

We have always been modern(ist): Temporality and the organisational management of ‘timeless’ iconic chairs

Marta Gasparin

University of Leicester, UK

Daniel Neyland

University of London, UK

Abstract

In organisation studies, objects have been analysed as actors that enable sense to be made of organisational reality. We expand on this literature by exploring the times of the modernist design firm through its iconic chairs, using archival and contemporary ethnography to study timeless design. We suggest that studies of organisational times that focus on selectivity in organisational memory or history can be augmented through a detailed study of the folding of pasts, presents and futures into objects. Furthermore, we advocate for the treatment of objects as material semiotic actors that participate in the construction of organisational times, with iconic chairs acting as disruptors of otherwise linear organisational times. As material semiotic actors, these objects do not enable a single organisational time, but instead participate in disrupting time, deny any possibility of a pure and linear form of time, continuing to provoke the organisation and its members.

Keywords

Design, neo materialism, organisation theory, prototype, science technology studies, temporalities, timeless

Real generosity towards the future lies in giving all to the present.

Albert Camus, Notebooks 1935–1942

Introduction

On entering the headquarters of Fritz Hansen in a small town outside Copenhagen, Marta felt as if she was ‘jumping into the past’, as if time itself no longer passed in this place. The building had a ‘classic Scandinavian style’, surrounded by a neat

garden, isolated from neighbouring houses, with the front façade made of glass. Marta noticed the array of designer furniture on the second floor. Admiring it, she started to worry about her meeting: she recognised many chairs from design books, the history of architecture and exhibitions she had seen in the industrial design museum – but she could not remember the furniture names nor those of the designers.

Stepping into the reception hall, she had the feeling of being in a museum. Politely, the receptionist invited her to take a seat on an Egg chair – this was one name Marta could remember – a lounge chair defined by any design magazine as ‘iconic’. She sat in the Egg chair waiting for her meeting with the marketing manager. While waiting, she looked through the firm’s corporate magazine. ‘Timeless design’, read the title. Sitting on the modernist chair, she was wondering about her choice of organisation. She wanted to investigate how design companies organise for innovation. On first impression, Fritz Hansen appeared to be organising its way out of time, at least in its linear form. In the reception hall, past and present were drawn together, with last season’s collection sitting alongside classic chairs. During the meeting, the board of directors presented the organisation’s strategy: keeping alive iconic designs from the past while designing one new product per year with the hope it would become an iconic chair of the future. Marta began to reflect on the organisation, its objects and what constituted time.

One place to start this reflection was provided by organisational research that has given some prominence to time in recent years. For example, the special issue of *Organization Studies* (2009) and the more recent papers in *Organization* (2014) establish important questions to be addressed in making sense of time. Here, the past has become a notable focus in studies of memory and communities of practice (Feldman and Feldman, 2006), memory and spatiality (Decker, 2014) and memory and landscape (Stewart and Strathern, 2003). Beyond a specific focus on memory, the past is also used to make sense of mnemonic practices and the construction of organisational identity (Norman, 2005), the use of the past in the socialisation practices of new, long-standing and leaving members (Linde, 2009) and the use of forgotten organisational events to build an organisational identity (Anteby and Molnar, 2012). In further developing this focus on the past, several studies have suggested that time-mediated organisational narratives provide a basis for selectivity, for example, in the selective identity projects of members of an organisation (Schultz and Hernes, 2013), in selectively interpreting the

organisation (Adorisio, 2014) or through organisations making sense of the present by ‘consigning other knowledge to oblivion, through narratives of their past’ (Rowlinson et al., 2014: 441).

However, time in studies of organisation is not solely oriented towards the past and is not treated as static or singular (Rowlinson et al., 2014). For example, Schultz and Hernes (2013) analyse how organisations’ current operations extend through possible future enactments of past experiences, and Hernes (2014) discusses the material articulation of temporality. Cunliffe et al. (2004) suggest that narratives create organisational life and identities, drawing on past, present and future narrations to continually create experience and identities. In resonance with Marta’s entry into the furniture company Fritz Hansen, different times are in some way drawn together in these studies. In a similar manner to the display of Scandinavian chairs, objects also play a role in making sense of time. Here, narratives and accounts are created through the mediation of objects which produce organisational memory (Brown, 2010). Or in Humphries and Smith’s (2014) study of the 914 copier, the machine provides a basis for understanding the constitutive influence of non-human actors, and the complex interconnection of objects, time and organisational reality.

But what of timelessness? The iconic furniture company in our study, in a similar manner to other designer firms, organisations with a retro marketing strategy or retailers that seek to sell new products through narrating their own organisational history, seems to want to both hold time steady (through notions of durability and the company’s own history) and escape time (through the sale of ‘timeless’ objects).

Our aim in this article, then, is to extend contemporary organisational research on time by investigating this folding of time and timelessness. We contribute to the discourse on material articulation of temporality initiated by Hernes (2014) by attending to the material semiotics of Latour and Actor–Network Theory (ANT). Here, we translate ideas on the great divide between modernism and its pre-cursors in material semiotic work into a temporal dimension. Through this approach, we propose an argument based on the folding of time that allows us to escape dependency on a singular trajectory, to capture the complex work organisations do in composing times. This allow us to fold ‘timelessness’ together with other forms of temporality to demonstrate that objects express time by pointing towards a past, present and future while simultaneously stepping outside these conventional frames to allude to an enduring and non-changing state –

timelessness. The temporalities of objects, we suggest, are made not only through numerous, changing, encounters between material and human actors (Hernes, 2014) but also by pointing to enduring frames of reference that sit outside of time through the folding together of materiality and actions.

The article begins by introducing our research method, followed by a critical review of the concepts that are used in the analysis: objects and time. Subsequently, we will present three modes of composition in which our organisation participated. These allow us to draw attention to the complex array of times that are folded into the work of the 'timeless' organisation. The article will conclude with reflections on the ironic effort required to manage time in the timeless firm and the future questions of time these suggest for studies of organisations.

Researching timeless design

The observations reported here are part of a larger research project on innovation processes in design firms. Our interest centred on how a design emerged and could become successful. Although various iconic objects could have been chosen, such as Ray-ban sunglasses, Vitra chairs or the Beetle car, researching chairs produced by Fritz Hansen provided an opportunity to follow a design that was unchanging. This endurance of the designed object provided a clarity for our analysis. Fritz Hansen as a firm also designed its processes around the notion of timelessness. We were particularly intrigued in investigating the organisational relations that enabled the objects to be accomplished as timeless. We chose to focus in the following analysis on the Serie7 as the world's best-selling chair (according to research conducted by the marketing department of Fritz Hansen). It seemed important for the organisation that the chair's iconic status combined endurance and sales. At the time of our entrance into the field, the Serie7 chair was presented and framed as 'iconic, timeless and Danish'.

