



'Getting in and going': Access to onboard toilets for fat and disabled people on commercial aircraft

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ABSTRACT

In this paper we explore the accessibility of toilets onboard commercial aircraft for passengers who identify as fat or fat and disabled. Drawing on qualitative survey and interview data, we discuss people's experiences of inaccessible onboard toilet spaces including getting to and into the toilet, managing bodily matter, anticipating a lack of accessible toilets, and the (il)legitimacy of fat and disabled air passengers within commercial aircraft regulations. Our data illustrate that current provision of onboard toilets is wholly inadequate for fat and disabled passengers, requiring strategies to manage bodily matter which are detrimental to health. We further 'fat geographies' research and relational understandings of embodiment that attend to spatial and temporal contingency by drawing together insights from disability, crip, gender, queer and trans theory, in particular conceptualisations of 'misfit(ing)', crip time, and (il)legitimate lives.

1. Introduction

Everyone needs access to safe toilets to hygienically manage waste products (urine and faeces), menstrual bleeding and care for others. Lack of toilet access has a detrimental impact on health, including kidney, urinary and bowel health, along with personal dignity (Schmidt, 2013). Research has demonstrated the centrality of toilet access to fights for civil liberties (Plaskow, 2008; Schmidt, 2013). For example, public toilet access was essential in allowing women access to public space (Cooper et al., 2000; Greed, 2010); there remains an architectural legacy of racially segregated public toilets in the USA (Weyeneth, 2005); and as foundational work in geography and disability studies shows, even when legislation requires accessible toilets, they remain poorly designed and limit disabled people's access to public space and full citizenship (Kitchin and Law, 2001).

In recent years, there has been growing public and media awareness of the inaccessibility of various forms of transport for disabled people due to a lack of toilet access. For example, in the UK in 2017, Paralympian Anne Wafula Strike spoke openly about having to urinate in her seat on a train due to the lack of an accessible toilet (Taylor, 2017; Wiseman, 2019). In the U.S., recent legislative changes concerning

requirements to provide accessible toilets on single-aisle aircraft have brought the issue of accessibility to the public's attention (Kuta, 2023; U. S. Department of Transportation, 2023). Indeed, airplane toilets vary in size between planes and cabin classes (Economy, Premium, Business, First Class), but in order to maximise the number of seats in the space available, they tend to be compact and new models first used in 2014 saw onboard toilets shrink from 86 cm/34 in. wide to just 61 cm/24 in. wide (Aratani, 2018).

In this paper, we explore the accessibility of toilets onboard commercial aircraft for passengers who identify as fat or fat and disabled.¹ In so doing we further theoretical explorations of disability/crip and gender/queer/trans theory to conceptualise fat embodiment. We consider material and social barriers to toilet access in terms of getting to and into onboard toilets, dealing with bodily matter once inside, anticipatory management when there are no accessible toilets, and the needs of fat and disabled passengers within commercial air travel legislation.

The paper extends four main areas of geographical thought: fat geographies, considering the intersections of fat and disability (Colls and Evans, 2009; Longhurst, 2010, 2005); embodied geographies, extending work on the fleshy materiality of bodies, particularly in relation to the

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¹ In keeping with fat activism, we use the word fat rather than terms such as 'obesity' or 'overweight' as these pathologise fatness. The research on which this paper is based allowed people to self-define as fat and as disabled rather than adopting medicalised approaches to disability or problematic measures of body size.

matter that crosses bodily boundaries (Longhurst, 2001); geographical work on toilet access, including foundational work on disabled and trans people's access to toilets (Browne, 2004; Doan, 2010; Kitchin and Law, 2001); and research on aeromobilities (Adey, 2008; Adey et al., 2012; Budd, 2011, 2011; Lin, 2022, 2015). This paper extends this work through a novel focus on toilets onboard commercial aircraft, and through bringing trans and crip theory into these bodies of work to develop a relational model of embodiment that centres the (mis)fit between bodies and spaces (Garland-Thomson, 2011).

As well as physical access to toilets, socio-spatial relations through which toilet use is policed, also limits access. Key work in queer and trans studies, including within geography, reveals the exclusionary nature of binary gendered public toilet provision. Doan (2010, p. 643), explains that public restrooms are “one of the scariest spaces for a person in the midst of a gender transition”, and Murib (2020), shows that ‘Bathroom Bills’ in the U.S. (requiring people to use the toilet that matches their assigned birth sex), criminalize transgender people and legitimise transphobic discrimination. The policing of public toilets, sometimes violently so (Bender-Baird, 2016), also excludes masculine presenting cis women (Browne, 2004). As Belser (2018, np.) explains, toilet access reveals whose bodies are considered acceptable in public space:

“Consider the toilet as a tool for social regulation: the way in which toilet access correlates with class, gender, and race privilege; the way toilet denial pushes undocumented, homeless, disabled, trans, queer, fat, brown, poor, chronically ill, and female bodies—especially multiply marginalized bodies—out of public space. Consider the way toilet politics refuse us.”

Recent work which considers toilet access for both gender non-conforming and disabled people has explored the interaction between material inaccessibility and the symbolic work that toilets do (Slater and Jones, 2018). As most disabled toilets remain non-gendered they can appear progressive. However, this reflects ableist denial of gender and sexuality for disabled people (Inckle, 2014). This matters because toilets are key spaces that produce and reproduce norms of embodiment and identity (Slater et al., 2018). Indeed, the continued dominance of binary gender segregated public toilets, reveals a material denial of trans and non-binary people's (legitimate) existence (Bender-Baird, 2016). We contribute to this work, by considering how the design of toilets onboard commercial aircraft reproduce normative assumptions about air passengers' bodies, excluding those who don't meet these expectations.

Whilst accessing a toilet (physically and socially) can be prohibitive to participation in public life, research shows that understanding toilet access also requires consideration of what a body needs to do once in a toilet (Lea, 1999; Liddiard and Slater, 2018; Plaskow, 2018, 2008; White, 2021). This requires discussion of messy and often taboo topics and practices (Longhurst, 2001) such as urine, faeces and blood, the availability of toilet paper or menstrual products, the difference between urinals, seated or squat toilets, the presence of bins to allow safe disposal of menstrual and continence products, a shelf to aid those changing ostomy bags, or adult size changing benches and hoists (Greed, 2010; Molotch and Noren, 2010, 2010; Plaskow, 2008; Serlin, 2010; Slater and Jones, 2018). Thus, as Belser (2018, np) explains:

“To talk about toilets is to center our bodies: not just “pristine” or “cleaned up” bodies, not just the idea of the body, but the body as a material, fleshy, creaturely being. Talking about toilets means talking about bodies that defecate, eliminate, and bleed.”

