioner to perform organizational memory, how would his/her practice be impeded (if at all) by removing the organization within which

this person is based? Building on the analysis of organizational memory as practice from Chapters 5 and 6, the role of the organization is primarily centred on the provision of sites of practice, shared materiality and dynamics of power. This Chapter will focus on investigating these aspects through the lens of emergent 'readiness' (see Chapter 5, section 5.2.4.2). The reason why special attention is being paid to the physicality of the architect with regards to emergent processes of organizational memory has to do, in addition to what was outlined in the previous paragraph, with the methodological disposition of the study deliberately point at human agency when it comes to bringing-things-forth-into-the-world (Heidegger, 1978); which is an activity intimately related to emerging organizational memory as practice.

The physicality of architectural work became immediately obvious early in the data collection period. For instance, in selecting and deciding on the colours and materials for the project, architects would request samples from their suppliers. These samples would be touched, rubbed, smelled, overlaid on the design drawings and shown to clients and interdisciplinary collaborators. In fact, I found considerable amounts of various paint swaps and fabric swatches, insulation materials, entire pieces of ventilation, plumbing and electrical equipment, and even bricks and other external coating around ArchitectureCo offices (Figure 7.1).



**Figure 7.1. Examples of material samples scattered around the offices of ArchitectureCo**



The embodied relationship between the architect and the materiality of work is difficult to describe via observations alone, but is highly evocative when relayed by the practitioner. Consider these experiences of Architect R:

*“It [the fabric/paint colour patterns] can work in a number of different ways and I’m just looking for what tones will give the building that mood that I am looking for. Then there is an issue of texture and how the light will bounce off of it. That’s where the samples are absolutely key to have - I can touch them, I can see how they interact with one another and I can observe how their shading changes based on the time of day”*

The way Architect R described his/her working relationship with the material samples had much to do with embodied perception. The passage above highlights the very personal way in which Architect R “wants” a building to feel and look. This visceral aspect of the practice is informed by the previous experience of doing architecture – not only does Architect R “want” the building to look and feel in a particular way because such is the practice of architecture that s/he was trained in, but rather s/he is drawing on personal experience of having the work evaluated by fellow organizational members and managers against a normative standard of what constitutes good architecture in ArchitectureCo (see section 5.2.2). Accordingly, the reason Architect R knows what to look for is because s/he is attempting to render the visceral idea of what a building should feel and look like through the filter of ArchitectureCo’s organizational memory.

The work that Architect R was engaged in was geared toward materializing that idea into a physical object. Such preoccupation with design was frequently alluded to during descriptions of interdisciplinary work throughout Chapter 5. For architects, design of the building is a material approximation of their senses, aspirations and ideas; many of which are tacit, as the passage above illustrates.

Emphasis on the sensory experience of materiality of work is not limited to selecting appropriate samples at the design stage only - during the construction process, architects

routinely visit the construction site in order to walk around and inspect the building progress:

*“One of the reasons we do these visits is to get a sense of where everything is going to be and also to make sure the contractor is following our instructions correctly. This opening, for example, [pointing at a square hole in a concrete slab] is where the electrical services are going to feed through to power all the lighting fixtures in this section and over there [gesturing at the ceiling where the lights are going to be].” (Architect H)*

In both cases, the materiality of work (either the samples or a building-in-progress) is described by an architect with respect to the intended final product – that idea of a building which drives the material representation of design. While this is generally analogous to Schatzki’s (2002; 2006; 2012) and Heideggerian (1978) characterisation of the purpose of work as ‘that-for-the-sake-of-which’, the examples alluded to above highlight the prominence of physicality in enabling the emergence of organizational memory through interaction with materiality of work. In working with material samples, or while inspecting a construction site, the practitioner is confronted with both his/her sensory reaction to the environments as well as with ‘that which is to become’ of the objects within it - a final product as a manifestation of organizational ‘that-towards-which’. The contribution of organization to the process of emergent memory thus centres on availability of shared materiality using which architects objectify their ideas.

The way architects understand and use materiality provides insight into how architects perceive and view objects and objects of work. Such insight is significant as the associating of (sometimes disparate) objects with the final product towards which work is directed is suggestive of memory-like processes. On the one hand, the way practitioners interact with their physical environment demonstrates a strong degree of intentionality. On the other hand, that intentionality is rooted in something that does not yet itself exist - a future building rendered through the filter of organizational memory. Conceptually, this generates a loop facilitated by organizational memory - the building

that exists in the mind of the architect is legitimised by a series of design drawings and computer generated images or sketches made of material arrangements available in the organization. This then manages to inform the way all building-related objects are interpreted relative to it. Empirically, however, this translates into a mechanism by which practitioners utilize the material environment of the organization in order to shape their ideas into objects. Note that materiality of work, which is what architects use to ‘flesh out’ representations of their tacit ideas, also constitutes a site of practice embedded with power relations (see Chapter 6). These are the key aspects of organizational memory, meaning that any activity of objectification of ideas using organizational materiality is inescapably intertwined with organizational memory. Because activities and practices get submerged into organizational materiality (Chapter 6), objectifying ideas using that materiality enjoins previously submerged memory into the ‘fleshing out’ process thus infusing emergent ideas with ‘memorized’ practices.

A further example of how intimate the emergence of organizational memory can be for the practitioner is provided by Architect T:

*“No two buildings are the same. Even if they look identical each one is unique. So we have to approach each one recognising that it is not just another copy. When designing a building you **know it** [emphasis added to reflect tone], you come to know it inside out and you know that it is unique and there is no other one exactly like it anywhere”*

The knowing of a building, as was the case here, is a characteristic of the process of emergent organizational memory. The quote above demonstrates two distinct aspects of the process: 1) the placing of a design-in-progress into the real world by comparing it with the existing buildings, and 2) the visceral familiarity with the design. The former is suggestive of organizational memory in that the architect distinguishes the prospective building s/he is designing from the existing ones as ‘unique’ and ‘not just another copy’; and the latter is indicative of the physicality of the process of emergence. Specifically, the recognition of something as unique or not is made possible by prior experience of

designing buildings and doing architecture. Moreover, in stating that each building is unique, Architect T goes beyond acknowledging a physical fact of the design and construction process, rather highlighting a normative disposition towards a way of doing architecture (see section 5.2.2). Accordingly, this example demonstrates that normative aspect of organizational memory is not merely imposed upon organizational members, but can be absorbed and embodied by them in a very fundamental way (Reckwitz, 2002).

The placing of the design in the context of existing buildings compounded by an almost *a priori* recognition of its uniqueness is also connected with a sense of almost nostalgic fondness towards it. Such relationship, however, is not only potentially ambiguous, but also subject to a certain amount of re-interpretation/closure on behalf of the practitioner. For example, upon completion of the office building extension project, I asked Senior Architect G what s/he thought of the building. The brief response “*ask me again in six months because all I can see now are the mistakes they [the builders] made*” further shows how deeply invested an architect may be into his/her project and how readily this degree of investment may elicit an emotional reaction.

To compare this with a similar situation almost a year earlier, when, having found the initial design drawings of the office building extension from 2008 (before the project was paused for 3 years), I asked Senior Architect G what he thought of the changes ArchitectureCo made to some parts of the building. What followed was a much more optimistic response:

*“I am actually glad that we had these years in between because this time around we could go back, look at what we thought back then and to put in more effort into those areas which we were not very satisfied with back then. I remember we were not happy with the elevation but there was little time at the time to do a major redesign so... Now, having had the opportunity to reflect on what we want and don’t want, we changed this front section here and I am really happy with how it all fits now”*

These statements reveal two intertwined aspects that are worthy of consideration: ownership of work and emotional response. In terms of the former, during the time period when the office building extension project was on hold, everything to do with the look and feel of the building remained within the offices and information repositories of ArchitectureCo. In this way, by the time the project restarted, no external changes have been made to the design drawings since they were last archived. By contrast, as construction began in 2013, ArchitectureCo have had to surrender the control of their design, in a way, to the construction company. Therefore, while the work to develop aspects of the design carried with other relevant parties in the Design Team, the building that was now taking shape was doing so at the hands of the construction firm. As such, the design is no longer emerged from ArchitectureCo organizational memory because the site of practice and the materiality of work are no longer attributable to the architecture firm. While power may still be exercised by the architect, this has more to do with practice memory than with organizational memory at that stage.

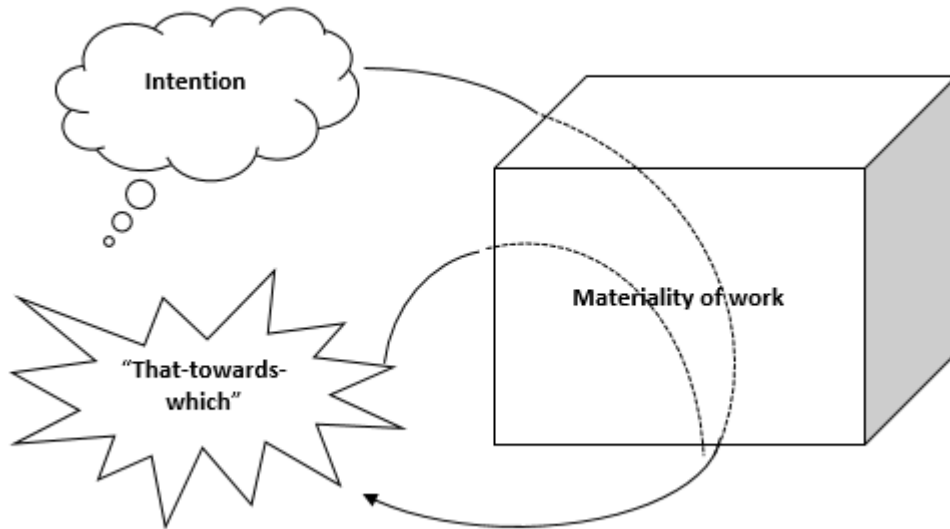
Architectural practitioners appear to be intuitively aware of where the distinction between practice memory and organizational memory is. In learning that Senior Architect G needed time to see past the 'mistakes they [the builders] made', an emotional response akin to homesickness is observed, where the long-term investment of both effort and intention on behalf of the architect appeared to have been misrepresented in the final product. This suggests two things: 1) a physical experience of termination of the process of emerging organizational memory, and 2) separation of organizational from practice memory as the building leaves the domain of ArchitectureCo and is requalified as exoteric materiality by the construction firm (see Chapter 5, section 5.2).

It then follows that emergence of organizational memory can be a highly embodied process. As the data excerpts presented above suggest, how architects react to objects of their work is closely entangled with the intended outcome of said work. This is closely linked to individuals' memory of previously completed projects. Specifically, repeat observations suggested that the clearer the idea of what an architect set out to design was, the more embodied the emergence process has been. Such clarity is achieved, in

part, through the individual memory of past projects delivered with the organization (i.e. it is only by remembering past designs that uniqueness of design alluded to above can be ascertained). Given that Schatzki (2006) did not account for the physicality of the practitioner in his definition of organizational memory as a practice, this constitutes an important addition to the understanding of the concept. While, on the one hand, for a person to be a practitioner and to engage in a practice means having a certain peer-recognised skill and knowledge base, it is just as important for them to be conditioned in the ways in which the body of the practitioner is to react to the materiality of the practice. This is because not only is there a significant emotional investment that practitioners may end up making in the product of their work, but also because the way their work becomes influenced by organizational memory has much to do with their physical bodies.

## 7.2 EMERGENCE OF ORGANIZATIONAL MEMORY THROUGH TINKERING

A recurrent observation throughout the data collection period was how practitioners objectified their ideas into building designs. This usually took place during the early stages of project work, when architects needed to produce a representation of their ideas in response to client's requirements for the building. A key stage in the emergence of organizational memory, these initial objectifications of architects' ideas have actually been observed to undergo significant pre-determination by the power and material conditions of the organization. Given that objectification of ideas is a materially mediated process, and that the materiality at hand always consisted of what architects had at their disposal in the office, this activity would be carried out using whichever resources available to the architect at the time, even those not best suited or entirely appropriate.



