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# Universal Design for the Workplace: Ethical Considerations Regarding the Inclusion of Workers with Disabilities

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## Abstract

This paper examines the ethical issues of the inclusion of workers with disabilities in the workplace with a cross-fertilization approach between organization studies, the ethics of care, and a movement from the field of architecture and design that is called Universal Design (UD). It explores how organizations can use UD to develop more inclusive workplaces, first by applying UD principles to workspaces and second by showing how UD implies an integrative understanding of inclusion from the workspace to the workplace. Moreover, this paper discusses the ethical challenges and complexities that this design practice faces in regard to its applicability to diverse organizations and industries. Finally, this paper demonstrates that inclusion requires abandoning any notion of a perfect, productive body and, therefore, recognizing our shared vulnerability and fundamental interdependence in the workplace.

**Keywords** Universal Design · Disability · Ethics · Care · Inclusion · Workplace · Workspace

## Introduction

According to a report from the World Health Organization and the World Bank (2011), more than one billion people, or approximately 15% of the world's population, live with a disability. However, people with disabilities are significantly underrepresented in employment. They face structural inequality in terms of access to employment (people with disabilities are overrepresented in precarious jobs) and career development opportunities (Foster, 2007; Foster & Wass, 2013). The issue of inequality among disabled and

nondisabled people is increasingly addressed by organization studies (Beatty et al., 2019). However, very few studies have focused on workplaces and how the way in which they are spatially designed contributes to these inequalities (Van Lear et al., 2022). Here, the “workplace” refers to the broader organizational and physical context that encompasses all aspects of where work happens, while the “workspace” constitutes a more specific and spatial area in which work tasks are carried out within the larger workplace. Therefore, the terms “workplace” and “workspace” are related concepts but refer to different aspects of how and where work is conducted.

The literature on organization studies has mostly explored organizational workplace inclusion—which is defined as a collective commitment to integrating individuals who do not belong to historically dominant identity groups, ensuring their active participation in critical decision-making processes and fostering a sense of value and appreciation for their uniqueness (van Bommel et al., 2023)—through organizational inclusive practices (Kulkarni & Lengnick-Hall, 2014; Kulkarni et al., 2016) or organizational moral reasoning. Within the latter, the steady increase in research on the ethics of care within workplace settings has led to the development of a perspective on inclusion that notably emphasizes aspects such as interpersonal relationships, others' well-being, empathy, and emotional dimensions

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(Edwards et al., 2023; Jammaers, 2023). However, the spatial dimension of the workplace, the workspace, and how it can contribute to inclusion has rarely been examined in the context of these ethical considerations (Van Lear et al., 2022).

However, this issue has been widely studied in the field of architecture and design. Works in this field typically argue that space design impacts how people behave and interact (Collier, 2006; Dolmage, 2017; Nussbaum, 1990). These researchers have been particularly interested in the spatial inclusion of people with disabilities. One specific movement, called Universal Design (UD), has been highly influential. Developed in the 1970s, this movement aims to address the call for the conception of spaces that embrace the diversity of bodies and has opened up important debates about the ethics of inclusive design practices (Hamraie, 2012; Imrie, 2012, 2014; Lid, 2014).

In this article, we argue that inclusive and ethical workplaces both involve organizational and spatial choices. Therefore, the cross-fertilization between organization studies and UD provides an opportunity to enhance our understanding of the ethical issues that arise when thinking about the inclusion of people with disabilities in the workplace. More specifically, we examine how this cross-fertilization can offer interesting possibilities for expanding the ethical foundations of inclusion at work.

To do so, we first explore the ethical role of the workplace in fostering inclusion at work and how spatial considerations could contribute to this debate. Then, we analyze how this topic has been approached within the realm of spatial studies, particularly focusing on UD. The following section presents an analytical framework for cross-fertilizing these two approaches, elucidating the potential for developing more ethically sound and inclusive workplaces. Last, our discussion demonstrates how this framework contributes to the expansion of our understanding of inclusive design practices with a simultaneous recognition of their limitations. Furthermore, this involves abandoning any notion of a perfect, productive body and thereby acknowledging our collective vulnerability and inherent interdependence within workplaces.

## The Ethics of the Workplace: Moving Toward Spatial Considerations

Despite the growing number of inclusion initiatives in organizations, research has revealed a significant deficiency in the inclusion of workers with disabilities (Beatty et al., 2019). The literature emphasizes a multitude of barriers to inclusion (Kulkarni & Lengnick-Hall, 2014), including employers' concerns related to expenses associated with workplace accommodations, issues of reduced job performance,

absenteeism, and apprehensions regarding legal liability (Hernandez et al., 2008; Houtenville & Kalargyrou, 2012; Kaye et al., 2011; Kulkarni et al., 2016). These barriers may be due not only to employers' misconceptions and limited knowledge about disability but also to the contradictory objectives between organizational objectives and worker needs that employers have to face (Antoni et al., 2020). These barriers are also attributed to organizational trends centered around standardization and monitoring, which tend to diminish the effectiveness of inclusion practices (Woodhams & Corby, 2007; Woodhams & Danieli, 2000) and restrict their assessment to a mere quantification of able/disable bodies (Jammaers, 2023).