Building on this work, we consider the ways in which the design of toilets onboard commercial aircraft makes difficult the management of bodily matter for those fat and fat and disabled passengers who can get to and into the toilet as well as those who can't. This demands the centring of both the visceral and material implications for bodily health and wellbeing that result from measures that people must take to manage the body's production of urine, faeces and blood in the enclosed

space of the plane when toilets are not accessible. We therefore extend research on toilet access, transport and mobilities which has shown that being able to ‘go’ (to the toilet) is central to the ability to ‘go’ (travel) (Ferguson, 2017; Greed, 2010, 2004; Isa et al., 2016; White, 2021).

An attention to ‘go-ing’ within airplane spaces aligns with research on aeromobilities and specifically Adey et al.,'s (2007, p. 774) call for a consideration of airspace not as “some asocial realm or ‘non-place’, but a space whose embodied, emotional and practised geographies remain to be adequately charted”. Indeed, work in this field has demonstrated that the mobilities paradigm across the social sciences offers potential for geographies of air travel, to consider commercial aviation “not just as a mode of transportation that moves people between places but also as an infrastructure that produces new social spaces and practices of movement” (Budd, 2011, p. 1012). Here, Budd argues that whilst geographers have been interested in air travel since the 1910s, more work is needed to consider the experiences of “ordinary passengers” (p.1011) in order to ‘flesh out’ the realms of transport geography and bring the human experience of mobility to the forefront of academic inquiry” (p.1014). Budd (2011, p.1011) does this through considering, the “bodily discomforts associated with flying” as a means to consider the corporeal experiences of being an airline passenger. In this paper we directly engage with these forms of ‘discomfort’ specifically in relation to fat and disabled passengers' access to on-board toilets and their management of bodily matter.

Burgeoning research on flying while fat (Dark, 2019a, 2019b; Evans et al., 2021; Huff, 2009; Poria and Beal, 2017; Small and Harris, 2012) has shown fat people are excluded from plane travel by inaccessible infrastructures (e.g. seat and aisle size, seat-belt length, ability to use tray tables, etc) and fatphobic social atmospheres (Evans et al., 2021). For disabled passengers, barriers exist at all points in the air travel journey, including extra steps in the booking process, inaccessible aircraft, and frequent damage to vital equipment during transit (Budd and Ison, 2020; Campese et al., 2016; Darcy, 2016, 2012; Darcy and Ravinder, 2008; Davies and Christie, 2017; McKercher and Darcy, 2018; Poria et al., 2010; Yau et al., 2004).

Legally, airlines can refuse to carry both fat and disabled passengers, even with a valid booking, if they consider it a safety issue (European Commission, 2012). Airlines and airports must assist Passengers with Reduced Mobility (PRM) at the airport, and with embarkation and disembarkation of the plane, but assistance is often poor (Thomas, 2022; Weaver, 2022), possibly lethally so (Grierson, 2022). In relation to on-board toilets, planes registered in the U.S., with more than one aisle are required to have an accessible toilet, but until recently, single aisle planes have not been. A recent regulation change means that single-aisle planes with more than 125 seats will be required to have an accessible bathroom but this will only apply to aircraft ordered 10 years or delivered 12 years after the date of the rule (October 2023) (U.S. Department of Transportation, 2023), and airlines won't be required to retrofit older planes. The justification for this is based on the assumption that single aisle aircraft fly shorter distances, though the U.S. Department of Transportation (2022, 2009) acknowledge this is not always the case. For planes registered in the EU and UK there is no legislation requiring provision of onboard accessible toilets. Airlines must offer assistance between seat and toilet if there is one, but not with transferring between aisle chair and toilet. As such, lack of accessible toilets on aircraft is a significant barrier to plane travel for disabled people (Darcy, 2012).

This paper draws together insights from these literatures to analyse data on experiences of commercial air travel for people who identify as fat and fat and disabled. Through this, we suggest that geographical (and interdisciplinary) work in these areas can be furthered through developing an intersectional, embodied and explicitly spatial and temporal account of toilet accessibility through combining the conceptual frameworks of (mis)fitting (Garland-Thomson, 2011), crip time (Kafar, 2013) and (il)legitimate lives (Butler, 2009). Our discussion is structured as follows: First, we review work on the intersection between fat and disability, theoretically and in anti-discrimination legislation. We

then outline theoretical approaches we suggest are useful for conceptualising fat and disabled embodiment in spatially and temporally relational ways: Garland-Thomson's (2011) relational concept of 'misfitting'; Kafer's (2013) work on Crip Time and anticipatory scheduling, along with Thornton's (2019) use of this in conjunction with 'misfitting' to understand trans/crip embodiment; White's (2014) work on the intersection between fat/trans embodiment; legal scholarship on bodily im/mutability in relation to discrimination law (Solanke, 2021, 2017; Butler's 2004, 2002, 2001) work on the intelligibility of particular lives; and work that critiques legislative moves to limit trans peoples' access to public toilets (Bender-Baird, 2016; Browne, 2004; Murib, 2020; Neary, 2018). Following a brief note on methodology, we use these conceptual tools to discuss examples drawn from qualitative surveys and interviews in relation to four themes: (1) spatial misfit(ing), getting to and into onboard toilets; (2) misfit(ing) and bodily matter, managing bodily matter once in the toilet; (3) anticipating misfit(ing), anticipatory management of bodily matter when toilets are not accessible; and (4) misfit(ing) as (il)legitimacy, fat and disabled passengers' legitimacy within commercial aircraft regulations. Finally, we conclude, emphasising the inadequacy of onboard toilet provision for disabled and fat passengers and suggesting avenues for shared activism and theorising across fat, disabled and trans embodiment.

