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**Diverse bodies-space politics: towards a critique of social (in)justice of built environments**

Abstract:

Writing has long played an important role in the progression of architecture and the built environment. Histories of architecture are written, manifestoes that form the basis for a designer's work are written and most importantly, the built environment advances itself through the act of critical writing. Not unlike the visual arts, literature and poetry, the tradition of written criticism has been crucial to the progression of architecture and its allied professions (Franz 2003). This article contributes to architecture and the built environment through the act of a written essay that critiques the problem of bodily diversity to architecture. In particular, the article explores the implications of body-space politics and abstracted body thinking on diverse bodies and their spatial justice. Using Soja's Spatial Justice theory (2008), we seek to point out the underlying conceptions and power differentials assigned to different bodies spatially and how this leads to spatial injustices and contested spaces. The article also critically analyses the historical emergence of 'the standardised body' in architecture and its application in design theory and practice, and looks at how bodies often found on the outside of architecture highlight how such thinking creates injustices. Different theories are drawn on to help point to how design through the use of the upright, forward facing, male body willingly and unwillingly denies access to resources and spatialities of everyday life. We also suggest ways to re-conceptualise the body in design practice and teaching.

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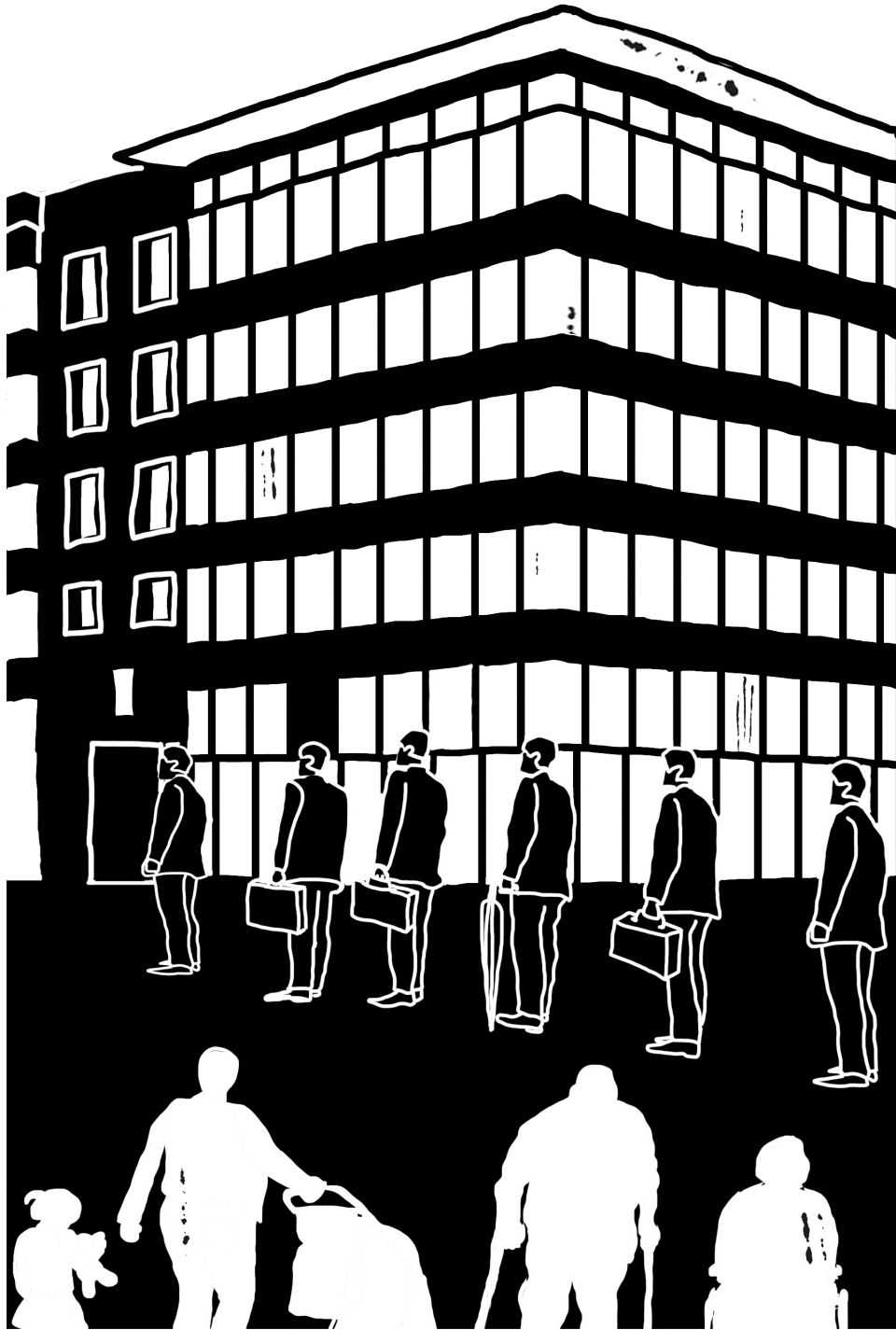


