# The Dialectics of Spatial Performances: The Interplay of Tensions in Activity-Based Organizing

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## Abstract

Navigating organizational workspace is often plagued with tensions that emerge from the interplay of intended designs with organizational activities and lived experiences. These tensions are evident in research findings, such as inconsistencies in the ways that employees react to new workplace designs. They call on scholars to rethink organizational space, not as a concrete, static, or ready-made "thing", but as a set of ongoing performances that enact particular practices, clashes among opposites, and organizational tensions. Based on research in a Nordic company, this study reveals how tensions and responses to them in an activity-based office generate creative alternatives that enhance participation and navigate passages between order and disorder. Contrary to the presumption that tensions need to be resolved, this study suggests that embracing them through managing the fluidity and flux of space gives rise to adaptability. Thus, in orchestrating workspace changes, it calls on organizational

members to attend to mobility, constellations of objects and materiality, and temporal boundaries in navigating space rather than focusing on fixtures and designs.
*Keywords:* workspaces, office design, tensions, paradox, ordering and disordering, spatial performances, process studies

*Rationale*

Studies of workspaces and office designs have received increased attention in organizational research during the past decade (Hislop and Axtell, 2009; McElroy and Morrow, 2010). Organizations are moving away from assigned offices to open spaces, hot desking, and activity-based designs. *Open spaces* refer to the absence of cubicles, doors, and barriers in office settings while *hot desking* depicts environments in which employees have no fixed personal workstation but can use any desks that are available. Similar to hot desking, employees in *activity-based working* no longer have assigned workspaces and can choose among an array of workstations, meeting rooms, concentration spaces, and lounge areas to fit their particular activities (De Been and Beijer, 2014). Developed for knowledge workers, activity-based working is tailored to meet the needs of each organization as well as save overall costs in office spaces (Appel-Meulenbroek, Groenen and Janssen, 2011). Based on rapid changes in work arrangements, including telecommuting and distributed organizing, these new office arrangements are largely the norm in many American and European organizations and reflect a growing trend toward flexible and non-dedicated workspaces (Coradi, Heinzen and Boutellier, 2015; Gillen, 2006; Vischer, 1996).

In the past, studies of new work arrangements often treat space as a fixed, material container that shapes employees' behavior and satisfaction, sometimes in inconsistent ways (Davis, 1984). Literature reviews reveal that tensions are inherent in the enactment of new office spaces, ones that reveal inconsistent findings; for example, supporting as well as undermining job performance, fostering organizational inclusion while leading to exclusion, and increasing as well as lowering productivity. Tensions, in the organizational literature, refer to the stress or anxiety that results from having to make choices among logically inconsistent options (Fairhurst et al., 2002). Overall, the instrumental needs of work, aesthetic

appearances of space, and symbolic meanings of arrangements, often exist in tension with each other in workplace settings (Elsbach and Pratt, 2007).

These tensions are also evident in concerns about crowding, privacy, and territoriality in workplace environments, especially as they influence work relationships (Khazanchi et al., 2018). The tendency of scholars to dichotomize workspaces as private or non-private and assigned or unassigned contributes to the emergence of these tensions. Moreover, studies of activity-based office designs uncover similar inconsistent outcomes, such as increasing while decreasing accessibility to team members and enhancing mobility while promoting tendencies for employees to remain stationary (Appel-Meulenbroek et al., 2011; Brunia et al., 2016; Rolfö et al., 2018). The continued presence of inherent tensions in office environments underscores the need for scholars to rethink the nature of organizational space itself.

Rethinking organizational space means moving away from the idea of a fixed container to treating space as a production process. A production means that space arises from the intersection of human and material features of organizing. One way to get at this production is to center on spatial performances or dynamic streams of action, interactions, and movements that shape the very nature of organizing (Hernes et al., 2006). The idea of spatial performance, then, challenges traditional notions of workplaces as locations, fixtures, or symbolic representations. It calls for focusing on generative moves in which tensions unfold as a type of liquid architecture (Kornberger and Clegg, 2004). Liquid architecture focuses on the flexibility of designs, particularly, how generative moves alter spaces and combine order with chaos to enact creative problem solving.

Thus, a key feature in liquid architecture is balancing order with chaos and disorder. Most studies of organizational space treat designs, physical arrangements, and spatial boundaries as ways to develop order and predictability (Kornberger and Clegg, 2004). Yet, organizations produce and thrive on ambiguous and incomplete spaces that foster creative

problem solving, collaborative inquiry, and flexibility (Horgen et al., 1999). Moreover, spatial systems often implode with too much harmony or order and they explode with too much chaos or disorder (Clegg et al., 2005). Hence, the interplay of tensions between order and disorder is a key to deciphering how generative spaces are produced.

This study examines the ways that organizational members in an activity-based work environment enact and respond to tensions in the production of space. In particular, it centers on 1) how tensions emerge from the intersection of daily actions and interactions with workspace designs, rules and polices about spatial use, and norms and expected behaviors regarding the use of space; 2) it examines how organizational members respond to these tensions and the role of multiple social and material arrangements in these responses, and 3) it explores the links between activity-based working and the interplay between order and disorder in the organizing process.

In doing so, this study makes two key contributions to the existing literature on organizational space. First, it focuses on tensions that stem from the micro-processes of navigating space in task activities and in working out expectations for the use of space. It also examines how organizational actors manage tensions by redefining, modifying, and enacting new spaces. Second, this study examines social/material constellations that trigger breakpoints and transitions that aid in navigating space, particularly in the interplay between order and disorder. These passages challenge managerial recommendations for ways of orchestrating changes in workspaces, for example, balance the number of employees with the number of workstations (not too many but not too few) (Van der Voordt, 2004) or create more meeting rooms and concentration spaces (Brunia et al., 2016). Overall, this study contributes to the existing literature through embracing a dialectical lens and tension-based approach to the study of organizational space. It also extends the growing work on

contradictions and paradoxes through examining how material features enter into the production and management of organizational tensions.

## Developing a tension-based approach to the study of workspaces

Since the early 1980s, scholars have focused on how workspaces (i.e., physical arrangements, furniture, barriers); sensory stimuli (i.e., noise, lighting); and aesthetic features (i.e., color, décor, shapes) influence co-worker interactions, job satisfaction, motivation, and productivity (Davis, 1984). Referred to as the objective approach (Ropo et al., 2013), this early research often casts space as a 'fixed, dead and immobile' container (Fayard and Weeks, 2007; Taylor and Spicer, 2007). In more recent years, scholars have moved away from this model through treating organizational space as symbolic meanings (Kim and De Dear, 2013), emotional experiences (Van Marrewijk and Yanow, 2010), or materialized forms of power and control (Baldry, 1997; Taylor and Spicer, 2007).

Even though current research has embraced what is known as 'the spatial turn' in organizations, studies continue to theorize space as a ready-made or pre-existing product (Beyes and Steyaert, 2012). This view reifies space and casts its material features as prefigured and extracted from a contextual environment. In contrast to this approach, scholars who align with a 'second wave of spatio-organizational analysis' (Beyes and Steyaert, 2012), emphasize the production of space. Following Lefebvre (1991), this production emerges from embracing three views of space--*conceived* (i.e., designed space, built space, material space), *perceived* (i.e., aesthetic experiences, rules and expectations, emotional reactions, and symbolic meanings), and *lived space* (i.e., actions, interactions, practices, and events). Thus, conceived space refers to the designs, physical features, and planned representations of space while perceived space focuses on the symbolic significance and meanings that align with images of space (Taylor and Spicer, 2007). Such meaning systems can change the normative

practices and expected behaviors regarding conceived and lived space. Lived spaces encompass the daily interactions, spatial performances, and social actions.