2. Fat as disability

In legislation concerning accessibility and plane travel, whether fat people are eligible for assistance as PRM has been subject to debate (Rinaldi et al., 2020). In this section we set this in context concerning research that considers the intersection between fat and disabled embodiment and the protection of fat rights under disability discrimination legislation. We outline three tensions in this work that are important for the account of fatness and disability we provide in this paper:

First, tensions regarding the definition of disability (Kirkland, 2006). A core tenet of fat activism is resistance to the medicalisation of fatness as inherently unhealthy (Herndon, 2002). If to be considered a disability, fatness requires medical diagnosis, this therefore sits uneasily with these forms of fat activism. This approach to fat rights also presents problems for disability activism as such strategies leave in place healthism and ideas of bodily normalcy that underpin some forms of ableism (Meleo-Erwin, 2016). Thus, as Meleo-Erwin (2016) argues fat and disability rights cannot be based upon health status. The social model of disability offers an alternative approach, allowing identification of shared barriers encountered by disabled and fat people (Cooper, 1997; Kai-Cheong Chan and Gillick, 2009; Longhurst, 2010; Shalma and Michalko, 2008), including in relation to transport and public toilet access (Brandon and Pritchard, 2011). However, when it comes to legal protections, this is far from straightforward. In some cases a size limit determines when one is fat enough to be 'disabled' (Kai-Cheong Chan and Gillick, 2009). In other cases, proof that fatness impairs someone's ability to work is required but, as Meadows et al. (2021) note, this undermines claims of *unfair* dismissal on the basis of fatphobia. Considering fat an appearance-based disability, similar to facial disfigurement (Garland-Thomson, 2005), offers an alternative but, as Aphramor (2009) outlines, whilst there have been several successful court cases they are the exception rather than the rule.

Secondly, tensions surrounding the protection of fat people under disability discrimination legislation concern ideas of culpability (Meadows et al., 2021; Solanke, 2021, 2017). Fatness is often framed as voluntary, a lack of willpower, unlike disability often considered involuntary (Kai-Cheong Chan and Gillick, 2009). As a result, Cooper (1997, p. 36) questions whether "disabled people might resent fat people identifying as disabled if fatness is regarded as self-inflicted, and less legitimate."

Thirdly, perceptions of the mutability of fat embodiment (that it can easily be changed) causes tensions for the protection of fatness in

disability legislation. As Solanke (2017, p.55; 2021) explains, immutability is core to discrimination legislation which considers it "unfair to disadvantage people based on a characteristic over which they exercise no control." These ideas of mutability are evident in policy and design decisions which refuse attempts to make spaces more accessible for fat people on the basis that this would reduce the incentive to lose weight (Meadows et al., 2021) and 'promote obesity'. Stressing that fatness is immutable has, therefore, been essential in some strands of fat activism. However, this can be exclusionary for fat people who do lose weight, and reproduces normative understandings of weight-related health (LeBescro, 2014; Meleo-Erwin, 2016; Murray, 2008, 2005). There are similarities here with crip/disability activism that challenges attempts to 'fix' the crip body whilst recognising that some disabled people may want medical intervention (Herndon, 2002). Indeed, immutability as the foundation for disability rights doesn't recognise the relationality (Hall and Wilton, 2017) and spatial and temporal contingency of disability, i.e. the varied extent to which a body 'fits' a particular space at a particular time.

3. Theorising Fat and Disabled Embodiment: Misfits, Anticipatory Bodies and (Il)legitimate Lives

Whilst the above tensions surrounding the categorisation of and assumptions about fatness and disability are palpable, one productive means to intervene in these debates is to, in Meleo-Erwin's words (2016, p. 107), 'queer' disability *and* fatness. Crip Theory has at its core an understanding that bodily normativity and compulsory able-bodiedness is produced *in conjunction with* compulsory heterosexuality (Kafer, 2013; McRuer, 2018, 2006). Similarly, queer fat studies have drawn attention to the ways that compulsory thinness and healthism are entangled with other forms of bodily normativity, including compulsory able-bodiedness (Sandahl, 2003; Wykes, 2016). In this section we utilise this strategy, outlining three theoretical moves we suggest are useful for geographical and interdisciplinary work on the intersection of fat and disability rights by recognising the relationality of embodiment, avoiding the disavowal of rights based on culpability and/or malleability, and offering ways to think about shared resistance to bodily normativity.

First, we suggest that Garland-Thomson's (2011, p. 592) relational concept of 'misfitting', offers opportunities to consider fat as a disability without medicalisation, by recognising disability as "a dynamic encounter" between body and world:

"Fitting occurs when a generic body enters a generic world, a world conceptualized, designed, and built in anticipation of bodies considered in the dominant perspective as uniform, standard, majority bodies. In contrast, misfitting emphasizes particularity by focusing on the specific singularities of shape, size, and function of the person in question" (Garland-Thomson, 2011, p. 595).

'Misfitting' pays attention to the particularity of lived embodiments and their spatial and temporal contingencies. More than the social model of disability, 'misfitting' recognises embodied experiences such as pain whilst not decentering the disabling effects of social and spatial environments. What matters in relation to fat, isn't whether fat is a disability, but the misfit between a fat body and a particular (material and social) space at a particular time. 'Misfitting' thus offers a way to assert fat rights without needing to emphasise that fatness is immutable (Solanke, 2017) because what matters is the fit between body and space at a particular moment, rather than the potential for that body to change shape and size. Moreover, misfitting shifts attention from changing the body, to "changing the environment to accommodate the widest possible range of human form and function" (Garland-Thomson, 2011, p. 603). As such this approach explains the inaccessibility of spaces such as public toilets and commercial aircraft, as a result of the limited models of bodily normativity considered in their design.

Secondly, we suggest that Crip Time, particularly Kafer's (2013, p. 39) discussion of "anticipatory scheduling" (Kafer, 2013, p. 39) is useful

for recognising the temporalities of misfitting. [Kafer \(2013, p. 39\)](#) discusses ‘anticipatory scheduling’ in relation to disabled people who use attendant care services, and people with chronic pain or fatigue who have to anticipate future energy use. In both cases, essential activities have to be scheduled in advance, requiring “a different orientation to one’s body, a foregrounding of physical needs—eating and sleeping and shitting—and the ways in which they shape our days”. [Thornton \(2019\)](#) brings ‘crip time’ into conversation with ‘misfitting’ to explore the ways in which trans/crip embodiment ‘misfits’ normative temporalities e.g. everyday activities taking longer, or schedules needing to be more flexible. Anticipatory scheduling brings a temporal dimension to ‘misfitting’ through attending not only to the fit between body and world at a particular time, but also how that fit, at that time, is contingent on past and future bodily needs and spatial capacities. It also reveals bodies are not passive in relations of ‘misfitting’ given that people develop strategies to manage and schedule essential bodily functions around inaccessible infrastructures:

“The concept of misfitting as a shifting and perpetually temporal relationship confers agency and value on disabled subjects at risk of social devaluation by highlighting adaptability, resourcefulness, and subjugated knowledge as potential effects of misfitting” ([Garland-Thomson, 2011, p. 592](#)).