Fig. 1. Ulrike Sturm, *The others*, linocut, 2016

## Introduction

Body-space politics exist within the design of built environment and have played out across cultures and throughout history. The conceptualisation of the body in architecture stems from the conceptualised stereotypical forms of bodies as well as disengaged and objective practice with the body: a set of standard stories that are superimposed upon all bodies regardless of the diversity of narratives those bodies present. Elizabeth Grosz's work identified just how various bodies, 'are absent in architecture, but they remain architecture's unspoken condition' (2001: 8). While every architectural metric is based on anthropometrics – the measurement of the body, for example the foot – such metrics are only abstractions (Imrie 2003); they are clearly a measurement and not a body, or even a body part, itself. This article asks: What is this body that architecture bases itself on? How is it measured? Are there other methods for designers to conceive of, as well as represent, the body in their designs? As such we foreground 'the body' in design, to illustrate how spatial injustice unfolds for diverse bodies, when the body is thought about in this objective way. Furthermore, the article also argues that through the consideration of a suite of quite complex and diverse bodies, instead of a stereotypical body, as the basis of design, more equitable and inclusive built environments would exist. Thus, facilitating environments for the diverse many, rather than a single stereotype.

The contribution that this article makes to this established problem is a written critique to elicit some of the specificities of how the body is overlooked and its effects on spatial experiences for *all* users. Professor John MacArthur writes that, 'in architecture the role of criticism is on the rise' (Macarthur 2010: 229). Architectural criticism throughout its long history has moved through various iterations, styles and focuses. In the postmodern architectural criticism moved into its most socially conscious phase of critique, as MacArthur writes, 'by the 1970s we would tend not to discuss whether a building was pleasing or displeasing, but rather how it manipulated and deployed existing cultural schemas.' (2010: 230). This article is very much of this vein and aims to contribute to architecture through writing a new way of considering the body in design. Through re-writing design principles we allow for the re-inscribing of our built environment: an environment that can promote more than a single, standard story of the human body.

Grosz's work in this area also suggests that looking to philosophy as a beneficial framework for the disciplines of design and architecture is important, as it facilitates a method for looking at the built environment from the 'outside' (2001: 7). This premise, is to look at the design disciplines, whether it be architecture or interior design, from the outside, that is an outsider's perspective of a discipline from another field – revealing taken for granted views and practices held within a field. Taking such a perspective supports the case for an interdisciplinary research lens, which seeks to enrich and evolve processes and strategies for designing a wide variety of built environments for a diverse array of human bodies. As such, phenomenologists theorising of space have recognised that our being, and our connections with space, are deeply embodied. From a phenomenological philosophical view embodied means 'a precondition of experience' understood through the body in the world (Mackenzie and Scully 2007: 342). That is, to consider bodily experience as both temporal and spatial.

A body can move through time, and moves in varying ways, and occupy space via various methods. Most importantly, it is through our bodies that we experience space.

References to Martin Heidegger's work on 'being-in-the-world' ([1927]2008: 14) are often brought into theoretical discussions on the meaningful connections between bodies and constructed spaces. Further, Heidegger points to the need for designs of different types of built environments to facilitate the carrying out of daily habits and rituals. The appropriation of place, the creation of a meaningful space, can only be achieved when that environment allows bodies to move and act in a way that is habitual to them. These habits and rituals referred to can be routine, even fundamental, acts such as merely brushing teeth, cooking dinner or making a bed. Such habits and rituals can also be much more complex and sophisticated, such as the annual festival in Bo-Kaap, South Africa, described in Carla Lever's work (in another article in this Special Issue). When an environment serves to restrict or constrain ritualistic activity, it marginalises and causes disadvantage to its inhabitants. This becomes especially evident when space is constructed in such a way that it neglects diverse bodies. That is, our body's relation to the world and the world's relation to the body is a significant consideration when seeking to design environments that are inclusive for all potential users.