While distinct, these obstacles share a common source: organizations' reliance on justice-based moral reasoning (Jammaers, 2023). Rooted in "principles" and "rules" that serve ideas such as "fairness, rationality, reasonableness, objectivity, and reflective equilibrium" (Hossain et al., 2020; Jammaers, 2023), the ethics of justice tend, therefore, to reduce inclusion in standardized practices that prioritize sociodemographic factors over merit (Jammaers, 2023). In contrast to that perspective, which is viewed as aligning with an impersonal and utilitarian business stance (Antoni et al., 2020), many studies have called for a shift of organizational moral reasoning toward an ethics of care (Ferguson, 1984; Gilligan, 1982; Held, 1993; Tronto, 1993) that prioritizes empathizing with individuals' emotions and circumstances, acknowledging individual differences, and appreciating each person's inherent uniqueness (Edwards et al., 2023; Jammaers, 2023). Echoing the view of these care ethicists, this paper argues that the rejuvenation of inclusion practices hinges on this change in organizations' ethical foundations. Addressing the fundamental question of "how we get people (others) to care" (McEwan & Goodman, 2010), we suggest that inclusion does not solely depend on leaders' discourses and behaviors (Ciulla, 2009; Nicholson & Kurucz, 2019) or employees (Alacovska & Bissonnette, 2021) but also on workplaces and, more particularly, on workspaces (McEwan & Goodman, 2010; Van Lear et al., 2022).

Workplaces are structured environments that are designed to accommodate various forms of professional activities or tasks within an organizational context (Van Lear et al., 2022). They serve as a setting in which individuals engage in job-related functions, interactions, and responsibilities. Workplaces can encompass a wide range of workspaces, each tailored to specific industries, job roles, or tasks. Therefore, space design and designers exert a significant influence on human behaviors and interactions, especially within the context of individuals with disabilities. As extensively demonstrated in studies on disability, spaces can hinder individuals with impairments due to accessibility issues (Foster, 2007; Foster & Fosh, 2010). However, the ableist nature of workspaces is not solely a question of "access to"

or “exclusion from.” More crucially, this ableist nature is related to how individuals utilize space (Van Lear et al., 2022).

Spaces are shaped by people’s actions and political order, and this determines how people experience and interpret space. By allowing some actions and prohibiting others, space can even be seen as “a means of control and therefore of domination, of power” (Lefebvre, 1991, p. 26). For Lefebvre, power is understood as the ability to act and influence the lives of other individuals and society as a whole, either explicitly through governance structures or more covertly through the manipulation of space. Therefore, workspaces are no exception to this phenomenon: they are shaped by socio-cultural forces that give rise to power dynamics in organizational life, resulting in either the inclusion or the exclusion of workers, contingent on their alignment with these forces (Dale, 2005; Zhang & Spicer, 2014). However, akin to a Janus-faced object, space can also serve as a catalyst for the inclusion of people with disabilities. This potential arises from the profound impact of space on shaping people’s attitudes toward others (McEwan & Goodman, 2010); thus, space design is a potent instrument for promoting “wide inclusion” (Rennstam & Sullivan, 2018). However, the inclusion potential of space has hardly been studied either by business ethicists or, more largely, by organization studies. Studying inclusion through the lens of space is, therefore, a fruitful initiative that needs to be explored further. The field of architecture and design, which has previously focused extensively on the ethical aspects of spatial inclusion (Pullin, 2009), provides valuable insights toward achieving this objective.

## Universal Design: Making Spaces more Inclusive

Indeed, the field of architecture and design has devoted considerable attention to the ethical issues of spatial inclusion (Pullin, 2009). Architectural theories rely on so-called universalistic principles, rules, or even standards to help architects design buildings. For these reasons, architecture can be considered ethical by nature (Collier, 2006). As such, the notion of “good” design for everyone is not a new concept in architecture. However, in the late twentieth century, various phenomena encouraged people to make spaces more universally accessible. These phenomena had different manifestations in different regions of the world. For instance, the economic pressure of an aging population pushed Japan and Northern Europe to develop disability-friendly legislation. In the United States, the return of Vietnam war veterans, who became disabled during the war, as well as concerns with social justice and civil rights in the 1960s, led authorities to take legislative measures (Hamraie, 2017; Ostroff,

2011). In both cases, legislation primarily affected the built environment, particularly to accommodate people with disabilities. Following these events and decades of activism from associations defending the rights of people with disabilities, Ron Mace, an architect with a disability, coined the term UD in the 1970s. Mace’s definition of UD is the one that is most commonly accepted today and refers to the “design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (Mace, 1985: p. 148).

