Theory Article

From coordinating in space to coordinating through space: A spatial perspective on coordinating

Tania Räcker[1] iD **, Daniel Geiger[2]** iD
and David Seidl[1] iD

Abstract

The spatial turn in organization studies has redefined our understanding of physical space, portraying it no longer as a passive backdrop for organizational actions but as actively produced through organizational actions and as shaping organizational actions in turn. In contrast to other areas of organization studies, research on coordination has not yet harvested the potential of this spatial turn for its theorizing, still treating physical space predominantly as context. In this article we develop a spatial perspective on coordination that acknowledges how coordination practices (re)produce physical space, indirectly affecting coordination outcomes; and how spatial production might even be purposefully employed for coordinating. Building on Lefebvre's theory of spatial production, we theorize how actors might purposefully coordinate through configurational processes of designing, enacting and shaping their collective experience of physical space. This conceptual shift from coordinating *in* space to coordinating *through* space has important implications for coordination research and practice.

Keywords

coordination, coordinating mechanism, Lefebvre, physical space, spatial perspective, spatial practice

[1]University of Zurich, Zürich, Switzerland
[2]University of Hamburg, Hamburg, Germany

Corresponding author:
David Seidl, University of Zurich, Plattenstrasse 14, Zürich, 8032, Switzerland.
Email: david.seidl@uzh.ch

Introduction

Coordination, defined as practices aimed at integrating interdependent activities (Okhuysen & Bechky, 2009), is central for accomplishing work collectively (Reed, 2006). It is accordingly at the heart of what most if not all organizations are about. The existing body of research on coordination examines how coordination is accomplished through the creation of integrating conditions between interdependent activities. In doing so, it has tended to treat physical organizational space, defined as the 'physical work environment' (Carlopio & Gardner, 1992), as a given context or backdrop to the processes through which coordination unfolds (e.g. Bardram, 2000; Comfort et al., 2004; Faraj & Xiao, 2006).

In contrast to how physical space is treated in the coordination literature, the recent spatial turn in organization studies shows that, rather than constituting a given context of organizational action, physical space is being *produced through* organizational action (e.g. Beyes & Holt, 2020; Beyes & Steyaert, 2012; Cnossen & Bencherki, 2019) and 'facilitat[es] and constrain[s] organizational action' in turn (Elsbach & Pratt, 2007, p. 182). Hence, the purposeful production of physical space is seen as a powerful means for shaping organizational actions such as work processes and social interactions (Taylor & Spicer, 2007; Weinfurtner & Seidl, 2019).

For coordination research, it is therefore time to embrace this spatial turn and to overcome its somewhat simple concept of physical space.[1] Thus, in this paper we propose a spatial perspective on coordination that systematically acknowledges that coordination practices, like all practices, inevitably produce space, affecting coordination outcomes in turn. Consequently, we argue that physical space may even be *purposefully produced* to achieve the integration of activities. Building on Lefebvre's (1991) theory of spatial production, we identify three distinct ways in which the production of physical space contributes to coordinating: actors may aim at integrating activities by either designing, enacting or

shaping the experience of the relevant physical space. Combining these insights with the dimensions of physical space (i.e. boundaries, distance, movement) we reveal how distinct configurations of spatial production facilitate coordination.

In the following, we will first outline how coordination research has treated space as a contextual factor. We then explain the spatial turn in the wider organization literature, showing its relevance for the study of coordination. On the basis of those connections, we develop a conceptual framework that outlines the role of space in space-focused and non-space-focused coordination practices and discuss the wider implications of the proposed spatial perspective for coordination research. Ultimately, our paper seeks not only to advance our theorizing on the role of space in coordination, but it also proposes a novel understanding of how coordination unfolds and, by doing so, expands the repertoire of coordinating mechanisms.

From Space as Context to Space as Product of Coordinating

Building on practice theory, coordination can be understood as practices that are directed at the telos, i.e. 'ends that participants [. . .] pursue' (Schatzki, 2002, p. 80), of integrating differentiated activities to realize a joint outcome. Foregrounding the practices of coordination rather than the outcome of those practices, some coordination scholars also speak of 'coordinating' rather than 'coordination' (Jarzabkowski et al., 2012). Coordinating achieves integration by enacting so-called 'coordinating mechanisms', such as rules, roles or routines, that are meant to create three integrating conditions (Okhuysen & Bechky, 2009): First, coordinating creates clear lines of *accountability*, such that the involved actors know who is responsible for what activities. Second, it creates *predictability* about the way the different activities unfold. Third, it achieves a *common understanding* about the task and how its individual parts fit together. Consistent with a practice-theoretical

perspective, the coordinating mechanisms creating these integrating conditions are not understood as reified 'things' that arise prior to coordinating but are constituted *in* and *through* coordinating practices as ongoing activity (Jarzabkowski et al., 2012, p. 920).

While the way in which traditional coordinating mechanisms achieve integration is well understood, physical space, to date, is largely treated as the context in which coordination practices unfold. For example, Bechky and Okhuysen (2011, p. 239) showed that for SWAT ('special weapons and tactics') teams the characteristics of the physical location in which they operate affects how team members coordinate their activities during missions. Similarly, Danner-Schröder and Geiger (2016, p. 636) described how coordinating emergency response efforts after earthquakes depends on the particularities of the physical location, as actors often must operate in settings with 'almost completely collapsed structures [such as a] collapsed warehouse'. Likewise, in their study on the coordination involved in setting up the Olympic Games, Parent and MacIntosh (2013, p. 227) highlighted the importance of space as context of coordination by discussing how the Olympic Games workforce is given 'venue specific training' for coordinating various aspects of preparing the event. In these exemplary studies, physical space was treated as a contextual factor that shaped team members' coordinating activities. On the one hand, such context served in providing important 'information' (Bechky & Okhuysen, 2011, p. 239) upfront that informed coordinating activities ex ante (such as setting up plans and routines); on the other hand, it also shaped their coordination in situ, as team members adjusted their coordinating activities (such as role performances) to the actual spatial surroundings.

Other studies recognize physical space as context that affects coordinating by asserting how the physical distance between collaborating actors can impede efforts of integration (e.g. Clark & Brennan, 1991; G. M. Olson & Olson, 2000; Rico et al., 2008). As far back as 1943, the later president of Bell Laboratories attributed the failure of coordination between the activities of the R&D and manufacturing units to their spatial separation (Knowles & Leslie, 2001). Similarly, the study by Srikanth and Puranam (2011) is concerned with coordination in settings where communication is generally limited and hampered because of the geographic distance between actors. Likewise, Wolbers et al. (2018) and Wolbers et al. (2013) recognize as part of their studies that physical distance between actors hampers coordinating response operations in dynamic and evolving crisis situations.