Thirdly, we offer a theoretical approach that draws together Butler’s work on the intelligibility of different lives, with fat and trans theory on the mutability of bodies, and work on the exclusion of trans, non-binary and gender nonconforming people from public toilets. This approach, we suggest, is useful for understanding two aspects of policy relating to the accessibility of plane travel for fat and disabled people: the lack of accessible toilets on commercial aircraft; and policy discussions about whether fat people are legitimate PRM.

Judith Butler’s work on (il)legitimate and grievable lives ([Butler, 2012, 2009, 2004, 2001](#); [Reddy and Butler, 2011](#)), spans two decades. It addresses the AIDS crisis in the 1980s and 1990s ([Reddy and Butler, 2011](#)), trans rights ([Butler, 2001](#); see also, [Neary, 2018](#)), gender ([Butler, 2004](#)), gay marriage ([Butler, 2002](#)), terrorism and war ([Butler, 2009, 2002](#)), amongst others. Through this work, Butler questions whose lives are considered human, eligible, worthy or legitimate, and whose deaths are grievable. As [Inckle \(2014, p. 396\)](#) explains with reference to disability and gender, Butler’s work here demonstrates that “rights and privileges are actively circumscribed by being tied to very limited definitions of ‘The Human’” ([Inckle, 2014, p. 396](#)). In conjunction with [Garland-Thompson’s \(2011\)](#) concept of the misfit, we suggest Butler’s work allows acknowledgement that the bodies considered as ‘normatively human’ in the design of particular spaces, reveals who is a legitimate occupier of those spaces. As [Butler \(2004, p. 4\)](#) explains with reference to disabilities: “The norms that govern idealized human anatomy thus work to produce a differential sense of who is human and who is not, which lives are liveable, and which are not.”

[White’s \(2014\)](#) foundational work on the intersection between fat/trans activism is also important to draw in here, as this offers new perspectives on (im)mutability. In contrast to strands of fat activism that stress the immutability of the fat body, the malleability of the body is central to trans embodiment ([Burford and Orchard, 2014](#); [LeBesco, 2014](#); [White, 2014](#)). This raises questions about how to centre mutability at the intersections of fat, disabled/crip, queer and trans activism. [LeBesco \(2014\)](#) suggests the solution lies in conceptualising malleability as the fluidity of embodiment rather than a permanent change from one thing to another. Moreover, [Burford and Orchard \(2014\)](#) suggest that challenging ideas that fat people want to be thin and trans* people want to fit normative embodiments of gender, offers opportunities to critique normative embodiment and assumptions of bodily stability. We suggest this framing is useful for questioning the dismissal of disabled and fat people’s needs in regulations governing commercial aircraft and the assumed normative bodies that inform aircraft design.

Following a brief discussion of methodology, we go on to illustrate

the usefulness of these three theoretical manoeuvres for making sense of the experiences of fat and fat and disabled air passengers.

4. Methodology

The data on which this paper is based were collected via 795 online surveys (27 questions, 24 of which were open questions), 28 in-depth interviews with people who are members of the facebook groups ‘flying while fat’ and ‘flying while superfat’ along with other fat activist sites, and analysis of key policy on accessible toilets in relation to air travel. The 795 survey responses were collected in the space of a week after which the survey was closed because of the size and speed of response. Interviews were carried out remotely (online video call, phone or email) by Stacy Bias. In keeping with relational models of disability, rather than use Body Mass Index (BMI), we consider ‘fit’ within the airplane to be a better indication of body size: 67% of respondents reported being concerned or majorly concerned about fitting in the seats and 75% concerned or majorly concerned about experiencing negative interactions with other passengers. Survey respondents and interviewees were asked whether they identified as disabled and if so, how they would describe their disability. Responses to these questions reflect a broad range of definitions of disability, and the spatial and temporal contingency and variability of embodied experiences, for example some respondents reported being disabled by specific elements of air travel spaces. In light of the paper’s focus on how fat and disability intersect, we have included information on whether participants identify as disabled when quoting from survey or interview data, using participants’ own identification. Where participants answered ‘no’ to the question about whether they identify as disabled, we have noted that they are non-disabled (though this is of course temporally specific). No information is provided where participants didn’t answer these questions.

At the time of writing, this dataset remains the largest record of people’s experiences of flying while fat. However, the dataset is limited in ways that reflect the online communities through which participants were recruited: 53% of survey respondents identify as heterosexual, 6.2% as male, and 82% as white. The majority of respondents were American and the survey was only available in English. Of particular relevance to this paper, 20% of respondents identified as disabled as well as fat. Institutional ethics approval was given for this research. All names used in the paper are pseudonyms and informed consent was gained from all participants. As authors of this paper, we have all been involved in fat activism and have experienced fatphobia in some parts of our lives. We have a range of experiences of flying, fatness and disability and the extent to which the spaces of commercial aircraft misfit our bodies varies from mild discomfort to physically painful, financially prohibitive, and disabling, with some of us more privileged than others in this regard. For a more thorough discussion of the methodology, including the positionality of the authors, see [Evans et al. \(2021\)](#).

5. Analysis

Analysis of the data involved a combination of quantitative analysis of closed survey questions, particularly those which asked participants to indicate their level of concern with key aspects of plane travel on a four point scale, keyword searches of qualitative (open question) survey data and thematic coding of interview data. Our subsequent discussion of the data collected and analysed via these methods is divided into four sections: (1) spatial misfit(ing); (2) misfit(ing) and bodily matter; (3) anticipating misfit(ing); and (4) misfit(ing) as (il)legitimacy.