As articulated by French phenomenologist Maurice Merleau-Ponty, our point of reference in the world is through our body ([1945]2012). This reference point creates a situation where our body cannot be separated from what we do, what we feel or what we experience in this world (Finlay 2003, 2011). Through the development of an understanding of the body as lived, we come to recognise and understand the everyday, taken-for-granted connections with our world, our perception, our consciousness of the world and, critically, the world's influence and impact on our embodied, or disembodied, felt experiences with the spatiality of the world. According to Grosz's research in this area, the body is '*the*, primary sociocultural product' (2001: 32, emphasis original). That is, the body is socially produced in terms of gender, race, religion, culture, sexuality, ability and numerous other physical and sociocultural paradigms that are enacted in space. It is also through the view of the body-world relation that we are able to reveal meanings and understandings attached and inscribed about the body, spatially.

This is an important lens through which to frame this scholarship, particularly when we are interested in facilitating spatial justice for people who, through socio-spatial dialectics, have been systematically (though not necessarily deliberately) barred, bounded and disembodied in everyday spaces such as our parks, buildings, suburbs and cities. To achieve spatial justice, that is as Edward Soja writes, 'fair and equal distribution in space of socially valued resources and the opportunity to use them' (2009: 2), we need to give attention to, and make a concerted effort to understand, the body-space relation and the role of design in influencing this relation. Particularly, as it is understood that in design and architectural theory and practice, the body-space relation has received very little attention, and so the body itself is treated as static and universal (Imrie 2003). As a consequence, designed spaces continue to convey and perpetuate spatial (in)justice towards a range of different bodies. This has been evident through the disembodiment of children, parents with prams as well as people with

sensory and mobility impairments in everyday spaces: spaces that many can engage with and navigate without effort or planning. This foregrounding of the body in design, also helps to point out several conditions and interventions that can support spatial justice for diverse bodies and the ways that stereotypes, mentioned above, about ‘the body’ have been contested.

To merely say that there is a body is not yet to deal with it. Bodies are there in a way that architects don’t want, or can’t afford, to recognize. But the body is there in an incontrovertible way. The point is to affirm that it’s there, and to find the right kind of terms and values by which to make it profitable for architecture to think its own in investments in corporeality (Grosz 2001: 13).

To enable a re-imagining of the body in design and architecture, that is, in order to improve justice spatially, we argue that an important starting point is to expose the take-for-granted treatment of the body. This will be achieved here by illustrating why and how design has, over time, come to conceive the body-space relation in a particular way, and what have been the implications for this thinking on the everyday access to spaces and resources for diverse bodies. This article begins with a critical analysis of the chronology of architecture and the body. The article then turns to injustice and power differentials in space, by pointing to how design, through the use of the upright, forward facing, male body, willingly and unwillingly denies access to resources and spatialities of everyday life. Through this process we are able to point out some of the ways that the body could be re-imagined in design practice and, importantly, design teaching.

### **An overview: history of the body in architecture and design**

The following, necessarily brief, literature review describes the chronology of how architecture, design, as well as their associated disciplines, have standardised and abstracted the human body. This construction of a narrative of the body inherently influences how we write our environments, structuring our interactions with and expectations of those environments. From Vitruvius’ (see, Rowland and Howe 2001) early descriptions of the idealised proportions of the body as the basis for architectural form in the first century BCE to the reliance on texts such as the *Metric Handbook* for anthropometric data by architects, industrial designers and interior designers in the twenty first century (Neufort 2012), the body has long been poorly understood and represented in architectural design. Through numerous iterations – most notably Leonardo Da Vinci’s interpretation of ‘The Vitruvian Man’ in the sixteenth century and Charles-Édouard Jeanneret-Gris’ (better known as Le Corbusier) ‘Modular’ body of the twentieth century – the body has been abstracted, idealised and excessively simplified by both architects and designers.

In Anthony Vidler’s essay ‘Architecture Dismembered,’ from *The Architectural Uncanny: Essays in the Modern Unhomely* (2002), Vidler theorises the gradual distancing between architecture and the body. This is achieved through the analysing, in detail, the classical tradition of idealised proportions of the male body as the basis for architecture, to the mechanised and technologically derived bodies of modernity

throughout the twentieth century, and then through to, what Vidler describes as, the dissected and mutilated body of postmodernity in the twenty first century (1992: 70). Ultimately, Vidler concludes that the body as the basis for architecture has always been a myth (1992: 71). The body that architecture has concerned itself with has been static, of unrealistic proportions and uni-gendered (male only) – thus, architecture has, for as long as history can record, been a discipline concerned with the body of a mythological being. Interestingly, the idea of the male only (or certainly predominately male) body persists in various ways, including the male-soldier-body, as unpacked by Louise Harrington (in another article in this Special Issue). The stereotype noted above, as the one, single, body advocated by designers and architects, simply does not exist.