This conceptualization of physical space as context reflects the Euclidean notion of space, which treats space as a given, passive and neutral setting within which activities take place (e.g. Taylor & Spicer, 2007). According to this view, space is understood as 'unaffected by whatever may fill it' (Lefebvre, 1991, p. 296). In contrast to that, the spatial turn in organization studies, which is in line with practice-theoretical understandings of space (e.g. Giddens, 1984; Schatzki, 2009), reconceptualizes space as 'more than the theatre, the disinterested stage or setting, of action' (Lefebvre, 1991, p. 410), but as 'a (social) product' (p. 26). According to this perspective, actors, through their activities, interactions and social relations, actually produce and shape organizational space rather than merely operating in it (e.g. Beyes & Holt, 2020; Cnossen & Bencherki, 2019; Dale, 2005; Gieryn, 2000; Massey, 2005; Taylor & Spicer, 2007). At the same time, organizational space is also 'generative' (Kornberger & Clegg, 2004). Space shapes activities, interactions and social relations and can therefore be regarded as constitutive of organizing. This spatial turn was significantly influenced by Lefebvre's theory of spatial production. As Lefebvre (1991: p. 73) explained: '[I]tself the outcome of past actions [. . .] space is what permits fresh actions to occur, while suggesting others and prohibiting yet others.' And as he specified further (p. 143): 'Space "decides" what activity may occur [. . .] Space lays down the law because it implies a certain order [. . .] Space commands bodies [. . .] It is produced with this purpose in mind; this is its *raison d'être*.'

Taking these insights seriously implies that coordination research can likewise no longer treat space simply as given context for coordinating but has to acknowledge that, like all organizational practices (e.g. Allen & Brown, 2016), *coordination practices inevitably produce space and that this spatial production influences coordination outcomes*. This understanding is already evident in a range of coordination studies, yet mostly without being explicitly accounted for. For instance, in their study on the coordination in an emergency-response operation, Wolbers et al. (2018) describe how the ad hoc change in the formal coordination procedures of the police force and firefighters resulted in a change of the relevant physical space within which they operated. Due to bad weather the residents of a building that had caught fire were evacuated to a nearby gym which was further away than normal procedures would have suggested. As a result, the physical boundaries within which the operation was taking place were changed and enlarged. This change, as the authors outline, had direct implications for the ongoing coordination of the response operation. Similarly, the body of research that is interested in how people interact around objects and representations (e.g. Bechky, 2003; Carlile, 2002), such as engine prototypes and drawings (Henderson, 1991), shows how such interactions inadvertently produce dedicated coordinating spaces by tying coordinating efforts to particular physical spaces (temporarily or permanently).

Coordination practices may furthermore (re) produce space by (inadvertently) influencing actors' movement trajectories, as various studies imply. For example, Faraj and Xiao (2006) show how protocols and rules establish a sequence of activities in trauma centres, which, in turn, shape the movement trajectories of the involved experts within the relevant physical space. Similarly, Rico et al. (2008, p. 167) describe how the generation of team situation models that are meant to coordinate by 'generat[ing] predictions of others' actions and task demands' in situ inevitably also shapes team members' physical movements; as 'midfield and defender players anticipate the need for providing forward players with well-centered passes to shoot at the opponent's goal', they move so as 'to increase opportunities for such passes'.

Taking into account that coordinating, like any practice, produces space and that space shapes activities, it is important to recognize that the production of space may not only be a by-product of coordinating but can also be a process or *mechanism* of coordinating: i.e. *organizational actors might purposefully produce space as a way of integrating interdependent activities*. In fact, the coordination literature has already shown that organizational actors sometimes deliberately create physical proximity as a way of integrating activities. By putting people into close proximity with each other the idea is that one can positively influence interaction and the exchange of information (e.g. Kraut & Streeter, 1995; Peltokorpi, 2014; Pinto et al., 1993; Tsai, 2002; Valentine & Edmondson, 2015). The ability to both exchange information and interact with others helps integrating activities because it allows 'to confirm the specific details of time, costs, and actions necessary to achieve a shared goal' (Comfort et al., 2004, p. 64). In this way, proximity gives rise to the integrating conditions of accountability, predictability and common understanding among the actors involved in a joint task. For example, in the study by Srikanth and Puranam (2011, p. 8501) co-locating people facilitated the emergence of a *common understanding* about the common task and fostered the 'reciprocal *predictability* of action' (p. 850; emphasis added), two of the integrating conditions explained above. Together, these examples from the coordination literature show already a largely implicit appreciation of physical space as produced in and through coordination.

Configurations of Spatial Production in Coordinating

Against the background of the described conceptual shift from physical space as context to physical space as product of practices, our aim in the remainder of the paper is to expand our understanding of the role of physical space in

coordinating. For this purpose, we will elaborate on the different modes and dimensions of spatial production in coordinating, which we bring together in a synthesizing framework.

We have already seen that the coordination literature has acknowledged how physical proximity may foster integration. However, apart from distance (of which proximity, i.e. close distance, is just one end of the spectrum), boundaries and movement are two further constitutive dimensions of space (Weinfurtner & Seidl, 2019) that may be engaged in coordination efforts. Therefore, to advance a comprehensive spatial perspective on coordinating we need to acknowledge all three dimensions of space: distances, boundaries, movements.

Distance refers to 'space as something that exists between different points' (Weinfurtner & Seidl, 2019, p. 2). It 'lies between positions within a given space or between different spaces' (Weinfurtner & Seidl, 2019, p. 4). The extent of the distance a space covers and how positions are distributed in space, i.e. how close or far actors or other elements of an activity are positioned in space, influences what happens in space (Weinfurtner & Seidl, 2019). Accordingly, by influencing physical distance one can influence organizational activities, potentially via creating integrating conditions for them. With Stephenson et al. (2020, p. 814) we may refer to 'activities that expand or shrink spatial reach' also as 'scaling'.

Boundaries define a space by demarcating it and determining its reach (Weinfurtner & Seidl, 2019). As Stephenson et al. (2020) remark, boundaries are 'produced through boundary work' (p. 811), i.e. through 'activities that demarcate spaces of organizational practices and relations' (p. 814). Activities of boundary work and the boundaries that result shape spatial configurations, including the assemblage of actors, practices and physical attributes that are joined together (Stephenson et al., 2020) and regulate where and how organizational activities take place. In this way, such configurations hold together the set of activities that make up a collective task and facilitate their predictability. As Weinfurtner and Seidl (2019, p. 4) argue;

'specific spaces can host organizational activities because their boundaries allow specific actions to take place within them'. This dimension implies that actively setting the boundaries of a space differentiates what happens in that space as well as what is excluded from it (e.g. Balcik et al., 2010; Lefebvre, 1991, p. 36), thus bringing together or keeping apart certain activities (Langley et al., 2019). Boundary work therefore allows for the identification of accountabilities, such as who is part of a team at a particular point in time (e.g. Valentine & Edmondson, 2015). As such, setting boundaries facilitates common understanding among actors involved in a joint task. As Langley et al. (2019, pp. 704–705) summarize:

> Boundary work is important because of its consequences for the dynamics of collaboration, inclusion, and exclusion that can in turn influence work practices [. . .] We argue [. . .] that the notion of boundary work can contribute to improving the way we address [. . .] integration in organizations.

Movement, finally, occurs 'between points or boundaries [. . .] and can be conceived as a trajectory within and between spaces' (Weinfurtner & Seidl, 2019, pp. 2–4). According to Stephenson et al. (2020, p. 810) 'movement refers to the actions, practices, events, episodes, flows, trajectories and performances that create, maintain, and transform space'. These activities of movement and the resulting movement paths can determine the flow and order of interrelated activities (e.g. Bouty et al., 2012; Wilton & Cranford, 2002) and thus help to create predictability and a common understanding about activity sequences and accountabilities.

