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On: 16 April 2013, At: 16:50

Publisher: Routledge

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Journal of Change Management

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rjcm20>

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Version of record first published: 16 Apr 2013.

To cite this article: Michele Lancione & Stewart Clegg (2013): The Chronotopes of Change: Actor-Networks in a Changing Business School, *Journal of Change Management*, DOI:10.1080/14697017.2012.753930

To link to this article: <http://dx.doi.org/10.1080/14697017.2012.753930>

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The Chronotopes of Change: Actor-Networks in a Changing Business School

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ABSTRACT *This article investigates how a leading business school is reshaping its identity through a process that includes, but is not limited to, the building of a new facility designed by the Canadian architect Frank Gehry, as well as a major revision of the teaching programmes, ethos and branding. By investigating this process in an actor-network theory fashion, and introducing the notion of chronotope, the article answers three central questions related to the notion of change: How does organizational change happen in the daily life of a project? What gives unity to a chain of small relational changes? How can processual change possibly be managed? Theoretically, the article argues that change emerges in the micro-dynamics of organizing, fragments that are stitched together by macro-dominant narratives, in a constant process of translations that occur between human and non-human actants. The management of change is pursued through a constant micro-politics of network maintenance and enactment.*

KEY WORDS: Processual change, actor-network, chronotope, translation, maintenance

Introduction

Can business schools *change* the world? [. . .] In a sense the very idea of business education *changes* the way we think about organisations, and how we plan for an uncertain future. (UTS Business School bulletin *Think Big*, February 2010, Emphasis added)

Call out the instigators
Because there's something in the air
We've got to get together sooner or later
Because the revolution's here, and you know it's right

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2 M. Lancione & S. Clegg

And you know that it's right
We have got to get it together
We have got to get it together now
... Now (*Something in the air*, Thunderclap Newman, 1969)

Something is in the air. Business is changing and, while the arms and ammo may still be secure, in the aftermath of the Global Financial Crisis business schools around the world are undergoing reassessments of their organizational design, ethos and curricula in order better to face the present and imagine other futures (Datar, Garvin, & Cullen, 2010; Giacalone & Wargo, 2009; Triana, 2009). These processes not only offer the opportunity to question the rationale and wider meaning of what business schools are doing (Clegg & Starbuck, 2009; Lancione & Clegg, 2013), but they also provide fertile ground upon which to question what *change* is all about.

The case analysed in this article is one of the many things that are in the air, blowing in the winds of change. The ethnographic research investigates the process through which, subsequent to the appointment of the first externally appointed dean in its history, a particular business school (UTS) is reshaping its identity. It is doing so through positing what is claimed to be a more hybrid and creative approach to teaching and research activities. The aim of the School is to reposition itself as a 'leading business school in a world leading university of technology' through a process that includes, but is not limited to, the building of a new facility designed by the Canadian architect Frank Gehry (the Dr Chau Chak Wing building), as well as a major revision of teaching programmes, ethos and branding. Merging in this process of revision are elements of design thinking, approaches founded in creativity and positioning based on a new business ethos portrayed as a prominent *change* in the ways business is taught and researched.

UTS Business School is not unique in its dreams and schemes, mission and vision. In this sense, the terrain surveyed here is not virgin. At first glance, the research that serves as the basis of this article could be inscribed in those strands that investigate the relationship between organizational practices and design practices (Best, 2006; Boland & Collopy, 2004; Weick, 2003). While the same threads may be blowing, albeit in an antipodean wind, the approach to them taken in the present research is different from previous contributions, even from those that have already investigated the engagement of Frank Gehry with educational institutions (e.g. Joyce, 2004). The point of interest is not that design thinking can create distinct organizational patterns, but how the process of revision in which it is nested is implemented, as well as the rationalities that hold such revision together.

The research aims to answer three central questions. How does organizational change happen in the daily life of a project? What gives unity to a chain of small relational changes? How can processual change possibly be managed? The article offers a processual perspective on change and advances an actor-network understanding of the concept: change constantly and unavoidably emerges in the micro-dynamics of organizing, and is held together by macro-dominant narratives, in constant processes of translations that occur between

human and non-human actants. The article concludes by advancing a particular take on the management of change at UTS Business School, seeing it, generically, as something that can only be pursued through constant micro-politics of network maintenance in which it is enacted.

Change

Change is a disputed matter. From Lewin's model of defreezing and refreezing (Lewin, 1951) to contemporary accounts of process theory (Dawson, 2003a), change has had a history in the field of organizational and management studies that has been long debated (for a critical perspective, see Collins, 1998; Poole & Van de Ven, 2004). The categories under which the different models and the-orientation of change could fall seem inexhaustible. Van de Ven and Poole identify the life cycle, evolutionary, dialectical and teleological (1995) approaches, while other authors add also the social–cognition and cultural approaches to change (for an overview, see Kezar, 2001). There are surely countless others that remain cherished yet unaccounted. However, it is not necessary to enter into details to claim that this long debate shows at least one thing: a clear and unique definition of the concept of change is probably impossible. One of the possible reasons for this elusiveness resides in the fact that change, contrary to what most of the 'n-step guides' (Collins, 1998) suggest about how to achieve good managerial change (e.g. Eccles, 1994; Kotter, 1995), does not refer to a clear process, a period of transition from 'the past' to 'the future', but is rather a generic terminology *for the process itself*. Change, in other words, specifies a movement but it does not engulf us in its definition of the subject and the object of such a movement. Although 'past' and 'future' – or 'old' and 'new' – are the two elements that seem to reify all common understanding, they do not exhaust the infinite forms that the movement of change could possibly take. An understanding of change is always affected both by theoretical pre-assumption and analytical frameworks. For instance:

[F]rom a distance (the macro level of analysis), when the observer examines the flow of events that constitute organising, they see what looks like repetitive action, routine, and inertia dotted with occasional episodes of revolutionary change. But a view from closer in (the micro level of analysis) suggests ongoing adaptation and adjustment. (Weick & Quinn, 1999, p. 362)

Limitations on how change is understood not only arise from the scale of analysis. As Orlikowski points out, by analysing canonical approaches to change (planned, technological imperative and punctuated equilibrium), the analytical frameworks through which change is conceptualized (hence defining it before investigating it) usually reduce the potential of our analyses. In fact, 'because they are abstracted from the ongoing and grounded activities of organisational actors, the three perspectives on technology-based organisational transformation do not easily account for emergent change' (Orlikowski, 1996, p. 65). In this sense, the main problem in understanding change is that, 'as well as not knowing a lot about the micro-processes of change, we do not know enough

about how change is actually accomplished' (Tsoukas & Chia, 2002, p. 568). Change, regarded as a transition from one state of affairs to another, appears almost as a talisman – something absolutely committed to and paid homage to, a process in which the word, 'change', is invested with powers, becoming a sign charged with positive meaning, much as if it were a totem.