Following on from the classical language of proportional control and ornamentation in architecture, which can also be seen in art forms such as sculpture and painting, indeed, art can be as political as the politics of space explored here, as noted by Lever (in another article in this Special Issue). Early French Renaissance architects developed a systematic language for architecture premised on the characteristics of austerity and logic (Aureli 2011). This approach to architecture continued long into the period of late modernism and is still an approach that is widely used in contemporary practice. The logic applied in architectural design is based, again, upon a set of standardised elements; the body is treated as simply being one of these elements. Architecture over this period (from the late fifteenth century to the early seventeenth century) sought to purify and control the body. As Bernard Tschumi describes, ‘the architect will always dream of purifying this uncontrolled violence, channelling obedient bodies along predictable paths and occasionally along ramps that provide striking vistas, ritualizing the transgression of bodies in space’ (1996: 123).

The twentieth century saw the production of the most detailed documentation on standardising the body. This was especially the case in architecture and industrial design through print, and later digital, publications that flattened, dimensioned and ultimately reduced the body to a graphic element on a Cartesian plane. A typified male body was drawn as a two dimensional, static graphic in either plan or side and front elevation (Neufort 2012). The Cartesian plane is the process by which three-dimensional objects and surfaces are cut and represented as two-dimensional flat graphics. Maps and floor plans are a good example of this type of graphic. Representing a body in the same manner as the plan of a building to be constructed is a very abstract way of considering bodies (Tuan 1977). This standardisation was proliferated through ease of access to print, and therefore, this standard body became not only a western body, but a global body. This process of standardisation began in the German based, seminal school for modern design and architecture, the Bauhaus, in 1936 when Ernst Neufort produced and published a book titled *Architects' Data*, which described the body, a male body only, through a series of diagrams in plan, section, and elevation that was saturated with standard dimensions for standing, sitting, walking, and a limited number of other positions of the body. This rationalisation of the body continues to inform the fundamental basis of understanding the body for the design of objects, furniture and buildings today (Lambert 2012: 4). The book *Architects' Data* is still in publication (the most recent edition, at the time of writing, dated 2012) and can be found

on the bookshelves of most designers' offices.

Shortly after Neufort's work, Le Corbusier developed a series of diagrams, that developed over a period of more than a decade (first documented in 1943), for a male body, again a diagram on the Cartesian plane, titled 'The Modular'. Despite working with a well-regarded female industrial designer, Charlotte Perriand, these diagrams were once again only concerned with a male body (an exaggerated man of 2.2m tall with his arm extended above his head) in a limited number of positions (such as sitting and standing) (Lambert 2012: 4).

Shortly after this in the 1950s, the industrial designer Henry Dreyfuss wrote books that carried on representing the body as a graphic (for example the *Symbol Sourcebook* [1984]). Yet, in a significant shift away from the traditional conceptions of the body, Dreyfuss deliberately included a male and female body (Joe and Josephine), children and, for the first time, a person in a wheelchair (Lambert 2012: 6). Dreyfuss was primarily concerned with the human experience in design. He wrote, as part of his practice, about the importance of designing for people, While Dreyfuss' attempts to draw a broader representation of what a body can be, and was a significant move forward for the disciplines of design and architecture, his work was not sufficient to shift thinking in this field. It simply acted to standardise a select series of bodies into simplified diagrams, these bodies (though more varied than the offering of the single male body) still served to neglect the fundamental fact that the body is a complex, moving, variable and three dimensional being that inhabits space.

In the postmodern era, generally understood as the latter half of the twentieth century (after the World War II) until the present time, there are a number of architects who have been seeking to re-inscribe the body into architecture. But this body is one that is much different to the body seen previously in architectural reference and teaching works, such as those noted above. It is a body that is dissected, torn apart and mutilated: an architecture where the skin of the building, the façade, is removed; an architecture that is only one part of the body – the lungs, heart, skin, arms and so on. This too, we argue, is an act of distancing the body from architecture. In *Rhythmalysis* ([1992]2004), Henri Lefebvre writes that the notion of fragmenting, or separating, the body comes from the notion that the body is separate to space – that the body is a space within itself – when in fact there can be no space without the body, because the body produces the space physically, socially and mentally. Lefebvre's work is echoed by architectural theorist Bernard Tschumi when he writes, 'this also suggests that actions qualify spaces as much as spaces qualify actions; that space and action are inseparable and that no proper interpretation of architecture drawing or notation can refuse to consider this fact' (1996: 122).

For Lefebvre though, the body is in itself space producing. That is, without the body to inhabit the space – the residual of objects, furniture, or architecture – that space does not exist, unless it is experienced through the body. This is exemplified in Harrington's analysis of Yann Demange's film '71 (in another article in this Special Issue). Harrington describes the moment where a British soldier is abandoned within Belfast and that his inappropriate occupation of territory is only identifiable through his body, that is, his uniform. Here territory is defined through both, the body and a specific

condition of its occupation (wearing a British military uniform) and the demarcation of space. The threat experienced by the soldier is a condition produced by both his body and the space he (temporarily) occupies. Space and the body are inseparable, and the failure to understand the complexity of how a body can experience space is a shortcoming of the design process. The simplification of the body by designers and architects leads to a neglecting of the role of design in our society and ultimately, as this article argues, an unintended disservice to the broader community.