Access to the company was negotiated mainly with the CEO, marketing director and CFO. It was agreed that the project would last 3 years, with a final report and presentation for the organisation. Although it was initially decided that Marta would engage in structured observations of pre-agreed organisational events (e.g. team meetings), after about 2 months she realised that she also needed to follow the chairs themselves. The ethnographic data were collected in 2012 and 2013 by visiting the company headquarters regularly, collecting documents from the

company design museum and visiting retailers (in the United Kingdom, France, Spain, Italy and Denmark) specialising in Fritz Hansen designs. A total of 28 formal semi-structured interviews were conducted, digitally recorded and lasted an average of 60 minutes. These interviews focused on the design process, how product development happened, who was involved, who was responsible for what, the nature of individuals' particular tasks and which values were mobilised. These discussions were centred on current products and what people either remembered or had been told about historical products.

Alongside these interviews, Marta made notes from a number of more or less formal conversations with, and observation of, members of the company, company workers, shop assistants, managers and customers (including their engagement with the objects of design). Marta ensured the people she spoke with were aware she was a researcher and had their consent for using their responses, and their identities have been made anonymous.

In the course of the research, she was also granted access on a negotiated basis to various classes of documents within the organisation's archive. Having access to historical documents opened an opportunity to carry out an archival ethnography. As explained by Decker (2014), an archival ethnography allows researchers to engage with 'multiple layers of meaning which can be reconstructed on the basis of material that survived as well as memoirs that recount events from the past' (p. 521). The archival ethnography reported here engaged with formal sources (board minutes, ledgers, annual reports, etc.) but also informal materials (in this case letters, newspapers, magazines and photographs not meant for public access when they were produced; cf. Hassard, 2012). This involved taking on many of the same sensibilities as a Science and Technology Studies (STS)-oriented ethnography (such as thorough-going scepticism and an interest in questioning the taken-for-granted; Neyland, 2007) and applying these to the organisation's archive. As a central theme that seemed to emerge from the data was focused around the role of chairs and their participation in organisational reality, special attention was given to documents or explanations of documents, which depicted how the organisation provided a narration of its chairs from prototyping work onwards. In the next section, we illustrate the theoretical basis that informed our analysis.

Objects, times and organisations

Objects have played a prominent role in recent organisation studies literature. Objects have, among other things, been treated as a support for fostering organisational identity (Humphries and Smith, 2014), as an epistemic object through which knowledge work is achieved in practice (Ewenstein and Whyte, 2009), as a participant in the construction of leadership (Hawkins, 2015) or the co-ordination and creation of physical spaces (Decker, 2014) and knowledge (Orlikowski, 2007). However, as we previously suggested, objects understood through time have played a less prominent role (Brown, 2010; Humphries and Smith, 2014) in organisational analyses even though they participate in articulating workplace temporalities (Hernes, 2014).

In STS research, objects have always been centre stage (see, for example, classic studies such as Bijker, 1995; Pinch and Bijker, 1984). Indeed, in STS, objects have become the focal point for developing a broad understanding of how knowledge is produced and distributed, the nature and sources of expertise and the social and organisational effects of the introduction of new technologies (Woolgar et al., 2009). Yet, notions of time and their relation to objects have been a focus for developing a form of critique in STS. We suggest this critique can be used to usefully expand and contribute to our understanding of time and objects in organisations.

Of central importance here is Latour's (1993, 2013, 2016) ongoing critique of linear depictions of time that assume a straightforward progress from a negative past to an improved future. He suggests that the composition of such Modern narratives of progress and improvement require the purification of matters into separate containers – nature/society, fact/value, human/non-human, science/politics – that then provide a basis for resolution and progress. Latour argues that such attempts at containment and purification have always been overwhelmed by hybridity, plurality, intricacy and impurity, destroying the possibility of neat containment and the notion that a singular form of time can provide an adequate basis to resolve matters of concern. Serres and Latour (1995) go as far as to suggest that such a purified narrative of progress 'is not time, only a simple line. It's not even a line, but a trajectory' (p. 49). The acclaimed purity of linear times remains out of reach of the Moderns, according to Latour, who instead are continually engulfed in the composition of hybrids.

In place of a narrative of purity, Latour looks to ANT as a basis for developing a material semiotics in which time is composed through objects, actors, relations and resources. This draws on a history that runs through ANT (Callon, 1986a,

1986b; Latour, 1987) and post-ANT (for an introduction, see Gad and Jensen, 2010) that depicts objects as semiotic actors. This approach proposes that what the object is can be understood as an upshot of network relations or a network effect. Such networks compose an array of heterogeneous elements that define the identity, the role, the nature of the bonds that unite objects and the history in which they participate (Callon, 1986b). In this way, objects are semiotic entities that are performative (Latour, 1987).

The organisation of time through material semiotics is taken up by Hetherington (1997) in his study of the City Museum and Art Gallery in Hanley in Stoke-on-Trent that houses 40,000 pieces of English pottery. The space is organised through the museum display. A Euclidean geometry of fixed objects enables the composition of a Kantian linear narrative of progress from early and simple pottery towards later more decorative objects (particularly oriented through the work of Wedgwood, a notable figure of English pottery). However, in the middle of this temporal narrative is an ornamental owl – named *Ozzy* – placed centrally due to its popularity with visitors, which disrupts and recomposes the entire museum's sense of time. The owl is not a fixed geometric shape in a Euclidean space that enables a Kantian narrative of linear progress: instead, the owl is a material semiotic actor. It is out of time (not fitting the linear narrative) and out of place (disrupting the purity of the museum display). Hetherington (1997) suggests that the owl enables 'the folding together of preface and afterword in the museum display, unsettling its (Euclidian) geometry, (Kantian) aesthetic and discourse of improvement' (p. 200).

Through *Ozzy*, we start to see how iconic material semiotic objects might be engaged as focal points for the orientation of organisational activity. The object folds otherwise Euclidean geometry and destroys a pure Kantian aesthetic, stepping out of time (by being an object alone, in this case literally on a pedestal) at the same moment as drawing attention to the organisation's composition of time (the museum's now disrupted linear and progressive narrative). Material semiotics and the folding together of time suggest to us rich possibilities for thinking in more depth about the complex nature of organisational time and timelessness. Indeed, this is not only a matter of organising time and past memories as a basis for a different future, as a way to enact memories that would otherwise perish, or to organise the past (as in Hernes, 2014). We have already noted that studies of organisational time involve complex and intersecting trajectories of pasts, presents and futures (such as Adorisio, 2014; Anteby and Molnar, 2012; Schultz and Hernes, 2013) that on occasions involve objects; our

task now is to elucidate how objects can be usefully treated as material semiotic participants in the composition of organisational times and timelessness.

We will turn attention to the iconic chairs of Fritz Hansen in order to further explore this material semiotic ordering of organisational objects and times. Of particular interest will be the firm's attempts to be modernist in the same moment as it grapples with the kinds of impure hybrids that Latour depicts as obstacles which prevent Moderns from making progress. We have divided our analysis into three temporal trajectories, oriented towards the past, present and future, as these were narrated by Fritz Hansen employees (in interviews that were then integrated with newspaper articles and documents that were found in the organisation). However, we will show within each trajectory the complex folds and re-orderings in which iconic chairs participated, and through which, organisational times and timelessness were composed.

