Ideas or Reality? Flexible Space – Flexible People?

Flexible office concepts offer organisations the ability to adapt quickly to changes, and provide users with possibilities to work flexibly. Ideas about flexible working shape the design concepts employed in office design, and have consequences for users' everyday work practices. But do ideas of flexible space make users more flexible? And are the concepts and the solutions supporting those ideas? Taking a socio-material perspective, this paper explores how strategies of flexibility in office architecture affect the everyday spatial practices of knowledge workers. The paper draws on data from a case study in a Norwegian public organisation. Our findings suggest that flexible architecture on its own does not produce flexible workers. Rather, flexibility can be co-produced by users and architecture through emergent practices of appropriation and negotiation. Enhancing flexible work for users requires an understanding of what flexibility entails in their particular context, and adjusting strategies to their needs over time. Users should able to actively engage with and adapt architecture to their specific needs, which may require less standardisation in office design. By drawing on insights from architectural theory, facilities management research, and organisation studies, this paper provides new understandings of the effects of flexible office concepts.

Keywords: Flexibility; workplace; users – needs; semiotics; offices

Introduction

The purpose of this paper is to explore how strategies of flexibility influence the everyday use of office buildings. Organisations are increasingly adopting flexible office concepts that include practices such as clean desk, shared desk, distributed work etc. Flexible office concepts were introduced in the 1990s as a response to changes in IT technology and work practices (Skyrme 1994). Drawing on research in architecture,

environmental psychology and management theory, the case for a link between organisational flexibility and flexible offices was made by practitioners (Becker and Steele 1995; Duffy and Powell 1997). Abolishing individually assigned desks to free up space for varied team-working spaces promised greater spatial efficiency, increased knowledge sharing and more attractive offices. Flexible working in flexible office concepts have been seen as one way for organisations to be more flexible in a business context of increasing rates of change (Skyrme 1994). Through the implementation of these concepts, office design researchers and practitioners have promoted a change in perceptions of office space as a necessary cost, to being seen as a potential tool for organizational change and development (Arge and De Paoli 2000; De Paoli, Arge, and Hunnes Blakstad 2013; Grimshaw and Cairns 2000). Arguably, the perception of office space as supporting flexible work practices seems to have evolved into the idea that flexible office concepts can be used as an organisational tool to change work practices. Not only are organisations are expected to become more flexible through flexible workplace strategies, but users are expected to become more flexible as well (Skogland 2017). How can ideas of flexibility be expected to translate into flexible working practices? Can flexible spatial strategies make users more flexible?

This paper aims to provide insight into the relationship between the design of flexible space and flexible users. In this article we show how flexible spaces can enable users to become more flexible in their working practices, although the ways they do so may not follow the prescriptions of the office concept. Ideas of flexibility and flexible working practices emerge through the sociomaterial co-production of space. Our understanding of space as co-produced takes an actor-network theory-inspired approach to architecture (Yaneva 2017) as a point of departure, which implies seeing architecture as a ‘moving project’ (Latour and Yaneva 2008). The paper is structured as follows: the next section

will give an overview of relevant theory and literature on spatial and organisational flexibility. Then follows a description of the methods used in the case study. The fourth section presents the case study findings, guided by the theoretical perspectives inspired by actor-network theory (ANT). In the fifth section we discuss these findings in light of the literature. We conclude by summarizing our findings, and suggesting some implications for understandings of architecture and architectural practice.

Literature and theory

Conceptualisations of spatial and organisational flexibility

From an architectural design perspective, a broad distinction can be made between two strategies for making architecture flexible. A building can be flexible by being designed so that physical changes can be made after completion, or through using a building for different purposes. The former has been termed simply 'flexibility', the latter 'adaptability' (Groák 1992). Table 1 shows a comparison of terms found in relevant literature, highlighting the difference between these two main distinctions. Physical change can happen by adding to or changing the structure (Arge and Landstad 2002). A question arises here as to what level of technique is necessary to modify a building that is flexible in this way. Can users of the building modify it themselves, or are professionals required? Architects may view a building that space is designed for conversion as 'flexible', as suggested in the space planning literature (Becker and Steele 1995), but users who are not able to change it may not. When buildings are designed to be adaptable, on the other hand, the flexibility lies at the level of the layout of the building. The building is capable of different social uses, but remains unchanged (Groák

1992). Again, this type of flexibility can be achieved though different strategies. Generality implies providing space that is generic, rather than adapted to specific uses or users (Arge and Landstad 2002), or providing as excess of space. This logic can be identified in the Facilities Management (FM) literature, where a 'loose-fit' approach to office design is recommended rather than a 'tight-fit' design, because of the impossibility of predicting the exact needs of the office (Becker and Steele 1995; Nutt 1988).