**Figure 7.2. A conceptual representation of the process of ‘tinking’**

An apt way to describe how architects attempted to translate their ideas into material objects from within the organizational setting is by using the word ‘tinking’. Tinking refers to a process by which an architect discovers tangible elements of “that-towards-which” (a future building - usually a shapeless ‘gut feeling’ at such an early stage) as a result of trial-and-error experimentation with available materiality, skills, tools of work and organizational processes (Figure 7.2; Timmermans and Berg, 1997; Styhre, 2009). The availability of materiality, in this case, encompassed all that an architect could find; whether through active search or passive reception. On an empirical level, this process usually consisted of the following activities:

- An architect typing a search term into Google Images and scrolling through the results, saving those images which ‘felt right’;
- An architect looking through industry literature (most often during lunch);
- An architect using one of the above, or both, as an inspiration to doodle general ideas;
- An architect doodling in AutoCAD software or ‘playing around’ with Photoshop.

Of the four varieties of tinkering identified through observing architectural work, the last two have to do with creating something; and the first two in between with looking for a trigger, or inspiration, to create something. These varieties of tinkering represent the antecedent mechanisms that generate emergence of organizational memory through the practitioner. Table 7.1 outlines how the browsing and the creating elements of tinkering are empirically manifested at three different stages of architectural work - the conceptual design stage (usually a general external look of the building), early design stage (more detailed external and internal design with specifics on materials to be used and their properties), and design development (highly detailed/technical interdisciplinary work with engineers and other specialists performed in Design Teams during construction).

Table 7.1 draws attention to two characteristics of how tinkering functions: First, that it is a fairly short-lived practice that gives way to the more technical work as the design moves forward, and, Second, that when tinkering is most common (during the conceptual design and opening stages of early design), it mostly consists of experimentation on behalf of the architect.

	<b>Browsing</b>	<b>Creating</b>	<b>Organizational memory</b>
<b>Conceptual design</b>	Much of the time is spent looking at images of buildings, or building elements, online. Some input from peers to 'have a look at X or Y building'	Very non-technical sketches representing the general look of the building or building element (e.g. roof).	This is made possible by abilities provided by the organization (section 4.1.4) and memories of working on prior projects.
<b>Early design</b>	Less time spent on looking at large quantities of images. Parameters of online image search become more specific and detailed (e.g. glulam beam roof).	Doodling generally performed in AutoCAD and to a more professional standard. Sketches frequently printed out and amended by hand but all data is now stored in a	As design ideas become objectified, architects emerge particular ways of designing parts of the building 'from' organizational memory.

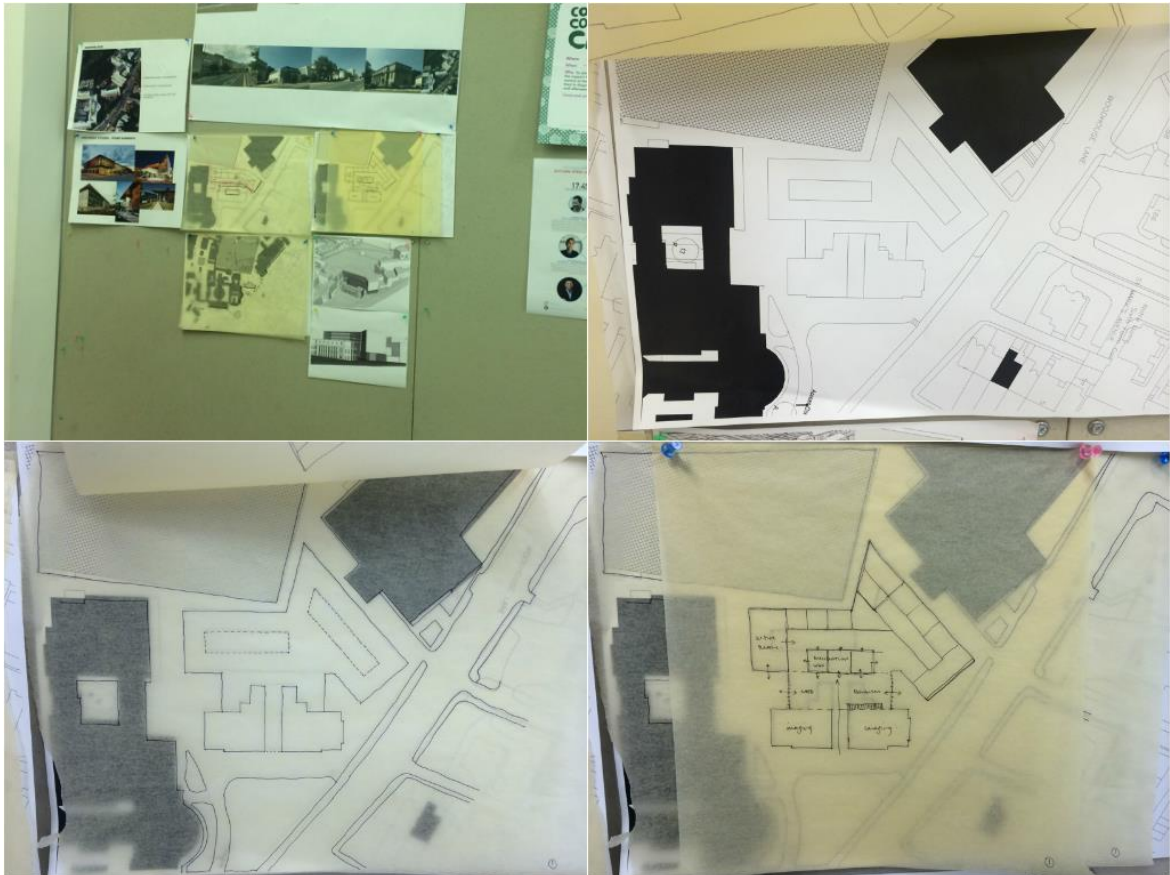


		design (.dwg) format on the company server.	
<b>Design development</b>	Little time spent looking for images, with the exception of very particular details that architect may not readily picture (e.g. a specific lamp). Images are replaced by material samples from suppliers.	Exceptionally rare occurrences of improvisational creativity as all effort is directed at producing design drawings for use in the construction process.	Normally having passed a normative filter of the organization (section 4.1.2), the design moves from emerging out of past experiences to attempting to represent the 'that-towards-which' of the organization.

**Table 7.1. Overview of the practice of 'tinkering'**

Table 7.1 draws attention to two characteristics of how tinkering functions: First, that it is a fairly short-lived practice that gives way to the more technical work as the design moves forward, and, Second, that when tinkering is most common (during the conceptual design and opening stages of early design), it mostly consists of experimentation on behalf of the architect.

While experimentation may vary in its degree of formality it generally facilitates the creation of artefacts during tinkering (e.g. Figure 7.3 – tinkering with the layout of the building). These are important as they serve to represent ideas, successful or otherwise, in an organizationally accessible medium.



**Figure 7.3. Examples of tinkering**

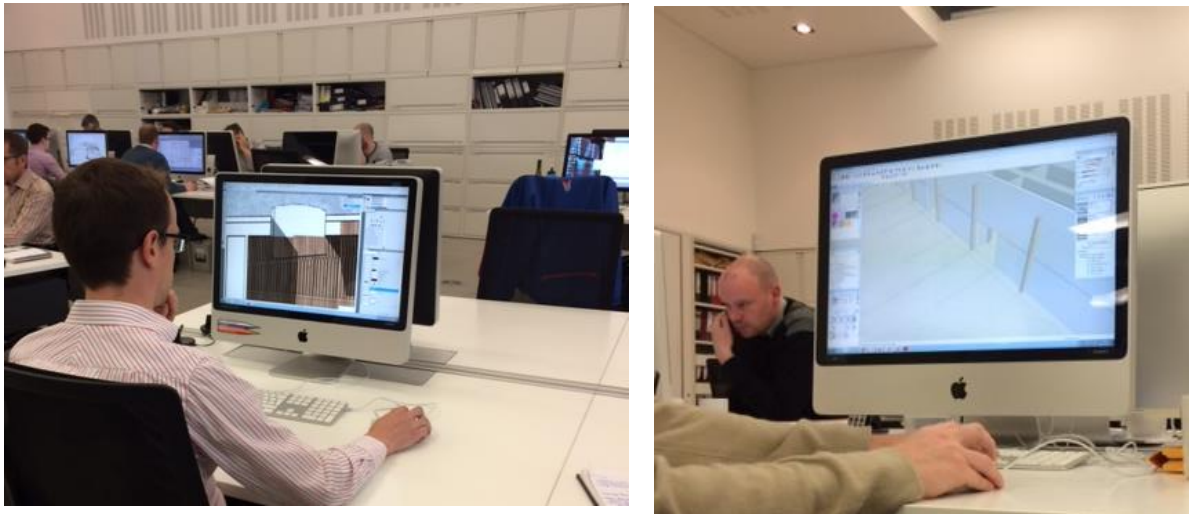
The role that experimentation plays in the emergence of organizational memory is well articulated by Architect K:

*“what I mostly do is keep looking for something that works. This does involve scrolling through many images and photographs which, when I see something that I think is interesting... it then allows me to create a representation of what I am looking for, if that makes sense. What it is, is that I have a conception of the design and I need these [images] to flesh it out.”*

This passage highlights the role of both the materiality of practice (in form of images) and the site of practice (the workstation where the 'scrolling' takes place). Architect K describes how s/he is looking for material elements that could represent what s/he thinks the building ought to look like. This is made possible, as was the case with Architect T above, by prior experience of designing buildings with ArchitectureCo. The turn of phrase used by Architect K - "flesh it out" - is particularly revealing of the emergent side of organizational memory, where not only is it the physical body of Architect K that is going through the process of putting together a representation of a design, but also the very principle of gradual composition that the design has to go through in order to become objectified (Figure 6.4). As Architect K was "*looking for something that works*", s/he was filtering the mostly exoteric materiality of architectural practice (see section 5.1) through the mixture of regimes of thoughts, experiences and abilities that make up the organizational memory of ArchitectureCo (Schatzki, 2006). This is further highlighted in the following statement by the same architect.

*"when the initial sketch or graphic is in place, it is a much more effective way of showing others my entire thought process. As architects we are trained to look at a blueprint and see how this is there and that is here... it would take too long to explain any of that in a conversation though."*

The two statements are illustrative of both the 'browsing' and the 'creating' aspects of tinkering. More importantly, however, they highlight the importance of producing artefacts in order to communicate the "*entire thought process*" with regards to the building. Architect K is likely to be alluding to two organizational memory-related elements here: First, the ability to communicate and engage in performing practices through materiality of work (see Chapter 6), and, Second, an acknowledgement that artefacts have to be produced to particular organizational norms in order to be accepted as products of architectural work.



**Figure 7.4. Tracing the objectification of a design idea**

It follows thus, that an important aspect of experimentation is the continued practicing of it up to the point when an artefact can be finished. Recall the very interesting turn of phrase used by Architect K just above, where s/he alluded to how the experimentation process helps to ‘flesh out’ design ideas. This not only means that the construction of artefacts is an enduring process emergent from and shaped by a series of external stimuli, but also that the availability of said stimuli has an effect on what the artefact is going to be. The latter point is relevant to organizational memory for two reasons: 1) infrastructure for finding the stimuli and 2) language for finding the stimuli, as will be discussed next.

### *7.2.1 Infrastructure*

In terms of infrastructure, the primary means of browsing for ‘inspiration’ was, as I mentioned previously, via Google Images (Star, 2002). This was the main tool, universally available to all staff and generally used at the expense of both the organisational intranet and secondary options. These secondary infrastructure options were either the professional publications available in the lunch/break-out area, and physical models of buildings found around the office. These manifest both the power aspect of organizational memory (i.e. who decides access and which publications are available)

and the materiality of work aspect of organizational memory (equipment – see section 4.2).

Use of professional literature was similar to that of Google Images - to look at photographs and graphics of buildings and their elements. With the exception of one publication made available by ArchitectureCo to their staff - the Design Journal - other publications did not go beyond basic photography of exoteric materiality (see section 6.2) and, as Architect T explained, were “*not very useful as they do not show how anything is done. This one [Design] is best because they actually show elevations and cross-sections*”. What this suggests is that not all materiality found in ArchitectureCo was actually relevant to organizational memory. A number of items, such as many of the publications available to architects but also things like coffee cups and plates and utensils, did not qualify as ‘equipment’ (see section 4.2) into which organizational memory could be submerged to shape collaboration (Chapter 6), or from which it could be emerged to inform the purpose and direction of the organization (Schatzki, 2006).