Composing times through iconic chairs

As objects, iconic chairs provide an apt case to study as they participate in array of times, appearing to move from an uncertain future in the design firm (when they first emerge as prototypes), through to being a product (with all the attendant challenges of production, logistics, marketing and selling), through to being an important historical piece (that plays a part in narrating the organisation's values). However, each of these ways of narrating iconic chairs is itself too temporally simplistic: the newly emerging chair, the chair on sale and the chair in the museum each draw on specific pasts and signpost particular futures, at the same time as helping to arrange the present activities of the firm. By folding together these distinct times, the iconic chair, we will suggest, is a central participant in being organisationally timed (dated according to its moment of design and production, imbricated in a manufacturing process) and timeless (iconic, enduring, sorting out future effects). We organise the following analysis into three conventional forms of time that were narrated to us by members of the organisation. Through these three times we will also explore other nascent, putative, sometimes settled and sometimes fragile times and forms of timelessness that, in a similar manner to Ozzy the owl, disrupted, re-folded and re-narrated organisational time. Our analysis is organised through a famous chair, the Serie7, introduced to the market in 1955 and manufactured by Fritz Hansen. Since the Serie7 was based on the model of a previous chair – the Ant – we will look at how the Ant chair was

transformed into the Serie7. The Ant was revolutionary in being the first chair manufactured with plywood in Europe, and the Serie7 became the biggest selling chair in the world. The first of our three times is longest as it also sets the organisational scene.

Looking to the future

In this section, we look at a chair, the Serie7, when it was developed and entered the market. The following analysis is based on interviews with the employees, and historical documents, including newspaper articles that were stored in the corporate museum and referenced below. What seemed initially prominent in these sources was how the chairs moved from having an uncertain future in the form of a prototype, to an object entering the market. The chair as an artefact appeared to be continually engaged in a process of negotiation through which possible futures were displayed. The story of the prototype begins in the mid-20th century.

Søren Hansen, the manager of Fritz Hansen in the 1950s, was looking for new opportunities to develop an industrially designed chair to be produced in large quantities.¹ He wanted to move away from the traditional bent wood technique for manufacturing and towards designs based on new studies in ergonomics that were developing in architectural schools (rather than among furniture makers) to increase the quality and the comfort of chairs.² The bent wood technique was identified as labour intensive, thus expensive and not economically sustainable, at a time after the Second World War when salaries were rising.³ Although there seemed to be a dramatic increase in demand for chairs, Fritz Hansen was one of a number of companies struggling to figure out how to meet that demand.⁴ Several competitors faced bankruptcy as a result of trying to scale up production of chairs using the bent wood technique.⁵

Søren Hansen became aware of new industrial possibilities based on the use of plywood rather than bent wood presented by the 'organic designs' he saw in New York, during one of his frequent visits to the company showroom there.⁶ He wanted to move towards the production of high volumes of furniture, to increase the number of chairs that could be sold, while also decreasing the amount of labour required in producing each chair.⁷ The immediate future of the organisation appeared to be a move away from the bent wood technique, but towards what precisely remained unclear.

Søren and Fritz Hansen (both managers and owners of the company) narrated in their memoirs and interviews with the press an account of the future of chair design, which also began to narrate a possible future distribution of responsibilities for achieving new designs. For example, the managers began to look to architects with solutions for producing a chair using an industrial mode of production as the first stage in narrating a future for the firm. In this way, responsibilities for the emerging, imagined chairs were already being redistributed from furniture designers to architects and from carpenters to industrial production methods. In a similar manner to the pottery museum (Hetherington, 1997), the narration of time was not abstract, but a carefully co-ordinated, organised and materially mediated matter. However, setting in place the modernist future – a sleek and minimalist chair with clean lines, industrially produced, designed by architects – would not materialise without great effort. As Latour (1993, 2013, 2016) suggests purification by the Moderns – and what could be more pure than a modernist chair? – always rests upon an array of impure hybrids that threaten to destroy the dignity and integrity of the tidy containment on which the Moderns depend.

At this time, Arne Jacobson, a modernist architect interested in industrial production, was designing and building the Novo Nordisk building in Copenhagen and commissioned the Fritz Hansen company to supply the canteen with chairs.⁸ This set in place a demand for a more specific distribution of responsibilities. The architect was looking for a chair made through industrial production to keep down prices, but also for a firm that could produce a certain number of chairs, at a certain price, while also fulfilling a brief to be innovative.⁹ Arne Jacobsen knew Søren Hansen from the Copenhagen Rotary Club, and they worked together through some potential chair designs. Arne Jacobson, in his memoirs, remembered orally briefing the managers in Fritz Hansen, before going to France to find the inspiration for a café chair for the Novo Nordisk building. The imagined future of the clean lines and industrial production processes of the modernist chair now rest upon impure hybrids – serendipitous meetings at the Rotary club, an initial and uncertain briefing to the firm and an exploratory perusal of French cafés.

In this way, the future canteen chair began to take shape. Arne Jacobsen made drawings during his travels that set out the main properties of a café chair. These chairs started to take on the forms characteristic of chairs for sidewalk cafes: utilitarian but, as far as Arne Jacobson was concerned, lacking in aesthetics and innovation. He considered the chairs practical (they were, for example, stackable) but also somehow anonymous (they were not much different to other chair designs).¹⁰ Arne Jacobsen

went back to the office and showed his sketches to six collaborators, among whom were Henning Lassen and Verner Panton (respectively, an established architect and a designer who would become famous in the following decade). The anonymous, stackable café chair slipped from view as Verner Panton worked up sufficient designs to fill several boxes.¹¹ The future of the organisation in which the chair would participate was far from singular and coherent at this moment; the hybrid present of varying possibilities risked rendering the future of Fritz Hansen incoherent. Just what should the design look like, how should it be manufactured, at what cost, requiring what investment in machinery, in need of what kinds of expertise for the firm? The absence of clean and clear lines in a single, agreed upon modernist chair design was matched by the absence of a clean and clear single trajectory into which Fritz Hansen as a firm could move. There was no coherent re-assembling of the past to make sense of the future (Hernes, 2014).



Figure 1 The first Ant chair produced, in the Fritz Hansen museum.