TABLE 1 HERE

From an organisational perspective, flexibility has been conceptualised in many different ways. In the broadest sense, flexibility has been defined as an organisation's ability to react to changes in its external environment (Värlander 2012). Emphasis on the strategic importance of flexibility increased in the 1990s in response to quickly changing business environments fuelled by increasing global competition and rapidly developing technology (Skyrme 1994). Flexible working, in terms of more flexible contracts, working hours and working patterns enabled by mobile technology were seen as ways of increasing flexibility (Gibson 2003; Skyrme 1994). Teamwork was understood as contributing to organisational flexibility through the ability of teams to manage themselves (Värlander 2012). Individual flexibility as a component of organisational flexibility is perhaps more loosely defined, but can be seen as workers' ability to deal with new situations or see change as an opportunity (Värlander 2012).

TABLE 2 HERE

Flexible office concepts: linking organisational and spatial flexibility?

The link between spatial and organisational flexibility can be found in the ideas about flexible working (Gibson 2003) that designers have incorporated into office design concepts (Duffy and Powell 1997; Becker and Steele 1995; Veldhoen and Piepers 1995). These 'flexible office concepts' (see Table 2) highlight the positive potential of flexible working for users, placing particular emphasis on teamwork. In spatial terms, flexible office concepts employ strategies such as open-plan layouts, standardisation, free seating and clean desk policies, and focus on providing varied and attractive spaces for work and teamwork (Van Der Voordt 2004). Integrating an organisational perspective, it has been argued that organisational, cultural and managerial aspects should be aligned in the office concept to ensure flexibility (Ekstrand and Hansen 2016; Skogland 2017) and that the implementation process should aim at reducing user resistance (Brunia et al. 2016).

Studies that have investigated the effects of flexible strategies have produced mixed and conflicting findings. Although some studies have shown higher rates of user satisfaction (Danielsson and Bodin 2009), studies have raised doubts about to what extent users are willing to adopt the intended practices (Hoendervanger et al. 2016; Appel-Meulenbroek, Groenen, and Janssen 2011). Furthermore, offices designed according to flexible strategies do not seem to be able to avoid the unintended effects of open space that are well-known from traditional open-plan offices such as lack of privacy, noise and disruptions to concentrated work (Appel-Meulenbroek, Groenen, and Janssen 2011; Been and Beijer 2014; De Croon et al. 2005; Brunia and Hartjes-Gosselink 2009). These divergent findings seem to point at the difficulties of achieving organisational aims through spatial design, and the unpredictable relationship between design intentions and use. Taylor and Spicer (2007) argue that the difficulties in explaining the effects of office concepts can arise from overlooking central aspects of organisational

life such as power and the embodied nature of organizing. They argue for research on organisational space that conceptualises space as socially produced and 'interpreted through the ongoing experience of actors that materialize relations of power' (Taylor and Spicer 2007). Research in this vein has given perspectives on flexible office design strategies that problematise what the notion of flexibility in architecture can entail. Hirst (2011) has for instance shown how hot-desking offices can produce emergent social hierarchies with a split between 'settlers' and "mobile workers', which could lead to marginalisation and tension. Värlander (2012) found that organisational aims of flexibility were in fact undermined by open-plan office settings, where emergent practices of social control inhibited individual flexibility.

Understanding the link: an actor-network-theory approach

Together, studies of the effects of office design suggest that how design intentions affect use is unclear. How can the transition from design to use be understood? In this paper, we propose an approach inspired by actor-network theory (ANT). ANT can be understood as a theoretical approach that offers a method of social inquiry focused on action (Yaneva 2017). Taking an ANT approach involves following the trajectories of human and non-human actors as they form networks through associations with each other (Latour 2005). The concept of translation is used to describe how powerful actors draw heterogeneous actors into networks through processes of negotiation that are both material and semiotic (Callon 1984). From an architectural perspective, an ANT analysis encourages the researcher to focus on architecture as a process or a "moving project" (Latour and Yaneva 2008). Understanding buildings as actors allows us to examine the social consequences of architecture. By breaching the subject-object divide, ANT allows us to explore both what buildings do and what they mean (Yaneva 2017). The reality of a building and the ideas behind it can both play a part in its use.