One means for reducing the risks of reification associated with understanding 'change' as something other than the shift from one steady state to another is to understand it as an 'ongoing performance' (Feldman & Pentland, 2003, p. 94), as a continuous changing process that 'never starts because it never stops' (Weick & Quinn, 1999, p. 381). Such understanding recognizes the complexity of the movement of change, drawing attention to the relational patterns that occur between the different elements involved in any organizational change. Change, in this way, is seen from a grounded perspective, as a process with 'a past, a present and a future, rather than as a static or time-bounded event or discrete series of events' (Huczynski & Buchanan, 2007, p. 608). Of course, these pasts, presents and futures are always open to constant revision, as Schutz (1967) reminds us. More prosaically than Schutz, Dawson notes that in a processual approach 'the context within which change occurs, the substance of the change in question, and the political behaviours of individuals and groups, all interact over time in the shaping and reshaping of organizational processes of change' (Dawson, 2003b, p. 1). The processual approach does not aim to promote a single model of how to manage change 'successfully' (Dawson, 2003b, p. 28); in this respect, it has similarities with approaches that fall under the 'cultural' label, which understand change as a complex matter of irrationality, unconsciousness and fluidity (Kezar, 2001).

Those charged with being 'change agents' may view with misgiving the translation of processual approaches into the 'real' world concerns of managerial practice. Surely change requires agents to manage it, to steer it, to make it useful, by providing direction? That there are change agents requires that their be a reified phenomenon that can be called 'change'. Cultural and processual approaches, lacking attributes of reification, may be seen as too 'complex', becoming in the end 'impractical' for any kind of managerial application (Burnes, 1996). In order to overcome at least part of such critique, this article presents an actor-network approach to the dynamics of change.

Actor-Network, Chronotopes and Change

Imagine a [...] project that lasts for a number of years, involves the mobilization of tens or hundreds [...] of workers, designers, managers, and a plethora of heterogeneous bits and pieces including designs, parts, machine tools, and all the rest. Imagine that this project is developed in a constantly changing environment [...]. How can we describe such a project in a way that is more than a 'simple' history? (Law & Callon, 1992, p. 33)

The actor-network theory (ANT) approach is increasingly being adopted in organizational studies (Czarniawska & Hernes, 2005; Fox, 2005, 2009; Hardy, Phillips, & Clegg, 2001; Munro, 1999). Particularly, this is the case, in both

‘sociomateriality’ (Orlikowski, 2007) approaches, which take only certain features of ANT into their grasp, usually regardless of the *actor-network* component of the theory, and in the theory of action-nets (Czarniawska, 2004; Joerges & Czarniawska, 1998). Despite some incorporation of ANT approaches, and the development of recent works that use it to interpret innovation (Tatnall, 2011), organizational scholars have rarely used ANT to investigate the *dynamics* of organizational change (Czarniawska & Sevon, 1996).

ANT is useful in overcoming at least part of the criticisms that surround both reified and cultural and processual approaches to change. ANT stresses that ‘there is no society, no social realm and no social ties, but [all that exist are just] translations between mediators that may generate traceable associations’ (Latour, 2005, p. 108). These ‘translations between mediators’ (Law & Callon, 1992; see also Callon & Law, 1982), are the key points in understanding how change takes place in an actor-network, because they are unavoidable, and always in motion within any actor-network. In this sense, change is accomplished by and registered in actor-networks.

ANT perspectives require one to consider agencies other than the human in the understanding of translations and change. It is not only people who cause effects, but things in general: Superstorm Sandy, Cyclone Tracy and Hurricane Katrina, for instance. Of course, thinghood is not limited to natural phenomena but can also incorporate the effects of heterogeneous ongoing relays of ‘translation’ contributed by ‘actants’ of various statuses and types. Non-human actants often enter into the change agents’ purview: think of the introduction of a new IT system for accounts or purchasing, which act as a means of effecting wholesale changes in roles and responsibilities, replacing human discretion with that coded into the systems. Non-humans have agency: laptops, codes, walls, diagrams, cables and so on can all be ‘participants in the course of action’ (Latour, 2005, p. 71; Latour, 2004) as much as the managers supposedly directed to govern them. We live in a material world composed of actor-networks that are saturated with agential potential.

An actor-network is defined only when actants are ‘translated’ toward what, in some terms at least, can be constituted to be the same purpose, or ‘the same interest’ (Murdoch, 2006, p. 76; see also Czarniawska & Sevon, 1996). That such a translation is posited, of course, is no guarantee of its reality: organizations are stuffed with missions and visions to which cynical, ironical, grudging consent is given equivocally, meaning translated incompletely and networks mobilized with variable effects. Translation, in other words, does not mean a common language of consent, since translations in actor-networks are a fluid process in which it is not possible to determine ‘identities nice and neatly, once for all’ (Mol & Law, 1994, p. 660). Actor-networks are not statically aligned toward a common interest, but are flexible, poorly defined and always renegotiated by the relations of their elements. A continuous motion of *change*, in other words, affects every actor-network because *being translated* is their ontological status. Actor-networks are enmeshed in a fluid topology of relations characterized by changes that cannot be defined *a priori* (old–new), but that we can attempt to trace in the continuous translations put in place by the actants. Change is continually ongoing, and the fact that change occurs is not the privilege of humans to

decide nor is it something derived from humans but is an intrinsic characteristic of every network:

action cannot be the point of origin except at the price of stopping the circulation, or the series of transformations whose movement continually traces the social body [...] we need to consider any point as being a mediation, that is to say, as an event, which cannot be defined in terms of inputs and outputs or causes or consequences. (Latour, 1996, p. 237)

Translations are powerful (because productive) features of actor-networks (Callon, 1986; Latour, 1986). To image an organization based around the idea of actor-networks and translations implies a setting in which ‘there is continuous adoption and editing of ideas that bypass the apparatus of planned change and have their impact through a combination of fit with purposes at hand, institutional salience, and change’ (Weick & Quinn, 1999, p. 376). Although each actor-network is characterized by fluid translations it is possible to identify spatio-temporal moments where/when an actor-network assumes a more stable state: when, in Deleuzian–Guattarian terminology, it is *territorialized* (Deleuze & Guattari, 1987). In fact, ‘in each time and place it is possible to speak of an ‘institutional order,’ a set (not a system) of institutions (not necessarily coherent) prevalent right then and there’ (Czarniawska, 2004, p. 780). These territorialized actor-networks, which are fundamental to grasping change as a continuous process of translation from one actor-network to another, can be called ‘*chronotopes*’. In Bakhtin’s terms a chronotope (literally, ‘time space’) represents

[T]he intrinsic connectedness of temporal and spatial relationships that are artistically expressed in literature . . . In the literary artistic chronotope, spatial and temporal indicators are fused into one carefully thought-out, concrete whole. Time, as it were, thickens, takes on flesh, becomes artistically visible; likewise, space becomes charged and responsive to the movements of time, plot, and history. (Bakhtin, 1984, p. 84).