### **The body-world relation and socio-spatial tensions**

This brief chronology of architecture and design has helped to illustrate how the body itself has been stereotyped in the narratives and language of design theory and practice. Why the body and its relation to the world has been neglected, overlooked and misused in practice is the focus of what follows here. Different critical, socio-spatial theories are applied in this section to explicate the underlying conceptions and the power differentials assigned to different bodies spatially and to also reveal the programming of space, which perpetuates spatial injustices towards certain bodies. We begin with the foregrounding of the body-space relation in justice.

Critical spatial thinking has become wide spread across social and design disciplines. This is significant for writers since writing itself can be a vehicle to contest social imageries, stereotypical narratives and languages that perpetuate prejudicial views held about diverse bodies socially and spatially. Life stories, is an example, of how people with disabilities are using writing to resist and challenge social spatial injustice in built environments (see Couser 2009, Linton 2006, Malhotra and Rowe 2013).

The spatial focus on justice from scholars, such as Lefebvre and David Harvey and, more recently, Edward Soja has sought to raise the levels of attention given to the spatial in critical theory of justice and democracy within our societies generally and the designed environments of these societies specifically. Spatial justice theorising, recognises that time and space are equally important in understanding the social production of space, and the ways in which justice can be facilitated spatially, for people and societies who currently face imbalances of power and justice (2010: 11).

Building upon the work of Lefebvre and Harvey, in their fight for justice in the city, Soja has presented a critical spatial understanding of justice to both improve theoretical understanding of justice spatially and ‘extend’ practices and actions to achieve greater justice and democracy for individual and groups in everyday environments (2009, 2010). For Soja, critical spatial thinking rest on three ontological principles: ‘1. Ontological spatiality of being, 2. Social Production of Spatiality and 3. The socio-spatial dialect’ (2009: 2). Thinking this way about space and justice, not only reminds us that space itself is socially produced, but that there is a dynamic relationship at play between space-time and the body. Influencing these interactions is power.

Power differentials, mediated by the built form, are important considerations within a spatial justice theoretical lens. Particularly, because in our contemporary world, as Soja writes ‘justice is more oriented to present day conditions, and imbued with symbolic



force that works effectively across cleavages of class, race, gender to foster a collective political consciousness and a sense of solidarity based on widely shared experiences' (2009: 4). Specific to design and spatial justice, Dovey contends that built environments, 'are programmed and designed in accord with certain interest – primary the pursuit of amenity, profit, status and political power' (Dovey 2008: 1). Such programs of space are not only found to be enabling and oppressive, but reflect and also serve to reinforce, 'identities, differences and struggles of gender, class, race, culture and age' (Dovey 2008: 1).

Many societies are seeking to reduce the degree of injustice faced by citizens as a means to improving the general living standards and to promote human dignity and fairness (Soja 2009: 3). This means addressing complex issues of discrimination, marginalisation, and social spatial inequality that is mediated spatially. However, because justice has only recently been understood spatially, there is a need to make them an explicit focus, as Soja writes: "Until these ideas are widely understood and accepted, it is essential to make the spatiality of justice as explicit and actively causal as possible. To redefine it as something else is to miss the point and the new opportunities it opens up" (2009: 2).

### **Spatial injustices of diverse bodies**

The body-time-space relation is a central theoretical focal point in understanding and pursuing spatial justice in our everyday space. Discourses in feminism, disability and childhood have worked to reinforce this view, by illustrating how one's value and recognition, as well as access to space itself, is tied to the corporeal form and the underlying assumptions that surround particular bodies. For example, feminism and ableism theorists help to point out the underlying conceptions and power differentials assigned to different bodies spatially. Feminism is the study of gender equality and inequality drawing especially on the cultural perception and treatment of women. Ableism studies are also concerned with inequality and equality of the cultural perception and treatment of people of varied permanent, and temporary, physical and intellectual ability. By investigating how ableism and feminist theorists have theorised bodies in space provides a description of how social-spatial oppression is manifested in the everyday.