Scholars have also used ANT to give new of understandings of space. Murdoch (2006, 76) suggests that when materials are associated with each other in new configurations, new network-spaces are formed within the networks. Murdoch argues that not all networks stabilise around a centre, but that there can be different kinds of spaces within networks, some of which are tightly ordered by the central control of the network-builders, others which are disordered and resist stabilization (Murdoch 2006, 77). Murdoch calls these 'spaces of prescription' and 'spaces of negotiation' (Murdoch 1998). Looking at space this way, through associations, allows us to account for the proximity and distance as well as the power and control that Taylor and Spicer (2007) found missing in the literature on organisational space.

Methods

The paper draws on data from an ethnographically-inspired case study of office architecture in use. The case was selected as an instrumental case with both typical and non-typical features (Ruddin 2006). For the purposes of this study, two features were of particular interest. As the office building in the case was built by developers to lease, it could be expected that strategies of flexibility could be found in the architecture. Additionally, since it was known that the case organisation linked the relocation process with organisational development aims through the implementation of an office concept, it could be expected that flexibility would be a concern in implemented office concept. In line with case study methods, the study draws on multiple sources of qualitative data from the case: interviews, observation, documents and photographs (Stake 2005; Flyvbjerg 2013). 21 interviews with 42 employees in the organisation were conducted. Six of these interviews were focus group interviews with employees from different parts of the organisation (Wilkinson 2004) with questions about how employees used and

perceived their office space in relation to work tasks, group and departmental processes, and the organisation as a whole. Two further group interviews were conducted in situ interviews using the walk-through method (Hansen, Blakstad, and Knudsen 2010), focussing on employees' experience and use of different places in the office space. Photo-elicitation method was used in five interviews with employees to understand more in depth individual user experiences (Harper 2002). Members of the internal project organisation that was responsible for the move as well as the architects who had designed the building and interior were interviewed in semi-structured interviews. (Kvale et al. 2015). The interview guides included questions about project aims, process and perceived results. In addition, field notes from two non-consecutive weeks of unstructured observation at the study site informs the analysis (Isabelle and Dodier 2004). Further data sources include documents such as strategic documents, reports and presentations from the organisational relocation process, and technical drawings, illustrations and descriptions of the building from the architects.

The data analysis draws on coding methods from the constant comparative method (Corbin and Strauss 2008; Charmaz 2014), using NVivo software to code the data. This method was chosen to support our theoretical intention of understanding architecture as a sociomaterial 'moving project' (Latour and Yaneva 2008). By coding for emerging themes, the constant comparative coding method stays close to the data and focuses on the action (Charmaz 2014, 116-24). Our coding process followed Charmaz' (2014) suggestions of initial coding using gerunds followed by focused coding. Using ANT as a method (Latour 2005), we use concepts of translation (Callon 1984), and spaces of prescription and negotiation (Murdoch 1998) to guide the analysis.

Findings

The Pension Provider (a pseudonym), a publicly-owner organisation providing pensions and loans to public servants with around 375 employees, relocated to two floors of a newly completed office building in a business district approximately two years before this study took place. Flexibility was one of the main aims of the relocation project, yet after moving into the newly completed office building, there was a shared sense among users, both management and employees, that the building was less flexible than they had expected. Despite this shared perception of an inflexible space that emerged in user accounts of their everyday use, our observational and interview data also showed users to be engaging in more flexible work practices. Taking this paradox as our point of departure, our findings will show how the ideas of flexibility progressed through design into use. First, we look at the ideas of flexibility that formed the basis for design and use of the concept. Next, we will see how these ideas were transformed first into a design concept and then into space. After that we show how the design concept met obstacles in use. Last, we show how flexible working practices emerged through use.

Ideas of Flexibility

We found managerial ideas of flexibility to be clearly stated and understood as the facilitation of organisational restructuring. In interviews, the project executive understood this "operational flexibility" in terms of moving people instead of moving desks. Other members of the project team indicated that they had been aware of the potential of ABW as a means of further enhancing flexibility, but implementing free seating was not considered as an option for the organisation. Management viewed the transition from cell offices to open layout to be enough of a challenge for employees. From the management perspective, then, flexibility was understood as fixing the configuration of the layout in order to allow future changes. Upholding the

standardisation of space and furniture from the design phase into use became the primary managerial goal.