This also brings attention to the question of where the boundaries of ArchitectureCo as an organization are – is it everything that is found within (and connected to) its physical location, or is it only those things which constitute its organizational memory (i.e. equipment)? Observing how architects interacted with the physical building models was quite evocative in this regard. Building models are small-scale representations of building designs built to scale and using a variety of cardstock. As such, they are potentially archetypical objects of organizational memory (e.g. Nissley and Casey, 2002; Decker, 2014). However, the actual interaction between the practitioners and the building models was extremely limited and I only observed three instances of an Architect who was not directly involved in the production of one interacting with a model. In fact, most of the models on display were quite dusty and lacked any labels by means of which they could be identified. Having asked some members of staff to identify a few of the models, I only managed to get positive identification from the Directors. This strongly suggests that not all material objects found within an organization are involved in the organizational memory. It would even not be unwarranted to go further and claim

that because they are not involved in the organizational memory, they are not involved in organizational practices and, by extension, in the organization as a practical accomplishment itself. Chapter 6 highlighted the importance of a communicative dimension of tools of work for the enactment of organizational memory. Accordingly, materiality that does not allow practitioners to engage with the practice through it does not qualify as stimuli-finding infrastructure of organizational memory.

The situation with professional literature is similar to that of building models - while the general practice of looking at visual representations of buildings was akin to that of looking at visual representations of building online, because professional literature was found outside of the work station and engaged with usually during lunch breaks, it was very rare that I would observe an architect make any notes, or preserve the image in any way. As a result, most of these objects do not qualify as suitable for the emergence of organizational memory either.

Comparing the practices of visual search via Google Images to the use of professional literature in experimentation and subsequent tinkering, it emerged that architects would only engage in those activities while at their workstations. This is not to suggest that they would not move or talk to one another unless it was not work-related, but rather that creation of artefacts would only take place at the location of where design work was being carried out. Tinkering was not observed in any of the 'social' locations within the office (i.e. kitchen, printer room, reception, break-out area) or in any third location outside of the office. All recorded instances of tinkering took place at the architect's desk by the computer (frequently using the computer as well).

### *7.2.2. Use of language*

The use of language in locating stimuli that would encourage tinkering had most to do with the way architects would frame search terms, predominantly in Google Images. Unfortunately, it was not possible to capture a record of ArchitectureCo's keyword search

history due to technical limitations. Instead, I asked different architects what they looked for and why:

*"I generally have an idea what to look for - a building I know of, or a practice I am familiar with. Sometimes I would type in a description of what I am looking for and work from there. For instance, if I am looking for how a specific shape fits with a specific environment I might search for 'curved aluminum roof, urban' or something like that..."* (Senior Architect G)

*"I don't know if I use any specific words more than others... I guess it's mainly about using terms for the things I'm looking for... such as "UPVC soffit" or "birch door" for example... Mainly just typing in what things are called"* (Architect K)

*"Since I mainly do this [browse for images] to only find samples for the designs, I just type in what I need and pick the one I think is most appropriate and fitting"* (Associate Director R)

*"I suppose it largely depends on what I am doing, right? Google, for one, only shows what you are looking for. So it will give me whatever I ask of it. So if I look for a brick wall, or anything else, that is what it will show me. You get what you ask for, you see?"* (Architect J)

In addition to these responses some of the more senior Directors did not understand the question at all. This is significant as it points to something so central and taken for granted, within the practice of architecture (in ArchitectureCo), that it is performed without notice or reflection. The four excerpts above, from the total sample of 19 employees that I asked, disclose a varied degree of confusion with the question. All, eventually, state that the language used in browsing for images is technical and almost exclusively aimed at finding a representation of an already formed idea. Not one response mentioned cues or advice from/of fellow architects or anything ArchitectureCo-specific. This suggests that the language used by architects in the performance of their practice is

a characteristic of a practice – it is something they learn during the training period, as part of professional events, and from specialist literature. From this I conclude that the language of search is not a characteristic of organizational memory, but rather of practice memory.

Considering the language and the infrastructure in concert, it appears that experimentation is not a component of organizational memory, but rather of practice memory. However, it must also be pointed out that experimentation, and, more importantly, tinkering, at no point took place outside of the architect's work station. Architects did not doodle or preserve found images during lunch or while travelling - they only did so whilst at their work stations in the offices of ArchitectureCo. It follows that while tinkering is not a process by means of which organizational memory emerges, it does require organizations to provide an appropriate environment within which tinkering can take place. In other words, an architect is likely to perform tinkering regardless of which particular architectural firm s/he may work in (as tinkering is a part of the architectural practice), but it is up to a specific organization to provide a space that would be conducive to fostering tinkering.

### 7.3 THE ROLE OF THE ORGANIZATION

In the preceding sections, I described and analyzed processes by which organizational memory was being emerged by architects by means of their physicality and tinkering. The empirical data has shown how the anticipatory experience of “that-towards-which” in architecture is manifested through the physical and emotional behaviour of architects as they perform the emergence of organizational memory. The intended design of the building is actualized through the materiality of work and in conjunction with organizational ‘thoughts’, ‘experiences’, and ‘abilities’ (Schatzki, 2006; and Chapter 5).

Emergence of organizational memory is operationalized by means of tinkering. Experimentation plays an important role in this process as architects formulate the



external look of their design idea using the objects and the organizational infrastructure available to them. Accordingly, experimentation aims to import new objects, samples, and other modes of representation into the tinkering process. This allows the design idea, most often conceived of as a 'sense' or 'vision' to gain validation and representation in the world.

There was nothing in the collected dataset to suggest tinkering was an ArchitectureCo-specific method for emerging organizational memory. This means that, alongside the physical experience of doing architecture (refer to section 6.1), tinkering is first and foremost an aspect of practice memory of architecture (Schatzki, 2006). That being said, the performance of tinkering produces objects and outcomes very specific to ArchitectureCo, suggesting some relation to organizational memory. Discerning the exact nature of this relationship is crucial towards practice-based understanding of organizational memory. Why do different architectural practices use marginally different ways of annotating drawings? Observations presented in this chapter suggest that individuals engage in emerging memory (of how to produce an annotated design drawing, for example) subject to material assemblages of the tools of work provided by individual organizations. For this reason, while tinkering is likely to be found across a variety of different architectural firms, the outcomes of tinkering will differ subject to power and material conditions comprising particular organizations.

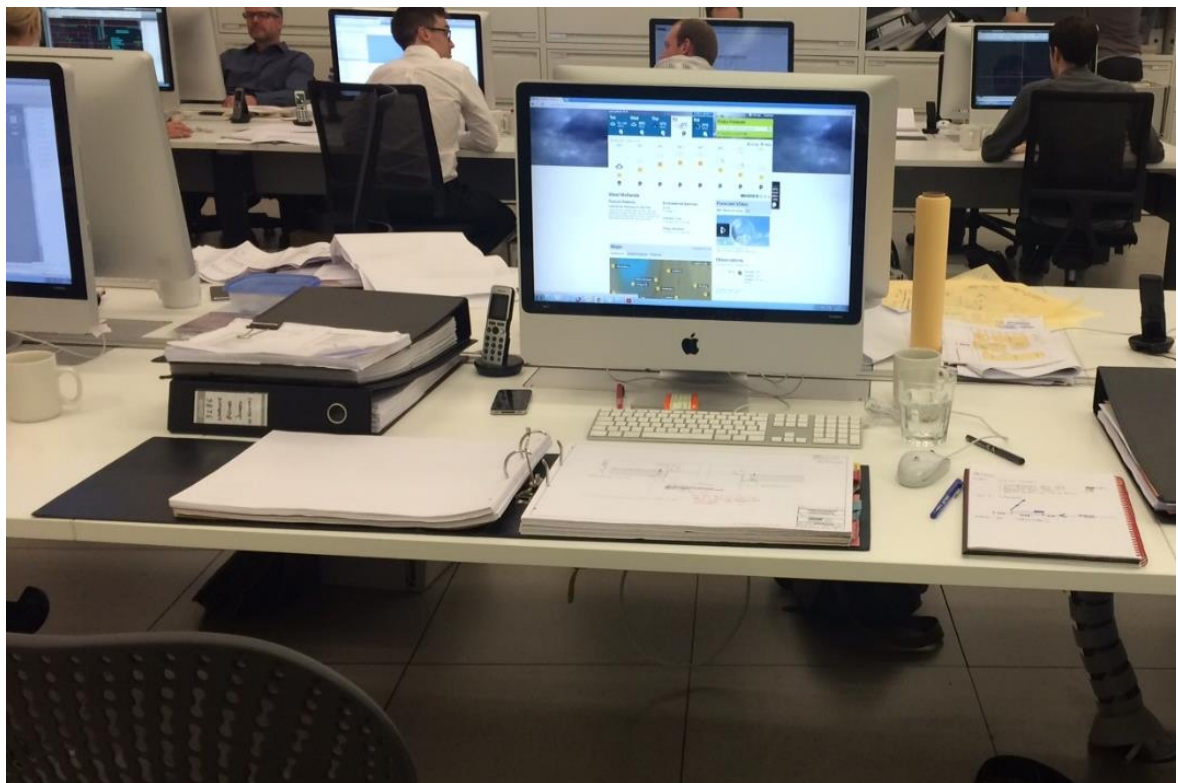
It is worth noting that the role of organization as presented in this Chapter is mainly limited to the material arrangements and the landscape of power (Chapter 5 and Chapter 6) that it bestows on the practitioners. The reason that social aspects are missing from this consideration is because none have been observed in the form that would suggest any significant contribution to the emergent process of organizational memory. To elaborate, when I arrived to collect data in ArchitectureCo, it was my expectation that I am going to find individuals talking to one another, asking each other technical questions and collaborating to solve problems. Rather surprisingly, after the first two months of my ethnography I witnessed nothing of the sort. Instead, employees of ArchitectureCo remained by their individual workstations only communicating with each other to either

give directions (e.g. “do this”, “change that”, “this is not right”, “this is good, carry on”) or to engage in non-work related banter in the kitchen area of the office. Much later I have come to understand that much of the communication central to the performance of work was performed through the materiality of work (mostly through design drawings), where individuals expressed their ideas and manipulated visual representations of their practice in order to produce a design compliant with the “that-towards-which” of ArchitectureCo.

Accordingly, I did not consider the role of organization to be limited to employing practitioners only (although the social aspect of this had to be discounted as not significant) - as data on tinkering suggested, a space within which artefacts can be both found and created is very important. Boland et al. (2007, 2008), for example, described communal spaces for artefact creation in the architectural practice of Frank Gehry. ArchitectureCo was radically different in that no artefacts were used or created outside of the individual work stations (also Star, 2002). This is not to suggest that no communication took place within the organization, but rather that any and all processes that would directly culminate in artefacts were performed at the individual working spaces. The provision of such areas where tinkering – a process consistently observed throughout the firm – could be performed was a distinctly organizational matter because it constituted an ‘ability’ of organizational memory (see section 5.2.4.)

A key attribute of ArchitectureCo workstations was the degree to which it was compatible with the application of tools of work. Most specifically, the space to record and to re-create (doodle), as well as to browse for examples of exoteric materiality was required. Within ArchitectureCo, the browsing took shape of using an online search engine, but this need not have been exclusively so. For example, ArchitectureCo also maintained a library which contained architectural books and a collection of material samples from previous projects. That being said, this space was seldom used as it was far too removed from the work stations where recording and re-creation could take place. Consequently, this area was an under-utilized resource for enabling the emergence of organizational memory.

The importance of the work station is especially pertinent given the way in which work was performed in ArchitectureCo. Most specifically, the primary output of architectural work – design drawings – was created using a computer software. The software was available only on the desktop computers which, coincidentally also allowed access to the central server where all project information was stored (Figure 4.2). These two functions were restricted to desktop computers only, both for security reasons and also because architectural software is quite demanding in terms of processing power and storage. However, because all project-related information was stored on the central server, it was a matter of convenience for architects to record any images found via Google Images onto there as well. All in all, ArchitectureCo provided all the relevant tools of work needed by the architect in one location – the work station (Figure 7.5).



**Figure 7.5. Standard ArchitectureCo workstation**

Because all the tools of work were centred at the work station, this is also where the emergence of organizational memory took place. The pragmatic nexus of all the required

tools of work, space to tinker, and the sheer convenience of co-location rendered the work station perfectly suited for emerging organizational memory because of the teleological-affinitive structures that they imported into the work (Chapter 5; Schatzki, 2006). The role of organization is thus to enable the emergence of organizational memory by providing material settings akin to the work station of ArchitectureCo, where the process that is already embedded in the architectural practice can be applied in an organizational setting.