The term is borrowed from Bakhtin because the idea of the chronotope reminds us that ‘time and space are inter-twined’ (Pedersen, 2009, p. 394). Initially, the term was used in a narrative approach to time; we do not privilege time but use chronotopes to highlight the relative *spatio-temporal dimensions* of any actor-network. If an organization is made up by many different actor-networks, and these actor-networks continuously change and translate, this does not mean that those moments where an actor-network assumes elements of stability cannot be identified. Analytically, one must compromise between the impossibility of completely grasping fluidity and the banality of seeing change as a set of almost predetermined movements. One seeks to represent neither pure flow nor choreography but chronotopes. Chronotopes are a conceptual tool with which to picture actor-networks in their provisional spatio-temporal ‘concrete whole[s]’ (Bakhtin, 1984, p. 84). Chronotopes are always characterized by two bare elements: a location in time (*when* that chronotopical configuration took place), and in space (*where* that configuration took place, understanding space in a relational fashion¹). A chronotope is therefore a ‘time–space configuration’ (Desjarlais,

1997, p. 87), a point in the geography of an organization at which a time and a space can be clearly identified. A chronotope is an analytical device that allows one to identify sets of coherent actor-networks and to trace their *changes*: first, identifying the spatio-temporal moments when/where an actor-network is stable, and second, tracing the translations operated by its actants (these translations identify the movements of change). Chronotopes are thus territorialized actor-networks but as such are always open to the possibility of being de-territorialized by means of translations enacted by one of their actants (De Landa, 2006).

ANT is concerned with tracing the motion of things rather than judging the effects of such a motion. Questions such as ‘Is this a good or a bad change?’ are constantly open to revision. ANT offers an approach to understanding how change is possible, not another model of change. Simultaneously, it addresses those practices that maintain the always partial and unstable ‘chronotopic’ arrangements of the network, specifically their enactments.

Method

The empirical material

The case study uses UTS Business School in Sydney, Australia, the institution where the authors work and which is currently undergoing a profound revision of its ethos, teaching curricula and branding, not least through the construction of the Dr Chau Chak Wing building, a building designed by the Canadian architect, Frank Gehry, that will enfold the Business School from 2014 onwards. To repeat, the main aim of the fieldwork is the investigation of how organizational change takes place both in the daily life of a project and in the wider revision of the School, as well as to question what gives unity to that chain of small, and sometimes imperceptible, relational changes entailed.

The main source of empirical material is participatory observation, although semi-structured interviews have also been conducted (especially to retrieve information at the early stages of the project). In addition, the authors have also collected samples of secondary data, such as reports produced by external consultants and publicity material. The full ethnography, which is the first part (October 2011–June 2012) of a three-year longitudinal study includes direct observation of meetings related to the delivery of the Dr Chau Chak Wing building; project manager meetings (PMO, including UTS and external project managers as well as some consultants); project control management meetings (PCM, same composition as PMO, plus more consultants); project control group meetings (PCG, including the PMO plus two UTS vice chancellors and representatives from the Business School), as well as other specific meetings (such as those on the selection of furniture for the new facility); the observation of events enacted by the Business School to sustain its vision (public and private meetings in venues such as the Opera House, or other form of events); the collection and observation of communications, electronic or otherwise, sent by the Business School or by UTS in relation to either the building or the new teaching curricula of the School; semi-structured interviews with key actors within the project; the collection of available material on the new MBA of the BS, as well as the collection of available material

related to the Dr Chau Chak Wing building project. The amount of data collected in the fieldwork has been summarized in Table 1: in the article only a set of the most representative materials is presented.

Table 1. Breakdown of the materials collected in the fieldwork

Type of material	Amount	Methodology	Notes
Observation of meetings related to the Dr Chau Chak Wing building project	19 PMO meetings; 6 PCM; 6 PCG; 3 specific meetings on the Mock-up; 3 on the selection of the furniture; 2 related to the use of ACONEX; 2 on AV and IT systems; 2 related to the tender presentation	Participant observations, through intensive note keeping, no audio-recording was allowed. Meeting lasted 1 h 30 min on average.	Most of these observations have been done in conjunction with another researcher working on a related project
Observation of public events	3 seminars sponsored by the Business School on the new model for Business Education; 1 public talk on architectural form and the city (sponsored by UTS); Participation in internal events around design and creativity	Participant observation and note-keeping; interventions with research-related questions	—
Interviews	2 with the Dean, 3 with Associate Deans and 1 with the Manager of the School; 2 with School staff; 3 with UTS Vice Chancellors; 3 with project managers; 4 with external consultants; 1 with an architect from Gehry Partners	Semi-structured interviews, audio-recorded and professionally translated (on certain occasions video recording also occurred)	Part of these interviews have been done in conjunction with another researcher working on a related project
Collection of secondary data	Documents produced by the School on its new Master Degree and its new vision; specific report produced by consultants; collection of the Dean's Bulletin; documents related to the building; materials for the media produced by UTS	Request of materials to project managers, consultants, and Business School's staff; Collection of emails sent by the Dean; Collection of materials on UTS website	—

Source: Fieldwork from October 2011 to June 2012.

The analysis

Analysis of the collected materials has been an iterative process, in which understandings of what were being collected informed the developing theoretical approach to change and this understanding framed data collection and analysis. The process has had three main phases.

In the first phase, the materials were analysed using open-coding techniques in NVivo. During this process, the authors became aware of the large number of organizational settings in which the Dr Chau Chak Wing project and the other activities related to the revision of the School have been enacted. These vary from the internal spaces of the Business School, to the relationship between the School and external consultants, or the work done by the project managers at a university level. The materials were hence divided according to the different settings to which they were referring (e.g. the project management unit, the Business School, the work done with the consultants and so on). However, each of these settings could be further unfolded. For instance, the setting of the Business School comprised things as different as the appointment of the new dean, the workshops around the design of the new MBA and the publicity activities related to the building. Each one of these involved particular 'sub'-organizational settings, with specific patterns of time (their duration) and space (their relational composition of human and non-human actants). These sub-settings, which later came to be understood as territorialized actor-networks (chronotopes), were identified and the material re-codified accordingly.