The spatial framework by Weinfurtner and Seidl (2019), as outlined, offers an operationalization of the concept of space; it conceptualizes *what* space is and allows us to suggest that not only physical distance, as recognized in the extant coordination literature, but also physical boundaries and movements may be considered potential coordinating mechanisms. Yet, grasping the dynamics of deliberate coordinating

through space requires conceptualizing also the types of activities through which space is being shaped; i.e. also conceptualizing *how* space is being produced. Just like the coordinating mechanisms of plans and rules work through the associated activities of setting up and enacting plans and rules (e.g. Faraj & Xiao, 2006; Kellogg et al., 2006), coordinating through space is realized through actors (deliberately) shaping distances, boundaries and movements. To capture those deliberate practices of shaping space, we suggest drawing on Lefebvre (1991) who outlines the spectrum of *how* space can be 'produced' (e.g. p. 26) or shaped 'in and through [people's actions]' (Kingma et al., 2018b, p. 307).

According to Lefebvre's (1991) theory of spatial production, we can conceptually distinguish between the – always interrelated – practices of designing space, i.e. decision-makers' planning of space; enacting space, i.e. the in situ enactment of space by the people who inhabit the respective space; and shaping the experience of space,[2] i.e. shaping the connotations that are associated with a particular space, including the emotions, images, meanings and symbols that individuals associate with spaces. Combining these three Lefebvrian modes of spatial production (as ways of conceptualizing the 'how' of spatial production) with the three dimensions of space outlined above (conceptualizing the 'what' of spatial production) allows us to map the potential spectrum of coordinating through space; i.e. it enables us to explore how space can be used deliberately to produce the three integrating conditions (accountability, predictability, common understanding) that lead to the integration of organizational activities.

With the telos of coordinating, *designing* space refers to processes of achieving integration through designing distances, boundaries and movement paths in view of the space's intended integrative 'function' (Lefebvre, 1991, p. 144). This implies arranging distances, boundaries and movement paths so that they shape how people conduct their activities (Panayiotou & Kafiris, 2011). Typically relying

on maps or plans (Lefebvre, 1991), designed space (i.e. the outcome of the practice of designing space) thus structures work processes and social relations. Designing space coordinates directly if the design steers the interdependent activities quasi-automatically. For example, 'assign[ing] an exact spot to each activity' (Lefebvre, 1991, p. 45) creates as a layout accountability, predictability and common understanding about that activity (e.g. Bouty et al., 2012; Wilton & Cranford, 2002). Purposefully designing physical space can also achieve integration indirectly by influencing the degree to which people in that space interact and can observe each other's activities (e.g. Bitner, 1992; Bosch-Sijtsema & Tjell, 2017; Grajewski, 1993; Hatch, 1987; Våland & Georg, 2014), thereby creating a basis for common understanding among collaborating actors, predictability about activity sequences and accountabilities for particular activities.

With the telos of coordinating, *enacting* space refers to achieving integration through targeted 'spatial [. . .] performance' (Lefebvre, 1991, p. 38), i.e. through the situated enactment of physical distances, boundaries and movement paths according to in situ coordination requirements. As Taylor and Spicer (2007, pp. 336–337) stress, 'the workplace is brought into being through patterns of spatial [enactment] such as social interaction and the improvised layout of movable items'. Enacting physical space may thus facilitate (or hinder) the integration of organizational activity by directly shaping and configuring the relations of the actors involved in the respective task as they are carrying out their interconnected activities. It can in turn also shape the common understanding that these actors develop and need in order to effectively align activities. And, finally, the enactment of space in this way, connected to the enactment and performance of joint activities, can also facilitate the distribution of responsibility and increase the predictability of sub-tasks.

With the telos of coordinating, *shaping the experience* of space refers to achieving integration through deliberately shaping the experiences
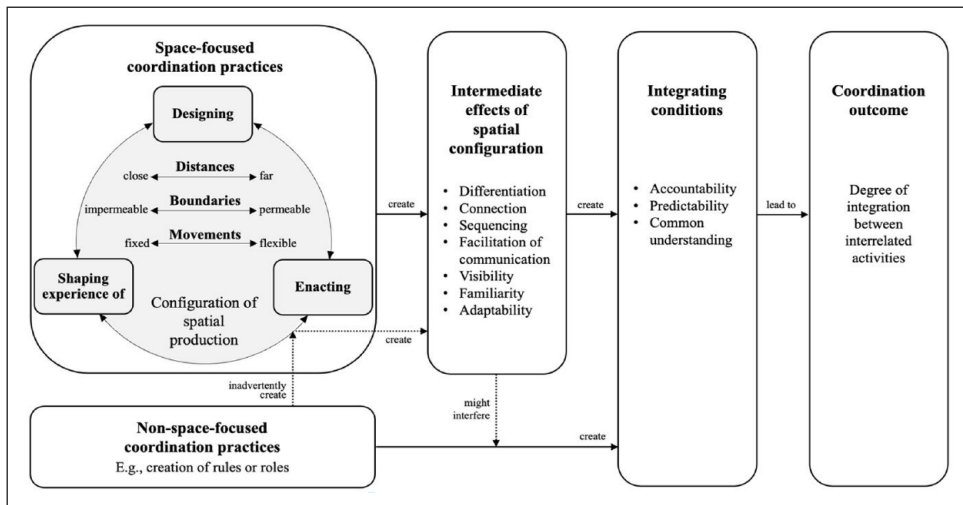
Figure 1. Framework: A spatial perspective on coordination.

that actors have of physical distances, boundaries and movements. Ensuring that all actors involved in a joint task – the '"inhabitants" and "users"' (Lefebvre, 1991, p. 39) of that space – experience distances, boundaries and movements in a certain way, creates accountability, predictability and common understanding. Because the experience of space cannot be directly enforced, coordinating via the experienced realm of space works only indirectly, namely by shaping 'systems of non-verbal symbols and signs' (Lefebvre, 1991, p. 39), which influence how actors experience distances, boundaries and movements and what these symbolize for them. Furthermore, because actors can be seen to experience space based on their respective cultural predisposition and context (Lefebvre, 1991, pp. 40, 143), it implies zooming in on the cultural and contextual dimensions that might determine the meaning of distances, boundaries and movements for the actors involved. These dimensions are typically reflected in the so-called spatial code ('that which gives significance'; Lefebvre, 1991, p. 270), which prescribes the meaning of distances, boundaries and movements for actors ('that which is signified'; Lefebvre, 1991, p. 270). It is 'part of an interaction between "subjects" and

their space and surroundings' (Lefebvre, 1991, p. 18). As Lefebvre (1991) outlined, one can, perhaps from the outside, shape the spatial code and thus the meaning of a space *officially*, for instance by outlining 'a system of knowledge [that] brings an alphabet, a lexicon and a grammar together within an overall framework' (p. 65). Or one can, perhaps also from the inside, do so through *symbolic action*, for instance in the form of particular gestures (pp. 215ff.) or the perpetuation of certain significant actions in a space as they take place.

We have integrated the various aspects of the spatial perspective on coordination outlined thus far into a synthesizing framework (see Figure 1), which we will further elaborate in the next sections. As we have argued, space-focused coordination, defined as practices with the telos of integrating interrelated activities through the production of space, can focus on designing, enacting or shaping the experience of distances, boundaries or movements. It is important to note that although particular coordination practices might be primarily focused on one mode and on one dimension, the other ones will at least indirectly be affected as well. In this sense, space-focused coordination inevitably involves a particular *configuration* of

spatial production, as represented by the circle on the left of Figure 1.