Mobility and teamwork emerged as the major themes that workers related to flexibility. In interviews, workers shared a common understanding of flexible working as working collaboratively with others in other locations than one's desk. Flexible working practices were not seen as extending much beyond the office or normal working hours. Although there were some use of part-time contracts, for most employees work was full-time and took place in the office during office hours. Users' experiences of interactive or mobile work before relocation were however spread unevenly across the organisation. A majority of the employees were case workers, who spent most of their time working individually at their desks. In other departments, such as IT and project development, work was more collaborative. Caseworkers had previously been assigned either individual or shared offices, and many stated that they had been nervous about moving into open offices. Developers, on the other hand, had previously been working in open-plan layouts. These workers were used to and valued working in open-plan offices, and were interested in enhancing their flexible working practices.

From Ideas to Space

The interests of the workers therefore had to be aligned with management interests in the design concept. In the final design concept, we identified three main strategies of spatial flexibility: open space, standardisation and excess capacity. The table below shows how these three strategies consisted of architectural and behavioural aspects, and how the strategies related to the ideas of flexibility described above. In line with the managerial goals for flexibility, open space and standardisation were together intended to make organisational restructuring possible without physical change. Additionally, an

idea of excess capacity had been applied to the provision of meeting room space in the office. This strategy was less explicitly linked to the organisational strategy of flexibility. Together, these strategies largely corresponded to workers' ideas of flexible working. Providing an open layout with multirooms, different types of working spaces and meeting rooms, would enable both mobile work and teamwork. In theory, then, the flexible office concept could achieve management goals of flexibility while providing users with valued flexible working practices.

[TABLE 3 HERE]

For the office concept to provide the intended operational flexibility, however, users would have to use the space as intended. Several steps were taken by management in collaboration with architects to ensure this. Table 3 below shows the goals and obstacles of the different actors in this process. The first obstacle concerns the architects' ability to design a layout that enabled flexible working, and that could fit the different users' needs. The building was erected on the foundations of a pre-existing building with a cell office layout, and the floor plan of the new building maintained much of the structure of this plan. The distribution of space following this previous building's layout reduced the number of possible options for configurations of the layout.

[TABLE 4 HERE]

To overcome user resistance, an organisational development program and a user participation scheme were instigated. One of the outputs of the organisational

development program was a set of guidelines for the use of the office space, created by all managers in collaboration. The guidelines were particularly concerned with preventing noise and disruption in the work areas, including issues such as eating at in work areas. Led by the architects, the participation process followed what the interior architect termed a ‘inform widely, involve narrowly’ strategy. This meant that there were a few user representatives involved in the different working groups of the relocation project, while the rest of the users were invited to give an opinion on the design of work-stations. This latter point became an issue of contention between management and employees. Certain groups demanded adaptation to specific work practices, and the labour organisations that were consulted in the design process got involved to argue their case. As a result, several adaptations had been granted to different departments, making the seating layouts more specialized than they were intended to be. Although the differences were relatively small, a certain amount of physical change would be necessary if the organisation wished to restructure.

Obstacles to Flexible Use

In use, the strategies of flexibility had equivocal effects. Informants highlighted positive aspects, but a number of obstacles also hindered the concept from being used as intended. Most informants agreed that the open layout contributed to better collaboration with co-workers. One caseworker reported: ‘And we also have a lot more ongoing communication when we’re sitting in groups according to tasks, and that’s very practical.’ Proximity to co-workers was seen to aid information-sharing, but issues of noise and distractions to concentrated work were common themes. The practice of using headphones to avoid being disturbed when working emerged in response to issues of both noise and distraction. Informants reported that in certain departments, these

practices had become somewhat formalized to the extent that wearing headphones seen as a way of signalling unavailability. On informant described how these practices had become partially formalised through common agreement: ‘We’ve talked about that, it’s a kind of respect. Then you can rather wait an hour.’ Putting on headphones becomes a way of establishing the privacy to work undistractedly. Simultaneously, however, this privacy hinders communication with others co-workers, and the interactive potential of the flexible layout is temporarily suspended.