The second step has been concerned with the relations evolving over time and space that were occurring between these different sub-settings. One could describe the evolution of these settings as stages in the emergence of clear and subsequent phases of the analysed case. However, to do so would entail reifying change under canonical labels (such as 'the design phase' or 'the implementation phase'), which may be a part of lay terminology but are of little help in describing *how* change takes place. In this sense, the authors therefore 'followed the action' (Latour, 2005) and traced how, when and where new settings were produced. To do so, the materials have been re-codified following two steps. First, the authors approached the sub-settings through their understanding of chronotopes. Chronotopes were identified each time a particular set of actants displayed a more or less stable form, both in terms of their internal composition (number and kind of participants, settings, non-human elements involved) and external engagement (number of relations to external settings). Second, the authors identified the actants, translating each of these chronotopes into something different. Every time the internal or external coherence of the chronotope was broken there was the possibility of describing how this modification happened and of retrieving its translating elements. Each of these translations was codified, as well as each of the translating actants (according to their human or non-human status). Some time was then spent reflecting on the dynamic map that emerged from this analysis and it was seen that a certain sense of unity and common ground was clearly identifiable in the small, almost disparate, translations identified.

The third step consisted in investigating how such unity was achieved. To answer this question, the authors went back to the ethnographic material and

traced the evolution of every discourse on change made by the actants during the observed period. These included explicit references to ‘change’ or ‘innovation’, but also every discourse centring on future points (in space and time) that were portrayed as desirable outcomes of the project. Different discursive repertoires, ‘building blocks speakers use for constructing versions of actions, cognitive processes, and other phenomena’ (Wetherell & Potter, 1988, p. 172), were identified. The discursive analysis of these repertoires identified two main categories of ‘repertoires of change’. These repertoires have been understood as discursive diagrams that continuously create a sense of unity in the process of translations by which change takes place. A reflection on the role played by the micro translating dynamics of change (identified in phase one and two) and its macro unifying discourses, gave rise to the idea of *maintenance*, which is presented in the conclusion.

Findings and Interpretations

The authors have been able to identify 29 chronotopes, which have emerged over a period of more than three years² and that involve many different spatio-temporal settings (Table 2; in the table are highlighted the repertoires emerging from each chronotopic arrangement, to which the article refers later).

Each of these chronotopes should be considered as a particular spatio-temporal moment by which the actor-networks of the Dr Chau Chak Wing project, and of the wider revision of the School, became territorialized, assuming a more or less defined form. However, these chronotopes should be considered as neither completely crystallized nor self-bounded. Chronotopes overlap (as the ‘time’ column in Table 2 clearly shows), and things, ideas, discourses and people always move among them, associating and dissociating in a cross-boundary form (see the ‘relational space’ column in Table 2). It is indeed within these continuous movements that some of those elements – actants – became ‘mediators’ (Latour, 2005), translating a particular chronotopic arrangement into another (the names given to the chronotopes in Table 2 are already a clue to identifying some of these mediators). The label applied to this constant movement of translation, typically, is ‘change’. Such change is seen as both an effect of the actor-network (of its fluid, relational, nature) and also serving as an actant, a state of change, a goal of change, a strategy of change able to affect the actor-network (creating new organizational patterns).

These translations, which are the points where/when the micro-level of organizational change is recognized, can be divided according to the kind of actant that started the movement of change. Three representative cases are illustrated: the insertion of a new powerful human actant in the network, the role played by the intrinsically fluid nature of an actor-network, and the role of non-human agencies. What follows is not only a description of these translations *per se*, but also an account of how they have contributed to changing the actor-network of the analysed case, thus analysing what gives them unity and cohesion.

Translation: Powerful Actants

The insertion of a powerful actant in an actor-network is of great importance in shaping how the network constantly evolves. An actor-network is usually

Table 2. The chronotopes of the changing Business School

Number	Chronotopes	Description	Time	Relational spaces (partial list)	Actants (partial list)	Repertoires
I	Background	Sets of chronotopes including the activities implemented by the previous Dean of the BS	2007–2008	BS; UTS	Dean's Unit; external consultants; UTS	React to the global crisis; reposition the BS
II	UTS Master plan	\$1 billion refurbishment of the campus	2007–2014	UTS; Sydney; students–researchers	UTS; City of Sydney; industry partners; construction materials	Being a world leading university of technology
III	New leadership	Appointment of an external Dean	late 2008–2014	UTS; BS; external engagement	UTS and BS staff and facilities; external collaborators; emails	Need for, and possibility of, change
IV	Accommodation schedule	Investigation, by an external consultant (DEGW) of UTS facilities	2008–2009	UTS; BS	UTS and BS staff and facilities; DEGW staff; reports; calculus	The working space of the future is flexible
V	Emerging BS	Set of chronotopes aligned by the new Dean toward his vision	early–mid 2009	BS	BS staff and facilities; emails; internal documentation	Collaboration; interdisciplinary approaches; creativity
VI	UTS Teaching and Learning strategy	UTS Teaching and Learning Unit framing a new approach	2008 ongoing	UTS	UTS Vice Chancellors; internal documentation	Flexibility; collaboration; interdisciplinary approaches
VII	Learning curriculum review	Early phases of the BS Deans' Unit re-imagining the learning curricula	2009	BS	BS Deans' Unit; BS staff; internal documentation; external references	Adequate to other successful models (Yale, Stanford)
VIII	Strategic conversation	Set of workshops managed by an external consultants, SR	2009	BS; SR	Representative of BS staff; SR staff; cardboards; schematizations; key words	Creative and design thinking; need for change

(Continued)

Table 2. Continued

Number	Chronotopes	Description	Time	Relational spaces (partial list)	Actants (partial list)	Repertoires
IX	Early GP engagement	GP coming to Sydney for the first time to discuss the project	mid 2009	BS; Sydney	Representative of BS, UTS and GP; sketches; food; urban scenery	Excitement around the opportunity of engaging GP
X	Dr Chau Chak engagement	Behind-the-scene talks with potential (and now actual) Chinese donor	late 2009	UTS; (?)	Representative of UTS; Dr Chau entourage; money; documents	Generosity (but the media questioned the reasons of that)
XI	Early design phase	GP engages in workshops with the BS to produce the first design	late 2009–2010	GP; BS	Representative of BS, UTS and GP; sketches; slides; photos	Flexibility of space; collaboration; excitement around design
XII	PM Unit	Appointment of UTS PMs	2010–2014	UTS; various locations	UTS PMs; technological information systems; drawings; plans; meeting rooms	Commitment to the project; achievement of the UTS master plan
XIII	Consultants and contractors network (with GT)	Establishment of the network of external consultants including GT	early 2010	UTS; various locations	UTS PMs; external consultants and contractors; emails; phones; documents	Commitment to the project; challenge of Gehry's use of BIM
XIV	Design phase	Design work done in Los Angeles by GP, and the local architects	2010–early 2012	GP office; consultants' offices; UTS	GP; consultants; UTS; ACONEX; BIM technologies; drawings	Flexibility of space; collaboration; excitement around design
XV	Publicity	Set of chronotopes activated to advertise the new approach of the BS	2010–ongoing	Press; Internet	UTS and BS staff; brochures; emails; video; audio	Bright future for the new BS
XVI	Media	Media responses to the BS project	2010–ongoing	Press; Internet	Journalists; paper; video; audio	Bright future for the new BS
XVII	Dr Chau Chak involvement	Entourage of Dr Chau engaged in taking decision on the project	2011–2012	UTS; Chau headquarter	UTS and BS staff; Chau family; emails; graphic design; images	Do not disappoint the main donor