5.1. Spatial Misfit(ing)

In this section we consider fat and disabled people’s experiences of ‘misfitting’ the material and social spaces of the plane in relation to toilet access. The survey asked participants to rate their level of concern

about being unable to access toilets onboard the aircraft on a four-point scale: not concerned, minor concern, concern, and major concern. Of all respondents who answered that question, 34% said that toilet access was either a concern or major concern, rising to 58% for respondents who identify as fat and disabled. This concern isn't just about getting into the toilet, but also getting out of seats and navigating narrow aisles:

Worrying about being trapped in my seat because I'm unable to get out due to my size. Especially stressful on overseas flights, and I've actually not used the toilet an entire flight before, putting myself in massive pain just because I couldn't get out of my seat! (Survey respondent 238, non-disabled).

[I] book an aisle seat just to avoid annoying the person next to me to get up for me and to avoid the embarrassment of having to fight my way out of the seat ... If I need to go to the bathroom I force myself to go and then feel proud when I manage to reach the bathroom without hitting people on my way. I know that people who walk past me would hit me by mistake and that this is normal, especially when you're in a moving vehicle, but to me I feel this is a little bigger of an issue that I'd like to avoid so that people don't think I hit them because I am too fat to fit in the aisle (Survey respondent 299, non-disabled).

'Misfitting' is evident here not just in the ways in which the material space of the plane "does not sustain the shape and function of the [fat] body" (Garland-Thomson, 2011, p. 594) but also how an atmosphere of hostility and/or judgement (Evans et al., 2021) renders fat bodies illegitimate (Butler, 2002) and undeserving of the space they occupy (Spratt, 2022). This is evident in the way Respondent 299 holds themselves to higher expectations than normatively embodied people. Elsewhere (Evans et al., 2021) we have discussed the ways in which some fat passengers limit their own comfort out of concern for the comfort of others. This is also evident here in relation to accessing onboard toilets.

The physical design, size and shape of plane toilets to fit "majority bodies" (Garland-Thomson, 2011, p. 594) further creates 'misfits' of fat and disabled people as detailed below:

I can usually fit into the seats and everything but I can rarely fit in the restroom (Survey respondent 250, non-disabled).

Very tight. I feel like once I am in I feel like I can do anything. I can contort myself in like anyway... Once I am in I can do what I have to do but it's not comfortable (Denise Raymond, non-disabled, interviewee).

Like Denise, several respondents described being uncomfortable and having to contort their bodies in often painful ways to 'fit' in plane toilets. Like (mis)fitting, comfort and discomfort are relational (Bissell, 2008). As such, "when we introduce or identify comfort there is always discomfort – it is a sensation that sits at a border, or boundary. It is not dichotomous - but rather fluid, negotiated, oscillated" (Price et al., 2021, p. 4). Whilst there are many ways in which transport involves experiences of discomfort (Budd, 2011) the misfit between bodies and toilet spaces adds another form of discomfort for fat and disabled passengers (Evans et al., 2021).

The contortions which Denise must do to fit in the toilet also illustrate that bodies are not passive in relations of misfitting as "our bodies move, meet, negotiate, and come into direct contact with the built and natural worlds" (Garland-Thomson, 2011, p. 596). However, for some fat and disabled passengers, bodily contortions are not always possible:

I think it's not good for anybody but sometimes like I sit down ... and I'm kind of squeezing in there but because of the lack of flexibility with my body regular bathrooms can be painful (Aidan Bakas, disabled, interviewee).

I stopped flying my last trip I believe was 2009. I got stuck in the bathroom could not get out was standing for 10 min, could not breathe when I got out was given oxygen (Survey respondent 476, disabled).

For both of these participants, the lack of accessible onboard toilets means the "shape and function of their bodies comes in conflict with the shape and stuff of the built world" (Garland-Thomson, 2011, p. 594). These participants aren't alone in discussing the pain caused by misfitting, several participants reported stopping flying as a result. As Garland-Thompson (2011, p. 594) explains, the effect of misfitting is "a literal casting out" of the public sphere and a denial of legitimacy and full citizenship.

5.2. Misfit(ting) and Bodily Matter

In addition to the material restrictions of plane toilet spaces, misfitting also impacts passengers' management of bodily matter once onboard. Many participants who *could* contort their body to get into onboard toilets, found they could not do what was needed once inside as opening their legs to urinate, defecate, and/or wipe themselves was impossible:

Getting in and "going" is fine, but the "after" is a little more acrobatic than I really want to be on any given day (Lisa Sutherland, interviewee).

I'm of the size that I can always get in there and pee. I can't always wipe [laughs]. There is like a hierarchy for what can you do in there (Kathleen Taylor, disabled, interviewee).

Relatedly, for people who menstruate, changing or inserting tampons requires space to open one's legs and the limited space in onboard toilets makes menstrual hygiene difficult:

The bathroom issue! Impossible to wipe properly!!! Much less out [put] in a tampon! (Survey respondent 217, previously disabled but currently non-disabled).

As public toilets were originally designed for non-disabled cis men, the provision of space and facilities (bins, shelves etc) for the management of menstruation are often not considered in the initial design (Greed, 2010). Whilst disposal units are often built in to plane toilets, there remains a lack of adequate space to manage menstruation.

This kind of 'misfitting' is exacerbated for fat passengers whose disabilities mean they need to access a toilet quickly:

Because of my IBD [Inflammatory Bowel Disease], I get anxious when I cannot get to a bathroom, or where it will be too cramped to wipe properly (Survey respondent 63, disabled).

[I have a] colostomy bag from cancer treatment which is also a travel challenge (need to be able to get to [a] bathroom in a hurry) (Survey respondent 249, disabled).

Discussing mundane mobilities for people with Irritable Bowel Syndrome (IBS), White (2021, p. 7) explains that people with hidden bowel conditions experience a dual precarity: a structural precarity concerning the "uncertainty of a toilet being available and accessible" and "bodily precarity whereby symptoms are unpredictable, unreadable, and at times, questioned". For participants quoted above, this is exacerbated by concern about not being able to fit into the toilet, or do what is needed once inside. Fat and disability intersect here to reveal the limited parameters of embodiment considered in the design of airplane toilets.

In light of the difficult and often painful experiences trying to use onboard toilets, participants described a range of strategies adopted to try and 'fit' the misfitting plane environment:

If I had to defecate, I would not be able to clean myself properly. As a result, I've taken anti-diarrhea [diarrhoea] meds to make sure I won't have to go (Survey respondent 492, disabled).