UD has been highly influential, as it opened important debates on the ethics of inclusive design practices and called for the conception of spaces that embrace the diversity of bodies (Hamraie, 2012; Imrie, 2012; Lid, 2014). Proponents of UD argue that a social and cultural approach is necessary to avoid reproducing an ableist conception of the body (Dolmage, 2017; Hamraie, 2012, 2017; Imrie, 2012). The strongest criticism of traditional design by proponents of UD is probably that it perpetuates a medical model of disability (Freund, 2001; Silvers, 1998; Wendell, 1996). In the medical model, disabilities are characterized by physical and/or mental limitations due to a malfunctioning body. From this perspective, people with disabilities need “assistance,” as well as systematic medical care, so that they can obtain the medical treatment, cure, or rehabilitation they need (Imrie & Hall, 2001). In line with disability studies, UD largely rejected this model. UD theorists challenge the understanding of disabilities as a “personal tragedy” (Imrie & Hall, 2001; p. 28) or social burden (Barnes, 1991; Barnes et al., 1999; Oliver, 1990, 1996; Shakespeare, 1998). Disability is no longer viewed as a bodily state of impairment. Instead, disability is the socially inferior status that an “able-bodied” society enforces on certain people through various attitudes, prejudices, and exclusion practices because of their physical and mental impairments (Imrie & Hall, 2001). The aim of UD is to produce a built environment that would be fully accessible but also cease to distinguish and separate people based on their abilities and body shapes to avoid a feeling of ostracism and of design itself focusing on one’s impairment (Hamraie, 2017; Imrie & Hall, 2001; Kawauchi, 2010). Nevertheless, it is important to note that scholars working on disability (Lid, 2013, 2014) and international institutions such as the World Health Organization and the World Bank (2011) advocate for hybrid approaches, such as the biopsychosocial or relational models. These models incorporate elements from both medical and social perspectives, deviating from strict adherence to UD principles.

The Center of Universal Design offers seven principles to be followed (see Table 1). As the table shows, the aim is to avoid stigmatizing any person for their impairment but also to anticipate any special need to make it seamless and, therefore, less special. Ultimately, UD aims to ensure equitable uses of the designed environment over time.

**Table 1** The key principles of Universal Design

| UD principle                        | Description   |
|-------------------------------------|---|
| Equitable use                       | The design does not disadvantage or stigmatize any groups of users  |
| Flexibility in use                  | The design accommodates a wide range of individual preferences and abilities  |
| Simple and intuitive use            | The use of the design is easy to understand regardless of the user's experience, knowledge, language skills or concentration levels                             |
| Perceptible information             | The design communicates necessary information effectively to the user, regardless of ambient perceptible information conditions or the user's sensory abilities |
| Tolerance for error                 | The design minimizes hazards and the adverse consequences of accidental or unintended fatigue   |
| Low physical effort                 | The design can be used efficiently and comfortably and with a minimum of fatigue  |
| Size and space for approach and use | Appropriate size and space are provided for approach, reach, manipulation and use, regardless of the user's body size, posture or mobility                      |

Source: Center for Universal Design

Because it seeks to design built environments that fit everybody no matter their age, gender, size, or health (Steinfeld & Maisel, 2012; Welch & Jones, 2002), UD has largely contributed to changing the way we view the issue of disability. UD designers portray this approach as “a common sense approach to ‘good design’ for everyone” but also as an attempt, in the words of Mace, to “neutralize” disability (Guffey, 2018; p. 154). The intent of UD is not only to open spatial boundaries—put down the barriers that exclude by barring access to some—but also to connect physicality to sociality through inclusive designs. UD seeks to spread “an ideology of inclusiveness” (Guffey, 2018; p.154) and thereby to “restore disabled people’s self-esteem, dignity and independence, while encouraging the development and implementation of user-friendly design” (Imrie & Hall, 2001; p. 16).