XVIII	New MBA design	BS workshop aimed at redesigning the postgraduate offer	2010–early 2011	BS	BS selected staff; international publications; meeting facilities	Knowing, doing and being approach; interdisciplinary approach
XIX	Bachelor degree	Introduction of a new subject and changes in the Bachelor curricula	late 2011	BS	BS selected staff; meeting facilities	Business ethics; interdisciplinary
XX	New external PM	Introduction of new external PM the UTS PMs' unit	early 2012	UTS; PM headquarters	UTS; external PM; ACONEX; documents	Peculiar expertise on this phase of the project
XXI	Early works	Excavations and other preliminary works on the site	late 2011–early 2012	UTS; site; supplier	Early works contractor; UTS and external PM; cranes; construction materials	Get the work done on time and within budget
XXII	Heritage unit	Investigation of the archaeological artefacts found in the site	late 2011–early 2012	UTS; site	UTS and external PM; heritage staff; excavation materials	Importance of archaeological artefacts
XXIII	Public talks	Set of chronotopes aligned by the Dean toward his vision	2011–ongoing	UTS; external venues	UTS and BS staff; public; lecture rooms; cocktails; brochures	Creativity, design thinking, new business model
XXIV	Visual mock-ups	Preparation of mock-ups regarding the selection of furniture, and the façade design	2011–ongoing	UTS; external factories	UTS and external PM; Contractors and sub-contractors; construction materials; samples; images	To get the Frank Gehry building 'right'
XXV	Costs management	Value-engineering exercise to contain the rising in costs	late 2011–early 2012	UTS	UTS and external PM; Cost-management experts; tables; charts; documents	Do not exceed budget
XXVI	Main constructor tendering	Tendering process to choose who will be the main constructor	early–mid 2012	UTS; BS; external venues	UTS and external PM; tenders; documents; drawings; emails	To get the Frank Gehry building 'right'
XXVII	Reaction from business community	Australian business community interested in the BS approach	2010–ongoing	UTS; external venues	UTS and BS specialized unit; external partners; emails; documents	Potential donor; reproduction of the discourse around new business model

(Continued)

Table 2. Continued

Number	Chronotopes	Description	Time	Relational spaces (partial list)	Actants (partial list)	Repertoires
XXVIII	New external PM	Introduction of new external PM within the UTS PMs' unit	mid 2012	UTS; PM headquarters	UTS; external PM; ACONEX; documents	Peculiar expertise on this phase of the project
XXIX	Performance mock-up	Preparation of a major façade mock-up for testing	mid 2012	UTS; factories in China	UTS and external PM; contractors and sub-contractors; construction materials	To get the Frank Gehry building 'right'

Source: Elaboration of the authors from field data. UTS, University of Technology of Sydney; BS, UTS Business School; PM project managers; DEGW, Accommodation consultants; SR, Second Road, strategic conversation consultants; GP, Gehry Partners); GT, Gehry Technologies.

aligned by its most powerful actant or coalition of actants, as Latour demonstrates in his account of Pasteur's work (Latour, 1988). By means of the available resources (also the discursive ones, Clegg 1987), and following a certain project, powerful actants are able to produce and partially control one or more chronotopic arrangements. In the case analysed here, evidence of this is found in at least three instances.

The first is related to the appointment of a new dean to the Business School. The new dean brought with him international expertise in managing business schools on the verge of change, and he had a clear idea of how to pursue UTS's main goal (to become a 'world leading university of technology'): 'How would we do that? We'd do that by linking creativity, technology and innovation. That's really the ethos of the place' (Interview, 2011). On the basis of this discourse, a whole set of translations were enacted, for example, the establishment of a monthly newsletter called *Think Big*, the creation of seminars and events focused around creativity and design, as well as the sharing of this vision with the other components of the Dean's Unit (translations that directly contributed to the formation of chronotopes such as III and XV but also influencing many others). These translations have been possible thanks to the institutional powers afforded the new dean, which contributed to the modification of a whole set of pre-existent chronotopes into the emergent framework. In this sense, this is a power which should be seen as a relational, network-dispersed matter rather than a characteristic of the individual (Clegg, 1989) since 'those who are powerful are not those who "hold" power but are those able to enroll, convince and enlist others into networks on terms which allow the initial actors to "represent" these others' (Murdoch, 1995, p. 748). The position of dean makes many discursive outlets available in which various modalities of power can be expressed.

The spatially constitutive nature of the particular ways in which these different modalities of power take effect is significant (Allen, 2003, pp. 94–102). The two major dimensions of spatiality are reach and intensity. Power may be either more or less instrumentally hierarchical or collaboratively associational, but is only ever as effective as its effects – not the resources that it can deploy. Deans do things less by controlling resources and more by rhetorical discourse whose reach and intensity is achieved by constituting a field of social relations, including at least authority, inducement, seduction, coercion and manipulation. These modalities may all cross-cut, of course, and those involved may not always be clear which they are actually being enrolled in or are offering. Power is not a force that intrudes on a stable situation from the outside so much as a way of talking about the structuring of social action in ways that constitute normalcy (Falzon, 1998; Heiskala, 2001).

The second case regards Frank Gehry, whose role as actant clearly encapsulates many of the chronotopes summarized in Table 1 (as in the case of the new dean). However, it is only in the creation of new chronotopes that it is possible to clearly identify the constant movement of change. In the case of Gehry, the creation of chronotope IX (where establishment of the connection between UTS and Gehry Partners is seen) comes about precisely because of the powerful identity of Gehry as an actant. Indeed, it is because Gehry was perceived as exceptionally powerful that the UTS Vice Chancellor, as soon as he learnt of the possibility

of Frank Gehry constructing the new Business School, decided to cancel the competition process to appoint the designer of the building. Here can be seen the translation from one potential chronotope to another, from one set of relations to a completely different set. It is in this particular spatio-temporal moment that it is possible to recognize the movement of change. As the Business Faculty manager at the time reports, this was a challenging step, which may have also lead to different outcomes:

I mean, it was an unusual process, because you would expect the university to go through a design competition process, and commissioning – going through a commissioning phase is very, very different, and certainly different to what a lot of the local architecture fraternity would expect as well. (Interview, 2011)

Different it may have been, but nonetheless the decision was taken: a new relational space was suddenly made available, and the creation of an actor-network immediately followed.