I also have thought about I got... a go girl which is like designed for camping and it's like a silicone funnel that fits over your vulva and so its design for women and I know a lot of trans men that use it as well. So you can pee standing up ... I take up less space standing up than I do sitting down so that I could use it for the bathrooms on the planes

but I haven't actually ventured into doing that yet. (Kendra Thompson, non-disabled, interviewee).

Changing or augmenting the way people who pee sitting down, menstruate, or indeed fat and disabled people, use toilets (for example using devices or medication mentioned above) provides temporary solutions, but these are not substitutes for adequate toilet provision. Kendra's strategy to urinate standing up resonates with broader observations of the sexist nature of public toilet design based "on the perceived needs of the healthy young male (with narrow hips), carrying nothing more than a rolled-up newspaper" (Greed, 2010, p. 125). People who need to sit whilst peeing require enough space to turn around and close the door once in the cubicle. This is space that isn't adequately provided in on-board aircraft toilets.

Concerns about bodily smells and odours also mediated participants' relationships with their bodies, toilet space and other passengers:

I don't like drinking coffee because it makes me need to shit and I HATE shitting on any public transport because there is always that person stood outside your door who gets a waft of your excrement as you leave and it is SO embarrassing! (Survey respondent 325, non-disabled).

[I] try to figure out a way to deal with it and maybe wear an adult diaper but then I might think what if it starts to smell and then I'm going to smell like a fat person on the plane. I don't think that would be a good idea. I don't know I would just use the bathroom and just not wipe or anything or try to do it standing up (Alex Gates, non-disabled, interviewee).

Respondent 325's concerns about smell align with gendered ideologies of control and concealment which suggest women should hide using the toilet, avoiding making a noise or leaving a smell or a mark (Longhurst, 2001; Slater and Jones, 2018). As Alex's discussion illustrates, 'unpleasant' smells are also often associated with being fat and reinforce latent hostility towards fat people. Smell is also linked to the stigma of using an 'adult diaper' (incontinence pad), which is rooted in the infantilization of people who are incontinent, and the valorisation of 'bodily control':

"Such emphasis upon control shows the extent to which leakiness is unacceptable within the rubric of the bounded, knowable, normative, sexual and adult body. It can purposefully expel urine in clean and controlled (normative) ways, but never leak. To leak waste is to lack self-control, bodily discipline and integrity – neoliberal values which circulate the politics of our (gendered) embodiment" (Liddiard and Slater, 2018, p. 328).

Like incontinence, fat is associated with lack of control and an inability to 'take care' of the body. Exploring the "visceral disgust" women feel towards their own and others' bodies, Fahs (2017) identifies smell as one of five key themes associated with disgust, with one participant in Fahs' research suggesting that fat people smell because it is difficult for them to keep clean. Here the misfit between a fat body and onboard toilets demonstrates both the intersectional realities and visceral sensation of fatphobia, or in Garland-Thomson's (2011, p. 600) words "when the world fails flesh," then smell is deployed as a judgement on fat people.

Garland-Thomson (2011, p. 601) asserts that "Misfitting has the explanatory power to produce a coherent narrative of how inferiority is assigned and literal marginalisation takes place". Indeed, this is where the political potential of the misfit lies; to identify where and how such marginalisation happens. In short to "foster an awareness of social injustice and the formation of a community of misfits that can collaborate to achieve a more liberatory politics and praxis" (ibid p.597). We return to the political potential of the misfit in the conclusion to this paper.

5.3. Anticipating misfit(ing)

In this section we use Kafer's (2013, p. 39) work on "anticipatory scheduling" to explore the temporality of misfitting and also to open up the multiple spatialities and embodied practices which inform how or whether air travel becomes possible for fat and fat and disabled people. Participants discussed multiple ways in which they scheduled toilet use in anticipation of inaccessible toilets:

I have strategies about using the restroom as close to when we board the plane as possible in hopes that I won't have to use the restroom [onboard] but pretty much I always do end up using the [onboard] restroom ... My strategy in that regard has not yet worked (Ruth Williams, non-disabled but with some mobility problems, interviewee).

Bathrooms are a big problem. If still at the airport in an airport wheelchair, how will I get to the bathroom and back? If on the plane – how can I do it in the tight space? (Survey respondent 678, disabled).

Using the restrooms closest to the gate is a common strategy. However, as Ruth's experience illustrates, this doesn't always work. For disabled passengers who take longer to move through the airport, or have wheelchair assistance and less control over timing, this strategy is not always possible.

Anticipating misfit(ing) in on-board toilets is also managed and felt 'inside' a person's body through fasting, dehydration and 'holding it' whilst on the plane:

I am unable to fit into the plane's restroom, so I have to be very careful to stay dehydrated before / during my flight ... I stop drinking fluids when we leave the house so that I won't have to use the facilities on the plane. ... If I get too dehydrated, I MAY allow myself one cup of water on the plane, but I usually try to avoid more than that (Tiffany Rupp, non-disabled, interviewee).

I fast the whole time I am traveling, so I don't need to use the bathroom (Survey respondent 63, disabled).

I am good at not getting up, like the whole flight to Hawaii I didn't get up once to go to the bathroom and that's not a good thing but I'm saying I can hold my pee for a long time (Marie Wilson, non-disabled, interviewee).

Like Tiffany, 25% of respondents who answered that question said they intentionally dehydrate before a flight. For people with conditions causing an urgent need to defecate (like respondent 63), this extends to fasting too, with similarities here to White's (2021) discussion of the embodied experience of travel for people with IBS. As Marie explains, this is combined with 'holding it' despite having the urge to urinate or defecate.

For people who menstruate, lack of access to appropriate toilet facilities also requires anticipatory strategies:

It's an issue if I'm on my period (sigh) so then I just have to suffer until I've landed (Alex Gates, non-disabled, interviewee).

Use Maxi pads and try to sleep (Survey respondent 547, non-disabled).

The only option for some people is to go without changing menstrual products. For people with very heavy periods or conditions such as endometriosis, this would likely be impossible.