Intentions were also found to be impeded by issues regarding use of technology. Users had expected that the multi-rooms that would provide the privacy needed for concentrated work, but in practice they were not taken into use this way. One of the main reasons given by informants for not using the multi-rooms for concentrated work was that these rooms lacked the double screens that all desks were equipped with. Allowing each employee two screens was part of the upgrading of the IT facilities that was part of the move, and informants reported that they found the double screens to be a major improvement in their work practices. The two-screen solution had made had made caseworkers’ jobs of compiling and checking information from different case documents much easier. Several informants described themselves as ‘addicted’ to the new screens, and felt that it would be impossible to return to working on a single screen. The multi-rooms did not have any screens, so informants saw them that using the multi-rooms for their casework would be an impediment to their effectiveness at work. As one informant put it: ‘One is a bit locked to one’s desk, or at least I feel that way.’ For users, the misalignment of technology with the design concept is persuading them not to take the possibilities provided by the layout into use.

The guidelines that were implemented to support the transition to the open space layout caused opposition among some users. The rules regarding practices around individual

desks were the ones that caused most opposition. Since free seating practices had not been implemented so that users were not required to move desks, many informants did not see the point of cleaning one's desk every day. Many informants reported that they often broke this rule. Some informants argued that rules were too strict, infantilizing employees, while others found the rules useful and necessary. One interviewee argued that a certain degree of 'flexibility' should be used to interpret these rules, and expressed dismay at what he perceived as an 'inflexible' management mind-set around the implementation of these rules. A minority of informants expressed highly negative views about the rules and management enforcement of them.

Negotiating Flexible Space

The examples above show that users experienced a set of obstacles to use that contribute to the space being used less flexibly than intended. Moving into the building, management pre-emptively asserted control through guidelines. Some of these prescriptions were resisted, as we showed above. At the same time, practices emerged to solve problems that the rules were intended to solve. Table 5 shows the relationship between strategies, obstacles, and emerging practices. The use of headphones has been described above, and can be seen as a response to noise, disruptions and a lack of privacy. However, other flexible working practices emerged that were not related to obstacles. Our data also suggests that ideas of flexibility changed through use.

[TABLE 5 HERE]

Adaptations to work practices were restricted in the design concept, but users appropriated space to facilitate their work practices. In the IT department, two multi-rooms were repurposed by users for project work. IT developers who employed a SCRUM methodology for work used whiteboards to map processes. In their opinion, the spatial design did not have enough writing surfaces. The developers had been negotiating with architects and management since the design processes began, and had been allowed a few more whiteboards after some time in use. However, users argued that this was not enough. One room had been papered from floor to ceiling with wrapping paper to allow workers to sketch on the walls. The other room had been used to map out the processes in a specific project. Users had removed furniture, and used the walls to display an intricate system of post-it notes. The IT developers had also created their own whiteboards on glass walls when they found the provided amount of writing surfaces to be insufficient. This was done in defiance of the guidelines, which clearly stated that wall surfaces should be kept clean. By resisting the management policy, the users appropriated the space to better suit their processes.

Further, informants reported a more flexible use of meeting rooms. Work practices that involved informal collaborative work sessions, termed 'group work' by users, had emerged around the meeting rooms. An HR director observed that employees used meeting rooms for informal work rather the soft furnishings intended for this. Informants reported that a flexible mind-set had emerged around the use of the meeting rooms. Users were instructed to book meeting rooms through online calendars, but did generally not book the rooms for impromptu 'group work' sessions. Situations could then arise where people could arrive for a meeting to find their pre-booked meeting room in use. Informants reported that these situations tended to be handled easily and

without any conflict, since there was a shared sense that ‘we have enough meeting rooms anyway’. The ‘pre-bookers’ might then just as easily move their meeting to the next available room, allowing the ‘un-booked’ to keep on working. To the informants who reported these practices, this represented a shared flexible attitude that had been gained in the new building.

The data also suggests that different ideas of flexibility emerged among through use. When users expressed disappointment with the flexibility of the office space, they tended to refer to a disappointment with the difficulty of moving desks for short-term arrangements. In interviews, employees reported that they would have liked the ability to change the configuration of the layout for short-term project work. The project leader for the relocation project reported: ‘If we want two seats there, which there’s space for, we can’t do the job ourselves. Because then you have to remove the carpet tiles [of the data floor], and plug them. And we can do that, but it’s not efficient. Then it’s not that flexible after all.’ Being able to move desks was never intended by the standardisation strategy as it had been formulated before relocation, yet after relocation the effectiveness of this strategy for everyday use is questioned. For users, the possibility of moving desks because there is space for it, leads them to see new possibilities within the space. Users’ disappointment with the flexibility of the space refers to a changed ideas of flexibility.