The third case relates to the involvement of the major donor, Dr Chau Chak Wing, with the actor-network of the project. The connection this Chinese businessman (and naturalized Australian) brought to the project led to the creation of particular chronotopes, X and XVII, where UTS and the Chau family came together initially to negotiate Dr Chau's contribution to the project (\$20 million for the building plus \$5 million in scholarships), and then to discuss more practical matters, such as the positioning of the signage, 'Dr Chau Chak Wing', on one of the façades of the building (Meetings observation, 2011). These are not, however, the only relational patterns emerging from this engagement. There is indeed an extension of this chronotope that includes actants such as the media, who investigated Dr Chau's political affairs in Australia (Garnaut, Snow, & Christensen, 2009), and possibly other economic and political actors as well. What is important to notice here is not, however, the rationale of these connections, but the fact that a powerful political/economical actant has been able to translate several chronotopes contributing in a determinant way to the changing process here examined (as well as to possibly connect it to other scenarios).

Translation: Serendipitous Encounter

Actor-networks, as chronotopes, are fluid in nature. The word 'event' can be fruitfully used to describe the ensemble of non-predetermined translations. Events are 'phenomena that, by virtue of their unpredictable and unanticipated nature exist before being represented by institutionalized discourses in which causes and effects are assigned' (Deroy & Clegg, 2011, p. 644). Chronotopes territorialize and de-territorialize, both by 'continual differing' and in those moments of 'rare surprise that breaks with how the background is organized' (Anderson & Harrison, 2010, pp. 20–21). In the Dr Chau Chak Wing project the emergence of the IX chronotope followed precisely this fluid path. As one of the former employees of Second Road, the consultancy that initially was employed to accelerate integrative thinking in the Business School, explains, the engagement of Frank Gehry with the school spread out of a serendipitous translation:

So what actually happened was, it was a bit of a flash. I went up to [the dean] and [...] I mentioned to him, just offhandedly: Look, if you're interested, would you like to have the equivalent of Frank Gehry do the building? He looked at me and he said, yes that would be good. I said, well if you're serious, I can give him a call. He said [...] yes that'd be great so I called Frank over the weekend.

Frank, I love him dearly but he still challenged me and said, are you sure that this is something that's worth my time? I go, yes and he says, and this is project, is it really good to go? I go, yes, it really is good to go. [...] He said, okay then I'll come. I'm flying back from Dubai, I'll just swing over and visit. I said, okay, hung up the phone again, called [the dean] and said, yes he'll come by in a couple of weeks as he's coming back from Dubai on his way back to LA.

So it all happened within, me tapping [the dean] on the shoulder and asking him if he'd be interested and two days later, Frank had made plans to – he bought the plane ticket to come and visit. (Interview, 2011)

Serendipitous in the extreme, this exchange occurred due to the fact that one of the employees of Second Road happened to be a close friend of Frank Gehry. In this sense, translational events sometimes occur as a 'flash of the unexpected' (Thrift, 2000, p. 214), things that cannot be foreseen, but that need to be acknowledged in order to grasp the movements of change.

Translation: Non-Human Agencies

Processual theories of change have taken into account human agency (Poole, 2004) but have not been much concerned with non-human agents (although there are exceptions, such as Clegg, 1989, 1990; Czarniawska & Sevón, 1996). Taking an actor-network perspective it is, however, possible to show how small devices, technologies and machines play an active role in creating a constant move of change, as seen in the following examples.

The first relates to building information modelling (BIM) technologies. BIM is a system that 'produces and manages a database of information developed and maintained throughout the life cycle of a building project' but it is also 'the process of generating and managing a building information model' (Giangregorio & Goss, 2008, p. 1). A BIM system negotiates the client–designer relationship. In the case analysed here, a specific role has been played and indeed is still being played by the advanced information technology used by Gehry Partners: a computer-aided design (CAD) software application based on an interactive aided three-dimensional (3D) design called CATIA (utilized mainly by aircraft manufacturers). Gehry Partners' use of technology therefore utilizes not only classical 2D modelling, but also creates a 3D platform that also serves as a complex database containing all the information relating to the design of the building (and for this reason Gehry Partners has established a separate business, Gehry Technologies, to deal with these high-tech aspects of its design practice). The use of this particular set of technologies has had a profound impact on the way the actants in the project perform their duties, not least because of its relatively new application to the Australian context (Built Environment Innovation and Industry Council, 2010). In this sense, the early establishment of the network of

project managers, external consultants and contractors (chronotopes XII and XIII), has been affected by the latent translating effect of this set of technologies. Consultants (such as the external project managers) and contractors (such as the local designer team, or the structural engineers) have been affected by the agency of Gehry's technologies in at least two ways: first, they needed to learn a new approach and a new set of informatic tools; and second, they have had to negotiate their understanding of these tools constantly. In this regard, the advanced Gehry technology tools have played a role in also translating the value engineering process (chronotope XXV) where, on more than one occasion, the different degrees of usage of 2D and 3D models (which for Gehry Partners should be used together) created misunderstanding and confusion around cost-management issues (Meetings observation, 2012). In the end, the role of BIM in the movements of change for the Business School resulted in more than the establishment of chronotope XIII and its further iteration. Future chronotopes, such that which will be established once the tendering process for the main constructor is concluded, will be affected by the translating power of BIM. For instance, during the presentation of the project to those shortlisted, Gehry Partners reiterated several times the importance of a correct understanding of their BIM system, stressing the same kind of message at least five times in less than 20 minutes (showing, hence, the powerful agency of this element in translating change) (Meetings observation, 2012).

The second issue concerns emails, which transmit information about the project and, in this sense, could certainly be considered a productive device as they transport knowledge, thus leading to the production of new knowledge and practices. In this sense, although emails cannot by themselves be considered a vehicle translating a chronotope, there are a few examples of their relevance in such a movement, the main one being the enactment of chronotope XXI, concerning the beginning of the early stages of work. In order to manage the information between the appointed contractor for the early stages and the team of project managers, consultants and other contractors, UTS's project managers decided to adopt an online platform called ACONEX upon which it was possible to store all the relevant documentation (such as the 2D drawings), comment on them and exchange emails within the virtual environment of the platform itself. Project managers were able to set up different user profiles, with different privileges of access to the documentation and emails, thus being able to control who accessed what and how (ACONEX-related meeting, 2011). The relevance of this electronic device in translating chronotopes became evident with the establishment of chronotope XXVI (concerning the movement from the early stages to the tendering for the main contractor). Since the contractors for the early stages of work were also tendering for the main shortlist and since the early works were still not concluded during the tendering process, project managers (PM) found in ACONEX the perfect means to retain their influence on the flux of information:

External PM: All the consultants have been notified not to correspond with [name of contractor] on matters other than early works [...]