## UD and the Ethical Issues of Inclusion at Work

### Cross-Fertilizing Organization Studies with UD

Surprisingly, although people spend a large part of their life at work, universal workspace design has not been fully addressed in design literature. Although UD for the workspace has been introduced and mostly discussed in East Asian geographies (Dai Sogawa et al., 2002; Jeong & Shin, 2014; Matsumoto et al., 2005), UD theorists have not fully investigated this topic. Several reasons can be identified to explain why universal workspace design has not been fully addressed. First, public facilities and infrastructure, which have mostly been studied, serve a wider range of public interests, whereas workspaces serve a limited number of people, whether they are employees or customers. Second, even though national legislation pushes businesses to make their work environment accessible to all, companies have had discretion to decide how they address disability

accommodations. Finally, companies’ activities vary, as do their workplaces. Workspaces can be general office buildings, restaurants, hospitals, factories, or schools. However, research has mostly concentrated on general office buildings, so the great diversity of workspaces that are experienced by workers with disabilities is ignored.

Applying UD principles to workspaces can, however, enrich our understanding of the ethical issues of inclusion in organizations, a call that has been made but, thus, far largely unaddressed in organization studies (Van Lear et al., 2022). We posit that, from a spatial perspective, designers have a role to play in organizations. Their role relates to the need to think about the relationship between workspace and people. By promoting designed environments that are as easy to use as possible so that all people can access with no needs for adaptation or specialized design for people with disabilities (Mace, 1985), UD can, therefore, contribute to “enabling justice” at work where space provides everyone with “material satisfaction” and “socio-cultural participation” (Gleeson, 1999, p. 149). Therefore, we argue that more ethical workspaces would lead to more ethical workplaces within organizations.

In this section, we, therefore, address the call for in-depth explorations of the ethics of inclusive design practices by applying the seven UD spatial principles (see table) to workplaces (Table 2).

### Equitable Use

The equitable use principle contributes to developing workplaces that do not disadvantage or stigmatize any groups of workers. When exploring discrimination patterns, prior research in organization studies has shown that workers with disabilities usually suffer from a gap in work-related outcomes compared to other workers (Fevre et al., 2013; Foster & Wass, 2013; Klinksiek et al., 2023). Although not exclusively, workspace accessibility is one of the main explanations of this disability gap (Klinksiek et al., 2023; Van Lear



**Table 2** The key principles of Universal Design applied to workplaces

| UD principles                       | UD principles applied to workplaces   |
|-------------------------------------|---|
| Equitable use                       | The workplace does not disadvantage or stigmatize any groups of workers   |
| Flexibility in use                  | The workplace accommodates a wide range of workers' preferences and abilities   |
| Simple and intuitive use            | The workplace is easy to experience regardless of the worker's body abilities, experience, knowledge, language skills or concentration levels |
| Perceptible information             | Information in the workplace is communicated effectively to the workers, regardless of work environments or the workers' sensory abilities    |
| Tolerance for error                 | The workplace minimizes hazards and the adverse consequences of accidental or unintended fatigue  |
| Low physical effort                 | Workplaces can be used and experienced efficiently and comfortably and with a minimum of fatigue  |
| Size and space for approach and use | Appropriate size and space is provided for approach, reach, manipulation and use, regardless of the worker's body size, posture or mobility   |

et al., 2022). As explained by Barnes et al. (1999), “the industrial infrastructure of western societies has developed without reference to the needs of people with impairments... inaccessible buildings, work processes, and public transport systems ...prevent many from working where or when they want” (p. 112). Therefore, according to the equitable use principle, all spaces within an organization ought to be both physically and functionally accessible to provide an equitable workplace experience in terms of formal and informal professional practices, whether in offices, restaurants, or break rooms. This inclusivity involves ensuring equal opportunities for all individuals to engage in work-related activities and interactions within these spaces while avoiding segregation processes. Built environments can exclude people with disabilities from participating on an equal footing in social life at work. This is particularly true in workplaces where, despite these arrangements, people with disability still suffer from limited social interactions and isolation (Foster & Wass, 2013; Macdonald et al., 2018). Workplace inclusivity also includes the establishment of accessibility policies that impact the use of workspaces and engagement in consultations with workers to ensure that their needs are duly acknowledged and accommodated. Through the promotion of an inclusive approach, employers can offer spatial solutions to meet workers' diverse needs, thereby fostering a work environment that is both equitable and conducive to productivity.

### Flexibility in Use

The flexibility in use principle promotes workspaces that have the capacity to adapt to various workers' abilities and to the requirements of diverse contemporary work environments. Organizations have been increasingly introducing new sets of practices that rely on the ideals of flexibility, collaboration, empowerment or freedom of ways of working (Aroles et al., 2021; Irving et al., 2020; Renard et al., 2021). Although these practices (also called new ways of working) bring benefits, they can also disable the work outcomes

of workers with disabilities. Practices such as using activity-based offices or shared workspaces can be expected to aggravate the “disability gaps” between workers, potentially leading to work-impairment coordination, perceptions of justice, isolation or privacy concerns (Klinksiek et al., 2023). Therefore, work environments that are generally versatile and adaptable, enabling diverse workstyles and activities, tend to avoid such pitfalls. Through the integration of modular furniture, movable partitions, and adjustable layouts, flexible workspaces can, therefore, facilitate effortless reconfiguration to accommodate varying worker preferences. This inherent flexibility allows workers with disabilities to afford the freedom to select work settings that align with their tasks and inclinations and to facilitate their accuracy and precision. The fluid nature of these workspaces engenders a sense of autonomy, empowering individuals to fashion an environment that is conducive to their specific needs, ultimately increasing the satisfaction of workers with disabilities.