Crip Time (Kafer, 2013) is useful here for understanding the temporalities of misfit(ing). As participants act before travel, or delay urination or defecation until arrival, misfitting doesn't only require consideration of the body in a particular moment but also an awareness of past and future bodily needs. Planning in anticipation of misfit involves, what Kafer (2013, p. 39) explains as, "a literal projecting of one's body as a body into the future even as one inhabits one's body in the present". The strategies participants describe are necessary given the lack of toilet provision, but these have implications for people's health,

including risk of urinary and kidney damage (Schmidt, 2013) and increased blood pressure from ‘holding it’ (Lowe, 2019). Moreover, travel related Deep Vein Thrombosis (DVT) is an acknowledged risk of (particularly long-haul) plane travel and dehydration (exacerbated by low cabin pressure and air conditioning) and extended time sitting increases this risk (Gavish and Brenner, 2011). Intentional dehydration thus increases DVT risk for fat and disabled passengers, compounded further for people unable to move around the plane (Evans et al., 2021).

For some respondents, anticipation of inaccessible toilets required changes to travel plans:

I check online seating arrangements and limit my fluids. I also try to not take a flight that is too long because then I know I’ll need the bathroom. If I’m going an extremely long distance I try to get a layover even though it’s additional stress (Survey respondent 230, disabled).

If it’s possible and I have the time, I prefer to go Amtrak with a roomette near the accessible bathroom (Survey respondent 617, non-disabled).

As these quotes illustrate, lack of accessible toilets means limiting the length of the flight, or using alternative forms of transport. Discussing the ways in which access to public toilets limited women’s use of public space in late 19th, Early 20th Century New Zealand, Cooper et al., (2000) describe the bladder as a ‘leash’ that restricts travel away from home. This is evident too in strategies adopted by some of our participants that involve travelling via multiple shorter, indirect flights so they may access toilets on a layover. Like participants quoted above, Eleanor Lisney, writing in Jones et al., (2021) also reports dehydrating before plane travel and curtailing travel distance/time. However, as a power wheelchair user, Lisney explains that multiple stopovers increase the chance of damage to her wheelchair. For several fat and disabled survey respondents this is compounded by concerns that the wheelchairs and aisle chairs used to move people around the airport and plane will not be big enough and, if their own chair is damaged, alternatives may not fit. Disabled people may also have long waits to disembark the plane so timely access to an accessible toilet is far from guaranteed. Moreover, lack of toilet access shifts how time is experienced: “the length of a minute varies wildly, depending which side of the bathroom door you’re on, or if there is even a bathroom that is accessible or safe for you to use” (Thornton, 2019, p. 361).

5.4. Misfit(ting) as (Il)legitimacy

In this final section we consider how regulations which govern the accessibility of onboard toilets, reveal the (il)legitimacy of fat and disabled air passengers in two specific ways:

First, in the context of the plane, the norms that govern who is considered a legitimate passenger are based on heightened capitalist logics reflective of the commoditisation of plane space, with the profit margin of every inch accounted for (Huff, 2009; Evans et al., 2021). This is reflected in U.S. Department of Transportation (2009, p. 20) regulations concerning onboard toilets:

Particularly given that single-aisle aircraft often make lengthy flights (e.g., across North America, some *trans*-oceanic flights), it is clear that providing accessible lavatories on single-aisle aircraft would be a significant improvement in airline service for passengers with disabilities....At the present time, however, the Department is concerned that the revenue loss and other cost impacts of requiring accessible lavatories on single-aisle aircraft could be too great.”

Whilst acknowledging that single-aisle flights do make lengthy journeys, the lack of accessible toilets is justified with reference to revenue loss, due to the removal of seats to make space for a larger toilet. In the recent amendment to these regulations the 10/12 year delay and lack of requirement to retrofit current aircraft which don’t have an accessible toilet are also justified on the basis of cost (U.S. Department of

Transportation, 2023). The average lifespan of a plane is 30 years (Lyte, 2016) so without a requirement to retrofit older planes, it will be a long time before all planes have accessible facilities. Relatedly, crip theory has demonstrated that compulsory able-bodiedness is central to neoliberal capitalism (McRuer, 2006) and both disabled and fat people are frequently framed as a drain on resources (Longhurst, 2010). In the revenue generating space of the plane, the needs, rights and legitimacy of those bodies that require facilities that take up extra space which could otherwise generate additional revenue, are easily denied.

Secondly, the illegitimacy of fat passengers is evident in discussion about fat people’s use of services for PRM, which are imbued with fat-phobic discourses of culpability and malleability. For example, in a review of EU regulations for PRM, Steer Davies Gleave (2010, p. 127) explain that some stakeholders were concerned that:

“the definition of PRM used in the Regulation is very broad, and could be interpreted to include some categories of passenger who it might not have been intended to cover (such as obese passengers, or even passengers temporarily incapacitated due to excess alcohol consumption).”

Evident here is a distinction between passengers considered to have a legitimate need for assistance and those with illegitimate claims.

As Herndon (2002, p. 5) explains, “The frequent dismissal of fatness as a disability lodges itself in an intense cultural fear of frivolous ADA claims and what it might mean to accommodate larger bodies”. It’s notable that fat passengers are conflated with those seen as illegitimate due to being “temporarily incapacitated due to excess alcohol consumption”. As Kirkland (2008, p. 401) explains:

“The idea that fat people should be protected under antidiscrimination laws is most often met with derision... Fat is considered quite unlike the traits usually protected in civil rights laws: race, religion, sex, national origin, age, and disability. Protected traits are classically those that bear a recognized history of oppression and are understood to be outside the realm of personal choice.... Fatness, by contrast, is understood as either analogous to smoking...or simply as physical evidence of overeating and laziness... the way to avoid discrimination is to just lose weight.”

Whilst interviewees didn’t speak directly about this policy in relation to toilets, their awareness of their lack of legitimacy as fat people in accessing support for disabled passengers was evident in discussion about other aspects of travel. For example, talking about pre-boarding in order to get settled without blocking the aisle, and get a seatbelt extender, Ellen explained:

“With [airline name] this guy [airline staff] actually refused to let me and point blank said “Being heavy is not a disability or reason that you get to preboard”” (Ellen Smith, non-disabled, interviewee).

For some fat passengers who are also disabled, their disability can act as a source of legitimacy when it comes to accessing additional support:

“I put on disability me so that I have access. I always take my cane to the airport, I always do now. ... I know by owning my disability identity I get less blame for my size. ... People have pity instead of shame and disgust. ... That speaks very highly of a fucked up society but when it comes down to it I will take the pity over the shame and the disgust” (Aidan Bakas, disabled, interviewee).