These three contribute to the production of space through a dialectical relationship in which they create tensions that push and pull against each other, for example, enacting a particular space (lived) may be diametrically opposed to what the designer wants (conceived) (Cairns et al., 2003). The logic of space then is one of opposites in which inclusion/exclusion, outside/inside, and unified/divided surface as tensions in performances or everyday practices of organizing (Massey, 2005; Thrift, 2008). The push-pull of these oppositional tensions gives rise to space as 'an unsteady medium' that has the potential to alter the terrain of organizing (Massey, 2005).

Researchers have begun to conceptualize space as a triad among conceived, perceived, and lived spaces through examining the power relationships that surface in planned spaces and embodied experiences (Dale and Burrell, 2008), mergers (Ford and Harding, 2004), homeworking (Wapshott and Mallett, 2012), and state regulation of casinos (Kingma, 2008). Scholars have also shown how the Scottish Legal System reproduced the status quo from emplacement, enchantment, and enacting space (Siebert et al., 2017), and demonstrated how the three types of spaces played a historical role in transforming an all-women's college into a co-ed institution (Liu and Grey, 2018) and in negotiating gendered representations of space (Tyler and Cohen, 2010). Even though these studies embrace Lefebvre's (1991) triad, researchers typically focus on macro organizational levels. Only Komporozos-Athanasiou, Thompson and Fotaki (2018) examine how organizational members enact space in the micro-level tensions among the three spatial dimensions. Their study of a health care clinic reveals that tensions between conceived space and the rules for governing it clash with social expectations (perceived space).

*Role of tensions in the workspace literature*

In the research that employs Lefebvre's theory, tensions are mentioned, but are rarely treated as the central focus of a study [see Komporozos-Athanasiou et al. (2018) for an exception]. Similarly, the research on organizational workspaces acknowledges the importance of tensions, but rarely makes it the foci for investigations. However, three clusters of research that embrace a process focus on workspaces; namely, developmental studies, research on socio-materiality, and studies on the communicative constitution of organizations (CCO), have implications for examining organizational tensions. Tensions are important because they tie directly to how employees adapt to, alter, resist, or comply with changes in workspaces. Specifically, Elsbach and Pratt (2007) contend that investigating tensions and their management is pivotal to making decisions regarding workplace arrangements and could help employees prioritize resources as well as tease out inconsistent research findings. Moreover, prior work on tensions in enacting workspaces presumes they should be resolved; thus, researchers present a very narrow repertoire for how to respond to them, for example, increase training, engage in trade-offs, or compartmentalize them (Elsbach and Pratt, 2007).

As one approach to examining ongoing processes, developmental studies treat workspaces as episodic (Brennan et al., 2002; Coradi et al., 2015; Zalesny and Farace, 1987), for example, research that focuses on stages of renovations or on the before and after of new office designs (McElroy and Morrow, 2010). These studies locate tensions in the outcomes of changes, namely, enacting personalized space (Dale, 2005), developing free spaces that suspend institutional rules (Sturdy et al., 2006), or adopting a stance of fixed instability in which mobile workers long for stable spaces (Costas, 2013). This work, however, fails to problematize how these outcomes are produced through enacting and responding to tensions in everyday interactions.

Another approach, sociomateriality, treats the social and the material aspects of space as mutually entangled through practices that develop affordances, constraints, and

appropriations (Fayard, 2012; Van Marrewijk and Yanow, 2010). Affordances refer to actions that are possible in a given spatial setting while constraints capture how spacing practices create limitations. To illustrate, Fayard and Weeks (2007) demonstrated that the balance between privacy, propinquity and permission in organizational space afforded or constrained informal interactions in photocopy rooms. Similarly, Hislop and Axtell (2009) showed how consultants, who could work 'anytime anywhere,' were actually constrained by the affordances of mobility and the necessity to create flexible, temporary workspaces. Unlike affordances, appropriation centers on practices that make space suitable for specific needs while re-appropriation examines changes in spatial forms and structures when they outlive their original purposes. These social practices exist in tension with disappropriation or the activities that transform space in light of its previous use. In a study that focuses on the entanglements of space and organizational legitimacy, de Vaujany and Vaast (2013) showed how the design and redesign of space in the midst of disappropriation occurred in response to changing organizational needs and institutional conditions. In this longitudinal study, tensions arose from shifts in social practices, ones that countered the original design and altered spatial legacies. In effect, the rigidity and flexibility of organizational space is a sociomaterial construction that unfolds over time through social practices that become entangled with material features.

These studies highlight how space and social processes enable and constrain actions to produce tensions, but they do not center on the micro-level tensions and responses to them in daily workspace interactions. To decipher the nature of these entanglements, scholars need to make tensions an explicit focus of research and to conceptualize the social and material as assemblages of multiple actors that contribute to the production of space.

With this goal, studies that adopt a constitutive approach draw from actor-network theory (Law, 1994) and CCO (Vásquez and Cooren, 2013) to provide guidance for a tension-

based approach to organizational space. First, these studies treat the social and material as performative and as emerging in the ongoing flows of spatial actions and interactions. Materiality is not a single artefact, rather it arises from multiple objects, bodies, locales, and durations of movement that choreograph space into being (Beyes and Steyaert, 2012; Vásquez, 2016). Thus, space is part of an assemblage of artefacts that bring organizing and organization into existence (Cnossen and Bencherki, 2018). Assemblage refers to the constellations or arrangements of human and material forms that come into play in constituting organizations (Law, 1994). These combinations of hybrid agents become entangled in different ways that can intensify tensions, for example, through segmenting them or tying them together in recursive knots, or attenuate them through stretching their boundaries (Sheep et al., 2017).

To illustrate, Knox and colleagues (2015) demonstrated how 'a spatial happening' at an airport shifted normative practices through a constellation of social and material performances, including casting a bag as a bomb, treating cellphones as weapons, using space for protection, and making familiar places seem strange. The restrictions placed on airport spacing and the integration of activities among these assemblages signaled a terrorist attack. Even though tensions were not the focus of this study, they emerged in the interplay of stability and instability among spatial performances that unfolded over time and culminated by curtailing a major crisis.

In another study of co-working spaces, Fabbri (2016) showed how competing pulls between getting work done at a particular workstation and developing informal interactions among employees from different companies transformed a co-working environment. Even though tensions were not the central focus of this study, Fabbri observed how organizational performances emanated from an assemblage of the social and material, such as a bell, memo

board, sheets of paper, and ritualized informal exchanges, that transformed the co-working spaces into inter-organizational collaborations.

Collectively, these studies, while not directly analyzing tensions per se, reveal clashes of opposites that arise in performing space. They also suggest that generative moves in space may be tied to choices that actors make in responding to these tensions. This literature calls for unpacking how tensions and responses to them lead to these outcomes. Thus, a focus on tensions can help researchers decipher how processes, like becoming mutually entangled or using objects to organize space, develop over time and how generative responses to them lead to particular effects.