Providing a first, material-visual frame for the future through a physical prototype became a necessity. The requirements of future modernism such as new industrial design processes or equipment investment could only be discussed

through the kind of material certainty that a single design and its prototype might provide. Jacobsen and Panton selected one sketch, approved by Hansen, to send to the smith to produce a full-size prototype.¹²

At this moment, like other prototypes, the emerging chair is involved in ‘innovation [that] continuously transforms itself according to the trials to which it is submitted ... Each new equilibrium finds itself materialized in the form of a prototype which concretely tests the feasibility of the imagined compromise’ (Akrich et al., 2002: 213). Although initially we might think of the prototype as now achieving a singular, coherent form (following Suchman et al., 2002) and acquiring the status of an immutable mobile (Latour, 1990) determining its identity as fixed and black-boxed, instead the prototype continued to be involved in the articulation of an array of future possible moves. Its putative purity as a slick piece of modernist design put into mass production remained out of reach. The prototype was a technical artefact in which Jacobsen, Panton, the smiths, Hansen and other actors inscribed characteristics, values and behaviours (Akrich, 1992). Although a material object, its properties were also a matter of contention through which the future of the organisation might be set. For example, when the smith returned to the design workshop with the prototype, Arne Jacobsen was not satisfied with the product.¹³ In place of a narrowing down of options, the future was re-opened; Arne Jacobsen called on Søren Hansen and explained the need to prepare new drawings, suggesting that he was not happy with the prototype he had received. The prototype was conceived using the bent wood technique which he noted set in place design constraints and had already been identified as too costly for a full-scale industrial production run.¹⁴ Søren Hansen in turn showed Arne Jacobson some chairs he had brought back from America, which were displayed in the company’s showroom (nowadays transformed into the company museum).¹⁵ These were new ‘organic’ chairs designed by Charles and Ray Eames and Eero Saarinen, made of a new material, plywood.¹⁶ Arne Jacobsen became interested in this design and in the new material.¹⁷

Although using the bent wood technique would enable the firm to continue in a smooth and linear trajectory, using what it had done in the past to shape its future, plywood as a material and a technique now participated in the material semiotics of the firm in a similar manner to Ozzy the owl. Plywood disrupted the narration of a singular and coherent temporality from past to future. The new material and technique required investment and managerial agreement, but also organisational learning in terms of using the new material. Søren Hansen was willing to finance

the initiative to build a plywood chair. However, at the beginning of the process, building a plywood prototype was a technical challenge for the firm. The manufacturing department was involved, and Fritz Hansen, as a machine engineer, had to find an appropriate way of working with a type of plywood made of beech, the native timber in Denmark. The manufacturing department worked together with Søren Hansen and Arne Jacobsen to manufacture a prototype with the seat and the back made of a single piece of moulded plywood.¹⁸ They were responsible for manufacturing not just an object, but the material reality of the designer's and Søren Hansen's ideas, their proposals on shape and form, and also a possible future for the company.

Manufacturing the future in this way involved the manufacturing team developing a machine that was able to press the double-curved seat in one piece and make the layers smaller around the transitional section between seat and back, stabilising the transition by bending the wood in the third plain.¹⁹ Material strength, the potential cost of up-scaling manufacturing and the visual-material aspects of design needed to seamlessly come together in the modernist chair.²⁰ But every part of the chair's smooth, pure, clean lines was challenging. For example, to make the back oversight comfortable, the chair had curvature. Søren Hansen declared that the process of prototyping was complex, and only a small part of the work could be done at the drawing table; most effort was put into working with the smiths and the manufacturing team. Curvature was not simply a design idea, but a process, something that needed to be learnt, something that required investment, testing and organisational commitment.²¹ Clean, modern lines required the folding together of different equipment, drawings, shapes, raw material, a break from the organisation's past, a distinct present and a new future trajectory.

Arne Jacobsen and his studio, Søren and Fritz Hansen and the manufacturing team modelled the almost finished chair in collaboration, narrating an account of the future of the organisation.²² However, figuring out the future did not cease with the production of an initial prototype. In interview, the designers suggested they utilised the prototype to give a sense of staging and visual impact; the kinds of futures (plural) in which the chair's effects might be sorted out.²³

The prototype became the Ant chair and appeared to receive very positive and enthusiastic reviews in newspapers and from Danish architects²⁴ (Figure 1).

Yet customers were not satisfied with its three legs and its lack of armrests: they wanted to have the same chair with four legs and armrests. Arne Jacobsen was furious

and refused to add a fourth leg and the armrests (*Why should it have 4 when 3 are enough?* argued Arne Jacobsen in an interview).²⁵ Adding the armrests to the Ant, as far as the designer was concerned, meant compromising the design (the backrest would have had to change also to support the weight of the armrests). In this way, the move from prototype to industrial production and the designer's refusal to compromise, set in place at least for a time, the immediate future of the organisation, how it would work and who would be responsible for what activity.²⁶ However, the clean and pure lines of the modernist Ant and its manufacturer (Fritz Hansen) were soon overwhelmed by the hybrid vicissitudes of customer demands and the need to sell chairs. Arne Jacobsen was soon back to work with Søren Hansen to address the criticisms made by customers. Instead of compromising on the Ant chair, Arne Jacobsen looked to design a new chair – what became the Serie7.

In this process, the design team (Arne Jacobsen and his studio, Søren Hansen and the manufacturing department) proposed different prototypes.²⁷ They started by agreeing on using plywood and the same manufacturing technique of the Ant chair,²⁸ adding the armrests and extra leg, keeping it stackable, ergonomic (based on theories that were taught at the Copenhagen University by Kaare Klint)²⁹ and organic (based on the ideas of Eames and Saarinen).³⁰ Narrating this new future also involved looking backwards – to the work involved in making the Ant, but also the high-backed Dan chair,³¹ designed by Søren Hansen and manufactured by Fritz Hansen in 1949. A new prototype was made by the smiths, interpreting the sketches and the instructions of Arne Jacobsen – a hybrid of the Ant and Dan chairs (Figure 2).

Again, this did not simply and singularly accomplish a future for the chair or for the firm. Instead, the continually emerging prototype provided a focus for work that would disrupt the organisation – constituting various folds in an otherwise smooth and linear narrative of what ought to be the future of the chair and the firm. Once again modifications were made directly on the prototypes, not on the drawing table.³² The prototype became the artefact through which the future of the firm could materialise by folding together different times (the past of the Ant and Dan chair with the present of the prototype and future of sales) and actions (manufacturing processes, prototyping).

However, what counted as a 'modification' on the prototype was not straightforward. As Verner Panton commented in an interview for the newspaper *Politiken*,³³

the craftsmen would often joke about him (Arne Jacobsen) because he was so difficult to work with. Once we were working on a chair which was to be reproduced about 50 km from the drafting office in Klampenborg, and that meant that when he had new suggestions, some workers came to fetch the chair and returned the next morning, changed. Several times, the changes were so small that we could not draw them onto the model and instead we drew a line, from there to there a little bit had to be taken off, but it was often less than the breadth of the line. Those who worked on the prototype returned to the drafting room looking deadly serious. Some years later I met the foremen, who had dealt with that specific chair. He told me that they drove the chair to the factory, erased the line and brought back exactly the same chair.

In this way, responsibility for materialising temporality (making the future on time) became the focal point of negotiation or even subterfuge (pretending to make changes demanded by the designer). It was in developing the prototype that Fritz Hansen had to find a means to automate the production system and re-design the job processes involved. This involved, first, learning how to use the new technology and, second, teaching the rest of the employees how to change from using the bent wood process to plywood.³⁴ Fritz Hansen managed the process by expanding the number of square metres occupied by the company and buying new advanced machinery.³⁵ The changes made to accommodate the prototype and its future as an industrially produced chair substantially modified the organisation. Before the Ant and the Serie7, managers were responsible for commissioning a new project with a designer, designers were responsible for delivering a prototype made in their studio, the smiths were responsible for its realisation as a product³⁶ and the company's machinery department for its manufacturing.³⁷ With the new material and the new shape, the distribution of

responsibilities changed and new forms of collaborative working had to be developed.