Internal PM: Yeah

External PM: In this regard the important platform to be considered is ACONEX, obviously ... And ... In discussion with GP [Gehry Partners] and [name of local architect team] is that we are going to move away from ACONEX for a certain period and...

Internal PM: Not for the early works, right?

External PM: Except for the early works, yeah (Meeting observation, 2012)

ACONEX played a determinant role in translating these chronotopes, thanks to its powerful agency, which could be described as having the capacity of connecting, allowing, stopping, preventing, etc. (Latour, 2004). ACONEX is not just a network: it is also a governmental device. In the management of this agency there is, therefore, the implication of a governmentality technique (how we govern and are governed within specific regimes – Foucault, 2000), which can only be recognized in the human/non-human entanglement of the actor-network, and which shape the spatio-temporal forms (chronotopes) of the actor-networks themselves.

The third example regards the mock-ups that have been constructed according to Gehry Partners' practices, which require the production of several physical real-size models of different parts of the building to serve both as visual aids and as sites for performance testing. (Gehry Partners' practices include, in addition, the use of a large number of scaled models, which too are part of the translations analysed here; Naar & Clegg, 2013.) The production of such artefacts resulted in the translation of two chronotopes, both related to one of the two peculiar façades of the building (a façade composed of undulated bricks). The first (XXIV) concerned the production of a visual mock-up of the façade, an exercise that involved designers, structural engineers, a façade contractor, a bricklaying company, several meetings and a final showcase at which representative of the project managers, of Gehry Partners and of UTS and the Business School Deans' Unit were able to see, touch, and comment on the first real-size model of the building (Field observation, 2012).

When the spatio-temporal extensions of the second chronotope (XXIX) are taken into consideration they are more revealing. The production of the performance mock-up will take place in China, and comprises a whole set of movements that are signs of the translating force of this artefact. China was selected because not only are most of the construction materials produced there, thus making it more cost-effective to build the mock-up near the source, but so too is the sophisticated testing technology. Project managers have engaged in a complex set of negotiations in order to find the right Chinese factory, and the right Chinese workers best able to carry out this kind of work. Moreover, they have organized the shipment of the only construction material that is produced in Australia – the bricks – and they will be organizing a showcase of the final model in China. (So much for the local innovation effects of the Gehry design in Australia and on Australian practice!) Construction materials have, therefore, been translated in the actor-network across multiples sites, driving the decision-making around the practice of building and testing mock-ups, showing once again the latent power of material objects (such as bricks, steel, glasses and other materials) in designing the actor-network of the project.

Repertoires of Change

If, with the description of how translations take place in an actor-network it has been possible to show how organizational change happens in the daily life of a project, thanks both to the agency of human and non-human actants and the actor-networks fluidity, the second point of interest still requires investigation. Although change is conceptualized not as a product, but as a constant movement of small translations, it is nonetheless clear that observing the Dr Chau Chak Wing project from a macro perspective an overarching sense of unity can be perceived, a unity that can be understood to be the ‘alignment toward the same interest’ that typifies every translation. Analysis of the data suggests that this alignment takes place at the level of the discourses produced in each chronotopic arrangement, hence in terms of their *repertoires* (McKenzie, 2005; Wetherell & Potter, 1988). Discourse is indeed productive and can align practice in one sense or another (Foucault, 1991, 2000). In the project, two kinds of repertoires have been identified (listed in Table 1): the first aligning the translation toward an imagined common future, and the second connecting this process of change to powerful external narratives.

The first case is that of repertoires that portray the imagined future of the Business School, such as those expressed in chronotopes III, XV and XXIX. These repertoires state that the Business School is going to become an internationally relevant centre, hosted in an ‘iconic’ building, characterized by a ‘flexible’ workspace, where ‘creative’ and ‘innovative’ practices will take place. These repertoires align the translations taking place in the actor-network because, in evoking an imagined future, they contribute to making that future a present practice. The imagined future is not ‘a blank separate from the present’ (Anderson, 2010, p. 778) but something entangled within the more-than-human translations that constitute every organization. The future is, in this sense, always being made at ‘present’, which means that it is ‘constantly embodied, experienced, told, narrated, imagined, performed, wished, planned, (day)dreamed, symbolized and sensed’ (Anderson, 2010, p. 783). Such processes happen through calculation, the visioning of new scenarios, and the performances of the present, which become unified under the same narrative. Therefore, if the activity/movement of change is ‘future-oriented because performative’ (Thrift, 2006, p. 31), these discursive performances are one of the cohesive patterns that allow micro-translation to be aligned toward the same scope.

It is the authors’ view that the second kind of repertoire is even more powerful in respect to this alignment. In this discourse, connections to external, powerful and dominant, narratives are represented. Three cases are particularly relevant in terms of the project. The first case concerns the generic necessity of finding new ways of teaching and researching business. This discourse, particularly present in chronotopes VIII and XXIII, is related to the criticisms that many public commentators and scholars have directed toward business schools in the aftermath of the Global Financial Crisis. This position is summarized in Paolo Triana’s comment in *Bloomberg Businessweek*, in which he wrote that the causes of the crisis should not be sought in the ‘failure of capitalism’ but in the predominance of ‘theoretical finance’ which has been ‘the status quo prevalent inside business schools for the

past 50 years' (Triana, 2009). Hence the fault lies in the way business has been researched and taught. In this account, too much predominance has been given to mathematics, statistics and so on, which has legitimated the over-financialization and technicism of economic transactions. If the practices constituting the Global Financial Crisis are to be de-legitimized and new practices innovated and legitimized then this aspect of the normal curriculum needs to be changed.

The second case concerns the ways this change should take place concretely. Particularly in relation to chronotopes VII and XVIII, which concern the new MBA in the Business School, the repertoires explicitly connect to the 'knowing, doing and being' ethos proposed by Datar *et al.* (2010) already adopted by other prominent business schools around the world. The new ethos implies keywords such as 'critical thinking', 'creativity and innovative thinking' and 'experiential learning' which, in the past, were widely regarded as lacking within business schools. Such terms are always essentially contested, of course, and what some might mean by 'critical thinking' is not necessarily in accordance with what Datar and his colleagues might position it to be: there is no recourse in their work to established traditions of Critical Theory, for instance.