Studies that adopt a constitutive approach also focus on modes of order that surface in aligning objects, subjects, and artefacts in organizational space (Law, 1994). Order refers to stability, predictability, and regularity in organizations while disorder encompasses flux, uncertainty, and disruptions. Order is also connected to closing off meanings or selecting particular actions while disorder arises when meaning becomes de-stabilized or open to multiple interpretations (Vásquez et al., 2016). Focusing on airport spacing, Knox and colleagues (2008) revealed how conflicting modes of ordering produced stoppages and blockages in processing luggage and customers. In a similar study on assembling spaces, Richardson and McKenna (2014) examined ordering and reordering as altering the physical and social arrangements of home and collapsing boundaries between work and home. Ways that both human and material agents positioned themselves as either inside or outside spatial boundaries also contributed to ordering (Vásquez and Cooren, 2013).

In these studies, however, order is kept distinct from disorder, even though the two processes function in tandem. Disorder is often seen as a deviation or an anomaly while order appears as rational and predictable (Cooper, 1986; Tsoukas, 1998). Yet, order and disorder are co-evolving processes and only Knox and co-authors (2015) directly investigate the

actual interplay between them through tracing the uncertainties and chaos in spatial performances that evolve in a potential airport bombing. Their study reveals that a call to order generates disorder and that spatial performances aimed at ordering do not eliminate disorder. As Kuhn and Burk (2014) illustrate in their study of a scientific laboratory building, spatial design has the potential to engender both order and disorder by enabling actions while concealing unanticipated and unmapped occurrences.

Unlike the existing literature, our study focuses directly on tensions in enacting space in an activity-based workplace. In this way, it extends the research on spatial performances through making the dialectical interplay of the three conceptions of space (Lefebvre, 1991) an explicit focus of the study and through tying tensions and responses to them to order and disorder. Moreover, we treat order and disorder as equally valued in contributing to organizing, rather than privileging only order. Of the three clusters of studies discussed above, our research embraces a constitutive lens in which spatial performances are processual, social, and material. However, to capture performances, our study privileges movement among multiple social and material actors. Thus, unlike sociomateriality, this study treats space as evolving from an assemblage of multiple material and human actors that push and pull on each other; hence, materiality exerts agency that plays a pivotal role in the emergence of and the responses to tensions. Thus, this study focuses on the ongoing interplay between order and disorder in the social and material accomplishment of space (Jeffcutt and Thomas, 1998).

*Organizational tensions and responses to them*

When tensions emerge in organizational situations, members act or respond to them in ways that have key consequences for future actions. Ways of responding to tensions are important because they are tied to how individuals and organizations create options, make decisions, take strategic action, and transform or reproduce practices (Putnam et al., 2016).

Specifically, choices that actors make when they encounter tensions can create and perpetuate vicious or virtuous cycles, evoke paralysis, and/or transform organizational situations through creative actions (Schad et al., 2016). Positive effects include creating virtuous cycles that inspire learning, creativity, and discovery; enabling future actions through altering routines; and opening up opportunities to participate (Putnam, et al., 2016; Smith and Lewis, 2011). Negative effects in managing tensions, however, can lead to vicious cycles, constrain choice, marginalize others, and close off participation.

The research in the workspace literature recommends resolving tensions through making compromises and trade-offs between them (Elsbach and Pratt, 2007: 2016). In contrast, the current work on organizational tensions reveals a broad repertoire of potential responses to tensions and urges actors to embrace rather than resolve them (Schad et al., 2016). Putnam et al. (2016) cluster this repertoire into three major strategies: (a) *either-or*, (b), *both-and*, and (c) *more-than approaches*. ***Either-or approaches*** encompass *selection* or trade-offs (i.e., in which individuals privilege one pole of a competing demand over the other), *denial* or ignoring the tensions, *separating* them, *repressing* them, or *withdrawing* from the scene. In contrast, actors who respond with ***both-and approaches*** try to *integrate* tensions through pursuing a middle ground or *vacillating* between them at different times or on different organizational levels (Poole and Van de Ven, 1989).

Organizational members who react with ***more-than approaches*** find ways to situate opposites in a new relationship or to recast them through *reframing* (i.e., actions that rename the situation by moving outside the context), *transcendence* (i.e., actions that reformulate the tensions into a new whole), and *reflective practice* (i.e., actions that raise actors' awareness of tensions and use them to promote reflexivity) or actions that create *border zones* and *ambiguity* in which employees treat opposites in a new way. Research suggests that ***both-and or more-than*** options are likely to lead to positive effects through embracing both poles

while responding with ***either-or*** approaches often results in vicious cycles and double binds that constrain future actions (Putnam, 2015).

Thus, investigating tensions and how organizational actors respond to them can help scholars sort out the interface of multiple social and material actors in new workspace programs. To study these tensions, we pose three questions:

RQ#1*: What types of tensions surface in enacting workspaces in everyday activities and how do they stem from the dialectical interplay among conceived, perceived, and lived spaces?*

RQ#2: *How do organizational members manage these tensions and how do patterns of ordering and disordering play a role in this process?*

*RQ#3: How do different assemblages of social and material actors contribute to these responses and to the order-disorder relationships?*

## Methodology

*Research site*

This study focused on Alpha, a Nordic company that provided furnishings and interior designs for organizations. As a company of over 500 members, Alpha's main functional units were sales, marketing, customer supply management, HR, and finance. The study occurred in Alpha's headquarters which had been re-designed to support a variety of work activities, such as collaborating with others, engaging in concentrated work, and sharing plans. Specifically, three years prior to this study, Alpha implemented a program of activity-based working. Thus, rather than having an assigned office desk, an employee could choose among an array of work areas depending on their task activity. Employees at Alpha orchestrated the design and implementation of this workspace system through responses to a survey about their daily interactions and work activities.

At the time of the change, Alpha profiled itself as a workplace design organization that promoted employees' wellbeing, efficiency, and creativity as well as provided office

furnishings (*Thank God It's Monday*, 2016). Thus, deciphering office needs and designing activity-based workspaces was one of Alpha's recently developed core services. Workplace design at Alpha emphasized movement among spaces based on four essential activities: communication, collaboration, concentration, and chill out (the 4C's). Communication spaces were designed for spontaneous encounters as well as scheduled meetings among colleagues and were typically furnished with acoustic dividers, such as cubicles and booths for private conversations. Collaboration spaces were rooms for meetings and workshops that were designed 'to pass creativity on'. In Alpha's marketing brochure, the company's interior designers described how different features of collaboration spaces could help employees accomplish tasks together by working collectively. Designers furnished collaboration spaces with flexible groups of tables that included whiteboards, flip charts, and digital presentation technology. Concentration areas had screens to block unwanted noise and were designed to foster thinking, writing, and individual quiet work. Chill out areas had pleasant lightning, comfortable seating, and books and magazines for inspiration. According to Alpha's interior designers, the furniture and atmosphere in chill out spaces symbolized relaxation and free flow of ideas. Drawing on these 4Cs, management and interior designers altered Alpha's headquarters though implementing this activity-based system that privileged movement and ergonomics as normative practices in everyday work.

Based on an internal survey, 60 per cent of Alpha's employees reported that they selected workspaces according to the 4Cs and moved around freely during the day; thus, the majority of employees no longer needed fixed desks. Evaluation surveys conducted six months after the change revealed that some employees really liked the activity-based system while other workers preferred to have assigned desks. To implement the new design, employees developed office rules: "When working in undesignated work stations, remember

you will not be working at the same workstation for two days in a row" and "Remember how to sit ergonomically at your desk and stand up more often".