### Simple and Intuitive Use

The familiar and intuitive use of working environments contributes to efficiency in organizations and helps workers complete goals that would not be achieved otherwise. In organization studies, the notion of simple and intuitive use has mostly pertained to work accommodations and tools, as some companies have invested in intuitive computer-assisted activities and solutions that can be performed by workers with motor and sensory disabilities (D'Avanzo, 2022). However, in regard to workspaces, UD postulates that thinking about space legibility, volumetry, lighting, and soundscape contributes to helping all workers better reach work-related goals. Organizations should, therefore, ensure the coherent and intuitive organization of essential architectural elements related to accessible open spaces, pathways (corridors, ramps, elevators), and openings (doors, windows) within the workspace. They can also contribute to implementing specific systems, including color-coded schemes or tactile bands, for instance. These measures facilitate the intuitive

identification of zones, equipment, and resources within organizations. Additionally, the strategic implementation of partitions or dividers to minimize visual and auditory distractions can create quiet environments that are conducive to sustained focus and cognitive engagement, thereby enhancing the experience of workspaces.

### Perceptible Information

Inclusive design practices are a matter of not only physical access but also access to information (Foster & Wass, 2013). Information in the workplace should, therefore, be communicated effectively to every worker, whether they have any disability or not. Organization studies have approached this issue mostly in relation to the rise of information technologies (Bruyère et al., 2005) that present specific accessibility challenges, especially for workers with sensory disabilities (Billion & Doussard, 2023). However, low-tech solutions also exist to increase access to information. Documentation and communication means within the workplace should be perceptible to all workers thanks to the thoughtful selection of fonts, symbols, and contrasting colors suitable for color-blind and visually impaired individuals. Clear signage, including additional tactile and visual aids such as orientation signs and directional arrows, contributes to guiding workers efficiently in workplace facilities. Comprehensible labeling facilitates the identification of different work zones and equipment. In addition to utilizing spatial strategies, organizations should be able to employ various communication methods that are tailored to diverse situations and workers and include oral, written, and occasionally iconographic approaches.

### Tolerance for Error

The tolerance principle implies that workplaces should minimize hazards and the adverse consequences of accidental or unintended fatigue. This is all the more important since the literature clearly demonstrates that people with disabilities often experience an increased risk for physical and psychological disorders (Bellini, 2017; Matt & Butterfield, 2006; Merz et al., 2001), especially due to pain and fatigue (Thomas, 2004). This is particularly the case in regard to some specific organizations and work-related activities that entail increased levels of physical and psychological risks. From a spatial standpoint, UD strategies encompass ergonomic layouts aimed at minimizing physical strain and efficient space planning to mitigate unnecessary and hazardous movements. Therefore, the hazardous elements of the workspace should be eliminated or at least shielded. The provision of universally accessible areas for rest and breaks enables workers to recharge and consequently diminishes

risks associated with workplace inattentiveness and unconscious actions.

### Low Physical Effort

The sixth UD principle posits that, in addition to tolerance for error, workspaces should be used and experienced efficiently and comfortably. In organization studies, the notion of low physical effort is closely related to the notion of risk. As already mentioned above, workers with disabilities often suffer from pain and fatigue (Thomas, 2004) and, consequently, regularly experience physical and psychological disorders (Bellini, 2017; Matt & Butterfield, 2006; Merz et al., 2001). To address this issue, organizations can enhance their workspaces by implementing features such as access ramps, elevators, automatic doors, or adapted restroom facilities. Workspaces can be designed in an ergonomic manner to minimize repetitive actions and sustained physical effort. They can also provide specific furniture and equipment that also follow UD principles and allow the worker to maintain a neutral body position, such as adapted seating or height-adjustable desks to cater to individual needs. Providing access to assistive technologies such as voice-recognition software, screen readers, and remote-control devices contributes to reducing physical exertion in the workplace, thus, enhancing the comfort of workers with disabilities.