#### 7.4 CONCLUSION

In this chapter, some important nuances of organizational memory as an emergent process were highlighted. First, the role of the physical body of the practitioner in bringing organizational memory forth was highlighted. Observational and interview data indicated that practitioners experience organizational memory in a visceral way as they attempt to translate their tacit and semi-formed ideas of building design into material objects. The physical and emotional involvement of practitioners in their work, via emerging organizational memory, is a contribution to Schatzki's (2006) definition of organizational memory, where neither of these aspects was acknowledged. Second, the mechanism by which organizational memory becomes emergent – tinkering – was described. Tinkering refers to a set of activities performed by architects as they attempt to utilize available materiality in order to objectify their tacit and semi-formed ideas of building design. Experimentation was found to be a significant part of tinkering, divided into two themes: the browsing and the creating. These were then corroborated by an audit of key tools of work and the language of work involved in the emerging of organizational memory. It was found that not all materiality, including that which seems overtly mnemonic, is relevant to the performance of organizational memory. Finally, the relationships between the organization, the practice of architecture, and organizational memory were discerned. This placed specific emphasis on assemblages of relevant tools of work in spaces and areas accessible to the practitioners.

Identification of the above nuances completes the evaluation of organizational memory as an emergent process. The results indicate that the site of practice is least important in the emergence of memory, whereas materiality of work is most important; power is actively present in so far as practitioners objectify their ideas with regards to the element of 'thoughts' (Schatzki, 2006). Moreover, emergence of organizational memory requires a more direct and deliberate input from the organization than, for instance, submergence of organizational memory. By implication, considerable attention ought to be paid to understanding which are the key tools of work that practitioners use and how these can be assembled in a complimentary way, as ArchitectureCo have done.

# Chapter 8

## SYNTHESIS AND CONCLUSIONS

### 8.1 INTRODUCTION AND FOUNDATIONS OF ORGANIZATIONAL MEMORY AS A PRACTICE

Chapter 5 focused on developing a conceptual underpinning for understanding organizational memory as a practice. Building on Schatzki's (2006) distinction between practice memory and organizational memory, as well as on an intriguing five-part definition of the latter, I proceeded with a qualitative inquiry into the practice-theoretical interpretation of organizational memory using empirical data from ArchitectureCo. This analysis resulted in re-categorization of Schatzki's (2006) definition of organizational memory as the "*complex of actions, thoughts, experiences, abilities, and readinesses*" (p. 1870) into three key themes. These are: the role of power, the role of materiality of work, the role of the site of practice, and the distinction between practice memory and organizational memory; as well as, by extension, the episodic nature of organizational memory as a practice. The episodic nature of organizational memory is conceptualized through an event-centred understanding of temporality (see Chapter 4, section 4.2.1) and will be highlighted in each of the sections below.

#### *8.1.1 The role of power*

Schatzki (2006) hypothesized the role of 'thoughts' in organizational memory, which I found to be closely connected to normative attitudes about what qualified as 'good architecture' in ArchitectureCo (see Chapter 5, section 5.2.2). The effects of normativity on the constitution of organizational memory were observable in how attitudes would affect the philosophy of an architectural practice – i.e. restricting and, to a degree,

prescribing the kind of architectural work that would be expected of ArchitectureCo and its employees.

Three mechanisms were identified by which normative attitudes were found to act upon the organization: awards and distinguished cases, the process of bidding on design contracts, and internal design reviews. Each of these exposed the significance of formal authority. Architects in positions of formal authority, whether on permanent or ad hoc basis, worked to ensure that ongoing design work met the standards of what ArchitectureCo stood for. This was clearly observable during the design review process, where architects had to validate their work to the panel consisting of management and senior peers. The purpose of such peer-review was twofold: 1) to ensure technical quality of the design, and 2) to ensure aesthetic quality of the design. Because the former is a function of architecture as a practice (i.e. all architects are expected to design safe buildings), the latter is a local preference developed and maintained by and within particular organizations (i.e. what constitutes 'good architecture').

It is through this process that practitioners in positions of formal authority perpetuated adherence to particular norms in ArchitectureCo. By exercising their power to either validate or invalidate some ways of designing building over others, these practitioners had a direct influence on the products and outcomes of the organization. The organizational significance of combining normativity with power is further amplified if accounting for how the authority to participate in the process of reviewing and commenting on the internal work-in-progress is granted. In addition to a selection of Directors (each of whom was also a business partner), the people invited into this role were very senior architects with proven tenure at the Company or highly specialized technical subject area experts (e.g. 3D Building Information Modelling). By extension, such individuals played a direct part in deciding the kind of architecture ArchitectureCo did, and how it was perceived by its peers from the wider practice.

With respect to power through normativity, the primary criterion against which organizational memory can be discerned from practice memory is the extent to which

normative attitudes and actions inform organizational outcomes (Shotter and Tsoukas, 2014). This is a fundamental question for understanding organizational memory as a practice because neither the ability of architects to do architecture, nor their skills as designers came from ArchitectureCo - these things were learned by ArchitectureCo employees largely throughout their training to qualify as architects or other adjacent specialists. Accordingly, these skills and technical abilities constitute practice memory within the organization, but not organizational memory. For example, the ability of an architect to produce a design drawing using CAD is a prerequisite of qualifying to practice architecture, but not anything that would explain why ArchitectureCo displays continuity over time in a way that makes it distinct from any other closely related architectural firm.

To consider the effects that normative attitudes have on architectural practices when applied from the position of authoritative power, however, highlights the ways in which practitioners in a position of formal power perpetuate this aspect of organizational memory. They do so by redacting the work of their peers in line with: a) an external image of the organization as established in part by a track record of specific awards, and b) their personal experience of producing successful architecture (as usually evidenced by specific awards). As the individuals capable of enforcing particular norms onto their colleagues are also long-term members of ArchitectureCo, the interaction between factor “a)” and factor “b)” becomes recursive, thus maintaining a sense of organizational continuity of ArchitectureCo to both the internal and the external stakeholders.

In addition to manifesting itself in relation to the philosophical and stylistic dispositions of ArchitectureCo’s memory, power was also expressed through the abilities with which the organization was enabling its employees by providing the appropriate tools of work. A detailed discussion of this was offered in the previous chapter, highlighting how ArchitectureCo facilitated emergence of organizational memory by clustering all the relevant tools of work in a single location. This is also an expression of power, albeit not over the employees or the organizational norms, but rather over the practice as a whole.



By facilitating access to the resources required to develop and deploy certain architectural abilities, ArchitectureCo directly enabled performance of certain, more resource-intensive, practices. Because practices are unevenly distributed and assembled in such ways that can restrict some courses of action but not others (Schatzki, 2002), any significant investment in advanced tools of work carries with it a potential to facilitate growth of otherwise restricted practices. For example, ArchitectureCo invested a considerable amount of resources in procuring one of the most advanced 3D building design software and in training large numbers of their staff in how to use it. As a result, the firm is future proofed and well-prepared to practice architecture in most innovative ways. The abilities developed from having high-end tools of work available in an organization not only shaped the future norms and ways of doing work, but also impact the kinds of clients and the varieties of design that ArchitectureCo will be delivering in the future. The combination of power and formal authority that allows for the development of such abilities constitutes a key element of organizational memory of ArchitectureCo.

A third way in which power contributed to organizational memory is by allowing regimes of actions to reverberate through time and space via the tools of work (Chapter 6). One of the secondary findings of this thesis was that asymmetric power relations can actually advance the performance of work and that material objects play a central part in providing a conduit for that. Patterns of communication and implicit hierarchies would become inscribed into suitable tools of work (e.g. design drawings). They would then provide a type of a scaffold for certain ways of performing work and for organizing the practitioners of that work into dominant and subordinate roles. Consequently, it is through power that ways of performing work would be inscribed in tools of work (Chapter 6). Once inscribed with these, tools of work would harness aspects of organizational memory through time and space via the process of submergence. By submerging organizational memory into the appropriate tools of work (i.e. the project and design leadership role of architects submerged into the primary medium for design development - drawings), practitioners transport and translate their preferred ways of performing work through time and space. Submergence of organizational memory into

the tools of work was also the more salient way in which organizational memory would introduce consequence to the way practices are performed, and not the other way around as was the case in almost every other circumstance.

Overall, power is a key defining dimension of organizational memory. Power relations not only shape the ideological dispositions towards practices within the organization, but also inform which arrangements of practices will be available to organizational members. Metaphorically speaking, in ArchitectureCo power could be seen as a landscape for practices - where the topographical layout of norms, abilities and orientations follows the interests and convictions of those in positions of formal influence. Empirically, this was operationalized through organizational processes that required work-in-progress to undergo formal review by senior management and subject experts. The decisions as to what kind of architecture to produce, as well as which abilities to develop and to what extent was thus up to a very limited group of senior practitioners. This would have a knock-on effect on the kinds of regimes of activities that would be submerged into tools of work as well as the types of tools of work that architects would have the ability to use.

In ArchitectureCo, power represented itself in a very streamlined way, flowing from the top brass of managing architects all the way to the level of interdisciplinary work and the external practitioners involved in it. By virtue of this, ArchitectureCo appeared as a “*powerful player*” capable of “*imposing their way of doing things*” on the adjacent organizations and practices (EngCo Senior Engineer P). Coincidentally, this did not seem to impede collaboration in any way nor represent ArchitectureCo in authoritarian terms to its partners and peers. Instead, the organization was described as being very good at “*getting the job done*” (Mechanical Engineer S), “*not fussing around*” (Structural Engineer C), being “*clear and competent*” in their work (ConsCo Manager S), and knowing “*what they were doing*” (Client R). This suggests that asymmetric or even sufficiently pronounced power, when not divorced from a well-aligned organizational memory, can be conducive to the efficient performing of complex work.

### *8.1.2 Materiality of work*

Materiality is a key element of understanding the world through the practice lens (Nicolini and Monteiro, 2016; Nicolini, 2012; Schatzki, 2002, 2012). Similarly, organizational memory as a practice is reliant on materiality to work. Indeed, materiality was found to play a central role in the performance of organizational memory throughout Chapters 5, 6 and 7. Following Heidegger (1978), materiality of work has been interpreted as equipment (see section 4.2). This is in contrast to the environment where practices happen in general, which has been interpreted as 'present-at-hand'. In most cases, equipment of architectural work presented itself in the form of objects. This is likely due to the fact that architectural work is strongly predisposed towards objectification.

Accordingly, a significant part of organizational memory had to do with either producing objects (section 5.2.2.2) or with drawing on objects to perform work (Chapter 7). Importantly, objects were only observed to partake in organizational memory as far as they were used as equipment. For example, physical models of buildings found around the office of ArchitectureCo did not appear to play any role in organizational memory, whereas samples of materials or annotations on building blueprints were found to be quite central to it.

Qualification of materiality of work as equipment warrants two considerations: First, whether it allows for the ability to submerge organizational memory, and Second, whether it allows for the ability to emerge organizational memory. In terms of the former, Chapter 6 provided a discussion of how design drawings absorb ways of doing work to later impact patterns of communication. This is part of the submergence process. All design drawings are an example of equipment in the case of architectural work. This is because design drawings move the progress of work forward, have an effect on the way practitioners engage with their work, and are used to objectify ideas and other immaterial concepts. The two former aspect relate to the submergence process (Chapter 6) while the latter one refers to the emergence process (Chapter 7). In both cases

materiality functions as a conduit. This means that organizational memory was not literally contained in design drawings, for example, but rather that design drawings anchored certain socio-material arrangements and the associated practices in an 'event-space' signified by them (see section 4.2.1). Accordingly, materiality of work facilitates the submergence of organizational memory by pointing at some regimes of activities and interpersonal relations and not others. By way of metaphor, submerged organizational memory to materiality of work is what a map is to a traveller - it shows various ways of navigating the terrain but leaves it up to the practitioner to draw on personal skills and experiences to choose the one that is best suited for them. However, as with a map, arrangements of practices that are not submerged into materiality of work are also not likely to constitute viable options for performing work in that particular organization. This aspect of organizational memory accounts for why some practices persist through time while others do not.

The case with emergence of organizational memory is similar - observations in Chapter 7 indicated that while practitioners depend on materiality of work to emerge organizational memory, they are only capable of emerging that which they are able (or allowed) to re-enact as individual practitioners; whether by drawing on their personal skills and experiences or in collaboration with others. The previous section outlined the mechanisms by which organizations qualify patterns of work and interpersonal relations that are likely to get submerged or emerged through organizational memory.