Thus, Alpha was an ideal case to study the tensions that emerged in activity-based offices. First, its workplace design served specific purposes, such as quiet areas for concentration and open areas for collaboration spaces (see also Appel-Meulenbroek et al., 2011; Parker, 2016). Second, its design privileged moving for ergonomic reasons as well as to conduct task activities. Sensor technology on each desk monitored how long an employee sat in the same place and reminded him or her to move. The flexibility of the space in conjunction with its emphasis on movement made Alpha a particularly interesting organization for studying tensions in workspace use.

*Data collection*

This study was part of a large research project on new workspaces that focused on measuring space and tracking communication in an activity-based office. As the project evolved, the investigators observed tensions in the ways that employees enacted space. To examine these tensions in depth, a sub-group of the research team singled out and observed eleven Alpha employees from the Marketing and Product Development Unit. Members of this unit met weekly in functional teams to coordinate their work activities and met periodically in cross-functional teams for project development and interactions with clients. Employees in this unit were selected because of their work activities, the variety in their daily interactions, and the different ways that they used space. Eight of them were women, three were men, and their average age was 45 years. All employees at Alpha were generally well-informed on organizational space issues since it was part of their job functions, but in their daily interactions, they focused on their specialty tasks, i.e., marketing, developing portfolios, and selling products. We met with contact personnel to established rapport with employees and used emails to contact participants prior to the project, but we were not friends with the

managers or employees. In addition, we had no personal experience or training in spatial design or workspace arrangements prior to this research project.

To collect observational data, we shadowed each employee for five to six hours during a one-week period by following them from the start to the finish of their workdays. Shadowing is a technique in which a researcher follows and closely observes organizational members, including their stationary work as well as their movements to different organizational spaces (McDonald, 2005; Meunier and Vásquez, 2008). We observed employees' streams of action at work, including their movements, the spatial areas that they selected, their coffee breaks, interactions during meetings, and independent work at solitary stations. While shadowing, we made notes as to how employees moved, what they did, how they used the space and different objects, who they met, and what they said. Shadowing did not seem to affect the employees; sometimes they joked about the researchers' presence, but most of the time they paid no attention to the observers. In interviews, employees described their workdays during the periods of observation as typical and routine.

In addition, we developed floor plans to capture the physical world of Alpha, took photographs of spatial arrangements in the office, and collected electronic documents (see also O'Toole and Were, 2008). We used electronic and handwritten notes to record each employee's detailed actions. Our complete set of observational data included 521 events. We also recorded six meetings for approximately 80 minutes each (240 total minutes of group meetings).

After each day of shadowing, we conducted interviews with the individuals that we observed. The 11 interviews consisted of semi-structured questions that aimed to capture employees' actions in navigating spaces at Alpha. We asked how employees used different spaces and the ways that space and objects organized their daily interactions. We asked employees to reflect on their activities and the uses of spaces on the day of shadowing.

Interviews averaged 30 minutes in length. Five months after the field study, we revisited Alpha headquarters to ask the Marketing CEO additional questions and to interview Alpha's new Human Resource Manager. These two interviews lasted about 80 minutes.

In general, we used multiple methods of data collection to analyze activity-based organizing. In collecting this data, we received consent from Alpha's upper management and from each participant who was interviewed or shadowed; hence, we adhered to the university's guidelines for ethical research. Overall, we examined what people did in offices and how they moved (observational data), as well as how they reflected on and structured their decisions in organizing (both observation and interview data). Together with various documents, such as floor plans and policy guidelines, our datasets complemented each other and created a rich picture of the spatial design, rules and expectations, and enacted performances.

*Data analysis*

Since observational records were our primary data source, we first read all observational notes, cleaned the data points, and imported them into a qualitative data analysis program. We transcribed the interview data verbatim and uploaded these files into the same program that contained the observation notes. Finally, we imported pdf files of collected documents (e.g., emails, company brochure, and product documents) into the program to be analyzed with the other data sets.

To conduct the first level of coding, we labeled *streams of action* that depicted types of activities (Boyatzis, 1998). We defined a stream of action as the sustained occurrence of behaviors connected in time to a given activity, such as a target person doing something, moving around, carrying or pointing to something, and changing positions. A break or change in a given activity then signaled a new stream of action. In the interview texts, we identified these streams of action through focusing on such words as *doing, moving, talking*,

and *acting* as well as an interviewee's references to particular activities, e.g., *attending a meeting*. We moved back and forth through the data set to examine streams of action and spatial relations, both in the observational and the interview data.

In the second level of coding, we used tensions as a lens to examine the actions and their interrelationships to the three different notions of space (conceived, perceived and lived). For this study, we operationalized *conceived space* as the intended design of the 4C's, physical parameters, and arrangements of office areas linked to spatial designs. We defined *perceived* space as the rules and expectations for using space, symbolic meanings, and the norms enacted through the using of space; and *lived space* as interactions, actions, processes of movement, and spatial activities, such as meetings and workshops.

Using a constant comparison method, we looked for evidence of push-pulls or struggle among these three and any expressions of discomfort, anxiety, or stress (Fairhurst and Putnam, 2018), both in employees' activities (observation data) as well as in their language use (interview data). For example, the data revealed tensions among the design, norms, and the everyday uses of spaces in quiet versus noisy areas. We listed sets of tensions, grouped them together, and combined ones that were similar or subsumed by other pairs of opposites to decipher the four main tensions that we report. In this coding, we also documented objects, spatial parameters, barriers, furnishings, use of technology, and social performances that played into particular tensions. We tracked linkages among them, the nature of their association, and how they contributed to the development of and responses to tensions.

We also noted how these tensions aligned with *ordering* and *disordering* of employees' organizational performances. We relied on terms such as *predictable, regular*, or *stable* to identify ordering as well as activities that set boundaries, demarcated the inside from the outside, imposed rules to regulate space, and fixed the meaning of spaces. We labeled an activity as disordering when it disrupted the smooth flow of events, introduced flux and

uncertainty, or produced surprise. Thus, in this second-level coding, we compared the three conceptions of space, identified the types of tensions that surfaced in the data, documented the interfaces between materiality and social actions, deciphered the ordering and disordering practices, and linked the tensions to the navigation of space.

In the third-level of coding, we used sensitizing devices (e.g., typologies of either-or, both-and, more-than) to examine how employees managed tensions. Sometimes the tensions and reactions to them surfaced simultaneously in the data; sometimes we identified tensions in the ways that employees problematized oppositions based on their underlying conditions (Fairhurst and Putnam, 2018). We deciphered reactions to tensions based on what employees said or did and what happened to the tensions when individuals acted in particular ways. We followed the development of tension management over time to see what happened to a particular clash of opposites and compared these across situations. The types of tensions, reactions to them, and links to ordering and disordering appear in Table 1.

--- Insert Table 1 about here ---

## Research Findings

To depict the production of space at Alpha, we identified four main tensions that surfaced from different relationships among the three orientations to space (conceived, perceived, and lived). We examined how these dialectical relationships played out for each of these tensions, the different assemblages of material and human performances that entered into these relationships, the role of ordering and disordering in this process, and ways of managing tensions. Then, for each of the four main tensions, we drew an interpretation as to what was happening in the activity-based organizing.

### *Fixed versus adaptable designs*

The tension between fixed and adaptable referred to whether employees adhered to or altered spatial designs and whether the arrangements of objects, furnishings, and barriers

were fixed or adaptable in particular areas. Conceived space, as the intended design of the 4C's, clashed with lived and perceived space in producing tensions. Specifically, for conceived space, Alpha developed locations, furnishings, and layouts to fit the four basic workplace activities (4Cs): (1) communication, (2) collaboration, (3) concentration, and (4) chill out. The intended design at Alpha aligned locations and fixed layouts with one of the 4Cs (conceived space). For example, a product portfolio manager who wanted to do concentration work moved to a private workstation to complete his task. In this way, the design was isomorphic with the activity in producing space.