The particular *configuration* of spatial production that is constituted at any one time creates a range of intermediate effects, such as differentiating or connecting people. These intermediate effects, in turn, create integrating conditions for subsequent activities (different degrees of accountability, predictability and common understanding) resulting in particular coordination outcomes. As depicted at the bottom of Figure 1, non-space-focused coordination practices, such as the creation of rules or roles, may also – inadvertently – produce spatial configurations. By yielding certain intermediary effects, those configurations may (positively or negatively) interfere with the intended impact on the integrating conditions.

Integrating Effects of Spatial Production

In the following section, we elaborate on the integrating effects of the configuration of spatial production as indicated in Figure 1. For this purpose, we will draw on insights from the wider literature on organizational space, which has not engaged explicitly with coordination, just as the coordination literature has not sufficiently engaged with space.

Integrating effects of producing distances

Physical distances may be produced along a continuum of close to far. In terms of *close* distances, designing, enacting and shaping the experience of distances as close connects actors (connection), facilitates communication and reduces the need for formal communication (e.g. Kraut & Streeter, 1995). This, in turn, facilitates integration by fostering familiarity (e.g. Gittell, 2002; Okhuysen & Bechky, 2009) and creating visibility, which helps actors to anticipate each other's actions (predictability); to better understand how their own and others' activities contribute to the overall task (e.g.

Bechky, 2006; Zalesny & Farace, 1987) (accountability); and to establish a shared 'store of knowledge' (Okhuysen & Bechky, 2009, p. 480) and common understanding of joint organizational work (e.g. Bosch-Sijtsema & Tjell, 2017; Grabher, 2002; Kavanagh & Kelly, 2002). Enacting close physical distance in order to see what co-workers are doing (visibility) allows actors to monitor the progress of others' sub-tasks and adjust their own actions accordingly (e.g. Goffman, 1963; Klein et al., 2006; Mead, 1934) (i.e. it helps to hold each other accountable). Being familiar with the other actors involved in a joint task (familiarity), a further common implication of close physical distance (cf. Okhuysen & Bechky, 2009) is that it builds interpersonal relationships and can increase trust in each other's contribution to the joint task, which in turn also ensures increased accountability and thus facilitates activity integration (Gittell, 2002: p. 1410).

In terms of *far* distances, there are indications in the space literature that designing, enacting or shaping the experience of a workplace layout with far physical distances can contribute to differentiating sub-tasks (differentiation) and making sure that sub-tasks do not get in the way of each other (e.g. Danner-Schröder & Geiger, 2016). This might, counterintuitively perhaps, facilitate predictability and delineate accountability by signifying who is and who is not involved in a joint task (e.g. Hirst & Humphreys, 2013; Siebert et al., 2017). Purposefully designing a far physical distance between selected employees can also impede communication with irrelevant actors (e.g. Hirst & Humphreys, 2013) and thus indirectly foreclose accountabilities. Experiencing distance in the same way creates common understanding about interaction opportunities and can, for example, counteract communication challenges that spatially dispersed employees may experience in collaborative workplaces, as implicitly shown by the space literature (e.g. Bosch-Sijtsema et al., 2010; Manca, 2022; Wohlers & Hertel, 2018).

Integrating effects of producing boundaries

Boundaries can be produced along a continuum from impermeable to permeable. In terms of the one end of the continuum, deliberately producing *impermeable* boundaries to restrict access to a specific space so that only those involved in a joint task can access that space helps to prevent outsiders from interfering in a task and clearly differentiates who is involved in the joint task (and who is not) (differentiation) and who is accountable for which aspect of the task (e.g. Balcik et al., 2010; Hernes, 2004a; Valentine & Edmondson, 2015). Moreover, producing boundaries can help defining accountabilities by differentiating sub-tasks (differentiation) (e.g. Balcik et al., 2010).

Regarding the other end of the continuum, there are indications that *removing* physical boundaries or making boundaries more *permeable* – for example, by introducing open office spaces (e.g. Coradi et al., 2015a) and/or grouping collaborating actors together (e.g. Coradi et al., 2015b; Gittell, 2002; Oksanen & Ståhle, 2013) – tends to foster integration under certain conditions as well by connecting actors (connection) (e.g. Siebert et al., 2017), enabling visibility and facilitating communication in turn. These intermediate effects help to build trust and tend to increase information-sharing, thus facilitating the creation of common understanding among the actors involved in a joint task (e.g. Bosch-Sijtsema & Tjell, 2017; Hatch, 1987; Hirst & Humphreys, 2013). In this way, designing, enacting or shaping the experience of boundaries as permeable can also make it easier to recognize how actors and activities contribute to the overall task (accountability), to anticipate actions (predictability) and to monitor task progress and adjust actions accordingly (accountability).

Lastly, boundaries bear a 'highly symbolic importance' (Langley et al., 2019, p. 730), making the experience of boundaries particularly powerful for coordinating actors and their activities. For example, experiencing boundaries differently in different parts of a workspace (e.g. a collaboration zone experienced as open and informal versus a concentration zone experienced as bounded and strict; Sivunen & Putnam, 2020) has been shown to create a common understanding about how the collective task of office interaction "is to take place" (Okhuysen & Bechky, 2009, p. 488) (predictability). It thus renders everyone accountable to respect what others signal by working in the respective space (accountability), and thereby integrates effective interacting. Continuously enacting boundaries in a certain way has a reinforcing effect that strengthens predictability and common understanding (e.g. Siebert et al., 2017).

Integrating effects of producing movement paths

Movement paths can be produced along a continuum from fixed to flexible (i.e. from fixing movement paths to making movement paths flexible). On the one end of the continuum, designing *fixed* movement paths might help integrate interrelated activities by determining the flow and order of these activities (sequencing) (e.g. Bouty et al., 2012) and connecting actors and sub-tasks (connection) while keeping others apart (differentiation) (e.g. Knowles & Leslie, 2001). Designing specified movement paths can thus strengtehn the sense of accountability (who is involved) and predictability (the unfolding path). Likewise, the literature indicates that continuously enacting movement patterns (and thus fixing movement paths) creates strong workflow predictability (Wilton & Cranford, 2002). Moreover, producing fixed movement paths for actors who work together on joint tasks can increase visibility and familiarity for everyone involved. As a result, such fixed movement paths can strengthen actors' sense of responsibility and make it easier to comprehend what actors and activities contribute to the overall task (accountability) and how the respective activities unfold (predictability). On the other end of the continuum, keeping movement paths deliberately *flexible*, thus

enabling the moving of positions of actors who are involved in a joint task to better fit the workflow (adaptability) (e.g. Best & Hindmarsh, 2019), allows for flexibility in task implementation (adaptability) and can settle flaws that hinder successful integration, such as interrupting the predictability of activity sequences.

Moreover, the configuration of movement paths can influence the communication between actors. Positioning joint facilities, such as toilets, kitchenettes, coffee machines, water coolers or break areas, either centrally or between different departments encourages flexible employee movement and thus interaction within and across departmental structures (e.g. Fayard & Weeks, 2007; Hirst & Humphreys, 2013). Deliberately moving around the workplace might likewise facilitate interaction, for example by also increasing chance encounters. Fixing movement paths, in turn, can foster interaction with relevant stakeholders as actors are more likely to run into them on a regular basis. The resulting interaction opportunities facilitate information-sharing and can thus contribute to the establishment of common understanding about the collective task and its sub-tasks. Likewise, shaping the experience of movement as free, for example through symbolic gestures, facilitates interaction, whereas shaping the experience of movement as restricted impedes interaction (e.g. Knowles & Leslie, 2001).