Discussion

Despite the shared perception that the space was less flexible than expected that emerged in user accounts of their everyday use, our findings suggest the emergence of flexible work practices. The meaning of flexibility within the organisation also seems to have shifted. Through the process of design and use, both ideas and reality of flexibility

have been transformed. Viewing our data through the concept of translation (Callon 1984), we can see that the office design project in our study can be seen as a 'moving project' (Latour and Yaneva 2008). From this perspective, the gap between design concept and built reality becomes apparent. Our analysis shows that negotiations between actors changed the design concept before the space was built when the strategy of standardisation was compromised by adaptations to different work practices. In reality, space was less standardised than intended in the design concept. This space could be seen as translated space where actors have resisted stabilisation, instead setting up spaces of prescription and negotiation (Murdoch 1998). The prescriptions for practice that were enforced by management were aimed at supporting standardisation, and the rigid enforcement of these guidelines was met with opposition among users. Emerging practices negotiated space and materiality to allow users to fulfil spatial needs, such as using headphones to achieve privacy or appropriating space into work practices. As the reality of the concept moved, the prescriptions remained the same, widening the gap between concept and reality. The prescriptive actions taken by management become an obstacle to flexible working rather than enabler when users resisted and undermined guidelines. The organisational understandings of flexibility shifted during the process of design and use, so that the flexibility that users expected in practice was different than the one intended in the concept. Through use, then, new practices and meanings were socio-materially co-produced that transformed the original intentions of the original design concept. This finding underscores the transformative and emergent properties of the design and use processes and has several implications. First, that rigid interpretations of the concept can inhibit the implicated actors from resolving emergent conflicts and issues. Further, that users' understandings of the concept play an important role in how it is used. Last, this emphasises the need for

office design to be adjustable and adaptable by managers and users over time, as has been suggested by other authors (Ekstrand and Hansen 2016; Värlander 2012)

As previous studies have shown, processes of social control or social structures that oppose the design intentions can emerge through use in response to negative effects of the office concept or space (Hirst 2011; Värlander 2012). In support of these findings, our study found practices that emerged among users to compensate for unintended consequences. Users reported a lack of privacy and perceived loss of productivity that was consistent with previous research on open-plan offices (De Croon et al. 2005; Appel-Meulenbroek, Groenen, and Janssen 2011; De Been and Beijer 2014). Headphones were used not only to establish auditory privacy, but also to communicate unavailability and avoid interaction. To some extent, then, wearing headphones contradicted the intention of interactive work implied by the open space strategy, and in this sense our study supports findings that users fail to use the space as intended (Appel-Meulenbroek, Groenen, and Janssen 2011; Hoendervanger et al. 2016). Issues with technology that was not properly adapted to use or space hindered users' adoption of the intended flexible practices of mobility. Implementing a two-screen solution that made users prefer working at their desks does not seem to be compatible with mobile working. This hints at a misalignment of technological with cultural aspects of the office concept, which supports the notion that alignment between social, spatial and technological aspects are important in an office concept to avoid unintended consequences (Ekstrand and Hansen 2016). Furthermore, users found the prohibitions against personalisation at both personal and group level to be a source of dissatisfaction, as could be expected from the literature (De Croon et al. 2005). However, the practices of active adaptation of space in the multi-rooms were more directed toward fulfilling territorial needs at a group level, rather than personalisation of individual work areas

through personal items as found in previous studies (Brunia and Hartjes-Gosselink 2009).