However, tensions surfaced from inconsistencies between the intended design (conceived) and the spatial performances (lived). In particular, some employees altered the 4Cs areas to fit their own activities, if a particular location was unavailable; thus, lived space superseded conceived design. In this process, space became disordered when employees could not find workplaces for their particular needs. For example, a product portfolio team member needed a communication area to make a Skype call and decided to sit in a spacious room in Alpha's gym to conduct the virtual meeting. On another occasion, an employee used a phone booth for virtual meetings instead of a communication area; she sat cramped in closed glass booth for over an hour in a meeting via her laptop computer. Employees also altered the intended design of a spatial area while in the midst of talking with their colleagues, for example, making a concentration area into a collaboration space. In this way, lived space disrupted the design and performance of daily activities.

Moreover, conceived and perceived space clashed when workers did not know which particular space fit one of the 4Cs. This flux and uncertainty triggered disorder as employees sought meaning regarding the conceived space. For example, a newly selected HR director of the company described the situation as follows:

"How do you know which space belongs to which area?"

> "HRD: We just know… [laughs] that's a good point. I've been told that when they made the renewal in this building they had special communication about the change and communication about the different areas, that for instance, this negotiation room is reserved for communication, but to be honest, when I joined the company, nobody specifically told me [laughs]… so it's a good point that every single individual should somehow know where they are. … as a newcomer you don't necessarily know. I was just told that 'let's meet at the chilling out zone' and I was like, 'what, where?'"

This ambiguity also stemmed from conflicting and overlapping views regarding the meanings of the spaces (perceived), for example, as two members of the marketing team noted in discussing collaboration and concentration:

> "A: We looked over these new guidelines with the team and there was some discussion about these [4Cs]… I said that I think concentration area could also be used for teamwork… is it always for individual work only? ...
>
> B: Yes, I think usually it is for individual work… But if you think of our quiet areas, it is not totally forbidden in all of them to talk."

In addition to the symbolic meanings for the 4C's, Alpha set forth rules and expectations for how these spaces should be used (perceived). Specifically, employees were not supposed to move dividers, chairs, lamps, and tables to engage in tasks; rather they could simply switch to another location that would be suitable for their activity-based needs. As a marketing team member described it, "This house has been designed in a way that no one has to start moving furniture around during the work day according to their needs…You don't have to move anything around." The guidelines regarding the use of space brought order to the activity-based office; certain activities were to take place in certain spaces.

Even though the furnishings in each area were meant to be fixed, the daily activities or lived space came into tension with perceived and conceived space. Specifically, employees often broke the rules and violated the intended design by rearranging chairs and tables and moving whiteboards to the center of the room, even though they could have moved to another room and avoided rearranging furniture and dividers. As one employee noted, "There are two larger meeting rooms on the second floor…they are very easy to modify according to your agenda. When we go to those rooms with a larger customer group, we make it suitable for those needs." In these instances, tensions emerged between the intended design (conceived), expectations for using it (perceived), and the everyday spatial practices (lived). Rather than moving to a new space and upholding the order of the 4Cs, some employees modified the rooms and redefined work areas, created disorder, and made the space-activity relationship adaptable for particular needs.

Workers responded to these tensions through *vacillating* between conceived and lived space based on the number and type of participants in a designated area. In particular, furnishings remained fixed for individual activities, such as doing concentrated work, while they became adaptable for meetings with multiple customers and colleagues outside of one's functional group. This vacillation embraced both order and disorder and reframed activity-based space as fixed and adaptable. In a similar way, employees drew on *ambiguity* to manage the tensions among conceived and lived spatial performances. Ambiguity as a symbolic meaning (perceived) arose in three ways: through a lack of clarity regarding the intended design, using the same spatial areas for multiple overlapping activities, and having different meanings related to spaces. Thus, as a way of embracing both fixed and adaptable arrangements, ambiguity kept spaces open for an array of activities. Even though the spatial design at Alpha aimed to create order through adhering to the 4Cs, ambiguity in how spaces

were used created uncertainty that produced disorder. Multiplicity and adaptability in spatial performances, then, made space both fixed and fluid.

Importantly, this flexibility of space developed materially through an assemblage of time, spatial availability, and activity-based performances. Time was critical in that employees needed spaces at particular times based on their availability. This material constraint triggered a reconfiguring of space, e.g., a phone booth for a virtual meeting, a gym for a Skype call. Time interfaced with availability of space to reconstitute activity functions that broadened the meanings and expanded the boundaries of the 4Cs, but was not really inconsistent with the intended design; in effect, it made the space workable.

*Mobile versus stationary work*

*Mobile versus stationary work* emerged in tension with each other through intersecting the intended design (conceived) with activity-based organizing in contradictory ways. Specifically, employees were supposed to use the 4Cs in accordance with the activities and material features needed to do one's job (conceived space); however, the company also developed guidelines and expectations that promoted movement to encourage employee encounters as well as foster ergonomic health (perceived space). Yet, Alpha's office rules stated that employees should shift work areas regularly and not return to the same workstation for two days in a row. Even though the rules did not specify how many times employees should move, some individuals worked in as many as *five different areas* during one day.

Thus, perceived and lived space surfaced in tension with each other in enacting stationary and mobile task activities (lived spaces). Specifically, to perform their jobs, interior designers returned to their desks and in an orderly way, marked off their spaces with heavy folders, fabric samples, and color schemes. Yet, they also enacted mobility through moving their arms and legs during breaks, stretching their backs while working, and using the

stairs instead of the elevators to go to different floors. They noted that, "the possibility to stand while working or change working position is really important for your vitality." In this way lived space enacted movement to fit the activity-based guidelines (perceived) as well as the conceived design of a concentration area. Other employees also returned to the same workstations over and over again and called certain locations "their corners," which was against office rules. In these instances, lived space overrode the guidelines for activity-based movement and the rules for enacting the 4C's (perceived).

Symbolic meanings as perceived space also increased the tension between mobile versus stationary. Mobility was seen as something that was respected and progressive whereas stationary work was viewed as old-fashioned. As one employee commented, "I would totally kill myself if I had to go to the same desk five days a week. That wouldn't work for me anymore." Another worker claimed, "Sometimes people think that your work is stuck in a rut when they hear that you stay at your work station." Yet, based on the nature of their jobs, some employees needed stationary space to carry out task activities. Thus, the perceived space of mobile and stationary work often clashed with the lived space of accomplishing particular tasks.

Alpha employees reacted to these tensions through *reframing* them, particularly, through casting mobile and stationary as intertwined rather than in contradiction with each other. Employees who remained in one location or had assigned desks created mobility by standing up and switching chairs while employees who regularly rotated workstations created stationary spaces through marking off new boundaries. Thus, employees altered the context in which work resided and recast the two opposites in terms of movement. The notion of movement, then, connected the tensions and transformed both mobile and stationary into new work spaces.