This is not to say that disabled people have adequate support or access on commercial aircraft, nor that ableism does not involve shame or disgust. In fact, airlines can refuse carriage for both fat and disabled passengers if they consider their presence to be a safety risk, and this was a concern for several of our participants. Of particular significance in Aiden’s quote is the relative legitimacy of fatness and particular forms of disability. Advocating for fat people’s rights on planes and within broader medical, social and political contexts requires challenging ideas of culpability and mutability in discrimination legislation (Solanke,

2017). As White (2014) suggests, trans theory and activism is useful here, providing a foundation for rights that recognises the malleability of the body. The model of the misfit aligns with White's (2014) argument by emphasising the (mis)fit of a body at a particular time without assuming fixed qualities to a body or assessing their legitimacy on the basis of what a body might become.

The denial of accessible toilets and fat people's rights as PRM can be conceptualised as a misfit of (il)legitimacy. As Butler (2002) explains, a legitimate existence is one sanctioned by the current norms of social expectation, imbued with rights and privileges, and considered ideologically and physically moral. To be illegible is to be unthinkable, outside what is considered human, or not be seen or thought at all. Critiques of legislation that limit toilet access for trans and disabled people (Bender-Baird, 2016; Browne, 2004; Murib, 2020; Neary, 2018) illustrate that "access to toilets and access to wider social care are not discrete problems, but wrapped up in broader ideologies regarding whose bodies and ways of being are valued" (Jones et al., 2021, p. 220). In the delineation of who has legitimate claims to accessibility support, fat people are placed outside of this legitimacy, and in the denial of provision of accessible toilets, disabled and fat people are further denied the status of legitimate travellers.

6. Conclusion

In this paper, we've explored the ways in which onboard toilets on planes are inaccessible for many fat and disabled passengers, drawing on data which forms part of the largest data set on experiences of flying whilst fat. The paper contributes to literatures, within geography and beyond, on toilet access, (aero)mobilities, the accessibility of plane travel and the intersections between fat, crip, trans and disabled embodiment. In conclusion, we emphasise four key points:

First, Garland-Thompson's concept of 'misfit(ing)' is useful for geographers in providing a conceptual model to think fat/disability in relational and spatial terms. This approach avoids definitional debates about who is/isn't disabled by focusing on how particular spaces and particular bodies 'misfit' at particular times. This also challenges the assumption that a body's access to rights is based on their immutability i.e. their fixity and capacity to be categorised. Misfit thus opens up opportunities for shared activism for fat and disabled people through negating the tensions between these movements that we outlined above. As Garland-Thompson (2011, p. 598) explains:

"Although misfit is associated with disability and arises from disability theory, its critical application extends beyond disability as a cultural category and social identity toward a universalizing of misfitting as a contingent and fundamental fact of human embodiment. In this way, the concept of misfitting can enter the critical conversation on embodiment that involves the issues of contingency and instability."

Secondly, to understand toilet access requires consideration not just of getting to and into the toilet, but also of what is needed to manage matter that crosses bodily boundaries (inserting tampons, changing incontinence pads or colostomy bags, wiping etc). Moreover, the data has further identified people's differential requirements such as needing access to toilets more urgently or needing space to manoeuvre a body. Indeed, the depth and honesty of the experiences shared by the survey and interview respondents demonstrates the need to centre and take seriously the corporeal and material realities of fat and fat and disabled people. This is significant for highlighting the importance of centring bodily materials and fluids, and indeed toilets, in geographical research. As Longhurst (2001) asserts, "it is impossible to ensure that there are no leakages across the boundaries between inner and outer worlds in toilets/bathrooms. This means that they are often experienced as sites/sights of abjection". Such abjection, has been responsible for the (until recently) disciplinary absence and devaluing of bodies and materials similar to those that we explore in the paper. We thus use this paper to

further work that seeks to remedy this absence and proffer, what Longhurst (2001) explicitly names as "contestatory, and potentially, emancipatory, geographies of difference" (p.90). In the case of onboard toilets, this research reveals that current provision, and the legislation guiding that, is woefully inadequate and is both physically and emotionally harmful.

Thirdly, toilets matter for people's mobility, citizenship and safety. The lack of accessible toilets on planes effectively 'casts out' those who cannot safely access those spaces, meaning that plane travel is inaccessible for many fat and disabled people. Whilst flying may be a relatively privileged and carbon intensive form of travel, there aren't always alternatives. As a consequence, some forms of employment, sociality and family life are also rendered inaccessible. Toilet access is not just a matter of convenience, but is fundamental to the health and safety of plane passengers as intentional dehydration or 'holding it' can result in ill-health. Forcing disabled and fat people to choose between adopting such dangerous mitigation measures or not flying is unacceptable. That this is justified on the basis of revenue loss reveals whose bodies and lives are considered legitimate under neoliberal capitalism. As Butler (2004, p. 32) suggests, "when we struggle for rights, we are not simply struggling for rights that attach to my person, but we are struggling to be conceived as persons."

Finally, there is an opportunity for shared activism between fat, queer, crip, trans and disabled movements to challenge the normative embodied assumptions considered in the design of commercial aircraft and public toilets. Misfit can provide a means to draw together these social movements because:

"although misfitting can lead to segregation, exclusion from the right of citizenship, and alienation from a majority community, it can also foster intense awareness of social injustice and the formation of a community of misfits that can collaborate to achieve a more liberatory politics and praxis" (Garland-Thomson, 2011, p. 597).

Fat bodies exist outside of what is considered normal, human or legitimate. Like disabled people, fat bodies are not considered in facility design, and like trans and queer bodies, fatness is outside what is socially legitimate. This is compounded by neoliberal healthism and associated ideas of culpability and mutability through which fat bodies are blamed for their failure to fit (Spratt, 2022). As Butler (2004, p. 28) explains, "the struggle to rework the norms by which bodies are experienced is thus crucial not only to disability politics, but to the intersex and transgendered movements [and we would add fat activism] as they contest forcibly imposed ideals of what bodies ought to be like."

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Bethan Evans: Conceptualization, Formal analysis, Writing – original draft, Writing – review & editing, Project administration, Funding acquisition. **Rachel Colls:** Conceptualization, Formal analysis, Writing – original draft, Writing – review & editing. **Stacy Bias:** Methodology, Investigation, Formal analysis, Conceptualization, Data curation, Writing – review & editing, Visualization, Funding acquisition.

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The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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