### **A case of the gendered body and architecture**

Scholars of feminism have explored the link between the body and spatial justice (Colomina 1992, Weissman 1992, Grosz 2001, Rendell 2002, Heynan 2005) with their contribution to the discourse on the socio-political production of space providing seminal texts to inform research on inclusive design. The literature on feminism and spatial politics is vast and there is not the space in this article to completely address everything that has been written. It must be acknowledged though, that feminism has contributed significantly to a re-visioning of how power and politics are played out through, and by, space-body relations. Namely these studies collectively point to the

relationship between the body and the socio-spatial oppression in everyday spaces. For example, Iris Marion Young's, phenomenology of the female body, describes female oppression through the body:

Insofar as we learn to live out our existence in accordance with the definition that patriarchal culture assigns to us, we are physically inhibited, confined, positioned and objectified. As lived bodies we are not open and unambiguous transcendences which move out to master a world that belongs to us, a world constituted by our own intention and projections (1980: 153).

The occupation of space is fundamentally linked to social status and power and, when the allocation of space is changed, it is inherently related to changes in society (Weissman 1992: 6). Modern feminist art, writing, theatre, film making and criticism have explored and exposed forms of gender-based subjectivity in spatial reproductions and representations (Huysen 1988: 196).

Underpinning a number of authors on the subject of feminism and gender in this area is the work of Belgian feminist Luce Irigaray. Her thinking was inspired by Jacques Lacan's psychoanalytic theory, the mirror stage (or *meconnaissance*, meaning misrecognition). Lacan is specifically referring, in this point, to the phase in infancy where a child will mistake its own reflection as real (Lacan in Irigaray 1992: 46). For Irigaray, the female body is treated as a mere reflection, it is either unreal or falsely idealised (1992: 14). This became the basis for Irigaray's analysis of gender through mimesis, that a woman's body is merely a reflection of a man's and it has no real ideological basis. In western philosophy mimesis has also been seen to be in opposition to rationality. As Hilde Heynan writes, rationality is associated with masculinity and mimesis, the opposite, is associated with femininity (2005: 23). The concept of female identity being tied to imitation was conveyed by a number of feminist authors. Women are viewed as diffuse, changeable and lacking permanent identity, by this definition they embody mimetic-ism (Glenn 2000: 77). This proposal stems from women being unable to directly experience their own being since their spatial experiences are controlled by a system of representation that is established by men and for men (Heynan 2005: 24). Grosz has written that Irigaray was concerned with the establishment of a viable space for women to inhabit as women, as space had historically functioned to either contain women or to obliterate them (1995: 127).

There is a great deal of literature pertaining to femininity and domesticity. Writers come from various fields of study including architecture, art history, geography, sociology, cultural studies, anthropology, film theory and philosophy (Rendell 2000: 101). These studies also critically analyse the modern and postmodern ideals of home. A common theme in the literature is as Joan Ockman writes, 'the spheres of separation,' of men producing and women consuming (1996: 191). That, while predominantly men are seen to be in the city working and producing, the home, and the women it contains, encapsulate the values of consumerist society that support this productivity. Here, the 'true woman' provides a home that is a retreat from the signs of modernity and production, the office buildings, smokestacks and crowded streets (Spigel 1998: 12). A very detailed account of how housing was designed to contain and imprison women can be found in Mark Wigley's essay 'Housing Gender' (1992) where he recounts the long

social and cultural history of concealing the female body deep within the house. Women still struggle, in the twenty first century, to maintain their right to public space and to the city. We see everyday on regularly screened news bulletins that the female body, in public, is a threat to itself and that the emphasis is on women being at home at certain times of the night or day instead of focusing on the need to create safe and accessible cities for everyone. Wigley's work clearly argues through an analysis of historical housing types, that the home was designed to contain and imprison women (1991: 342). Bruno Guiliana further elaborates on this sentiment that women's presence in the city is only for spectacle, to be viewed and surveyed. Although women might be free to inhabit the city, beyond the confines of domesticity, they are still oppressed by the male gaze (2007: 9).

Through feminism, Grosz makes a significant contribution to this field of literature by moving beyond the existing critique of women being designed into spatial oppression. First, she works to reiterate the sentiment that it is not the space itself that contains or oppresses the body, it is the way in which the body inhabits the space that establishes the body-space power dynamic. That space needs to facilitate some effective form of inhabitation; that, as stated in the introduction, bodies need to be allowed to carry out daily habits and rituals. Grosz writes:

I think that women, or gays, or other minorities, aren't "imprisoned" in or by space, because space (unless we are talking about a literal prison) is never fixed or contained, and thus is always open to various uses in the future. Men cannot literally contain women in prisons, nor do heterosexuals contain homosexuals (although perhaps they'd like to think so), because space is open to how people live it. Space is the ongoing possibility of a different inhabitation. The more one disinvests one's own body from that space, the less able one is to effectively inhabit that space as one's own (2001: 34).