Figure 2. The Dan chair in the Fritz Hansen Museum.

What we can note in this section is that the future of the organisation was continually narrated and materialised through the prototype. Through the prototype, future organisational training, investment decisions and potential design decisions were made. The clean and pure lines of the modernist chair were not quite matched by clean and pure lines of future action for the firm. Instead, the modernist chair rested upon a hybrid of times (pasts, presents and putative futures), designs (some kept, some discarded), negotiations, investment decisions, organisational learning and restructuring, through which the future of Fritz Hansen was accomplished. As we will see in the following sections, as the chairs moved from prototypes to commercial objects, the times in which they participated, shifted significantly. New temporal trajectories – looking at the present and looking to the past – provided new starting points through which time and timelessness might become folded together (Figure 3).

Looking to the present

In this section, we explore the ways in which the modernist design firm continues to position its iconic chairs in making sense of its present tense. Fritz Hansen as an organisation continues to describe its own success based partly on the critical acclaim achieved by the Ant chair and the significant sales of the Serie7 chair. It would be wrong to assume, however, that these chairs have now achieved the kind of modernist temporal purity that appeared so elusive during their initial design. As Latour (1993) suggests,

Modernising progress is thinkable only on condition that all the elements that are contemporary according to the calendar belong to the same time. For this to be the case, these elements have to form a complete and recognisable cohort. Then, and only then, time forms a continuous and progressive flow, of which the Moderns declare themselves the avant-garde. (p. 73)

As yet, the chairs have yet to achieve this contemporaneous condition. They are not part of a continuous and progressive flow, they do not participate in the drawing together of everything into a single time. Instead, they continue to disrupt, to fold together distinct times and to participate in distinct forms of organisational action. For example, the Serie7 plays a key role in the management of the organisation, enabling the chair to participate in the production of the firm's contemporary reality – but one that is only achievable through a folding together of a past (the chair and the firm's history) and a future (the chair's enduring iconicism) into the present.

For example, the human resource director uses the Serie7 and Ant as a visual tool for introductory courses for new employees in the company. This course utilises the chairs as iconic entities that demonstrate the endurance of the objects themselves (the chairs last), but also to the commitment to endurance of the firm (the chairs are designed and built to last). In this way, the human resource director was not only reinterpreting the past (Adorisio, 2014) through teaching the course to new employees, creating symbolic meanings through the objects by enacting their past history (Humphries and Smith, 2014), but also, in this way, the chairs participated as material semiotic actors in helping to arrange the current commitments of the firm (to design, to the durability of projects).³⁸ Although Hernes (2014) analyses organisational temporality and the interconnection of enactments of the past, present and future, what we can

note in our case is the central importance of continually folding together temporal disjuncture through the chairs. The chairs provide a basis for continually renewing the realities of the organisation, by, for example, highlighting responsibilities for new members of staff in maintaining the company's iconic design status. The chairs, both the ones produced in the 1960s and the ones manufactured today, are also used by the design department to narrate the company's stance on Corporate Social Responsibility towards sustainability. Their continuing iconic status, material strength and enduring market presence become a means to arrange the present tense of the organisation around what the design manager terms: 'sustainability, quality and exclusive design'. The design manager continues,

We believe that sustainability, quality and design are all equally important. We will strive to make our activities as environmentally and socially sustainable as possible, while maintaining quality and design at the highest level. That's what we call Sustainable Quality.³⁹

The present tense of the firm is thus a moment for folding together into the chair the history of design and future of sustainability. The future of the planet and its resources is here recruited as the necessary means to support the chairs' present and future existence. However, selling an object that brings together historical design and future sustainability is not solely a pitch to customers but also to future employees through the training course. Sustainability here is not a single practice. Instead, sustainability is articulated through manufacturing chairs that are long lasting, passed through generations and made of wood from certified forests. The

chair must embody these distinct times (manufacturing, use and certification).



Figure 3. The first Serie7 produced, in the Fritz Hansen museum.

In the present tense of the firm, the clean and pure lines of the modernist and now iconic chairs rest upon a different form of hybridity. Whereas in the chairs' initial design and development, a hybrid of pasts and putative futures were made apparent through design work, investment decisions and negotiations (among many other matters), here the present tense of the organisation offers a distinct hybrid of employee training, of manufacturing and sustainability. Yet this folding of hybrid times into the chairs is not restricted to training courses. The work of folding times into the chairs is continued by the marketing department which uses the chairs to build narratives for customers concerning the durability and the long-lasting qualities of the chair. This is not a strategy that merely articulates pasts and futures in an ongoing present (Hernes, 2014). Instead, this marketing strategy has tried to fold the timelessness of these objects (the chairs' endurance) into an

incredibly complex and fast changing present. Here, timelessness is one part of a post-economic crisis, austerity-inflected sales strategy which tries to account for the chair as ‘long lasting’ and positions the firm as responsible for the longevity of the product. This is not restricted to promotional texts or the words of sales staff – the prototypes themselves are called upon to play a material role.

Marketing department managers stage the longevity of products in the company showrooms of every country where they have a store. In every showroom there is a wall with a collection of historical photos displaying the making of the prototypes of the Serie7 and other iconic design objects, sometimes positioned alongside more recent designs.⁴⁰ The display tries to fold together history and durability, with the firm taking on responsibility for ensuring that the chairs on offer can be passed down to future generations. Yet these photographic displays are deemed insufficient. The chairs themselves as material semiotic actors must play their part, displacing any customer concerns regarding their durability through continual trials of strength. The sales people are trained to narrate the story of the making of the prototype to visitors in showrooms and are trained to call upon the chairs to demonstrate their durability.⁴¹ When necessary, sales people are instructed to turn the chair around and jump on the conjunction of the chair-back and seat, demonstrating to the customer that the chair is (almost) unbreakable. The future (of the chair, of the firm and of the customer’s relation to the chair) is made apparent in the present through the moment in which the modernist firm brutally stamps on the chair and the chair does not break.

The chairs thus maintain a looming presence. The chairs were not just an object used to organise a potential future in the mid-20th century, neither do they shift entirely into the historical background once they have gone into production. The continuing presence of the chairs allows them to be in the present, but only through folding together a particular kind of design past and a particular kind of sustainable future. New distributions of responsibilities are continually produced through the timing of the chair as the organisation changes priorities (e.g. in taking on Corporate Social Responsibilities),⁴² and the ongoing presence of the chairs is taken as demonstrative evidence of their durability and the economic efficiency of buying expensive furniture (that it will last). In this way, the chairs are not directed towards a successive process of ever more singular objectification through which time is purified into a linear, coherent progressive flow of modernisation. Instead, modernism and the modernist firm depends upon the chairs to maintain their position as part of a series of provocations (Lezaun et al., 2013; Muniesa, 2014),

drawing in new employees through design possibilities and enticing customers to part with their money. We will now explore these provocations further in our final temporal narration in which the chairs are re-oriented towards the past.