### *8.1.3 The site of practice*

The site of practice in organizational memory refers to a space where practitioners are able to engage with organizational work by means of materiality of work. This can be either a physical space, such as a meeting room or a workstation, or a communicative space, such as a design drawing or an email. Schatzki (2002) famously noted that practice is the site of the social and that practices mediate causal relevance of materiality. Insofar as organizational memory is concerned, however, it appears that the role materiality is more prominent than suggested by Schatzki (2002, 2006, 2012). This may also be

attributable to the nature of architectural practice, where the emphasis on physical representation of ideas and knowledge is especially acute.

Much of existing literature on practice theory represents the role of materiality as subordinate to practices. It is worth noting that while in this thesis I use the term materiality, for methodological reason (see Chapter 4), to refer to 'equipment', the literature at large tends to use this term to also include physicality, thus rendering materiality as everything practice-related that is not cognitive, human bodies included. For example, Gherardi (2006) writes of individual practitioners physically adjusting to their material environments and Beunza and Stark (2004), as well as Orlikowski (2010), similarly highlight how practices are contingent on enabling technologies. Equally, Schatzki (2013) proposed that individuals react to materiality and negotiate it, Cooren (2004) aimed to understand material effects of discursive practices and Tserekis (2007) looked at materiality as an expression of performances. These examples illustrate a general tendency to think of materiality in relation to practices as 'that-around(with the help of)-which'. Such way of thinking, however, can create an analytical bottleneck, as materiality (as equipment or otherwise) is rendered inert and as an end in itself.

Many of the findings presented in Chapters 5 and 6 - on submergence and emergence of organizational memory respectively - suggest that a more translucent understanding of materiality is in order. Some studies already pursue this line of thought, with both Osterlund (2008) and Kravcenko and Swan (2016) demonstrating how material objects can act as sites within which practices are performed. Accordingly, findings related to organizational memory indicate how materiality (as equipment) can be a sufficiently suitable space for the performance of practices. For instance, the case of design drawings in Chapter 5 highlighted how some architectural practices gained saliency only within the confines of a drawing and nowhere else. Similarly, analysis of the role of ArchitectureCo's workstation in Chapter 6 pointed at the importance of functional combinations of specific tools of work for emerging organizational memory. In both cases the role of materiality was not to subordinate to or complement the practices, but rather to envelop them. It thus follows that when considering organizational memory through

the lens of the practice view, a significant emphasis should be placed on identifying and evaluating the capacity of certain material arrangements to function as a site of practice, be it equipment or entire spaces.

#### *8.1.4. Distinction between practice memory and organizational memory*

One of the unique aspects of considering organizational memory through the perspective of practice is the introduction of additional levels of collective memory (Chapter 2). Of these, there are two: practice memory by Schatzki (2006) and institutional memory by Linde (2008). This thesis built upon Schatzki's work so, accordingly, I had to work through the data in order to identify what is the empirical difference between practice memory and organizational memory, as well as how the two relate to one another. Schatzki (2006) does not give much detail here, and so a simple principle was formulated throughout the analysis – the scope and coverage of organizational memory is primarily determined by organizational goals and outcomes.

This is a useful principle in that it allows one to discern where practice ends and organization begins. Within Schatzki's work (2006, 2012) it is difficult to understand how practice memory and organizational memory could be distinguished in an empirical environment, and yet the two concepts are different, both in terms of their aims and in terms of their respective functions. Discussed in-depth throughout Chapters 5, 6 and 7, the border between practice and organization as hedged against organizational goals (or, as Schatzki (2006) would formulate it – *telos*), proved to be consistent in aiding my analysis. One of traditional characteristics of organizational memory (see Chapter 2) – skills – was re-qualified as a function of practice memory; and another – awards – was returned to the organizational level on account of functional application in that particular empirical setting.

For research performed within a practice-theoretical tradition, ability to identify and chart such distinctions in an authentic way is very important. Being able to do so allowed

me to perform a clear and consistent analysis of organizational memory, leaving those aspects belonging to practices (of architecture) bracketed out.

## 8.2 REPRESENTING PRACTICE-BASED THEORY OF ORGANIZATIONAL MEMORY

Up to this point the core mandate of this thesis was to carry out an analysis of what architectural practitioners experienced and practiced as organizational memory. Grounded in Schatzki's (2006) hypothesized concept of organizational and practice memory, my analysis resulted in three central elements of organizational memory as a practice: power, materiality of practice, and the site of practice. I will now proceed to synthesize these into an illustrative model.

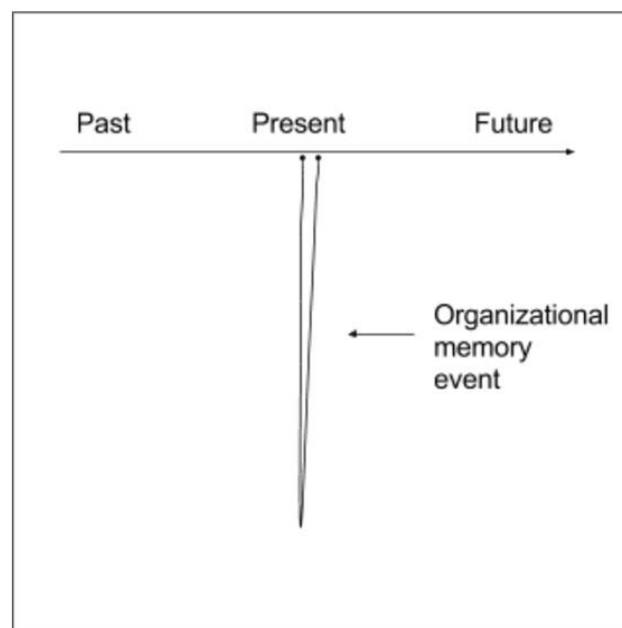
### *Step 1: Temporal context*

While temporality was not an explicit focus of this thesis on the basis of not having a tangible effect on the phenomenology of practitioners, the guiding event-focused philosophical framework set out by Whitehead (1929) and complemented by Heidegger's (1978) concept of 'care' (see section 4.2) will be helpful in positioning the illustrative model of organizational memory as a practice. This is not because of analytic or empirical reasons, but rather due to the limitations imposed by the written language. Analogous to the rationale behind the choice of terms 'submergent' and 'emergent' to refer to the two types of 'readinesses' in organizational memory (Schatzki, 2006: 1870), the event-based interpretation of time is required to minimize confusion likely to be caused by the linearity of the written word.

Thus, the temporal context for understanding organizational memory as a practice is thus: relative to the traditionally linear thinking of time (horizontally from past into the future via the present), organizational memory as a practice works in vertical 'events' (i.e. sites of practice). Figure 7.1 briefly illustrates this. The horizontal arrow of time

refers to the past-present-future continuum, whereas the vertical 'dip' represents an event of organizational memory.

An event of organizational memory refers to any instance during work when organizational memory makes a noticeable contribution, as experienced by practitioners. An example of this is, for instance, when established power relations are perpetuated 'automatically' every time a design drawing is used for communication (Chapter 5), or, when an architect only engages in design work when a specific set of tools of work is available (Chapter 6). Every time organizational memory is either submerged or emerged constitutes an event of organizational memory. From this it follows that organizational memory may not be a continuous state of the organization, as the literature on stories, narratives and memory-as-culture suggests (see Chapter 2). Moreover, it appears as though the seminal proposition by Walsh and Ungson (1991) that organizational memory gravitates towards some set of the five retention bins is echoed by this finding, albeit only to an extent that organizational memory manifests through discrete events (but is not 'stored' or 'retained' in those events/bins).



**Figure 8.1. Temporal context for understanding organizational memory as a practice**



The inclusion of this section on temporal context contributes to macro-view of organizational memory as a practice. More specifically, event-based conceptualization of time allows for an interpretative lens that is consistent with empirical, yet counter-intuitive, findings that organizational memory traces the organization on continuous basis. Additionally, such way of thinking about organizational memory renders the concept consistent with the practice view, where continuity is largely a consequence of persistent repetition of discrete practices, and negates a number of analytical problems caused by anthropocentric thinking about organizational memory (where memory is considered lost if not successfully retrieved after a period of time - e.g. de Holan and Phillips, 2004; Snyder and Cummings, 1998). Fundamentally, understanding the temporal context of organizational memory equips those concerned (i.e. managers, scholars) with an appreciation that organizational memory need not be ever-present present in order to be continuous.

With the temporal context of organizational memory as a practice in mind, I will now proceed to outline the synthesized illustrative model of what it is.

### *Step 2: Effects of power on organizational memory as a practice*

As was highlighted in Chapters 5 and 6, power plays a significant role in the practicing of organizational memory. There are two aspects to power - normativity and authority. This is following Arendt (1970) and Parsons (1963) who observed a positive relationship between degrees of authoritative and normative power. Additionally, Heidegger (1978) conceptualized power as that on the basis of which individuals understand each other and their communication. With this in mind, normative refers to the mandate to perform those activities and practices which perpetuate a certain attitude towards how work ought to be done, and authoritative refers to the degree with which certain activities and practices can take precedence over other/competing actions and practices. The authority aspect of power is also closely connected to the submergent process of organizational memory.

With regards to normativity, analysis of design reviews, contract bids and the management of awards and distinguished cases presented in Chapter 5, section 5.2.2, brings to attention the efficiency with which ArchitectureCo perpetuated a very particular approach to architecture that they thought of as their own. This is not to suggest that the entire architectural staff of the organization was unified in their architectural tastes and practices, but rather that when it came to delivering projects on behalf of ArchitectureCo, it was the products adhering to the principles of dominant design philosophy that would get authorized. Accordingly, because the management team and the review board of ArchitectureCo would largely overlap, there was not much space for contestation available to those individuals looking to remain in the employment of the Company.

In the case of ArchitectureCo, the outcomes of work were very much hedged against these dominant norms. As a result, the possibility for performing architecture was restricted to only that which was compatible with the dominant norms. The norms, perpetuated by concentrated formal authority, predetermined many functional and aesthetic characteristics of the final product. Schatzki (2006: 1864) briefly referred to this as a “*teleological-affective structures*”, which consisted of “*a range of ends, projects, actions, maybe emotions, and end-project-action combinations (teleological orderings) that are acceptable for or enjoined of participants to pursue and realize*”. Indeed, this is in line with the empirical observations presented in Chapter 5. These ‘teleological-affective structures’ of the organization are largely formed and maintained through the combinations of power and normative attitudes to work - the closer power and normativity are entwined the sturdier teleological-affective structures appear to be.

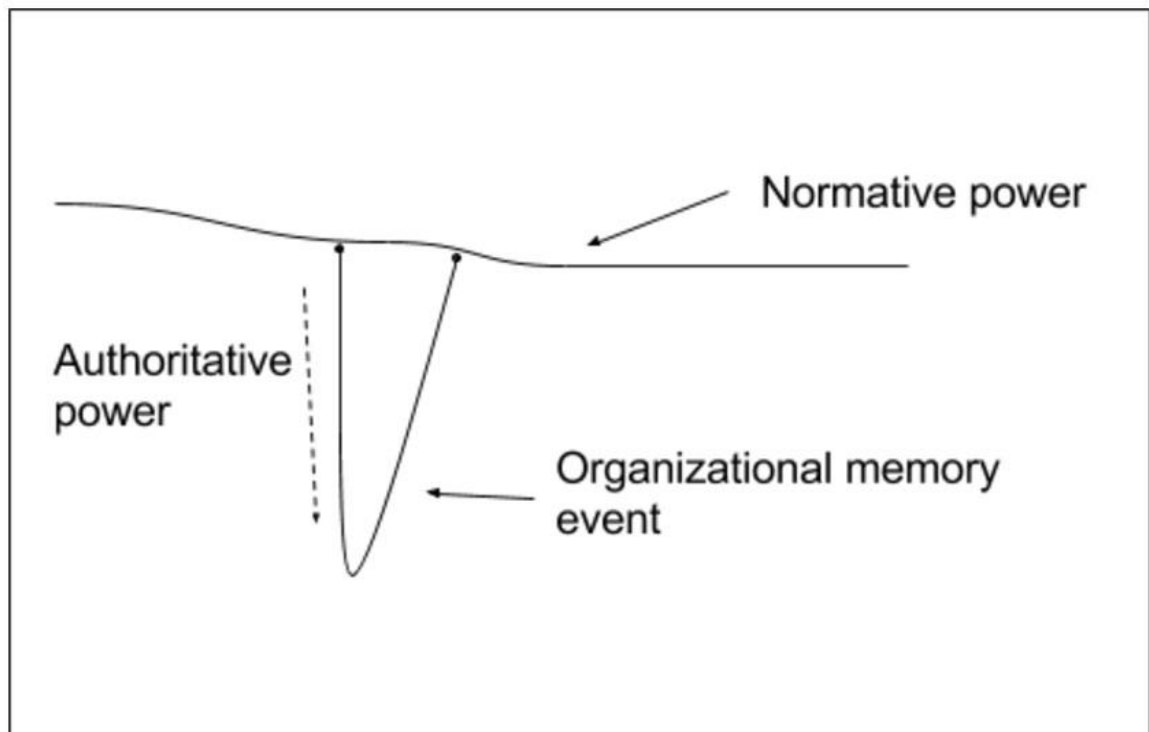
Empirical data analyzed in Chapters 5 and 6 demonstrates the effects of normative power on organizational memory. Specifically, normative power in ArchitectureCo did much to reduce uncertainty as to what the potential outcomes of work may be. Schatzki (2006: 1872) hypothesized that a combination of “*status, experience, abilities, current position in objective time or space, and the people with whom and in relation to whom a person acts*” would result in an uneven distribution of organizational memory. On the one hand, this

is supported by empirical data as far as matters of legitimate peripheral participation go (Lave and Wenger, 1991). On the other hand, a closer look at how normative power impact the performance of practices in ArchitectureCo suggests that, as far as concrete organizational outcomes are concerned (i.e. contracts awarded, buildings built, awards received, etc.), the distribution of organizational memory is quite even. This is mainly a function of two intertwined elements: managerial process and organizational practices. Turning, once again, to Brown and Duguid's (2000) distinction between practice and process (where they suggested that practices 'stick' to processes) highlights that because practices are both goal-oriented and materially-mediated, strong managerial control over both of these aspects bears significant influence on which practices, abilities, experiences and actions are available to organizational members. This is also the same mechanism by which authoritative power facilitated the submergence of organizational memory.