The third mainstream discourse to which the chronotopes of the School refer is related to the integration between design and management practices (chronotopes VIII, XI and XVII). The idea is that rather than confronting reality as a set of pre-determinate problems 'design instead implies a dynamic process leading to impermanent outcomes, and iterative engagements with *designing* and *organizing* that embrace ephemerality and constant improvement' (Jelinek, Romme, & Boland, 2008, p. 219 – emphasis in original). There are different takes on 'design' from the business schools' point of view. On the one hand, design is used as an attractive keyword: 'Thinking like a designer can transform the way you develop products, services, processes – and even strategy' (Brown, 2008, p. 85). On the other hand, design approaches are seen as tools to fill gaps in current business practices: 'that missing element is an image of the manager as an idea generator who gives form to new possibilities with a well-developed vocabulary of design' (Boland & Collopy, 2004, p. 8). In each case, this master-narrative serves as a framework under which the Business School's translation cohered. Design entered the building with the new dean and has been steadily positioned in a steering capacity on a number of public occasions since. The indexical nature of design thinking helps in this regard: what exactly is it? Not being sure of what it is, might be and is not, almost anything can be arraigned under its ambit. Therefore, as was the case of the future-present repertoires, these narratives serve as directional signposts for the micro translations in and of the School, aligning these in a similar direction while offering at the same time that sense of unity (that canonical sense of 'change' with a purpose) to the external observer.

Conclusion

From the analysis of the empirical material, the article proposes two theoretical contributions concerning the notion of *change*. The first highlights its processual micro actor-network dynamics. Although change could simply be used to highlight the difference between two elements at different points in time (e.g. the

Business School today, the Business School in 2014), how it actually plays out in the daily life of an organization is still a matter of debate. It has been shown how this point can be unravelled by looking at the human and non-human actants of the organizational process, actants that perform practices within time-specific relational actor-network (chronotopes). It is within these chronotopic arrangements that translational events take place, introducing or removing elements from the network and thus revealing *change*: a chronotope in this sense is translated into a new chronotope, and a new form of the actor-network emerges. Analysing how these translations between chronotopes arise the authors have demonstrated the dynamics of change, portraying it as a matter of micro spatio-temporal modifications of a network.

The second theoretical contribution relates to the macro discursive-dynamics of change. What is it that holds together these translations and allows them to move in a precise direction? The article identifies two elements that characterize this process, first the continuous representation of an imagined future – a ‘future perfect’ as Pitsis, Clegg, Marosszeky, and Rura-Polley (2002) termed it, after Schutz (1967) – that frames the coordinates within which the network should move and second, the actants’ references to master-narratives and practices enacted in other spaces, which although distant from their network, are perceived as a model to follow. Visitors such as Datar bring these spaces into the Business School, however and visits by the dean and other elites to business schools integrating ‘design practices’ enable the rhetoric to be refreshed and re-legitimated. These two elements serve to tighten the network in its continuous translation, thus offering the macro-rationale to the micro-dynamics of change.

The approach developed here does not deploy its contribution purely on the theoretical level, however, but can also actually inform managerial practices of change. Although organizations are always in motion and for this reason it is impossible to provide truly helpful *n*-steps guide to drive change, this does not mean that nothing can be done. In fact, the authors believe that the practices of *actor-network maintenance* could offer a potential to (at least partially) manage change. The first thing to be said in this sense is that ‘managers concerned with controlling events or guiding change must be aware of both the nature of the network within and around organization [...] and the sources and effects of the organization’s momentum’ (Kanter, Stein, & Jick, 1992, p. 13). To put it simply, this means that managers need to be aware of both the unavoidable irruptive power of events and of the fact that actor-network changes constantly occur in different spaces and at different times. Having acknowledged this, managers should become aware of the ‘unconscious’ background of their organizations, seeing them as not only human and non-human milieu that they control, but also as a fabric of relations that constantly move, translate and change without either entailing a precise design in nature or the accomplishment of intentions as prime movers of strategic change.

Aligning this unconscious background with external power narratives is not enough to sustain translations. Since the non-human aspect of every organization is ‘so pervasive and complex that [they are] beginning to take on many of the features of an organism’ (French & Thrift, 2002, p. 311), it is towards these aspects, especially, that new practices of maintenance should be directed. Technologies

have to be domesticated if they are not to dominate and drive events. In the case of the Dr Chau Chak Wing project, these could include, for instance, a major effort in assuring that designers and contractors use BIM technologies in the same way; a constant and genuine mutual discussion on the practice of building mock-ups, or on the practices and means for exchanging information. The aim of such practices is to *maintain* under a manageable umbrella of human action, however illusory it might be, the power constantly revealed by the agency of things. This is not to control them fully, which would not be possible, but to take seriously their role in shaping the actor-networks of change. In other words, in the same way that Paris is sustained by its *ville invisible* of machines, pipes and electric wires (Latour & Hermant, 1998), organizations run on a mixture of technologies, knowledges, discourses and relational practices that need to be maintained. Such maintenance work, however, does not fall under the rubric of any of the specialized skills and trades that enact the building process.

Maintenance work becomes particularly relevant in relation to these chronotopes that, although part of the organization, are not fully included in the actor-network of change. Those actants who do not align with the proposed repertoires, in the case of the Business School, might be those scholars who do not accept design thinking approaches to business, in precisely those most institutionalized disciplinary areas, such as finance, from where the recent global financial contagions allegedly spread. In every process of change there are always 'multiple versions of events and a range of competing histories that are themselves open to continual reshaping over time' (Dawson, 2003b, p. 14), and the only way to manage this is to maintain a lively discussion with the non-aligned. Indeed, if 'change is the reweaving of actors' webs of beliefs and habits of action as a result of new experiences obtained through interactions' (Tsoukas & Chia, 2002, p. 570), there is no guarantee that this will happen automatically. Actants need to be part of the same actor-network, and the premise for interactions (even of a strong kind) needs to be provided and maintained or the movement of change may end up as being of interest to just part of the organization, with detrimental long-term consequences.

In the end, maintenance, much as change, is not a formula easy to apply. What is needed is an awareness requiring a de-centralization of the selves that presume change agency in order to appreciate the others – human and non-human – that shape change *as much as* these managers (think they) do.

Acknowledgments

This research was financed by UTS Chancellor's post-doctoral scheme. The authors would like to thank the Business School Dean, UTS Vice Chancellors, and the school's manager for the support that they gave to this work. UTS project managers have been really helpful in unfolding the complicatedness of the Dr Chau Chak Wing building project, and a particular thank goes to Liz S. and Sally A.V. for the time they spent with the first author. A thank you also to one of our colleagues, Liisa Naar, for the post-fieldwork chats where some of the thoughts here presented were firstly tested. We thank all anonymous reviewers for their constructive recommendations for improving this manuscript.

Notes

1. As it is in the work of geographers (Massey, 1994; Soja, 1996; Thrift, 1996) and in organizational studies (Beyes & Steyaert, 2012; van Marrewijk & Yanow, 2010)
2. Although the fieldwork took place over a period of seven months during 2011–2012, the materials collected referred back in time up to late 2007.

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