Configurational effects of spatial production

As a consequence of our spatial perspective on coordination – which acknowledges that any coordination practice is always (inadvertently or not) involved in spatial (re)production that may affect the integrating conditions – coordinating is effectively always a configuration of the different modes and dimensions of spatial production. Hence, coordinating always involves designed, enacted and/or experienced spatial distances, boundaries and movements. Yet, while all these elements are always involved in coordinating, only some of them might be deliberately produced.

As our description above revealed, different spatial dimensions and modes of spatial production may lead to similar outcomes; for example, producing distances as close, boundaries as permeable and movements as fixed can all contribute to connecting collaborating actors and interdependent tasks and thus positively influence the three integrating conditions. Yet, while we may distinguish the integrative effect of each mode and dimension of spatial production analytically (as we have done in the preceding sections), empirically the coordination outcome ultimately realized always depends on the particular configuration of all the different elements of spatial production, because the elements are tightly entangled (Lefebvre, 1991; Weinfurtner & Seidl, 2019), 'always complementary' (Kingma et al., 2018a, p. 3) and dynamically interacting (Dale, 2005).

Some elements of a configuration may complement and reinforce each other while others may counteract or neutralize each other. Potential counterbalancing effects play out between both the different dimensions and the different modes of spatial production. In terms of the spatial dimensions, boundaries, distances and movements may influence the integrative effect of the respective other dimensions (Langley et al., 2019; Weinfurtner & Seidl, 2019). For example, relieving boundaries in order to connect collaborating actors can result in increased physical distance between them and thus offset, to some extent, the intended connection. Likewise, in terms of the modes of spatial production, designing, enacting and shaping the experience of space might counteract each other. For example, the enactment of space might differ from the way it is designed (e.g. Bernstein & Turban, 2018; Knowles & Leslie, 2001).

To illustrate these potential dynamics we build on the study of an office re-design from traditional offices to an open-plan space by Zalesny and Farace (1987). As the authors describe, the new office layout was purposefully designed with low physical distances between employees that would allow them to actually see and observe each other's activities, thereby enabling actors to understand how their

activities contributed to the overall task. This was designed to facilitate communication and to contribute to the creation of a common understanding among collaborating employees. The removal of physical boundaries like walls and doors between employees was meant to reinforce this integrating effect. Yet, as we know from studies on open-plan offices (Baldry & Barnes, 2012), it is very likely that employees enact their own, more impermeable boundaries, for example, by moving furniture or piling books on their desks, thereby undermining the original intention of that spatial design, which was to enhance visibility and facilitate communication. To the extent that this could happen, it would make it more difficult, again, to discern accountabilities and to generate common understanding. At the same time, it is possible that employees experience the movement in the new open-plan office as disturbance to their work, as is often the case in open-plan offices (Brunia et al., 2016; Mital et al., 1992), and thus they might try to limit it. Restricting movement, in turn, would undermine the facilitation of communication that the spatial design was intended to create and thereby reduce the creation of a common understanding, which is particularly important to accommodate to unexpected disruptions. This (partly fictional) example reveals the complex and dynamic relation between the different elements of a spatial configuration, which partly amplify and partly undermine their respective integration effects. Thus, effective coordinating might depend on reflecting on and being knowledgeable about the effects of different spatial configurations of intended and inadvertent spatial production as this takes place and materializes over time (cf. Lefebvre, 1991, p. 113; Valentine & Edmondson, 2015).

Research Implications of the Spatial Perspective on Coordinating

As we have outlined in the previous sections, this article proposes to understand coordinating as a *spatial* practice. Following the spatial turn in organization studies, our spatial perspective on coordination suggests that coordination practices, like any practice, inevitably make use of and produce space, which potentially affects the intended integration of activities. On that basis, we have argued that coordination research not only has to acknowledge this inevitable spatial production of coordinating with its (inadvertent) influence on coordination outcomes but that it also needs to recognize the possibilities of deliberate coordinating through spatial production. The latter insight implies recognizing the production of boundaries, distances and movements as distinctive coordinating mechanisms by themselves. In the following, we discuss two key implications of this spatial perspective on coordinating.

Spatial perspective provides novel understanding of coordinating

With the proposed spatial perspective on coordinating, we advance our understanding of how coordination unfolds. This new perspective allows us to see the – ubiquitous, yet hitherto unrecognized – relevance of space in any effort of coordinating. It thus sensitizes the coordination researcher to the fact that any coordination activity is spatial, meaning that in their coordination activities, people always and inevitably produce space, which, in turn, might (positively or negatively) impact the outcome of their coordination efforts. Without explicit recognition of the inevitable spatial production of coordinating, coordination research remains blind to an important aspect of any coordination effort. Coordination research to date has neither captured the inadvertent spatial effects of the traditional coordination practices nor has it acknowledged the different possibilities of deliberately coordinating through space – even though practitioners already perform forms of space-focused coordinating, as the space literature indicates.

We argue that the coordination literature, and maybe also coordination practice, has not yet been sufficiently aware of the importance of

space for coordinating precisely because it lacked a respective spatial perspective. With this paper, we now offer the necessary conceptual tools to capture this constitutive role of space in coordinating. Our spatial perspective sensitizes coordination researchers to systematically consider the inevitable processes of spatial production and its effects in any study of coordination. By recognizing that coordination practices shape space and by recognizing that space is a powerful force in shaping the integrating conditions and, as a consequence, coordination outcomes, the spatial perspective allows us to properly understand how coordination unfolds in practice.

Spatial perspective on coordinating opens up a novel empirical research programme

The proposed spatial perspective and the associated conceptual toolkit opens up a distinctive empirical research programme on the role of space in coordinating. There is, we believe, a need for systematic empirical research on how different types of coordination practices produce space and how this impacts the outcomes of any integration effort. In the following, we highlight four key areas of this research programme.

Space-focused coordinating in practice. To properly explore the intentional production of distances, boundaries and movement as coordinating mechanisms we need systematic research that explores how practitioners draw on spatial production in order to integrate interdependent activities and with what concrete effects. Specifically, our holistic conceptualization of coordination through space suggests undertaking fine-grained analyses that illuminate empirically and in a detailed and systematic way how designing, enacting and shaping the experience of distances, boundaries and movement trajectories, in practice (see Figure 1), contribute to achieving integration. This includes both systematically examining the different space-focused

coordination practices in situ and zooming in on the coordinating role of distances, boundaries and movements. This may encompass differentiating between different functions (e.g. Hernes, 2004a, 2004b) and measures of distances, boundaries and movements (cf. Weinfurtner & Seidl, 2019), such as differentiating between objectively measured and subjectively perceived distance (Claeson, 1968; Wilson et al., 2008) or between absolute and relative distance.