Looking to the past

As we noted in the preceding analysis, the Ant and Serie7 chairs do not occupy a single time within the organisation. Although they are characterised by the clean and pure lines of modernist design, the objects enfold various pasts, presents and futures, sometimes simultaneously. These times are also disruptive, for the organisation in having to rethink its manufacturing, for employees who are assigned new roles, for customers called upon to rethink their relationship to furniture. Marta found the chairs were also narrated through a backward looking historicising of their chairs, particularly through the company museum. However, as Latour (1993) notes, ‘sorting out, cleaning up and dividing up is required to obtain the impression of modernization that goes in step with time. The notion of an irreversible arrow, progress [...] stems from an ordering of [...] objects’ (p. 73). If the company succeeded in such a purified narration of the past, the chairs might come to occupy a singular time past from which progress could now be noted by the discerning museum visitor. Yet the museum, in a similar manner to Hetherington’s (1997) analysis of the pottery collection in Stoke on Trent, offers a more complex and less purified, less linear articulation of time and its chairs. Instead of a neat containment of time and organisational practice through which the chairs might come to embody a primitive past from which the future emerged, comes the chairs as depicting the practices and values of the firm, how it has succeeded, and failed (to a small degree), and where the firm might go next.⁴³ Times change and they stay the same, and it is the chairs that stand testament to this organisational time and timelessness.

The Serie7 chair is the first object that visitors see when they step into the museum and it has held this position since time became (more or less) organised for the firm by a museum designer in 2000.⁴⁴ The chair is frequently framed as a symbol of the success of the organisation and opens up the possibility of a purified narrative of progress. However, as the design manager informed Marta, Fritz Hansen design activities are divided into two areas: revitalising the objects of the past and creating new chairs, with the hope that they would become future icons. The two sets of chairs, new and old, sit alongside one another, their distinct times

held together in the same place. In some years, the design manager has also invited artists to re-interpret the Serie7. In this way, the chair embeds a future (re-interpretation of the chair) and a past (its design and development), but also a timelessness (its long-standing status as an iconic chair). At the same moment, the Serie7 seems to be watching over the new chairs, overseeing the potential entry into iconicism of a continual stream of newly emergent objects.

Yet the museum is even more complex than this; its exhibits are far from complete. The designer who had worked for the company since the 1970s was appointed by the CEO as museum director to write the company's history through the visual-material display to visitors. The museum displays chairs, mainly prototypes, from 1872 to the latest product, but excludes chairs of the 1980s and 1990s. The latter period was considered uninteresting by the museum designer – pity the poor material objects whose route to entry into iconicism was diverted towards the rubbish dump.

The display thus disrupted a linear, purified sense of progress in its intermingling of icons and new designs, but also through being partial, in the sense of Strathern (2004). The modernist firm portrayed an array of times in its museum that were incomplete and the responsibility for that incompleteness rested with the designer. For the designer, the 1980s and 1990s were to be forgotten and the 1950s in particular drawn to the fore. What was remembered (the 1950s) and what was forgotten (the 1980s and 1990s) was not a random series of inclusions and exclusions, but a dedicated and focused attempt to recount the organisation's times and its design values.⁴⁵ In such a manner, the process of using the iconic chairs became a way to materially manifest a site of corporate memory (Rowlinson et al., 2009), but also various other orientations to time. Hence, memory occupied the same space as the present and the future and those eliminated times of woeful design. The form of the display (of durable and iconic designs) and distributions of materially manifested responsibilities (who and what within the firm could be attributed responsibility for what kinds of actions) helped the firm to make sense of and maintain its design philosophy.⁴⁶ The iconic chairs provided an organisational-material form through which new products could cohere with the past, and the future could cohere with the present. Time and timelessness had to sit side by side. And so for the museum designer, the organisation of the objects on display folded together time and design in various ways emphasising timeless and relevant designs, based on simplicity rather than short-lived trends; purity, beauty and simplicity, minimal excellence and quality in detail; originality through

strong visual clarity, combined with innovation in forms; with prototypes operating as three-dimensional sculptural objects with a high aesthetic quality.⁴⁷

The company's museum was thus not just used by the firm to display iconic chairs. It was a means to organise organisational times. On occasions this was not simply a matter of remembering or creating coherence between the past and present – looking back at old chairs could also become a means for the company to move forward. This was most clearly demonstrated with the successful re-introduction of the Drop chair in 2014, originally designed by Arne Jacobsen in 1958. Following interest in the Drop chair, the design manager and designers looked in the archives to find the original product drawings.⁴⁸ Contemporary designers assumed that in the modernist design firm, the product drawings would typically provide a basis for capturing at least the traits of the object. In line with the work of Brown and Lightfoot (2002), the archiving practices of the firm would be replete with times:

The archive – the place where the past is consigned and stored up for use in the present – occupies a powerful place in cultures dominated by the written word. In a very public way, the archive demonstrates to a given collective the way in which it manages the tension between remembering and forgetting. (p. 210)

The search of the archives, however, revealed more absence than presence. The designs could not be found, and the people responsible for the re-design of the Drop continued to have doubts regarding how the chair was made.⁴⁹ Fritz Hansen as a firm did not have documents describing the chair's original curves or the exact original forms. The design team was shocked that the drawings did not exist – they were unaware that the design process of the 1950s mostly involved working on prototypes, drawing on the object rather than on paper (as we illustrated in the development of the Serie7).⁵⁰ Any sense of a purified and linear time – a well-organised archived time that might be mined for future ideas was rendered unavailable. The chair itself as material semiotic actor would now have to participate in drawing together the past and future.

In order to (re)produce the Drop, the Fritz Hansen design team took the model off display in the museum. They removed the upholstery to obtain the bare shell and the original form. They scanned it, transferred the data onto CAD and they used a CNC mill to create a prototype that looked like a one-to-one model. When they compared the prototype to the original, however, the forms did not match. They wanted to

recreate an exact copy of the seat and backrest in the new model. The process of moving from the model to the new prototype of the chair – the move from past to future and from the prototype to production – took more time and effort than expected. They started with the chair's exterior geometry and tried to work out technical details based on its architecture. In order to understand how the shell was made internally, the team used x-rays, in order to not open the original. The x-rays visualised how the original had been made. The design team decided to use plastic instead of foam for the re-make of the Drop, so they needed to build a new prototype with these material characteristics. The development team made a second prototype inserting a layer between the two shells of the original design. For the final prototype, they tried to assemble all the components together as they would do in the production phase; in the laboratory, they tested the prototype using the same load and structural integrity tests that all production chairs had to pass. And when the prototype passed the tests, they put it on a podium in the warehouse, close to the museum, as a way of announcing the success of the tests to the rest of the employees.⁵¹ The chair, its partial dismantling, x-raying, reconstruction and display would once again become a provocation (Lezaun et al., 2013; Muniesa, 2014) of new times for the firm. The future, as the past, was to be modernist.