### Size and Space for Approach and Use

The last UD principle posits that organizations should provide appropriate size and space for the approach, reach, manipulation, and use of workspaces and equipment. This notion has been explored in relation to retrofitting or additive design, design that conveys unequal relations of power between workers with and without disability (Van Lear et al., 2022). While retrofitting or additive design convey the idea that “disability is supplemental to society, that it is an afterthought or an imposition” (Dolmage, 2017, p. 105), it also conveys in organizations the idea that workers with disabilities do not fit with the ideal worker norm (Foster & Wass, 2013). However, this assumption, which is embedded in design projects and shapes organizational spaces, results in the marginalization or exclusion of anyone who does not fit such an ideal body (Van Lear et al., 2022). UD, therefore, suggests that organizations should consider variations in body size, posture, and mobility. They should provide adequate spaces that accommodate different physical abilities while also considering the use of all types of assistive devices. Ensuring clear pathways and unobstructed access to work areas enables individuals using mobility aids or assistive devices to navigate the workspace safely. Providing a clear line of sight is also important for any seated or standing worker to reach elements. Diverse abilities should also

be considered when thinking about the size of furniture and equipment to accommodate variations in hand and grip size.

## Discussion

### From Workspace to Workplace Inclusion: Asserting Different Degrees of Applicability

Beyond the question of accessibility to and exclusion from workspaces (Van Lear et al., 2022), UD principles elucidate the role of workers' experiences in inclusion. By defending the social model of disability, UD suggests that disability can be socially produced by the way spaces are experienced (Dolmage, 2017; Hamraie, 2013). Therefore, inclusion is a matter of not only space design but also the way designed spaces are used and experienced in regard to specific organization practices. The lived experience of material space can produce powerful forms of exclusion of people with disabilities because built environments very often convey unequal power relations between bodies with and without disabilities, even once they are made accessible. For that reason, UD acknowledges that spaces are important not only regarding how they are designed but also regarding the thoughts and behaviors they generate among users (Dolmage, 2017). Therefore, UD invites us to open the ethical issue of spatial inclusion to the workplace by focusing on workers' lived experience of workspaces and studying to what extent workspaces contribute to the reaffirmation or reproduction of social structures and consequently to the dominance of some workers over others (Van Lear et al., 2022).

However, while UD holds the potential to transform the approach of organizational leaders and managers in creating inclusive workplaces, it is not without its challenges. Therefore, acknowledging these challenges contributes to the expansion of our understanding of inclusive design practices while concurrently recognizing their limitations in the workplace.

The diversity of architectural spaces, whether they are for housing, work or leisure, and the diversity of contexts in which they are built, make it difficult to apply UD principles systematically. This is particularly true for workplaces in which the implementation of UD principles can be complex due to diverse industries, activities, and workforce sizes. Organizations may encounter difficulties in adhering closely to UD guidelines, as they strive to balance the unique requirements of their specific contexts. Some work environments are indeed not intended to be intuitive and user-friendly, particularly in regard to performing complex tasks. It is particularly challenging to apply the "simple and intuitive use" principle in research laboratories, where innovation in processes and tools is paramount. Furthermore, some work environments are complex and uncertain, especially

in high-risk professions. This is the case, for example, in law enforcement, which operates in environments that can hardly adhere to the "tolerance for error" principle. The risks involved are sometimes difficult to anticipate. Beyond the notion of risk, the principle of "low physical effort" can also be questioned. Physical effort is not always a problem, especially when it is desired, as is the case with athletes with disabilities. Sports facilities are designed to promote effort and fatigue. Some professions are also unsuitable for certain types of disabilities, leading to inherent inequities regardless of the workplace considered (principle of "equitable use"). For instance, a blind individual would face significant challenges in becoming a bus driver. This shows the limits of UD as the champion of the social model of disability in regard to the workplace, as the biophysical attributes of workers with disabilities also matter in regard to specific jobs and industries. It also appears that the principles of UD are more easily applicable to tertiary buildings and the service industry. Many of these principles pay little attention to the spatial and organizational constraints of the agricultural and heavy industry sectors. For example, certain production chains rely on heavy and inflexible equipment and machinery that are difficult to adapt and adjust to all users (principle of "flexibility in use"), and are, at times, relatively hazardous (principle of "tolerance for error"). This demonstrates that UD can reinforce inequalities and power relations between sectors of activity in terms of inclusive architectural design strategies, as they are not easily applicable to all types of organizations.

Finally, UD requires either considering these principles during the initial design of the workspace or redesigning them within existing buildings and infrastructure while adhering to relevant building construction and protection standards and laws. However, this can be particularly challenging for organizations associated with specific sites and contexts. For instance, UD principles may not be fully applicable due to heritage preservation laws that restrict design and construction modifications. Architects of previous centuries likely did not anticipate the needs of individuals with disabilities, nor did they have access to technologies that could facilitate building accessibility. Many old buildings currently used as office spaces or cultural sites, particularly in historic European cities, were not originally designed to accommodate elevators or conveyor belts that were not available at the time of construction. Hence, striking a balance between preserving historical significance and implementing UD principles becomes a complex task in such contexts. Such an example also highlights the need to consider national differences in terms of laws and regulations in regard to UD for the workplace.