Apart from examining the different modes and dimensions of space-focused coordinating as such, we also need to gain a better understanding of the ways in which space-focused coordinating unfolds in different organizational settings. Coordinating through space might be more powerful in some settings than others – given that the relevance of any coordinating mechanism varies with the context (e.g. Adler, 1995; Argote, 1982). For example, in work settings with a physical co-presence, space-focused coordinating might be more effective than in mainly virtual forms of collaboration – even though virtual settings involve physical space as well (e.g. Kingma, 2019; Stephenson et al., 2020). We might also find that coordinating through physical space is effective in contexts where other forms of coordinating might be challenged. For example, in environments characterized by high degrees of complexity, uncertainty, volatility and ambiguity (e.g. Balcik et al., 2010; Bechky & Okhuysen, 2011; Faraj & Xiao, 2006; Stephens, 2021), such as crisis-response settings, it is often difficult to rely on traditional, predominantly intangible mechanisms of coordinating, such as implementing clear and accepted plans and rules or applying fixed role structures and routines (Kornberger et al., 2019; Majchrzak et al., 2007, p. 151; Steigenberger & Lübcke, 2022; Wolbers et al., 2018). Given that such settings are often tied to specific physical sites and the spatial conditions that define them (e.g. Balcik et al., 2010; Bechky & Okhuysen, 2011; Beck & Plowman, 2014; Danner-Schröder & Geiger, 2016), deliberately shaping that physical space is likely to offer a particularly powerful means

of creating the integrating conditions for the respective interrelated activities.

Inadvertent spatial production of non-space-focused coordination practices. In addition to enhancing our understanding of deliberate coordinating through space, empirical research may also study instances where coordinating inadvertently produces space. This includes both examining the unintended spatial consequences of non-space-focused coordinating mechanisms, such as the enactment of rules and roles, and examining the extent to which practitioners are aware of such unintended spatial production and its effect on the coordination outcome.

Spatial configurations in practice. As highlighted in the description of our spatial perspective, coordination outcomes depend not only on the individual dimensions and modes of spatial production but also on the particular configuration of different dimensions and modes. Accordingly, there is an opportunity for examining different spatial configurations empirically. Most importantly, we need to better understand what particular spatial configurations occur in practice, what conditions shape the occurrence or choice of a particular spatial configuration, and how effective different configurations are under different circumstances.

Interrelations. Empirical research may examine the various interrelations between different spatial dimensions and practices. On the one hand, explicitly studying the different elements of the spatial configuration in their interaction with each other would allow us to better understand how they interact. On the other hand, the new spatial perspective on coordinating also suggests examining how space as a coordinating mechanism interrelates and interacts with other, non-space-focused coordinating mechanisms. Space-focused and other coordination practices may counteract, reinforce, extend or enable one another. For instance, in Parent and MacIntosh's (2013, p. 227) study of coordination at the Olympic Games, the role-based 'venue

specific training' was likely complemented by coordinating through spatially enacting the sites and routinized processes in situ. Thus, we need to better understand how different coordinating mechanisms (here: roles, space, routines) interact in achieving successful integration.

Conclusion

Leveraging insights from the spatial turn in organization studies, we have argued in this paper for a spatial perspective on coordination. While existing coordination research has treated space as a passive context of coordination, we must acknowledge that any coordination practice inevitably produces space, which in turn is likely to affect the intended coordination outcome. Even more so, coordination scholars should recognize space also as a distinctive and powerful mechanism of coordinating. We have outlined the spectrum of space-focused coordinating practices across the different modes (designing, enacting and shaping the experience of space) and dimensions (distance, boundaries and movement) of spatial production. Together, these modes and dimensions make up a configuration of spatial production, which can affect coordination inadvertently, as a side effect of non-space-focused coordination practices, but may also be leveraged deliberately as part of integration efforts. Recognizing this possibility extends the spectrum of coordinating mechanisms that the literature has discussed so far (Okhuysen & Bechky, 2009).

The spatial perspective that we have proposed invites future coordination research to systematically explore the role of spatial production in coordination practices. Doing so may help researchers recognize and study physical space as a distinctive mechanism of coordinating, including in contexts where traditional, non-space-focused coordinating mechanisms may be 'too slow, disconnected and inadequate for the task' (Majchrzak et al., 2007, p. 147). Thus, taking into account space-focused coordinating makes integrating endeavours more effective: it provides more options to effectively integrate interconnected activities and it can

complement already established coordinating mechanisms. Moreover, reflexivity in terms of the potential spatial implications inadvertently triggered by other, non-space-focused coordination practices can help avoid integration flaws or disruptions that are otherwise hard to explain. It is thus time, we believe, to take the spatial turn seriously and to acknowledge that coordinating is not happening *in* space but *through* space.

ORCID iDs

Tania Räcker https://orcid.org/0000-0002-7709-5605
Daniel Geiger https://orcid.org/0000-0002-4969-2437
David Seidl https://orcid.org/0000-0002-0368-196X

Notes

1. The spatial turn in organization studies describes the increasing interest of organization scholars in the role of space in organizational activities. In this vein, researchers have not only examined physical space but have also extended the concept of space metaphorically to other domains, thereby turning space from a phenomenon to a perspective that reconceptualizes well-known phenomena to gain a different understanding of them (Weinfurtner & Seidl, 2019). In this paper, however, we focus on *physical* space only given that it is an important, omnipresent aspect of coordination practices that the existing approaches to study coordination do not capture.

2. Lefebvre himself speaks of the 'lived', 'conceived'" and 'perceived' space, but we have replaced the three terms with more intuitive ones as the terminology has led to some confusion in the past (see e.g. Stephenson et al., 2020).

References

Adler, P. S. (1995). Interdepartmental interdependence and coordination: The case of the design/manufacturing interface. *Organization Science*, *6*, 147–167.

Allen, M., & Brown, S. D. (2016). Memorial meshwork: The making of the commemorative space of the Hyde Park 7/7 Memorial. *Organization*, *23*(1), 10–28.

Argote, L. (1982). Input uncertainty and organizational coordination in hospital emergency units. *Administrative Science Quarterly*, *27*, 420–434.

Balcik, B., Beamon, B. M., Krejci, C. C., Muramatsu, K. M., & Ramirez, M. (2010). Coordination in humanitarian relief chains: Practices, challenges and opportunities. *International Journal of Production Economics*, *126*, 22–34.

Baldry, C., & Barnes, A. (2012). The open-plan academy: Space, control and the undermining of professional identity. *Work, Employment and Society*, *26*(2), 228–245.

Bardram, J. E. (2000). Temporal coordination: On time and coordination of collaborative activities at a surgical department. *Computer Supported Cooperative Work (CSCW)*, *9*, 157–187.

Bechky, B. (2003). Sharing meaning across occupational communities: The transformation of understanding on a production floor. *Organization Science*, *14*(3): 312–330.

Bechky, B. A. (2006). Gaffers, gofers, and grips: Role-based coordination in temporary organizations. *Organization Science*, *17*, 3–21.

Bechky, B. A., & Okhuysen, G. A. (2011). Expecting the unexpected? How SWAT officers and film crews handle surprises. *Academy of Management Journal*, *54*, 239–261.

Beck, T. E., & Plowman, D. A. (2014). Temporary, emergent interorganizational collaboration in unexpected circumstances: A study of the Columbia space shuttle response effort. *Organization Science*, *25*, 1234–1252.

Bernstein, E. S., & Turban, S. (2018). The impact of the 'open' workspace on human collaboration. *Philosophical Transactions of the Royal Society B*, *373*, 20170239.

Best, K., & Hindmarsh, J. (2019). Embodied spatial practices and everyday organization: The work of tour guides and their audiences. *Human Relations*, *72*, 248–271.