Conclusion

In organisation studies, objects have been analysed as both mediators and co-creators of narratives in the organisation, as participants in creating its identity by re-evoking its past, utilising and constituting forms of memory and making sense of organisational reality (Anteby and Molnar, 2012; Decker, 2014; Feldman and Feldman, 2006; Linde, 2009; Norman, 2005; Stewart and Strathern, 2003). In this article, we have expanded on this literature by exploring the times of the modernist design firm through its iconic chairs. Archival ethnography and contemporary ethnography allowed us to draw together these times into a single paper. This has enabled us to build on existing studies in two ways. First, we have suggested that studies of organisational times that focus on selectivity and organisational memory or history (Adorasio, 2014; Hernes, 2014; Rowlinson et al., 2014) can be augmented through a detailed study of the folding of pasts, presents and futures into objects.

Utilising these ideas, in the preceding analysis, we have explored the times of Fritz Hansen's iconic chair designs. In its initial design phase, we suggested that

the future of the emerging design also incorporated pasts (design practices of the firm; in line with the organisation studies literature; e.g. Hernes, 2014). What is surprising is that the chair at the same time disrupts that past (demanding new investments, equipment, space and training). We have suggested that when the chairs participate in the present tense of the organisation, histories (of design, of the firm) and futures (longevity, sustainability) are folded into the chair. And when the past becomes a focal point for the development of Fritz Hansen's sales strategy, this is done with a present tense (the moment of sale) and a variety of futures (the chair, the organisation, the customer) involved.

Our second contribution draws from our suggestion of treating objects as material semiotic actors. Here, we have argued for an expansion of the study of ways objects participate in the construction of organisational times (Brown, 2010; Cunliffe et al., 2004; Humphries and Smith, 2014; Schultz and Hernes, 2013), towards thinking through disruption, disjuncture and partial exclusions. Utilising Latour's (1993, 2013, 2016) work on the Moderns and Hetherington's (1997) analysis of museums, we have suggested treating iconic chairs as disruptors of otherwise linear organisational times. As material semiotic actors, these objects do not enable a single organisational time, but instead participate in disrupting time, deny any possibility of a pure and linear form of time, continuing to provoke the organisation and its members. In our study, even a more or less forgotten chair – the Drop – with its prototype consigned to the museum, without drawings stored in the archive, could be resurrected and provide a basis for exploring the past and re-working the organisation's future. The prototype of the chair is handled carefully, x-rayed, becomes the focus for activity and organisational expectation and it is through the chair that provocations are made – the new chair is put on display to demonstrate the success of the designers in decoding its manufacture but also to spark new imaginaries of where the firm will go next.

Through this continual design, development, display, exclusion and resurrection of chairs, the modernist firm maintains the status of its products as iconic and timeless. Indeed, the museum designer's exclusion of chairs from the 1980s and 1990s can be seen as a means to defend the purity of the timeless icons. However, purity of the icons does not depend here on purity of times; to be timeless, the chairs must rest on a hybrid of times, practices and material innovations that enable their status. This points to a series of research questions for those interested in objects and time: how do objects as material semiotic actors play a part in enacting progress in other organisational scenes? How does the folding together of multiple temporal

trajectories not just settle the actions of the firm, but also act as a provocation for organisations? Through what means do the folding of time and timelessness disrupt as well as maintain organisational activities?

Notes

1. Interview with a retired designer in Fritz Hansen.
2. Field note made while reading the internal books of the company in the archives.
3. Report from the Danish Economic institute, 1950.
4. From the document produced by DR: Korte traek af an lang historie, conserved in the company's museum.
5. Minutes from the meetings, 1952.
6. Field note during the visit in the corporate archives, Allerød, December 2012.
7. Archives at the Danish National Library.
8. Novo Nordisk financial statement, 2009.
9. Field note made at the tour at St. Cathrine College, Oxford.
10. Tau et al. (2001).
11. Interview to Verner Pantón, Politiken, 1975.
12. See Note 4.
13. Interview with a former designer employed in Fritz Hansen.
14. See Note 13.
15. Christiansen et al. (2010).
16. As a material, plywood was used for the first time by Alvar Aalto, then refined during the war and was proven suitable for industrial purposes with the chairs of Eames and Saarinen in the United States.
17. See Note 15.
18. See Note 4.
19. Interview about Arne Jacobsen, Tau and Vindum (1975).
20. See Note 4
21. See Note 10.
22. Corporate book found in the archives in Allerød, Besøg os i Lillerød.
23. Interview with a designer in the Newspaper Politiken, 1975. Collected in the book by Tau and Vindum (1975).
24. The organisation displays in the museum newspaper articles celebrating the launch.

25. Information (9/2/1953): hvorfor skal en stol have fire ben?
26. See Note 25.
27. Interview to Ove Hansen, in Tau and Vindum (1975).
28. See Note 4.
29. Fiell and Fiell (2013).
30. Interview with a former designer; *Aktuel*, 11/2/1962: Kultivatoren.
31. Field note taken during the museum tour in Allerød.
32. See Note 4.
33. Interview to Verner Panton, in Tau and Vindum (1975).
34. See Note 33.
35. Newspaper article titled 'Machines fail to rile Design of Denmark', (1956).
36. Information 1953: Hvorfor skal en stop have fire bent.
37. *Alt for Damenerne* 10/5/66.
38. Observations made in the organisation in December 2013.
39. Interview with the design manager.
40. Interview with the showroom manager in Milano, May and shop assistant in London, 2013.
41. Field notes from the shops visit.
42. Interviews with the employees.
43. Taken from the firm's financial reports.
44. Interview with the curator of the museum, a retired designer.
45. Interview with the marketing manager.
46. See Note 39.
47. Interview with the former designer, who is now the curator of the museum.
48. See Note 39.
49. Interview with a design manager working on the drop chair re-design
50. Drawings of the Serie7 were only made after market launch and due to a copyright infringement case.
51. Field notes based on observations during organisation visit.

References

- Adorasio, A. L. M. (2014) 'Organizational Remembering as Narrative: 'Storying' the past in Banking', *Organization* 21(4): 463–76.