Normative power in ArchitectureCo had such a strong impact on practices, abilities, experiences and actions because it, in effect, determined the possibility of organizational practices. The range of these possibilities thus generally predisposed some practices to submerge and emerge through organizational memory and not others. Accordingly, power is a foundational element in the constitution of horizon of teleological-affective structures (Schatzki, 2006) of the organization. The exercise of power is a practice in its own right (Nicolini, 2012). As such, it is not a constant and is re-enacted with every design review, managerial decision, client interaction, equipment procurement, project staffing decision etc. Consistent exercise of normative power, as was the case with ArchitectureCo and as suggested by Schatzki (2006), established the landscape of possibility of organizational practices and, by extension, organizational memory.

To apply this to Figure 8.2, the horizontal line represents the consistent performance of normative power by organizational decision-makers. Unlike in Figure 8.1., this need not encompass continuity of time necessarily. In a two-dimensional space, power can be considered to determine the 'surface' from which practices can be submerged into organizational memory or emerged onto. Those practices not 'on the surface' are either

organizationally repressed (i.e. not adhering to dominant norms) or practically incompatible with existing organizational practices and work (e.g. virtual reality design software against CAD - no practical degree of compatibility). This is because practices are performed in bundles (Nicolini, 2012; Schatzki, 2012), making 'unbundling' of practices adherent to dominant norms a laborious process. Accordingly, the 'surface' line in Figure 8.2. represents practices that adhere to dominant norms and can be submerged or emerged through organizational memory.



**Figure 8.2. Power and organizational memory as a practice**

It is worth noting that the reason the normative power line has been represented as uneven is to indicate that normativity does not affect the entire organization in an equal way or to an equal degree. By the nature of the process outlined in Chapter 4, normative power is exercised as a practice by a certain group of senior practitioners. Accordingly, the distribution of normative power in ArchitectureCo was distinctly top-down.

Figure 8.2. also alludes to authoritative power within the process of submerging practices through organizational memory. This was considered closely in Chapter 6, where design

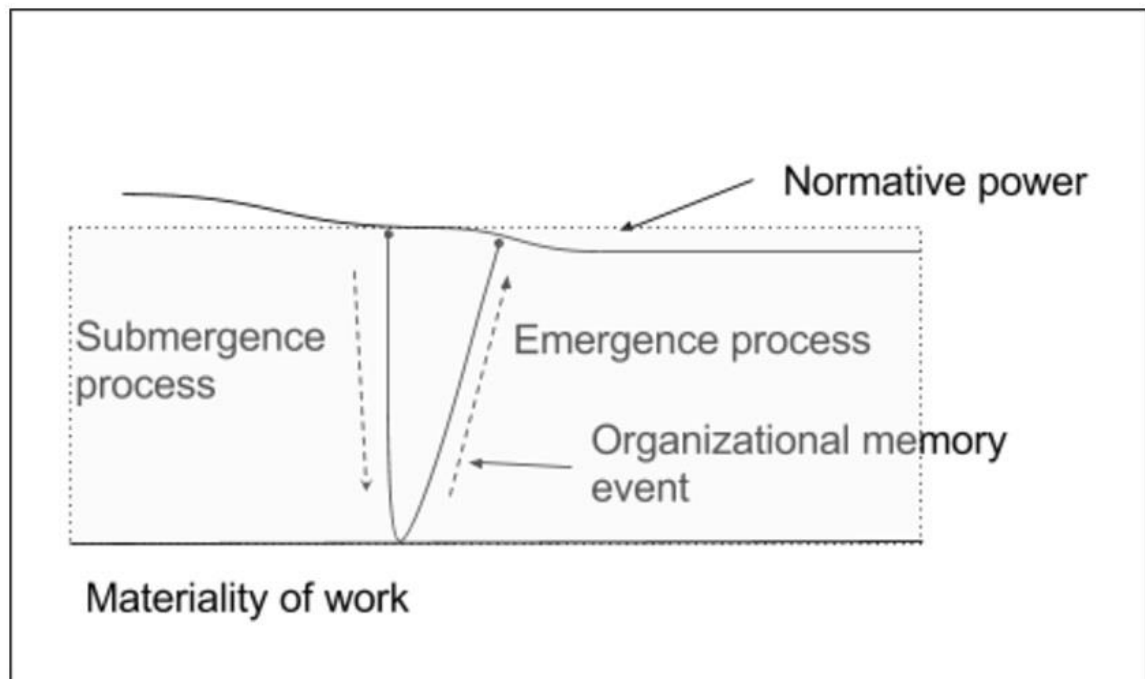
drawings provided a fairly rigid scaffold of acceptable power relations. Power relations submerged into design drawings thus provided a way for individuals to understand each other and their practice (Heidegger, 1978). That being said, design drawings do not pre-determine power relations in some inherent way - that is a function of the submergence process.

In order to imbue materiality of work (design drawings in this case) with power relations, practitioners need to exercise authoritative power. Section 5.2.3 provided an illustration of how authoritative power exercised by architects submerged an architect-centred way of performing work into the relevant tools. In that example, architects reinforced their decision-making authority over other specialists on the project through restricting any change to the commissioned design on the building. This particular power relation persisted through to the end of the project in situations where the tools of work into which these restrictions were submerged continued to be in use. Accordingly, authoritative power drives organizational practices into the tools of work and, where these persist over time and recurrent re-enactment, submerges them 'into' organizational memory.

### *Step 3: Materiality of work*

The previous sections alluded repeatedly to objects, equipment, tools of work and materiality of work as that which practices are submerged 'into' as part of organizational memory. Collectively understood as materiality of work, these serve to 'ground' specific ways of performing practices. Various examples of how this is done have been provided throughout the three preceding chapters. Chapter 5 highlighted instances of when materiality of work would submerge normativity, Chapter 6 provided an analysis of how authoritative power embedded in tools of work perpetuated a certain hierarchy during project work, and Chapter 6 brought forth the importance of arranging and providing for specific material arrangements that would facilitate emergence of practices 'from' organizational memory. Importantly, while particular units of materiality of work may

vary according to time and place, materiality as a binding agent of practices remains universal (Engeström, 2000; Latour, 2005; Schatzki, 2002, 2005; Fenwick, 2012).



**Figure 8.3. Materiality of work and organizational memory as a practice**

As ways of performing practices become submerged or emerged, they remain bound by materiality of work (Figure 8.3). This is represented by a box enveloping the organizational memory event and normative landscape of possibilities for organizational memory (see Step 2 and section 8.1.1.). The envelopment indicates inherent materiality of practices and the bottom line represents a particular tool of work to which a certain way of performing work was anchored via the submergence process. A two-dimensional way of representing the process begins to falter at this stage as the materiality of work and normative power exist in a recursive manner - where materiality of work is partly determined by alignment with organizational teleological-affective structures (Schatzki, 2006; and section 5.2.4.1.), and normative power is partly determined by the materiality of work (see section 4.2.2.).

The two usually align, but can diverge during especially rapid evolutions in practices (e.g. disruptive technology) or during purposeful changes in the 'that-towards-which' of the

organization (e.g. change in strategy, M&A, rapid growth or contraction). In such a situation it may be that a tool of work through which organizational memory has been submerged is no longer available to the practitioners for the emergence process. This has not occurred in ArchitectureCo during the observation period, primarily because the transition to the new 3D building modelling technology was handled with care in a very localized, almost isolated way. However, it is plausible to suspect that should a new set of tools of work be adopted in haste (or in some other disruptive fashion), a significant portion of organizational memory submerged into the replaced materiality may be rendered inaccessible.

#### *Step 4: The site of practice*

In order for an organizational memory event to transpire, whether through submergence, emergence or both, it has to be performed by the practitioner(s). As was previously discussed in Chapter 6 and Chapter 7, practitioners do not only perform work around or using material objects, but also through (as in, from within) them. In Chapter 5 this was most evident in the case of design drawings, where entire patterns and sequences of communication transpired from within the objects alone. In Chapter 6 this was observed by focusing on how practitioners interact with their workstations.

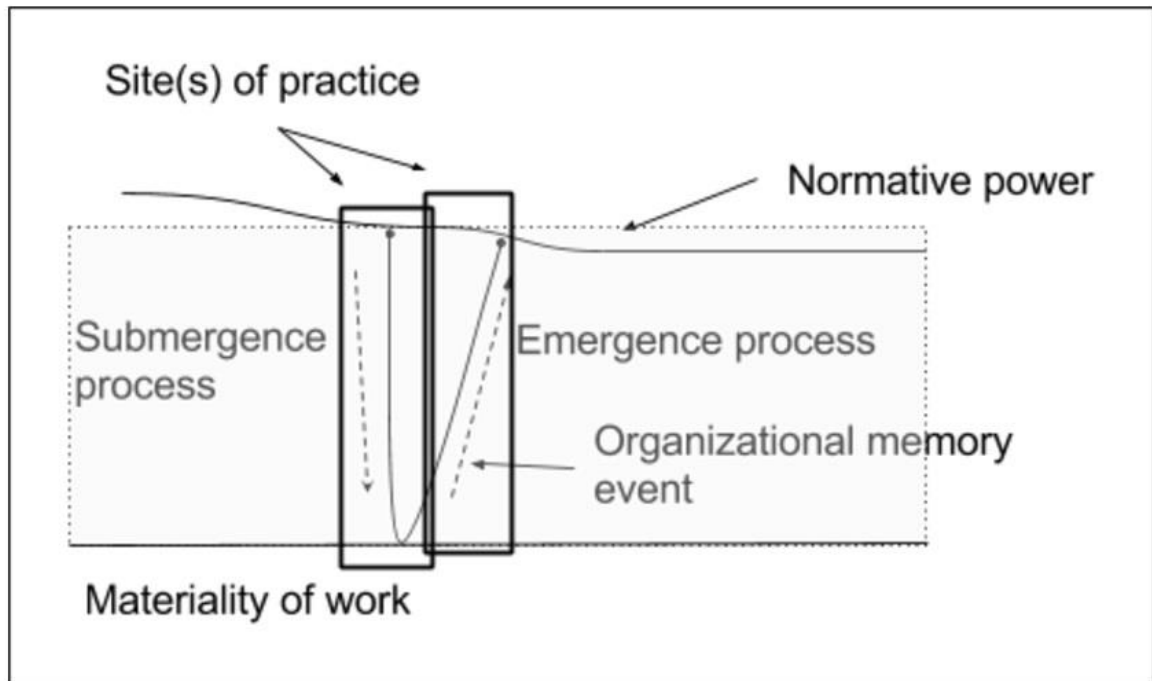
A common theme around observing the processes of submergence and emergence of organizational memory was whether the materiality of work could also support the performance of it. Design drawings proved to be an archetypical tool of work for the architects, allowing for the submergence of practices as well as functioning as a site of practice in their own right. Conceptually, this aspect of architectural work can be understood following Heideggerian concept of 'clearing' (see section 4.2), where the practice of architecture can manifest itself to the architects in a meaningful way. Empirically, for a practitioner to enact a site of practice would entail engaging with work in such a way that would prove to be meaningful to them. The qualification of something as 'meaningful', following the onto-epistemological tenets of this thesis, requires conscious pursuit of 'that-towards-which' (see Chapter 4). Concerning architectural

work, that means making conscious architectural choices while being aware of the consequences of thereof for organizational outcomes.