Beyes, T., & Holt, R. (2020). The topographical imagination: Space and organization theory. *Organization Theory*, *1*(2), 2631787720913880.

Beyes, T., & Steyaert, C. (2012). Spacing organization: Nonrepresentational theory and performing organizational space. *Organization*, *19*, 45–61.

Bitner, M. J. (1992). Servicescapes: The impact of physical surroundings on customers and employees. *Journal of Marketing*, *56*(2), 57–71.

Bosch-Sijtsema, P. M., Ruohomäki, V., & Vartiainen, M. (2010). Multi-locational knowledge workers in the office: Navigation, disturbances and effectiveness. *New Technology, Work and Employment*, *25*, 183–195.

Bosch-Sijtsema, P. M., & Tjell, J. (2017). The concept of project space: Studying construction project teams from a spatial perspective. *International Journal of Project Management*, *35*, 1312–1321.

Bouty, I., Godé, C., Drucker-Godard, C., Lièvre, P., Nizet, J., & Pichault, F. (2012). Coordination practices in extreme situations. *European Management Journal*, *30*, 475–489.

Brunia, S., De Been, I., & van der Voordt, T. J. M. (2016). Accommodating new ways of working: Lessons from best practices and worst cases. *Journal of Corporate Real Estate*, *18*(1), 30–47.

Carlile, P. R. (2002). A pragmatic view of knowledge and boundaries: Boundary objects in new product development. *Organization Science*, *13*, 442–455.

Carlopio, J. R., & Gardner, D. (1992). Direct and interactive effects of the physical work environment on attitudes. *Environment and Behavior*, *24*, 579–601.

Claeson, C.-F. (1968). Distance and human interaction: Review and discussion of a series of essays on geographic model building. *Geografiska Annaler, Series B: Human Geography*, *50*, 142–161.

Clark, H. H., & Brennan, S. A. (1991). Grounding in communication. In L. B. Resnick, J. M. Levine, & S. D. Teasley (Eds.), *Perspectives on socially shared cognition* (pp. 127–149). APA Books.

Cnossen, B., & Bencherki, N. (2019). The role of space in the emergence and endurance of organizing: How independent workers and material assemblages constitute organizations. *Human Relations*, *72*(6), 1057–1080.

Comfort, L. K., Dunn, M., Johnson, D., Skertich, R., & Zagorecki, A. (2004). Coordination in complex systems: Increasing efficiency in disaster mitigation and response. *International Journal of Emergency Management*, *2*, 62–80.

Coradi, A., Heinzen, M., & Boutellier, R. (2015a). A longitudinal study of workspace design for knowledge exploration and exploitation in the research and development process. *Creativity and Innovation Management*, *24*, 55–71.

Coradi, A., Heinzen, M., & Boutellier, R. (2015b). Designing workspaces for cross-functional knowledge-sharing in R&D: The "co-location pilot" of Novartis. *Journal of Knowledge Management*, *19*, 236–256.

Dale, K. (2005). Building a social materiality: Spatial and embodied politics in organizational control. *Organization*, *12*, 649–678.

Danner-Schröder, A., & Geiger, D. (2016). Unravelling the motor of patterning work: Toward an understanding of the micro-level dynamics of standardization and flexibility. *Organization Science*, *27*, 633–658.

Elsbach, K. D., & Pratt, M. G. (2007). The physical environment in organizations. *Academy of Management Annals*, *1*, 181–224.

Faraj, S., & Xiao, Y. (2006). Coordination in fast-response organizations. *Management Science*, *52*, 1155–1169.

Fayard, A.-L., & Weeks, J. (2007). Photocopiers and water-coolers: The affordances of informal interaction. *Organization Studies*, *28*, 605–634.

Gieryn, T. F. (2000). 'A space for place in sociology'. *Annual Review of Sociology*, *26*, 463–96.

Giddens, A. (1984). *The constitution of society*. University of California Press.

Gittell, J. H. (2002). Coordinating mechanisms in care provider groups: Relational coordination as a mediator and input uncertainty as a moderator of performance effects. *Management Science*, *48*, 1408–1426.

Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. Prentice Hall.

Grabher, G. (2002). Cool projects, boring institutions: Temporary collaboration in social context. *Regional Studies*, *36*, 205–214.

Grajewski, T. (1993). The SAS head office: Spatial configurations and interaction patterns. *Nordisk Arikiturforskning*, *2*, 63–74.

Hatch, M. J. (1987). Physical barriers, task characteristics, and interaction activity in research and development firms. *Administrative Science Quarterly*, *32*, 387–399.

Henderson, K. (1991). Flexible sketches and inflexible data bases: Visual communication, conscription devices, and boundary objects in design engineering. *Science, Technology, & Human Values*, *16*, 448–473.

Hernes, T. (2004a). *The spatial construction of organization*. John Benjamins Publishing Company.

Hernes, T. (2004b). Studying composite boundaries: A framework of analysis. *Human Relations*, *57*, 9–29.

Hirst, A., & Humphreys, M. (2013). Putting power in its place: The centrality of edgelands. *Organization Studies*, *34*, 1505–1527.

Jarzabkowski, P. A., Le, J. K., & Feldman, M. S. (2012). Toward a theory of coordination: Creating coordinating mechanisms in practice. *Organization Science*, *23*, 907–927.

Kavanagh, D., & Kelly, S. (2002). Sensemaking, safety, and situated communities in (con)temporary networks. *Journal of Business Research*, *55*, 583–594.

Kellogg, K. C., Orlikowski, W. J., & Yates, J. (2006). Life in the trading zone: Structuring coordination across boundaries in post bureaucratic organizations. *Organization Science*, *17*, 22–44.

Kingma, S. (2019). New ways of working (NWW): Work space and cultural change in virtualizing organizations. *Culture and Organization*, *25*(5), 383–406.

Kingma, S. F., Dale, K., & Wasserman, V. (2018a). Introduction: Henri Lefebvre and organization studies. In S. F. Kingma, K. Dale, & V. Wasserman (Eds.), *Organizational space and beyond: The significance of Henri Lefebvre for organization studies* (pp. 1–24). Routledge.

Kingma, S. F., Dale, K., & Wasserman, V. (2018b). Future directions: Henri Lefebvre and organization studies. In S. F. Kingma, K. Dale, & V. Wasserman (Eds.), *Organizational space and beyond: The significance of Henri Lefebvre for organization studies* (pp. 307–317). Routledge.

Klein, K. J., Ziegert, J. C., Knight, A. P., & Xiao, Y. (2006). Dynamic delegation: Shared, hierarchical, and deindividualized leadership in extreme action teams. *Administrative Science Quarterly*, *51*, 590–621.

Knowles, S., & Leslie, S. (2001). 'Industrial Versailles': Eero Saarinen's corporate campuses for GM, IBM, and AT&T. *Isis*, *92*, 1–33.

Kornberger, M., & Clegg, S. R. (2004). Bringing space back in: Organizing the generative building. *Organization Studies*, *25*, 1095–1114.

Kornberger, M., Leixnering, S., & Meyer, R. E. (2019). The logic of tact: How decisions happen in situations of crisis. *Organization Studies*, *40*, 239–266.

Kraut, R. E., & Streeter, L. A. (1995). Coordination in software development. *Communications of the ACM*, *38*(3), 69–81.