In this quote Grosz proposes that space offers more than one method of occupation. This proffers a method for re-visioning how space can be conceived.

Second, Grosz draws from Gilles Deleuze's concept of 'becoming' (2001). For Deleuze, if we can conceive of our status as being in a constant state of becoming, a fluid and changing state, instead of a fixed state of being, we can reconceptualise space (Deleuze in Grosz 2001: 42). The challenge then, for architects and designers, is to think of the body as fluid, growing, moving, shrinking and in a constant state of flux. How can spaces be designed to accommodate these bodies in fluid states? Perhaps the most obvious example is to think about how time impacts on bodies. The small child that, although capable of doing so, cannot wash their hands because the basin is too high, or the elderly woman who is afraid to leave the house because she does not feel confident about walking down her front stairs. These are examples of the way that space may disallow the effective inhabitation that Grosz describes. When the body is conceived of as having infinite states of becoming, and not a fixed state of being, the way that space can accommodate and facilitate a body's daily rituals becomes more sophisticated and complex. And, ultimately, more inclusive.

### **A case of ableism and design thinking**

Attitudes and assumptions about the body and the lack of recognition of its diverse lived nature, plays a significant role in perpetuating disablement and disembodiment in everyday spaces (Stafford 2014). Ableism refers to ‘ideas, practices, institutions, and social relations that presume ablebodiedness, and by doing so construct persons with disabilities as marginalized ... and largely invisible ‘others’ (Chouinard 1997: 380). Such ableist thinking and systems, according to Fiona Campbell have led to the reproduced idea of the ‘typical’ self and body that personifies being human (2009). Scholars, such as Vera Chouinard (1997), J. Scully (2008) and S. Kay Toombs (1997) have further illustrated this point, revealing how one’s value and recognition is tied to the corporeal form, and illuminating how the ‘normal’ body (upright, forward-facing) is assigned value and autonomy, whereas bodies that vary from this norm lose autonomy and value (Stafford 2014).

Researchers in the areas of disability and spatial studies (Gleeson 1999, 2001, Imrie, 2003, 2012, Hughes and Patterson 1997) have also drawn on critical social and spatial theory to further develop understanding of the complex intersections between the body, space and social relations and the underlying ableist system that seeks to perpetuate ableist body through design and the designed environments. For example, Rob Imrie’s study of architects’ perception of the body, found that the ‘post-Galilean concept of the body’, namely the body as viewed as mechanised, dominated the field of practice (2003: 47). Furthermore, architects ‘operated on partial and reductive conceptions of the human body’ (Imrie 2003: 63), therefore viewing the body as homogenised. Imrie also noted that their frequent image of the body is ‘pre-social, fixed, and beyond culture ... revolves around single sex, while generally failing to acknowledge ethnic, gender, or physical differences’ (2003: 63). This, therefore, highlights the need for a shift in how the body is thought about to realise inclusion. Imrie explains that there is a need to move to the position where architecture ‘recognises, and responds to, the diversity of bodily needs in the built environment by (re)producing a fluid form ... sensitised to the corporeal form ... and multiplicity of corporeal and/or postural schemata’ (2003: 64). However, Imrie recognised that such thinking is a long way from materialising, as the ‘human body is rarely an explicit term in their [architectural] education or broader design process’ (2003: 63).

Such thinking about the body continues to be reflected in design practices and built forms in our everyday landscapes. This is evident through the physical and social barriers that continue to be encountered by people with disabilities, despite the concerted efforts of design disability activists challenging the way body-space relations have been conceptualised and programmed by designers since the 1960s. Design approaches, such as accessible, barriers free and, in more recent times, Universal Design (UD) evolving from this movement, have sought to create spatial equality for persons with a disability. In some countries these approaches have resulted in principles and standards that have become law. Examples of legislation include: the United States of America’s Americans with Disabilities Amendments Act of 2008 and regulations, including 2010 Americans with Disabilities Act Standards for Accessible Design; and Australia’s Disability Discrimination Act 1992 and standards, such as the Disability

(Access to Premises – Buildings) Standards 2010. However, such approaches for spatial justice do not necessarily translate in practice and/or change the way designers think about the body and diversity.

An example is Universal Design (UD). UD seeks to challenge design thinking about diversity and human beings through its underlying ‘inclusive design philosophy which spans age, gender and ability’ (The Center for Universal Design 1997). Thus, designing for a range of ages and abilities creates a better fit between the needs of different bodies and the different built environments these bodies occupy. Thus, leading to improved experiences for all and no need for adaptive design. The problem, however, is that with universalism there is a risk of stereotyping (Pullin 2009). Replacing the issues of stereotyping explored briefly above with another stereotype and another set of issues. This idea of stereotyping has been discussed by Imire, who has suggested that: ‘Universal Design cannot be universal unless it is embedded into the specificities of corporeality, and the difference that different bodies make in their everyday interactions with designed artefacts’ (2012: 880).