An assemblage of material objects and human performances enacted this relationship between mobile and stationary through shifting patterns of order and disorder. In particular, objects and furniture fostered mobility through the use of sensor technology in electronic workstations, tall tables with bar stools that promoted standing, and GoBags that transported employees' belongings. They interfaced with lived space through reminding employees to move, yet the mobility often fostered uncertainty and disorder in locating workstations, dropping or forgetting belongings, and breaking the work flow. For example, an interior designer, who was in a meeting with colleagues, noticed that she had left her mobile phone at a workstation upstairs and had to leave the meeting to go get it. Another example was a marketing team member who dropped her phone as she carried her laptop, coffee mug, and bag to another spot during a meeting.

These disruptions, however, shifted to order as employees made mobility appear stationary when a GoBag or a laptop computer created spatial boundaries that signaled a desk was taken, sometimes for the whole day. The use of GoBags, in particular, shifted from disorder to order through marking off and fixing meanings of spaces (perceived space) and transporting employees' belongings across spaces (lived space). Shifts in these assemblages were the triggers that served as transitions between disorder and order. Thus, movable objects acted in stationary ways to differentiate workspaces from each other while they simultaneously performed mobility functions.

The interplay between stationary-mobility and order-disorder created new spaces. In particular, it transformed the nature of several 4Cs; that is, workstations that were designated for collaboration work (conceived) became a concentration area when employees never moved (lived). Thus, casting mobile and stationary as complementary through enacting movement altered the design of some conceived spaces.

*Unpredictable versus predictable locations*

Tensions between mobile and stationary spilled into concerns about *predictable versus unpredictable locations*. Unpredictable referred to the inability to predict where employees would be amid shifting workspaces and predictable focused on spatial actions that made it possible to find employees. This tension highlighted lived space as predictable routines for negotiating the unpredictability of mobile work. Routines as regular performances created border zones as new spaces to make the unpredictable predictable. In doing so, they altered the symbolic meanings of staircases, passageways, and the cafeteria (perceived) while keeping the 4Cs in place (conceived).

As Alpha's employees engaged in serendipitous encounters and sought workspaces that aligned with their particular activities, they often had trouble locating their co-workers. To address this problem, employees enacted routines linked to remote locations or border zones that were outside the 4Cs areas. For example, one routine that made space predictable was to meet on the staircase and discuss work while moving to the café for coffee or lunch breaks (lived space). As one worker noted, "We go always to lunch at 11:30am [and meet on the stairs]." Enacting routines through these border zones, such as the staircase and the café, helped employees locate each other and brought order and predictability in the midst of uncertainty in an unpredictable work environment. These spaces paralleled liminal areas that differed from traditional informal locations through the ways that regularity of movement marked off spaces outside the 4Cs areas.

Another routine that made activities orderly and predictable was to rotate movement in a regular way among different workstations (lived space) in the 4Cs; that is, employees moved to the same workstation or meeting room at a similar time each day. For example, a product portfolio team member left his work station and walked directly to a marketing team member who was sitting on the other side of the office. He described, "How did I know that she was there? She is usually there [at this time of day]. It was a lucky guess, but that's how

we operate more or less." In effect, Alpha workers enacted order in the midst of uncertainty through developing predictable routines that created new spaces or border zones or they moved in regular patterns across the 4Cs areas to make their spatial performances predictable (lived).

An assemblage of material objects, physical spaces, and routines contributed to making the unpredictable predictable. Technology, such as instant messaging, shared calendars, and mobile telephones, often marked shifts from disorder to order through sequentially rotating them in different physical spaces. For example, an employee observed that her supervisor went offline in Lync (an instant messaging program) at the same time she was about to message her. She left her desk and went to the railing of the second floor to check the physical space downstairs. Failing to locate her, she called her supervisor on the cell phone, and asked to meet her saying, 'I'm working in this area where I often am.' Thus, technology clustered in particular ways to enable predictability; if one device failed, employees turned to another to create predictability. Sequential use of objects in particular spatial areas often became the triggers that shifted disorder to order.

Overall, employees reacted to the tensions between unpredictable and predictable through using *more-than* approaches. Specifically, they developed predictable routines in the midst of unpredictable movement, ones that created what tension researchers refer to as *third spaces* or *border zones* in which opposites could play out (lived). Locations, such as the stairs and the café, functioned as border zones that made the unpredictable paradoxically predictable. The 4 Cs, as conceived spaces, remained operative in the midst of forming new spaces through routines that embraced the tensions and made the unpredictable predictable.

*Quiet versus noisy areas*

Linked to spatial routines, Alpha developed the 4Cs by designating concentration areas for quiet, private work and open areas for noisy, collaborative interactions (conceived). To

regulate interactions and create order, managers developed expectations for the use of space (perceived). Yet, inconsistencies among these guidelines and between the conceived, perceived, and lived spaces produced tensions between quiet and noisy areas. Specifically, the rule, "Take others into account and hold long conversations and phone calls [in areas] away from [private] workstations" and "Always if you are collaborating with someone, then you [should] leave the designated [quiet] desk areas, so that you don't disturb others" ran counter to the guideline, "Communication at workstations is also necessary, so understand its necessity and importance" (perceived space). Daily practices in which loud telephone calls interrupted quiet areas, routines of humming or mumbling in private workstations, and fluctuations between silent work and noisy laughter (lived space) reinforced this ambiguity and uncertainty and created disorder. Thus, inconsistency among guidelines (perceived) created ambiguity that confounded the intended design of quiet and noisy areas.

Expectations regarding movement at Alpha also shaped perceptions regarding quiet and noisy areas. Some individuals saw interruptions as normal; hence, employees could easily move if they needed a quiet area for concentrated work. To illustrate, a marketing team member remarked, 'According to studies, there are interruptions every 11 minutes in open offices… [but] I can seek a place where I'm not being interrupted, if I don't want to be.'

In another instance, an employee left a closed, quiet workstation (conceived) to get materials in an open area. Working in silence without interruptions quickly changed to continual loud noises as colleagues asked for his opinion, showed him images on their computers, and invited others to join the conversation (lived space). Moreover, in collaboration spaces, employees who whispered and spoke softly set the tone to alter the communication norms for these spaces. In one instance, as many as sixteen people discussed a work topic in a public area as if it were a quiet space while one person's loud voice disrupted other colleagues who were in concentration areas (lived space). Thus, the tensions

among conceived, perceived, and lived spaces blurred the boundaries of the 4Cs and altered the practices in quiet and noisy areas.

In addition, assemblages of movement and physical spaces, such as borders and passageways, confounded quiet and noisy areas. Low partitioned walls adjacent to busy passageways (conceived) revealed that the barriers were not doing what they were supposed to do. As a consequence, the walls fostered social practices like interruptions (lived) that ran counter to the design for quiet spaces (conceived). Similarly, the physical design of open, public spaces in the middle of private workstations (conceived) created disorder and blurred the boundaries between quiet and noisy. Finally, objects, such as headphones, blocked interruptions in quiet areas, but in doing so, confounded noisy with quiet spaces (lived space), even encouraging noise since folks could put on headphones to make it quiet. For the most part, courteous performances in public places redefined space as quiet, and disturbances in quiet areas required workers to move to different locations or to put on their headphones in order to concentrate.

To manage tensions between quiet and noisy areas, employees relied on *more-than* approaches, particularly, redefining and transforming space through embodied normative practices, moving around, or using objects and physical space to connect noisy and quiet areas (lived space). Assemblages of material and human actors played a key role in redefining space through low partition walls that failed to function as barriers, public areas developed inside private spaces that confounded activities (conceived), and movement that reshaped passageways (lived). Employees accepted the ambiguity that emerged from the intersections of conceived (i.e., walls and passageways) and perceived spaces (e.g., inconsistent guidelines, interruptions as inevitable) with their own performances (lived space). Hence, they connected and held opposite poles together through enacting routines in which quiet and noisy recursively shaped each other.