Langley, A., Lindberg, K., Mørk, B.E., Nicolini, D., Raviola, E., & Walter, L. (2019). Boundary work among groups, occupations, and organizations: from cartography to process. *Annals*, *13*, 704–736.

Lefebvre, H. (1991). *The production of space*. Blackwell Publishing.

Majchrzak, A., Jarvenpaa, S., & Hollingshead, A. (2007). Coordinating expertise among emergent groups responding to disasters. *Organization Science*, *18*, 147–161.

Manca, C. (2022). Tensions as a framework for managing work in collaborative workplaces: A review of the empirical studies. *International Journal of Management Reviews*, *24*, 333–351.

Massey, D. (2005). *For space*. SAGE Publications.

Mead, G. H. (1934). *Mind, self and society*. University of Chicago Press.

Mital, A., McGlothlin, J. D., & Faard, H. F. (1992). Noise in multiple-workstation open-plan computer rooms: Measurements and annoyance. *Journal of Human Ergology*, *21*(1), 69–82.

Okhuysen, G. A., & Bechky, B. A. (2009). Coordination in organizations: An integrative perspective. *Academy of Management Annals*, *3*, 463–502.

Oksanen, K., & Ståhle, P. (2013). Physical environment as a source for innovation: Investigating the attributes of innovative space. *Journal of Knowledge Management*, *17*, 815–827.

Olson, G. M., & Olson, J. S. (2000). Distance matters. *Human Computer Interaction*, *15*, 139–178.

Panayiotou, A., & Kafiris, K. (2011). Viewing the language of space: Organizational spaces, power, and resistance in popular films. *Journal of Management Inquiry*, *20*, 264–284.

Parent, M. M., & MacIntosh, E. W. (2013). Organizational culture evolution in temporary organizations: The case of the 2010 Olympic Winter Games. *Canadian Journal of Administrative Sciences-Revue Canadienne Des Sciences De L Administration*, *30*, 223–237.

Peltokorpi, V. (2014). Transactive memory system coordination mechanisms in organizations: An exploratory case study. *Group & Organization Management*, *39*, 444–471.

Pinto, M. B., Pinto, J. K., & Prescott, J. E. (1993). Antecedents and consequences of project team cross-functional cooperation. *Management Science*, *39*, 1281–1297.

Reed, M. I. (2006). Organizational theorizing: A historically contested terrain. In S. R. Clegg, C. Hardy, T. Lawrence, & W. R. Nord (Eds.), *The Sage handbook of organization studies* (pp. 19–54). Sage.

Rico, R., Sánchez-Manzanares, M., Gil, F., & Gibson, C. (2008). Team implicit coordination processes: A team knowledge-based approach. *Academy of Management Review*, *33*, 163–184.

Schatzki, T. R. (2002). *The site of the social: A philosophical account of the constitution of social life and change*. Pennsylvania State University Press.

Schatzki, T. R. (2009). Timespace and the organization of social life. In E. Shove, F. Trentmann, & R. Wilk (Eds.), *Time, consumption and everyday life* (pp. 35–48). Routledge.

Siebert, S., Wilson, F., & Hamilton, J. R. A. (2017). 'Devils may sit here': The role of enchantment in institutional maintenance. *Academy of Management Journal*, *60*, 1607–1632.

Sivunen, A., & Putnam, L. L. (2020). The dialectics of spatial performances: The interplay of tensions in activity-based organizing. *Human Relations*, *73*, 1129–1156.

Srikanth, K., & Puranam, P. (2011). Integrating distributed work: Comparing task design, communication, and tacit coordination mechanisms. *Strategic Management Journal*, *32*, 849–875.

Steigenberger, N., & Lübcke, T. (2022). Space and sensemaking in high-reliability task contexts: Insights from a maritime mass rescue exercise. *Organization Studies*, *43*, 699–724.

Stephens, J. P. (2021). How the show goes on: Using the aesthetic experience of collective performance to adapt while coordinating. *Administrative Science Quarterly*, *66*, 1–41.

Stephenson, K. A., Kuismin, A., Putnam, L. L., & Sivunen, A. (2020). Process studies of organizational space. *Academy of Management Annals*, *14*, 797–827.

Taylor, S., & Spicer, A. (2007). Time for space: A narrative review of research on organizational spaces. *International Journal of Management Reviews*, *9*, 325–346.

Tsai, W. (2002). Social structure of "coopetition" within a multiunit organization: Coordination, competition, and intraorganizational knowledge sharing. *Organization Science*, *13*, 179–190.

Våland, M. S., & Georg, S. (2014). The socio-materiality of designing organizational change. *Journal of Organizational Change Management*, *27*, 391–406.

Valentine, M. A., & Edmondson, A. C. (2015). Team scaffolds: How mesolevel structures enable role-based coordination in temporary groups. *Organization Science*, *26*, 405–422.

Weinfurtner, T., & Seidl, D. (2019). Towards a spatial perspective: An integrative review of research on organisational space. *Scandinavian Journal of Management*, *35*(2), 101009.

Wilson, J. M., Boyer O'Leary, M., Metiu, A., & Jett, Q. R. (2008). Perceived proximity in virtual work: Explaining the paradox of far-but-close. *Organization Studies*, *29*, 979–1002.

Wilton, R., & Cranford, C. (2002). Toward an understanding of the spatiality of social movements: Labor organizing at a private university in Los Angeles. *Social Problems*, *49*, 374–394.

Wohlers, C., & Hertel, G. (2018). Longitudinal effects of activity-based flexible office design on teamwork. *Frontiers in Psychology*, *9*, 1–16.

Wolbers, J., Boersma, K., & Groenewegen, P. (2018). Introducing a fragmentation perspective on coordination crisis management. *Organization Studies*, *39*, 1521–1546.

Wolbers, J., Groenewegen, P., Molle, J., & Bim, J. (2013). Incorporating time dynamics in the analysis of social networks in emergency management. *Journal of Homeland Security and Emergency Management*, *10*, 555–585.

Zalesny, M. D., & Farace, R. (1987). Traditional versus open offices: A comparison of sociotechnical, social relations and social relations and symbolic meaning perspectives. *Academy of Management Journal*, *30*, 240–259.

Author biographies

Tania Räcker (tania.raecker@business.uzh.ch) holds a PhD from the University of Zurich, Switzerland, where she currently works as a Senior Research Associate. Her main research interests include organizational space and Strategy as Practice. She was Membership Chair of the Strategizing Activities & Practices (SAP) Interest Group at the Academy of Management and Engagement Officer and Rep-at-Large of the Strategy Practice Interest Group at the Strategic Management Society.

Daniel Geiger (daniel.geiger@uni-hamburg.de) is Professor for Organization Studies at the University of Hamburg, Germany. His research interests include the dynamics of organizational routines and coordination, particularly in crises and emergencies. He has published widely in leading organization studies and management research outlets, including *Administrative Science Quarterly, Organization Science, Organization Studies and Journal of Management Studies*.

David Seidl (david.seidl@uzh.ch) is Professor of Organization and Management at the University of Zurich, Switzerland. His research interests include Strategy as Practice, Routine Dynamics, Open Strategy, organizational space and standardization. He has published widely in leading international outlets including *Academy of Management Annals, Academy of Management Journal, Academy of Management Review, Organization Science and Strategic Management Journal*. He was a Senior Editor of Organization Studies and an Associate Editor of Organization Theory.