Viewing space as socio-materially co-produced as suggested by an ANT perspective enables us to suggest that flexible space can produce flexible users. In contrast to studies that have found the social effects produced in office concepts to counteract design intentions (Hirst 2011; Värlander 2012), our findings suggest the emergence of flexible working practices that displace, rather than counteract the intended practices. These emerging practices can be characterised as flexible, in the sense that users engage in teamwork (Gibson 2003; Värlander 2012) and are able to adapt the space to their work practices (Duffy and Powell 1997). The emerging practices around "group work" in meeting rooms and appropriation of multirooms are enabled by the availability of space that can be repurposed. Thus, the spatial flexibility strategy of generality (Arge and Landstad 2002) or excess capacity (Becker and Steele 1995) can be understood to actively be enabling these practices by providing space for unanticipated uses. However, not only the availability of space, but also the specific characteristics of the spaces could play a part in this spatial production. In the meeting rooms, the enclosed space allows users to interact away from the practices of social control that we found in the open space. Even though they have been designated as meeting rooms to be booked through the online platform, these prescriptions are not strong enough to prevent the emerging practice of flexible use. In the appropriation of multi-rooms the enclosed quality may be less important than the lack of prescriptions for use, and the proximity of the rooms to work areas. By appropriating the space, users can assert their territorial needs and thereby identities, as has been suggested in the literature (Brunia and Hartjes-Gosselink 2009). In our study, emerging practices of flexible working are engendered through an availability of physical space, the social affordances of this space, and a lack

of prescriptive actions associated it. From this perspective, flexible space can produce flexible users, but this production is contingent on users' actions, as well as space and materiality. As such our findings support Värlander's (2012) suggestion that the effects of spatial flexibility on individual flexibility are equivocal. In line with her findings, our study supports the notion that 'spatial design affords many additional dimensions than those explicitly intended and sought' (Värlander 2012). Although our findings suggest that flexible space can engender flexible working, the flexible practices we found in our study were not intended by the organisational aims. Rather, they were enacted in opposition to the intentions of the design concept.

Finally, our study suggests that users' conceptions of flexible space in practice differ from the conceptualizations uncovered in the design literature. Two distinct perceptions of user flexibility emerged from the data. The first concerned the idea of occupying space for defined periods of time for project work. This conceptualisation could be seen as relating to generality, where space is suitable for different uses without physical change and flexibility is achieved though different uses (Arge and Landstad 2002). However, the users' understanding implies allowing users a more active organising of space over time than the spatial concept of generality affords. The second understanding of flexibility that emerged related to making short-term changes to the physical layout. In the literature, flexibility in the sense of being able to modify architecture through physical change tends to refer to change at the scale of the building structure, for example through modular building systems (Arge and Landstad 2002). This type of flexibility seems to be more similar to a type of flexibility in terms of movable interiors, which does not seem to be what is suggested in the FM literature (Duffy and Powell 1997; Becker and Steele 1995) This type of flexibility would likely require customization of office space, and as such contrast with the standardisation implied by

use flexibility or operational flexibility (Nutt 2000, 1988). In light of these different understandings, it seems that if users are to perceive space as flexible, a more open-ended type of flexibility at the user level is required, or at the very least the ability to adjust space over time, as suggested by Värlander (2012).

Concluding remarks

This paper began by asking whether flexible spaces could make people more flexible. While our findings suggest that flexible space can co-produce flexible use, they also emphasise the role of user agency in this production. In terms of flexible space, we found that the organisational flexibility intended by standardized layout and furniture was compromised by the negotiations users participated in during the design and user participation phase, and later by the negotiations during use. This points at the active roles that users play in the design and implementation processes, even when they are not formally given such roles by designers or managers. By focusing on user's agency in office design, our study suggests that new ways of conceptualising the relationship between design and use can be found through re-evaluating the role of the active user. In contrast to a deterministic view of how office design can affect organisations, our study supports an understanding of architecture in use an emergent and contingent process with unexpected outcomes.

We suggest that recognizing the agency of users as a productive source of organisational action can enrich office design practice as well as organisational practice. While designers should attempt to enrol people, space and technology in organisationally effective office designs, room should also be left for user actions. Leaving office space open to user appropriations of space may require different ways of interacting with users and designing office space. Our findings suggest that territorial

needs of users at a group level should be taken into consideration as well as needs for privacy. Instead of seeing manifestations of user agency as incorrect use of the design concept, designers and managers could appreciate these actions of co-design through use as an enrichment of organisational practice, and be more flexible in adjusting office concepts after implementation. Enhancing flexible work for users requires an understanding of what flexibility entails in their particular context, and adjusting strategies to their needs over time. These strategies need to be open-ended enough for users to negotiate within them without causing design failures, and resilient enough to sustain both resistance and appropriation. Users should able to actively engage with and architecture to their specific needs, which may require less standardisation in office design.

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