Consequently, not all materiality of work qualifies to function as a site of practice for a variety of reasons, fluidity of organizational purpose and availability of abilities not being the least of them (see section 5.2.4.1). Some examples of materiality that has been observed to partake in the process of organizational memory have been presented in Chapter 7. Those material arrangements which were conducive to organizational memory allowed the communicative space and practical flexibility to enable and encourage the practitioners to engage in the 'that-towards-which' of organizational work. Accordingly, the indication of something as a site of practice is whether practitioners are able to perform work through that material arrangement, as opposed to around or with it (see Chapter 6). This is illustrated by two intersecting rectangles encompassing the organizational memory event in Figure 8.4.

As was noted above, the site of practice includes both the power and the materiality of work aspects of organizational memory. Each of the rectangles represents a separate site of practice for the emergence and the submergence process. This is primarily an analytical separation, although empirical observations of ArchitectureCo did show repeated examples of when ways of performing practice were submerged and emerged through organizational memory separately. One of the reasons for this may be the purposiveness of work - the submergence and emergence processes usually serve a different purpose and, hence, require separate 'clearings' (Heidegger, 1978).





**Figure 8.4. Site(s) of practice and organizational memory as a practice.**

The rectangles in Figure 8.4. overlap in order to signal that both the submergence and the emergence process have to be grounded in the same type (but not token) of materiality in order to constitute an organizational memory event. It is not clear the effect of the two rectangles not intersecting may be, as attempting to observe such a situation was beyond the methodological scope of this study. Empirically this would mean that the emergence process would have to proceed through a different site and materiality of practice to that of the submergence process. This does not seem impossible if the difference between the two is benign, although the extent to which (and how) this can be qualified requires further research. It is, for example, not entirely clear whether a real-time collaborative editing of design drawings facilitated by the 3D Building Information Modelling software (akin to how Google Docs works) will prove a sufficiently different site of practice to render the ways of doing work submerged into CAD-produced design drawings incompatible.

The observation that organizational memory can be grounded in a type of materiality as opposed to a token (e.g. design drawings as a tool of practice as opposed to one particular design drawing) is a significant point of divergence from the organizational memory as

an attribute theme in the literature (see section 3.3.1.), where organizational memory is contained by the same organizational attribute during both the codification and the retrieval process. It is not so with organizational memory as a practice - because practices are re-enacted from new every time, the role of organizational memory is to channel the re-enacted practices into patterns and assemblages that would further organizational purposes (as manifested by dominant norms). Accordingly, organizational memory does not ground information and knowledge about work or the organization, but rather particular ways of performing practices.

### *8.2.1 Key qualifications of the illustrative model, and concluding remarks*

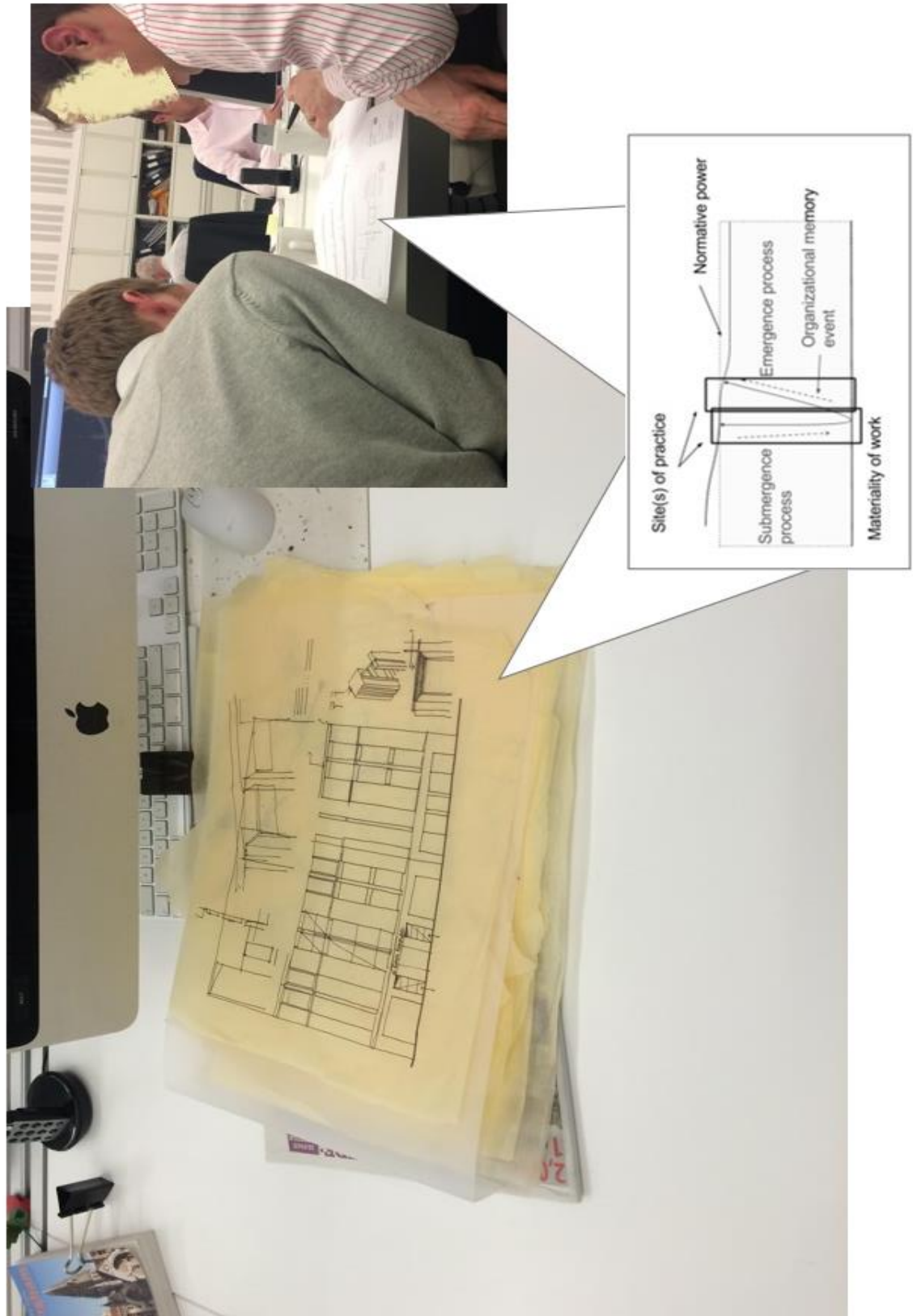
The final image of the illustrative model of organizational memory as a practice presented in Figure 8.4 requires some further ex post facto qualification to mitigate the linear effect on written language that I mentioned in Step 1. These key qualifications are:

- The illustrative model presented in Figure 8.4 is not continuous through time - it represents an event, which may be anachronistic (see section 4.2.1);
- Organizational memory as a practice is not contained inside the tools of work - the tools of work are one of the three elements of organizational memory. Tools of work are the more viscerally accessible of the three elements and so translate organizational memory in a more immediate way (see Figure 8.5);
- The model presented in Figure 8.4 is not a literal representation of how organizational memory as a practice functions - it is an illustrative conceptualization of a series of complex and temporally distributed regimes of practice from which patterns consistent with memory-like processes emerged, subject to a further cross-qualification with Schatzki's (2006) proposed definition of organizational memory (see Chapter 5);
- The illustrative model presented in Figure 8.4 applies to organizational memory only. This is because of heightened sensitivity to issues of organizational power. Not all practices that are performed by organizational members contribute

towards organizational memory - only those concerned with organizational outcomes and/or are unique to the organization do (see sections 5.3, 6.1, and 7.2).

These key qualifications are intended to highlight the practice-based aspect of this way of thinking about organizational memory. Because memory is intuitively understood as continuous from past into the present, it is not difficult to think of organizational memory as a background process underlying organizational activities. There has, however, been no empirical evidence to suggest this is the case. Instead, organizational memory understood through the interpretative lens of the practice-theoretical approach is enacted from new every time.

The incorporation of the three elements - power, materiality of work, and the site of practice - into the illustrative model of organizational memory as a practice is not intended to give the impression of some causal three-tier mechanism that will, if applied properly, generate organizational memory. Instead, the three elements are included to communicate the complex, mutually constitutive ordering of the different elements of empirically observed collective memory-like processes (Figure 8.5). As was discussed throughout the thesis, these elements are interdependent and mutually constitutive, even if some are experienced in a more visceral way than others.



**Figure 8.5. Examples of where the practices of organizational memory may be 'found'**

The illustrative model in Figure 8.4 positions these elements in a way that traces the preceding discussion and empirical exposition of organizational memory as a practice. This model builds on an empirically refined version of a stimulating hypothesis by Schatzki (2006), positioning the relevant elements in such a way that reflects the phenomenological experience of practitioners. It is intended that this model be of use to researchers and practitioners who may wish to gain nuanced understanding of organizational memory. Organizational memory as a practice occurs as interaction between the types and degrees of power, selection of tools of work and the ability of practitioners to engage with the two in the pursuit of “that-towards-which” of the organization.

This model, and the analysis and discussion on which it is based, answers the initial research question: *How, and in what ways, do organizational members experience and perform organizational memory?* Organizational members experience and perform organizational memory by submerging and emerging particular ways of performing practices into, and through, the relevant tools of work. More simply put, practitioners work out the ways in which they can use some of the tools of work and then continue using them in order to achieve desired outcomes. The availability of which tools to use and which ways of doing work are acceptable is largely a function of managerial power.

### 8.3 SOME GUIDELINES FOR HOW TO IDENTIFY ORGANIZATIONAL MEMORY IN PRACTICE

Based on the illustrative model of organizational memory presented in Figure 8.4, I will now provide some guidelines on how to identify organizational memory processes in organizations. This can be of use either as a research tool for organizational scholar or for quick managerial audit. The guidelines will consist of a series of questions that, when answered, should point at the state of organizational memory. An earlier version of these guidelines was presented to ArchitectureCo as part of the final report.

**How unique is the work carried out by the organizational members?** The more unique, novel or generally unorthodox the activity carried out by the organization the less likely it is to benefit from a developed practice memory (Schatzki, 2006). Observations of ArchitectureCo repeatedly highlighted the extent to which the organization was drawing on practice memory to maintain its activities. This was because architecture is a heavily institutionalized and regulated practice, which requires individuals aspiring to become architects to undergo numerous years of training and examination. On the one hand, this can result in a more robust organizational memory (because the materiality of practice is well-developed), but, on the other hand, in an absence of a distinctly differentiating ‘that-towards-which’ of an organization, organizational memory may fail to develop at all.

Thus, a more developed practice memory should increase the likelihood of organizational memory being present in an organization.

**What are the practices involved?** Organizations consist of practices and processes (Brown and Duguid, 2000). It may, however, be difficult to discern between the different practices because of the highly interrelated and interconnected way in which practices work. Faced with this issue during the early stages of data collection with ArchitectureCo, I decided to observe how practitioners naturally discern their domains of work (see section 5.2.1). Following a continued professional development (CPD) event it became clear that the way practitioners understood themselves in ArchitectureCo was as architects and as everyone else. This provided valuable information about how further investigation should proceed and who were the practitioners of interest. Similar CPD events, or other practice-specific activities may reveal what are the practices involved and who are the practitioners.

**What are the primary tools of work?** Tools of work provide a visceral way for practitioners to engage with practices through either the submergence or the emergence process. The primary tools of work are those material arrangements of practice without which it would not be possible for practitioners to perform their work. In ArchitectureCo,

these were the design drawings and the internet-connected workstation with a CAD software suite. A similarly prominent set of tools of work would warrant closer attention to whether practitioners are submerging or emerging organizational memory through it.

An additional consideration with regards to the role of tools of work is whether they provide for a site of practice. As was previously discussed in Step 4, material arrangements that could be used by practitioners to perform work within them have been observed to be conducive to organizational memory processes. During my observations of ArchitectureCo this largely meant looking for whether practitioners had the ability to communicate within these material arrangements (see Chapter 6).