Danger of the universalism of the body is evident in the case of children, where products and spaces labelled accessible for physical disability are often not for children, as they have not considered that the body-space dimensions and lived interactions of children are different to that of an adult body (Stafford 2014). This point is illustrated through a twelve-year-old’s account of using a beach wheelchair from Lisa Stafford’s study:

P2: Yeah it’s very bad ... all it is a big chair with big fat wheels and armrest. It is so big my arms can’t even reach the armrests. So it’s ridiculous ... I think they designed it for adults (2013: 253).

This disembodied account from P2, exposes the extent to which thinking about the body in design, even in the field of accessible/inclusive design, is underpinned by universal stereotypes and a process of the standardisation of the body form. For children with disabilities, this has meant that there are limited environments and objects designed with their smaller bodies in mind. Design is continually based on the universal adult body through the dimensions enforced by the same access standards developed to emancipate people with disabilities. For example, the Australian Government’s Disability (Access to Premises – Buildings) Standards, released in 2010, fails to acknowledge the spatial needs of children and young people or their varying human body measurements and properties (anthropometrics). In this way, perpetuating the assumptions about the body. What this means for children with disabilities is that their access to, use of and interaction with everyday spaces is contingent upon designers’ awareness and recognition of them as children first and foremost outside of these access standards.

The other problem that presents itself, is that the philosophy and an understanding of spatial justice practices such as UD are not necessarily embedded in design thinking and practice. Rather, more tokenistic treatment of the body in design, as described earlier, still prevails and practices such as universal or accessible design are viewed as an add-on or as afterthoughts as the result of society-wide considerations not being embedded as part of the design thinking process. Evidence of this is ‘design dressed up

as accessible design' but is underpinned by both ableist ideologies and stereotype bodies, as illustrated by M2, a mother of a participant in Stafford's recent study:

M2: mmm, I think people just need to think a bit more. The architects or um I think in Australia, people perceive you know that they are disability friendly, and that might certainly may be the case for people in manual chairs but people forgot about the people who are in powered wheelchairs and how heavy those chairs really are and those sort of things (2013: unpublished research data).

The spaces and products mentioned in these accounts assist in illustrating the point that, despite being 'accessible' according to the standardised accessible design guidelines, the social-spatial divide of different types of bodies continues. These accounts expose a critical underlying problem that is enforcing change in design practice regarding accessibility, but does not change design thinking about the body. Rather, these accounts point out that design thinking about the body is still based on particular set of ableist and stereotypical ideologies. Change must start by shifting the way design, as a discipline, first thinks about the body, its place in design in addition to the worth and values assigned to it (Imrie 2003). This must happen in both design education and design practice (Imrie 2003).

## Conclusion

The aim of this article has been to provide a critique of architecture and built environment through a critical essay. Architectural criticism is a valuable form of architectural practice that aids in the advancement and progression of architecture and its allied professions. This article has critiqued the way in which designers consider the body in design, pointing out the need to consider diversity and complexity when designing spaces for people. Re-imagining the body within the design discipline itself must begin with a consistent challenge to the thinking that all design circulates around the upright, forward facing, adult, and often male, form dominating the built environment disciplines (Imrie 2003). Play expression is one such way that thinking about, and exploring, the body spatially is helping to contest and shift underlying assumptions in this area. Embodied understanding of spatial experiences from diverse bodies and designer practice is another way to re-frame our thinking. Such approaches can help to point out meanings of experience and the underling structure of that meaning, leading to deeper understandings of taken-for-granted, pre-conscious acts in design thinking and practice around the body. Whilst this area of research and theorising is in its early stages, embodied approaches provide insight into the production of social-spatial exclusion, which helps to identify ways to change such practices and thinking and, ultimately, create justice for diverse bodies spatially.

Grosz explicitly points to architecture's potential to consider more diverse and complex bodies and by extension the diverse and complex stories that can be accommodated and celebrated through re-writing design traditions. According to Grosz, there are always traces of the body in architecture:

Architecture, however, is more open to conceptions of embodiment than many other disciplines, which is perhaps why it has actively sought to open itself to deconstructive and nomadic interventions encouraged by the work of Derrida, Foucault, and others. Traces of the body are always there in architecture (2001: 13).

The challenge then, for designers, is to re-vision space through the body, to take its diverse, fluid and complex nature into consideration. If this challenge is accepted then designers can reflect the stories of all members of society, not just those members who have bodies that conform to an artificial standard.

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