Therefore, the practical application of UD in workplace design and practices necessitates careful consideration and adaptation to suit the particular circumstances and



constraints faced by organizations. By recognizing and addressing these challenges, organizations can effectively navigate the path toward greater inclusivity in their work environments.

### **Abandoning the Notion of a Perfect and Productive Body**

UD principles enable us to explore the disabling role of workspace and to posit that inclusion is both a matter of workspace design and workers' experience and practices within an organization. Supporting the social model of disability, UD encourages organizations to abandon the notion of a perfect and productive body and thereby the ideal worker norm that comes from the industrialization movement of Europe in the eighteenth century and its related standardization of work practices and individualization of labor (Barnes & Mercer, 2005; Oliver & Barnes, 2012). Together with refinements in national statistics methods, these changes underwent a fundamental change in how "normality" was defined, as theorized by philosophers such as Canguilhem (1966) and Foucault (1975). Until then, the "normal" had been mainly defined in opposition to the "abnormal," the notion of a norm coming first and being used to justify the rejection of anything different from such norm. The industrial revolution introduced the notion of a normality observed through statistical regularities, the observation of variations coming first and being used to define a norm—and encourage all other patterns to get closer to the norm. From such a shift emerged a specific understanding of the "able body" as a norm around which to structure working environments. Standardization then was key to improving efficiency and performance. "Fully functional" bodies became the "norm," and all others were constituted as a form of deviance (Oliver & Barnes, 2012).

These considerations reveal the extent to which traditional architectural theories implicitly assume the existence of an "ideal body," an able-bodied (Foster & Wass, 2013; Harlan & Robert, 1998; Randle & Hardy, 2017; Sang et al., 2016), average-sized (Imrie, 2013) person who fits with any environment. This assumption is embedded in design projects and shapes organizational spaces (Van Lear et al., 2022), which results in the marginalization or exclusion of anyone who does not fit such an ideal body. The development of the ideal of able-bodiedness maintains and even fosters power relations between disabled and nondisabled people in work environments.

In the process, the wider questions of equality, diversity, or the social construction of disability as well as the necessarily holistic response are, however, completely lost (Barnes & Mercer, 2005). From a UD perspective, disregarding the needs of specific individuals and compelling them to encounter situations that do not suit them cannot

be regarded as a harmless oversight. Rather, it is a political choice. As argued by Grasswick (quoted in Hamraie, 2013, p.83), "Ignorance is not the result of a benign gap in our knowledge, but deliberate choices to pursue certain kinds of knowledge while ignoring others." Therefore, UD theorists hold that designers have to leave behind their "epistemology of ignorance" and contribute to the development of a more ethical and inclusive position by recognizing the presence or possibility of bodily impairment and addressing the needs of all people so that people with impairments do not have to experience misfits anymore (Imrie, 2010).

### **The Need to Recognize Our Fundamental Vulnerability in the Workplace**

As such, UD invites organizations to rethink inclusion in the workplace, neither as an accommodation with "special needs" nor as a recognition of the specialness of impairment but as a realization that vulnerability and corporeal deterioration is "natural," ubiquitous, part of the human condition (Imrie, 2012). From a UD perspective, any form of workspace design that sees dependence as a problem to overcome denies workers' fundamental vulnerability and interdependence. Instead, universal inclusion at work requires a recognition of the variety and mutability of physicality. What is needed is the recognition of not only the particularity of varying lived embodiments but also the fundamental vulnerability and dependence of human life in general (Garland-Thomson, 2002, 2011). Experiencing an impaired body is a likely condition of everyone's life. Our shared vulnerability shapes our definition of ourselves as ethical subjects and the ties we have to others (Butler, 2004).

An ethics of vulnerability, as offered by philosophers such as Levinas and Judith Butler, by reaffirming our mutual dependence and inexorable precariousness; therefore, questions ableist expectations and offers a more ethical understanding of inclusive workspace design. Such rethinking of space, design, and architecture around notions of ethics encourages us to see the relationship between workers and the workplace as a question of right, the right for workers to freely express, expose and live their vulnerabilities.