In this way, employees created flux and opportunities to redefine and transform the functionality of the 4Cs. At times, noisy collaborations occurred in the concentration areas and quiet work in the collaboration spaces, but at other times, employees adhered to the initial design of the 4Cs (conceived). Assemblages of particular material and human factors facilitated these redefinitions as well as the shifts between order and disorder. To reinstate order, employees drew on norms and expectations regarding movement (perceived), shifted their locations to other quiet areas, or used headphones to block out the noise (lived).

Overall, Alpha employees enacted four main workplace tensions in their activity-based organizing. In doing so, they struggled with inconsistencies in the design, the rules, expectations for using space, and spatial performances (quiet vs. noisy; fixed vs. adaptable). Specifically, the expectation to move regularly clashed with the need and availability of particular types of spaces for accomplishing work (fixed vs. adaptable; mobile vs. stationary) and with the need to locate colleagues (predictable vs. unpredictable). Responses to these tensions led to creating border zones and new spaces, developing routines, redefining spaces, and embracing uncertainty and ambiguity. Importantly, assemblages of actors, both material and human, contributed to tension management through triggering redefinitions of the 4Cs, shifting disorder to order and order to disorder, and transforming opposites to make them complementary.

## Discussion and Implications

This study centers on the ways that organizational members navigated tensions in spatial performances of activity-based organizing. As such, it examined the production of space as the dialectical interplay among conceived, perceived, and lived spaces (Lefebvre, 1991). Past studies that draw from Lefebvre's theory typically focus on only one or two of the three types of spatial production (Beyes and Steyaert, 2012). Our analysis, in contrast, revealed that

the dialectical interplay among the three orientations produced tensions that led to reconstituting workspaces in different ways.

In response to RQ1, we discovered that perceived inconsistencies between the workspace design (conceived) and the rules/guidelines for enacting it (perceived) played a key role in producing tensions in spatial performances (lived). These inconsistencies emanated from discrepancies among the 4Cs (conceived), rules and expectations for using them (perceived), and norms that promoted regular movement (perceived), as was evident in the tensions, mobile versus stationary work and quiet versus noisy areas. Employees drew from these inconsistences to develop alternative meanings, create ambiguities, and produce space in ways that sometimes seemed opposite of what designers intended (e.g., making concentration areas noisy and collaboration spaces quiet). Thus, lived spaces often capitalized on incongruences between conceived and perceived spaces.

In addition, symbolic meanings of work areas (perceived space) intensified the tensions between conceived and lived spaces; specifically, the negative connotations linked to stationary work produced tensions between mobile and stationary. These meanings also created ambiguity and fostered creativity, for example, when interior designers made stationary space mobile through shifting chairs, standing, and moving around in their offices. In some instances, the three orientations to space would be isomorphic or aligned with each other, especially in shifts from disorder to order in managing tensions, for example, when employees moved from noisy collaboration areas to quiet concentration spaces and when they developed routines consistent with the 4Cs. In these instances, lived space paralleled conceived design and matched the rules and symbolic meanings for these spatial areas.

Employees managed workplace tensions (RQ2) through a variety of *more-than* approaches, including *reframing* opposites as complementary (mobile-stationary), *redefining* functional spaces as both fixed and adaptable as well as quiet and noisy, and creating *third*

*spaces* or border zones through enacting routines (predictable-unpredictable). Each of these approaches embraced and held opposite poles together through accepting uncertainty and ambiguity. Moreover, uncertainty often triggered disorder as exemplified by a lack of available space for a virtual meeting, redefining particular areas as both quiet and noisy spaces, and difficulty in locating a supervisor. Disorder then served as a call to order that came from creative ways of reconstituting space, using objects such as headphones to block interruptions, and making a phone booth into a virtual meeting space.

The assemblages of material and human actors contributed to the management of tensions at Alpha through triggering both disorder and order (RQ3). Assemblages of objects and furnishings often enabled employees to embrace opposites through making mobile work seem stationary (e.g., GoBags used to transport belongings were also used for marking off boundaries and claiming space) and allowing quiet spaces to become noisy (headphones that blocked and permitted interruptions). Materiality also fostered disorder through low partition walls and adjacent passageways that disrupted concentrated work and workstation sensors that cued employees to move.

Yet, assemblages of artefacts also promoted order through using technology like shared calendars and mobile phones to move from unpredictable to predictable locations. In this study, assemblages often introduced new meanings that shifted how artefacts, space, and human activity came together and stretched or transcended boundaries of tensions, especially when material features of space exerted influence over action (Sheep et al., 2017). Thus, shifts in the assemblage of objects and actions served as breakpoints, passages, and transitions from one milieu to another in the production of space (Fabbri, 2016) and from disordering to ordering, as occurred in Knox et al.'s (2015) study of an organizational crisis.

Navigating tensions in an activity-based office design revealed two general findings about space. First, it demonstrated how new and expanded workspaces grew out of embracing

opposites and responding creatively to them. For two tensions, fixed versus adaptable and predictable versus unpredictable, employees broadened their meanings of the 4Cs, expanded boundaries, and enacted routines outside designated areas; hence, the activity-based design remained operative. For mobile versus stationary and quiet versus noisy, however, the tension management strategies reframed and transformed the 4Cs to make them a new whole or a mutable space. As this finding suggests, the 4Cs were not empty shells, rather they exerted influence in redefining, altering, developing new spaces, and reconstituting the 4Cs.

Second, this study showed how the presence of the 4C's remained beneficial to employees who managed their work through the use of spaces. As a marketing team member noted, "These spaces…have changed the way we work…, not with a pile of "to do" lists on my desk, but with designing even the way that I start my workday based on spaces." In this way, having the activity-based office design was critical for employees to plan and execute their everyday work practices.

*Implications for theory and research*

This study builds on the dialectical relationship among Lefebvre's (1991) three conceptions of organizational space. Through embracing a tension-management lens, it privileges movement in navigating the contradictions that surface from the three and thus, it adds to Lefebvre's (1991) theory in four ways. First, it shows how dynamic processes re-conceptualize space and enable organizational members to move seamlessly among the three spatial realms (Costas, 2013; Tyler and Cohen, 2010). Thus, movement is a key feature that both produces and holds tensions together. Second, unlike the majority of research that adopts Lefebvre (1991), this study focuses on the micro-processes of everyday actions and interactions that produce space as a holistic performance. Yet, unlike past research (Komporozos-Athanasiou et al., 2018), it shows how organizational members embrace and manage tensions in their everyday interactions, rather than resolving them. Resolving suggests that tensions

disappear while managing them focuses on moving forward, making decisions, and embracing opposites (Schad et al., 2016). Third, unlike past research (Richardson and McKenna, 2014), this study also shows that the production of space extends beyond order or performing activities that stabilize actions. Rather, disruptions and divergences (e.g., interruptions, searching for rooms or colleagues) foster uncertainty; disorder also leads to managing tensions in different ways, typically through reframing or transcending oppositions. Fourth, this study adds to Lefebvre's (1991) work through incorporating assemblages of material, space, and human actors as constituting organizational performances (Cnossen and Bencherki, 2018). Similar to Vásquez (2016), moments when assemblages of artefacts and physical spaces clash with lived spaces often trigger shifts between order and disorder that alter organizing processes and re-constitute space.