- Akrich, M. (1992) 'The De-Description of Technical Objects', in W. Bijker and J. Law (eds) *Shaping Technology/Building Society: Studies in Sociotechnical Change*, pp. 205–24. Cambridge, MA: The MIT Press.
- Akrich, M., Callon, M. and Latour, B. (2002) 'The Key to Success in Innovation Part I: The Art of Interessement', *International Journal of Innovation Management* 6(2): 187–206.
- Anteby, M. and Molnar, V. (2012) 'Collective Memory Meets Organizational Identity: Remembering to Forget in a Firm's Rhetorical History', *Academy of Management Journal* 55(3): 515–40.
- Bijker, W. E. (1995) 'Sociohistorical technology studies'. In Jasanoff et al. (Ed.), *Handbook of science and technology studies/* (pp. 229-256). Sage.
- Brown, S. D. (2010) 'Three Minutes of Silence: Thinking in Duration in Organization Studies', *Tamara Journal for Critical Organization Inquiry* 6(2): 159–75.
- Brown, S. D. and Lightfoot, G. (2002) 'Presence, Absence and Accountability: E-mail and the Mediation of Organisational Memory', in S. Woolgar (ed.) *Virtual Society? Technology, Cyberbole, Reality*, pp. 209–29. Oxford: Oxford University Press.
- Callon, M. (1986a) 'Domestication of the Scallops and the Fishermen of St Brieuc Bay', in J. Law (ed.) *Power, Action and Belief: A New Sociology of Knowledge*, pp. 196–233. London: Routledge.
- Callon, M. (1986b) 'The Sociology of an Actor-Network: The Case of the Electric Vehicle', in M. Callon, J. Law and A. Rip (eds) *Mapping the Dynamics of Science and Technology*, pp. 19–34. London: Macmillan Press.
- Christiansen, J. K., Varnes, C. J., Gasparin, M., Storm-Nielsen, D., & Vinther, E. J. (2010) 'Living twice: How a product goes through multiple life cycles'. *Journal of Product Innovation Management*, 27(6), 797-827.
- Cunliffe, A. L., Luhman, J. T. and Boje, D. M. (2004) 'Narrative Temporality: Implications for Organizational Research', *Organization Studies* 25(2): 261–86.
- Decker, S. (2014) 'Solid Intentions: An Archival Ethnography of Corporate Architecture and Organizational Remembering', *Organization* 21(4): 514–42.
- Ewenstein, B. and Whyte, J. (2009) 'Knowledge Practices in Design: The Role of Visual Representations Epistemic Objects', *Organization Studies* 30(1): 7–30.
- Feldman, R. M. and Feldman, S. P. (2006) 'What Links the Chain: An Essay on Organizational Remembering as Practice', *Organization* 13(6): 861–87.

- Fiell, C., & Fiell, P. (2013) 'Scandinavian design'. Köln: Taschen.
- Gad, C., & Jensen, C. B. (2010). On the consequences of post-ant. Science, Technology & Human Values, 35(1), 55-80
- Hassard, J. S. (2012) 'Rethinking the Hawthorne Studies: The Western Electric Research in Its Social, Political and Historical Context', *Human Relations* 65(11): 1431–61.
- Hawkins, B. (2015) 'Ship-Shape: Materializing Leadership in the British Royal Navy', *Human Relations* 68(6): 951–71.
- Hernes, T. (2014) *A Process Theory of Organization*. Oxford: Oxford University Press.
- Hetherington, K. (1997) 'Museum Topology and the Will to Connect', *Journal of Material Culture* 2(2): 199–218.
- Humphries, C. and Smith, A. C. (2014) 'Talking Objects: Towards a Post-Social Research Framework for Exploring Object Narratives', *Organization* 21(4): 477–94.
- Latour, B. (1987) *Science in Action: How to Follow Scientists and Engineers through Society*. Cambridge, MA: Harvard University Press.
- Latour, B. (1990) 'Visualisation and Cognition: Drawing Things Together', in M. Lynch and S. Woolgar (eds) *Knowledge and Society Studies in the Sociology of Culture past and Present*, pp. 65–72. Cambridge, MA: The MIT Press.
- Latour, B. (1993) *We Have Never Been Modern*. Cambridge, MA: Harvard University Press.
- Latour, B. (2013) *An Inquiry into Modes of Existence*. Cambridge, MA: Harvard University Press.
- Latour, B. (2016) *Reset Modernity!* Cambridge, MA: The MIT Press.
- Lezaun, J., Muniesa, F. and Vikkelsø, S. (2013) 'Provocative Containment and the Drift of Social-Scientific Realism', *Journal of Cultural Economy* 6(3): 278–93.
- Linde, C. (2009) *Working the past: Narrative and Institutional Memory*. Oxford: Oxford University Press.
- Muniesa, F. (2014) *The Provoked Economy: Economic Reality and the Performative Turn*. Abingdon: Routledge.
- Neyland, D. (2007) 'Achieving Transparency: The Visible, Invisible and Divisible in Academic Accountability Networks', *Organization* 14(4): 499–516.
- Norman, N. L. (2005) 'Landscape, Memory and History: Anthropological Perspectives', *American Anthropologist* 107(1): 168–69.

- Orlikowski, W. J. (2007) 'Sociomaterial Practices: Exploring Technology at Work', *Organization Studies* 28(9): 1435–48.
- Pinch, T. J., & Bijker, W. E. (1984). The social construction of facts and artefacts: Or how the sociology of science and the sociology of technology might benefit each other. *Social Studies of Science*, 3(14), 399-441.
- Rowlinson, M., Booth, C., Clark, P., et al. (2009) 'Social Remembering and Organizational Memory', *Organization Studies* 31(1): 69–87.
- Rowlinson, M., Hassard, J. and Decker, S. (2014) 'Research Strategies for Organizational History: A Dialogue between Historical Theory and Organization Theory', *Academy of Management Review* 39(3): 250–74.
- Schultz, M. and Hernes, T. (2013) 'A Temporal Perspective on Organizational Identity', *Organization Science* 24(1): 1–2.
- Serres, M. and Latour, B. (1995) *Conversations on Science, Culture, and Time*. Boston, MA: University of Michigan Press.
- Stewart, P. J. and Strathern, A. (2003) *Landscape, Memory and History: Anthropological Perspectives*. London: Pluto.
- Strathern, M. (2004) *Partial Connections*. Oxford: Rowman & Littlefield.
- Suchman, L., Trigg, R. and Blomberg, J. (2002) 'Working Artefacts: Ethnomethods of the Prototype', *British Journal of Sociology* 53(2): 163–79.
- Thau, C. and Vindum, K. (1975) 'Arne Jacobsen, collection of interviews after his death', Politiken: Copenhagen.
- Thau, C., Jacobsen, A., and Vindum, K. (2001) 'Arne Jacobsen', Arkitektens forlag/Danish Architectural Press: Copenhagen.
- Woolgar, S., Coopmans, C. and Neyland, D. (2009) 'Does STS Mean Business?' *Organization* 16(1): 5–30.

Author biographies AQ15

Dr Marta Gasparin is a lecturer in innovation and design management at the university of Leicester. Her research explores how design and innovation emerges, how value is created, the role of the actors (objects, managers, designers) in the innovation and design processes. She draws on ideas from Science and Technology Studies, Actor-Network Theory. She is interested in design theory and the epistemological dimension of innovation, in particular the

relation between design and decision, design and art, design and aesthetic, design and epistemology, design and technology.

Professor Daniel Neyland works at Goldsmiths, University of London. His research interests include issues of governance, accountability and the resolution of public problems, drawing on ideas from ethnomethodology and science and technology studies. His research is ethnographic in orientation, engaging with markets, algorithms and the mundane.