**What is the landscape of power?** Power, normative and authoritative (see section 8.1.1), did most to differentiate ArchitectureCo from the practice of architecture. Power also played a significant role in providing some abilities and not others, as well as perpetuating a particular “that-towards-which” of the organization. Crucially, power made it possible for organizational memory to function as well as it did in ArchitectureCo.

One of the reasons why ArchitectureCo performed their memory as well as they did was because the organization maintained a very concentrated power structure (see section 5.2.2 and Chapter 6). This allowed for little negotiation as to which norms and abilities an organization ought to pursue or what kind of architecture it should engage in. Looking for degrees of concentration of power, especially at those junctions in organizational work where products have to be approved or reviewed by management and/or peers will help understand how consolidated or distributed the power landscape is. In ArchitectureCo only one such junction existed - the design review process - indicating high concentration. This, in turn, allows for a fairly unambiguous communication of which norms, philosophies and principles the employees were expected to follow; and which equipment to use in doing so.

**How developed is organizational memory?** This is a measure of resilience, where resilience is, on the one hand, determined by comparison with other practices/competing

memories and, on the other hand, by the abilities provided by the organization. The former is an element of the submergence process and the latter of the emergence process of organizational memory. Observing the former entails looking for situations where the way of performing work and/or the “that-towards-which” of the organization comes in contact with a competing or incompatible analogue. The degree of resilience is then corroborated from which way of doing work persists following the encounter (see section 5.2.3). In this respect, ArchitectureCo maintained a very resilient organizational memory and was thus able to submerge their way of performing work into a variety of material arrangements.

Observing resilience of the emergence process involves considering how the tools of work provided by the organization either enable or restrict the ways in which practitioners do their work. For instance, analysis of the ArchitectureCo workstation in Chapter 7 suggested that while the organization did well to assemble all the necessary tools of work in a single location, the ensuing trade-off was that the architects would only do architecture at those locations (the workstations). This was not an issue for ArchitectureCo, as mobility of employees was not a priority, but a similar arrangement in a more mobile environment may be detrimental to facilitating the emergence of organizational memory.

**Overall**, using the guiding questions above will be of significant use to the researchers and practitioners seeking to gain deeper understanding into the state of organizational memory in an empirical setting. Because practices are indeterminate (Rouse, 2007) and subject to emergent circumstances, the guiding questions above exclude any attempt at incorporating metrics of any kind. Rather, the goal is to provide an interested researcher or practitioner with a condensed framework for developing a suitable level of understanding independently.



## 8.4 CONTRIBUTIONS, IMPLICATIONS AND LIMITATIONS OF THE STUDY

The purpose of this section is to outline the contribution of the study to theory and practice. This will be followed by a section on implications and limitations of the study. The thesis will conclude with suggestions for further research.

### *8.4.1 Main contribution of the study*

The primary contribution of this study is to highlight that:

organizational memory as a practice occurs in an episodic manner at the intersection of power and tools of work, with the end result of supplying practitioners with a framework for performing organizationally preferred practices.

This contribution advances a theoretical understanding of organizational memory as a mechanism by which organizations maintain continuity of substance and identity through time. A principle by which it is possible to distinguish practice memory and organizational memory is proposed, tested and applied in the development in the illustrative model of organizational memory as a practice. The model derived from thorough empirical investigation shows solid internal validity and a sufficient degree of external validity for its purposes. Consequently, it is suitable for potentially wider application, especially in conjunction with the post-humanist view of practice (e.g. Schatzki, 2002, 2006, 2012; Nicolini, 2009; Tsoukas, 2010; Sandberg and Tsoukas, 2011). While further research, analysis and thinking is required to elevate the findings of this study into a theory, the work performed here does, nonetheless, provide a strong sense of direction for future research into organizational memory, knowledge management and practice theory.

In keeping with the title, this work proposes a lens through which to gain a practice-based understanding of organizational memory. Built from, on the one hand, observations of

memory-like processes and, on the other hand, empirical development of Schatzki's (2006) hypothesis of what organizational memory as a practice might be, this study brings together an array of schools of thought, theories, interpretative lenses and understandings. Many of these are not significantly novel, but compiled into an explanatory framework supported by rigorous empirical research, they shed light and give shape to a complex set of practices, processes and experiences, thus offering a stimulating tool for understanding a very different kind of organizational memory from what is currently talked about in the literature.

#### *8.4.2 Implications of the study*

Because of the volume and diversity of theoretical thought invested into the analysis of rich ethnographic data on an inherently intangible subject, it is inevitably difficult to distinguish between implications and conclusions drawn from data, theory, process of rational thought, or any combination of these. With this in mind, the practice-based interpretation of organizational memory has implications for the study of organizational memory, practice of knowledge management and innovation, and the theory of practice.

##### *8.4.2.1. Implications for the study of organizational memory*

Literature review presented in Chapter 2 proposed a way of grouping existing research into four themes. These focused on the scope and orientation of how the concept of organizational memory is used. The theoretical point of departure for this research has been designated as the substance/holism theme in the literature, meaning that organizational memory is understood as inseparable from the organization and non-reducible to its component parts (following Schatzki, 2006; Linde, 2008). Schatzki (2006), in particular, provided a series of conceptual propositions as to what organizational and practice memory may be. While tantalizing, these were significantly lacking in explanation or empirical justification. Therefore, a key contribution of this work to the organizational memory scholarship is to empirically refine and develop Schatzki's (2006) propositions into qualitative inquiry of organizational memory as a

practice. An additional contribution was to clarify the general principles of two-tiered collective memory (practice and organization) suggested by Schatzki (2006) through an analytical distinguishing method.

#### *8.4.2.2. Implications for the practice of knowledge management and innovation*

Application of theoretical and conceptual constructs about organizational memory is most at home within the realm of knowledge management and innovation (Swan et al., 1999; Hansen et al., 1999; White, 2002; Newell et al., 2009). This is because retention of knowledge is most often considered to be the purpose of organizational memory (Walsh and Ungson, 1991). However, despite these theoretically straightforward assertions, integration of organizational memory into the knowledge management practices remains restricted to the codification/dissemination paradigm (Schulz and Jobe, 2001; Lissoni, 2001).

A concrete contribution offered by this study is to provide an empirically grounded understanding of how practitioners experience the concept of organizational memory. In doing so, the findings of this research circumvent the problematic theory-to-practice application process in favour of an immediately recognizable set of guidelines. By recognizing that some aspects of organizational memory as a practice are more viscerally accessible to employees than others, this thesis gestures towards empirically accessible ways for beginning to understand the intricacies of complex interactions that make up organizational memory. This, in turn, is intended to enable practitioners seeking to manage organizational knowledge to make more informed decisions about the distribution of equipment, the role of power and the importance of assemblages of tools of work.

#### *8.4.2.3. Implications for the theory of practice*

While not a unified or even a well-defined body of thinking, practice theory revolves around a view that social activity originates from, and transpires through, repeat reproduction of mundane actions (Nicolini and Monteiro, 2017). The way practices display any continuity is because they are, on the one hand, inscribed into social structures (Nicolini, 2012) and, on the other hand, proceed against a historical background (Lave and Wenger, 1991). As a consequence, practices are both repeatedly re-enacted from new at every instance and have duration and perpetuation.

Considering practices as both historical and instantaneous is conceptually difficult and borderline oxymoronic. This is because there is a gap in understanding of how the two can be reconciled in an empirical setting. In contributing to the stream of work that turned to the phenomenology of Martin Heidegger (1978) for insight (Chia and Holt, 2006; Schatzki, 2006, 2012; Yanow and Tsoukas, 2009; Tsoukas, 2010; Sandberg and Tsoukas, 2011, 2015; Shotter and Tsoukas, 2014), this thesis gives an empirical account of how a more human-centric way of approaching practices can shed light on the mechanisms behind continuity through time. More specifically, this study shows how practices are submerged and emerged enacted 'into' organizational memory via the materiality of work.

#### *8.4.3. Limitations of the study*

The results of this study ought to be interpreted with two limitations in mind: focus and scope. In terms of the former, the research outlined in this thesis only focused on one, albeit embedded, case study of ArchitectureCo and some of its clients and collaborators. A further focus on practices in the context of this case study inevitably contributes to a strong bias for micro-analysis. While every precaution has been taken to follow the 'zooming in and zooming out' approach (Nicolini, 2009) in order to mitigate this methodological bias, a practice theory-driven investigation is still bound to compromise breadth for depth. Accordingly, the findings and suggestions put forward in this work

should be understood in the context of the setting from which they were derived - i.e. a large-medium size, successful architecture firm in the UK, organized as a limited liability partnership.

A scope-related limitation has to do with the generalizability of the claims about the mechanics of organizational memory as a practice. While these were addressed in Chapter 4, it is worth re-emphasizing that further research is needed in order to validate broad applicability of the illustrative model of organizational memory as a practice (Figure 8.4).

In both cases, utmost care has been taken to account for these limitations either through amending methodology in suitable ways or through deriving additional conceptual understandings from the literature in order to guide data collection and analysis in a more precise way.

#### *8.4.4 Suggestions for further research*

The research outlined in this thesis develops an initial practice-based theory of organizational memory. The theoretical constructs that emerged from this study, as well as empirical examples and methodological innovations used to support them can now be put to further test by scholars interested in gaining new insight into the complex questions of management and organization studies. Some suggestions for further research include: broader testing of the submergence/emergence model of organizational memory, a more comprehensive look at the communicative properties of tools of work, and further development of the phenomenology of practice approach to the study of organizations.

In terms of the broader testing of the submergence/emergence model of organizational memory, this thesis has shown that there is much to gain from applying this particular lens to the study of organizations. For one, the model, and its key qualifications, enables a clearer view of the distinct contributions that a practice and an organization make to the process of work. Understanding these distinctions may allow for a more precise study

of organized labour. This is because identification of the exact organizational characteristics that can be assigned to the effects of practices may allow for a more efficient application of management to those aspects of the organization which are not dependent on the external factors. Further study of the interplay between dimensions of power, materiality of work, and sites of practice would serve to refine the currently nascent understanding of organizational memory as a practice-based phenomenon.

Specifically, more work in heavily institutionalized and regulated settings such as architecture would go a long way towards refining the model. Thereafter, investigation of less regulated and more fluid settings, such as IT development or algorithmic management, would indicate not only whether the submergence/emergence model can be applied universally, but also whether different types of industries generate conceptually different organizational memories.

A more comprehensive look at the communicative properties of tools of work will be of assistance there. Because tools of work have been found to be the most viscerally accessible aspect of organizational memory, it may be prudent to begin a further elaboration of the concept by following this path. Chapter 6 presented some of the types of communication made possible by design drawings. However, design drawings are static objects which only allow for 'one-at-a-time' way of communicating. This is set to change with the introduction of the Building Information Modelling software. Specifically, one of the explicit aims of BIM is to enable collaborative, real-time editing access to the building design. This will effectively remove the need for drawings to be sent following the hierarchy of power and authority. Accordingly, it would be most interesting to investigate whether (and how) representatives of dominant practices will still be able to (or not) submerge organizational memory into those new tools of work.

Finally, I feel that the phenomenology of practice approach can be of great benefit to scholars adherent to the practice-theoretical school of thought. This is because phenomenology of practice allows for more indirect ways of collecting data without compromising the key philosophical underpinnings of practice theory. When used in conjunction with, for example, video recordings of performances of work, phenomenology of practice may help make more accurate sense of those aspects of work

that practitioners find more or less meaningful. This way, a shorter initial period of ethnographic, or other similarly immersive, research focusing on identifying the phenomena and the patterns of practitioners' interaction with the phenomena can then be applied to larger volumes of indirect observation data. As a result, the practice researchers may be liberated from not being able to be in more than one place at the same time. However, further refinement and testing of this methodological evolution is needed before then.

It is my sincere hope that some of the insights outlined in this thesis can be taken up by other scholars of organizational knowledge, memory, and materiality to generate interesting and novel research. Too much of organizational theory is constrained by either Cartesian or linear fundamentalism with regards to the continuity of organizational performance, even when so much thinking and research exists to show that actual experiences of individuals do not adhere to these. Without breaking too far away from the traditional way of reciting ideas, I hope to have been able to show that, with the help of some philosophical and theoretical constructs, it is possible to investigate, understand and relate the complexity of human experience in organizations by means of text and diagram. Organizational memory is a fertile concept that does much to account for a variety of epistemological, methodological and empirical complications not uncommon in the processual study of organizations. For this alone, it is only worth developing further.

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