This study also has implications for research on new workspaces. Specifically, it suggests that findings on territoriality, nesting, and hot-desking might work differently in activity-based organizing. Even though employees have difficulty locating colleagues (Rolfö et al., 2018) and often claim spaces (Brunia et al., 2016) in open offices, regular movement in activity-based systems may serve as a self-regulatory resource that buffers against exhaustion, crowding, and lack of privacy prevalent in open spaces and hot-desking (Khazanchi et al., 2018). In our study, nesting tendencies paralleled the enactment of 'temporary boundaries' between regulated and unregulated work areas (Munro and Jordan, 2013) or acted as smooth spaces for inhabiting territories (Deleuze and Guattari, 1987). Like nomadic movements, they became open and difficult to regulate. For example, moving while remaining stationary became a type of smooth space that was fluid, but temporarily inhabited. In effect, flexibility that stems

from regular movement and tension-based performances in activity-based designs may provide options for dealing with issues of nesting, privacy, and territoriality in workspaces.

*Contributions to organizational tensions and contradictions*

In addition, this study contributes to the growing literature on organizational tensions, paradoxes, and contradictions. Similar to past research (Schad et al., 2016), it shows how embracing rather than denying tensions leads to creative options, for example, developing border zones, engaging in both fluidity and fixed spaces, generating ambiguity through re-purposing intended designs, and developing multifunctional areas. It adds to recent publications that call into question the notion of balance as the most effective response to tensions (Cunha and Putnam, 2019, Putnam et al., 2016). Balancing opposites embodies an equilibrium model that favors order and rationality to manage tensions rather than exploring the dynamic relationship between order and disorder.

Furthermore, this study answers the call for paradox and tension scholars to focus on the role of materiality in managing tensions (Fairhurst et al., 2016). Specifically, assemblages, such as location, furnishings, and workstations, participate in constituting space as both fixed and adaptable. These constellations are not just associations among hybrid actors (Kuhn and Burk, 2014), but play a pivotal role in reframing tensions, such as quiet-noisy and predictable-unpredictable, through shifting meanings and transcending contexts.

This investigation also contributes to research that treats spatial performances as recursive processes of ordering and disordering in routine situations, not just organizational crises (Knox et al., 2015). Thus, it moves beyond studies that treat space as only a mode of ordering (Law, 1994; Richardson and McKenna, 2014; Vásquez and Cooren, 2013). New spatial productions were often disorderly as employees created border zones on stairs and in the café and developed zones of ambiguity to make spaces multifunctional. Importantly, managers responded to these disorderly practices through treating space as fluid and adaptive

rather than enforcing the rules or disciplining the employees who broke them. Tighter control through strict adherence to the rules might have been counter-productive to developing a workable and useful set of spatial practices in organizing.

*Limitations and directions for future research*

Several limitations of this study point to opportunities for future research. In particular, the fact that activity-based work was part of Alpha's core service could have made employees sensitive to or positive toward managing tensions in workspace design. This sensitivity might engender creative responses to incongruences and lead to a bias in the research findings. Future investigations might sample organizations in which employees are less aware of activity-based designs. This study also noted differences between designers and marketing and sales employees in their generic versus specific orientations to the 4Cs design. Future studies, then, might investigate occupational differences in enacting tensions in activity-based workspaces. In addition, future research might observe spatial performances over a longer period of time to track changes in tension management. Even though we shadowed employees for a number of hours each day, observations over extended time might reveal complex patterns of tensions as well as differences across organizational units.

In addition, our findings regarding movement suggest that future studies might focus on the flows and rhythms of organizational spacing. In particular, the type and rate of flow in enacting spaces are often in tension with task functions or organizational outputs (Knox et al., 2007); that is, spatial performances often end up in turbulence (disorder) when activities overflow. Flow is also tied to types of movement, particularly linear as opposed to circular rhythms (Lefebvre, 2004). Future research then might examine the transitions between flows and rhythms in the use of workspaces (Jakonen, et al., 2017). Research on flow and rhythm raises questions about the coordination of movement in space. Specifically, what are the mechanisms that aid in coordinating past, present, and future activities in conducting spatial

performances of work (Schmidt and Simone, 1996)? How do these coordination mechanisms differ in diverse office designs? Future studies, then, could examine coordination and its role in spatial practices. Overall, this research adds to the growing body of work on process studies of organizational spaces. It encourages scholars to treat space as fluid, malleable, and constituted through actions and interactions among an array of performances, assemblages of materiality, and embodied practices.


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**Table 1. Enacted Tensions in the Production of Space**

| Enacted Tensions | Dialectical Relationships for Spatial Triad | Responses to Tensions | Order-Disorder |
|---|---|---|---|
| 1. Fixed vs. adaptable designs | Inconsistencies led to lived space superseding conceived design.<br><br>Conceived and perceived space clashed as employees developed new meanings regarding spatial design. | **Both-and:** ***Vacillating***<br>Based on the number and type of participants; furnishings remained fixed for individual tasks and became adaptable for activities with customers and employees outside the functional group.<br><br>**More-than:** ***Enacting ambiguity***<br>Using the same areas for multiple functions; embracing both fixed and adaptable designs kept spaces open to optional activities. | Disorder occurred when employees could not find workspaces for their particular activity. Disorder shifted back to order when space was reframed as adaptable.<br><br>Uncertainty in identifying which one of the 4Cs fit a particular area (conceived) and confusion in the symbolic meanings of the spaces (perceived) triggered disorder. Order stemmed from broadening the meaning of spaces. |
| 2. Mobile vs. stationary work | The intended design (conceived) clashed with the rules that promoted movement (perceived).<br><br>The symbolic meanings of mobile and stationary work (perceived) clashed with enacting lived spaces. Often lived space overrode the perceived space. | **More-than**: ***Reframing***<br>Casting mobile and stationary as complementary rather than in contradiction by altering the context in which they resided.<br><br>Treating both of them as types of movement connected the tensions and transformed them into new workspaces. | An assemblage of material objects and human performances shifted order to disorder and back. Objects and furniture fostered both mobile and stationary, e.g., GoBags transported employees' belongings, yet were used to mark spaces. Shifts in assemblages triggered transitions between disorder and order. |

| | | | |
|---|---|---|---|
| 3. Unpredictable vs. predictable locations | Lived space developed predictable routines in unpredictable mobile work. Routines as regular movements created border zones and altered boundaries of perceived space (symbolic meanings of staircases, passageways, and the cafeteria). | **More-than**: ***Developing third spaces*** Creating predictable routines that formed border zones in which opposites played out while keeping conceived spaces (4Cs) in place. | Enacting routines in border zones and rotating movement in regular ways across workstations created order.<br><br>Assemblages among material objects, physical spaces, and routines enacted shifts between disorder and order. |
| 4. Quiet vs. noisy spaces | Conceived space (the 4Cs), perceived space (office rules and expectations), and lived space (daily practices) produced tensions between quiet and noisy areas. | **More-than**: ***Embracing ambiguity to transcend space*** Redefining and transforming space through embodied normative practices, moving around, or using objects and physical space to connect noisy and quiet areas. Employees held opposite poles together and embraced the ambiguity that emerged from the intersection of the three conceptions of space. | Inconsistencies among office design, rules and expectations, and daily performances of space created disorder. Assemblages of movement and physical spaces confounded quiet and noisy areas and created disorder; order was reinstated by drawing on norms for movement, shifting locations, and using objects like headphones. |