The intersectional movement could help to rethink design to make it fully inclusive (Crenshaw, 2017). The notion of intersectionality suggests considering the tensions and overlaps among a multiplicity of systems of oppression and understanding how situated perspectives emerge from such multiplicity. As disability refers to a multiplicity of situations emerging from a diversity of impairments, the conception of more inclusive workspace designs could also come from an intersectional understanding of the relation between workers and their environment. In addition, inclusion requires not only universal rights but also, as Judith Butler would say, a form of recognition, and therefore, the

recognizability of a condition as a potential barrier to full access and enjoyment of the built environment. This calls for more debates on how any ethical rethinking of design implies rethinking the limits of participation and recognition and the conditions of possibility for design to become more ethical and surfacing the political nature of design by questioning how some impairments are “counted” and can, therefore, “count” as part of the complex of disabilities that are to be included in a more ethical conception of design that can participate in the definition of what makes design “good” and ethical.

### Avenues for Future Research

This study has several limitations that open doors for future research, especially in business ethics.

First, this research narrows the concept of inclusion primarily to the domain of physical impairments. Nonetheless, such a narrow focus inherently underscores the need for further investigations that encompass cognitive impairments, such as neurodiversity. These broader perspectives could enrich our understanding of the connection between space and the ethic of care by illuminating the interplay between space and the dynamics of relationships within organizations.

Second, while this paper offers some insights into the relation between space design and moral reasoning in organizations, additional investigations are needed to enhance our understanding of how space, in the way it is designed and experienced, impacts human cognition and behavior and ultimately contributes to the development of shared collective moral reasoning. Organization studies have previously emphasized the ableist nature of space (Lefebvre, 1991; Van Lear et al., 2022). However, this topic has received limited attention within the realm of business ethics. We argue that space, when properly designed, has the potential to nurture moral reasoning rooted in an ethic of care, in which the foremost moral obligation entails acknowledging individual distinctions, attending to needs, and nurturing relationships (Jammaers, 2023). Specifically, by applying UD to workspace, we demonstrate that design can contribute to transforming organizational environments into spaces of care in which body diversity and vulnerability are acknowledged. However, these theoretical thoughts need to be further developed into the nexus between space design and the ethics of care. In particular, additional research could explore how spatial design can further facilitate the sustenance of relationships and the exchange of assistance, affection, or rewards with others (Day, 2000).

Last, by introducing the framework of UD into the organization studies literature, this article lays the groundwork for fostering collaboration between the fields of organization and architecture studies. Nonetheless, the

field of architecture and design presents additional pertinent frameworks that hold promise for advancing this collaborative endeavor and enriching our comprehension of ethical spatial design. For instance, exploring the literature on inclusive design or accessible design (Persson et al., 2015) could further contribute to this interplay.

### Conclusion: Rethinking Inclusion at Work

UD can be seen as a powerful strategy for combating workplace discrimination and fostering inclusion. By adopting UD principles, organizations can actively challenge discriminatory norms, structures, and practices that perpetuate exclusion and, thus, adopt more ethical practices in regard to the workplace. UD also prompts a paradigm shift from viewing disability as an individual deficit to acknowledging it as an integral aspect of human diversity. Consequently, the focus shifts toward creating environments that accommodate and embrace the diverse needs and abilities of all workers, ensuring equal opportunities for participation, engagement, and contribution within the workplace. Furthermore, the scope of UD extends beyond creating inclusive workspaces to encompass all facets of organizational structures, elucidating power dynamics between individuals with and without disabilities. Therefore, UD promotes a broader understanding of inclusivity that extends beyond physical accessibility. It encompasses considerations such as communication, technology, policies, and attitudes, thereby fostering an inclusive culture in organizations that values and respects the diverse experiences, perspectives, and talents of every worker. Thus, designers bear the responsibility of crafting work environments that not only rebalance power relations but also refrain from exacerbating existing inequities within the workplace.

While UD may not provide a universal solution for every circumstance, it remains a compelling approach to consider when striving for inclusive practices in diverse workplaces, industries, and for all workers with disabilities. Embracing UD necessitates accepting the premise that “the impaired body is no exception to a human biography but should be acknowledged as a necessary and inevitable part of ‘human variation’” (Garland-Thomson, 2005, p. 1567). In essence, this implies recognizing our fundamental vulnerability as humans and relinquishing the notion of an idealized, flawless, and endlessly productive body. By challenging existing norms, fostering inclusive design practices, and acknowledging vulnerability, UD finally contributes to a more equitable and just society in which individuals with disabilities are recognized as valuable contributors and afforded equal opportunities to thrive in the workplace.

## Declarations

**Conflict of interest** No potential competing interest was reported by the authors.

**Research Involving Human and Animal Participants** All procedures performed in this study involving human participants were in accordance with the 1964 Helsinki declaration and its later amendments, and comparable French ethical standards, as the authors are affiliated with French research institutions, and the studied population (entrepreneurs with disabilities) is located in France.

**Informed Consent** All participants gave their informed consent by email.

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