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ABSTRACT

The multi-sensorial and embodied experiences of ‘being transported’ as passengers are an important, but at times underemphasized, theme in transport policy and planning. Asking the key question ‘how does it feel?’ seems straightforward and yet still hard to accommodate in the realm of planning and transport policies. However, if the ‘way that we feel’ is what attunes us to be attracted (or the opposite) to different modes of transport, then the affective, embodied, and sensorial qualities of buses, subways, airplanes, and ferries is more than an issue of ‘comfort’ and competitive advantage (even though this is a central concern for public transport agencies in the post-covid 19 context). Rather, we should understand how the enrolment of human bodies into infrastructural systems and mobility technologies shape our experiences in the everyday life. This paper hones in on a few theoretical concepts developed under the umbrella of ‘mobilities design’. Seen as a field of ‘material pragmatism’ it presents concepts such as ‘material interpellation’, ‘mobility affordance’, ‘extended bodies’, and ‘osmosis’ as part of a vocabulary enabling a more granular understanding of how we experience the world as passengers.

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Watch the closing doors!

In 1993, American hip hop artist and jazz musician Keith Edward Elam a.k.a. ‘GURU’ put out the much-acclaimed album Jazzmatazz vol. 1. The title of this paper is inspired by a track on the album titled ‘Transit Ride’. Framed by a heavy hip-hop beat and a jazzy groove, the song progresses as if we were riding the NYC subway. Several things go on in this song. Next to the stereotype ‘concrete jungle’ ambience and masculine, macho-tone, Guru touches upon fundamental features of subway riding. Riding the train is a practice enabling the physical displacement from point A to point B in time and space. However, it is also a multisensorial engagement and negotiation with an infrastructural landscape and a socio-technical system. It may affect where our body is, but also how our body feels. Riding the subway is a matter of ambiances and embodied affect. This paper will use the monotonous and repetitive chanting ‘watch the closing doors’ (which you might also know, as the ‘stand clear of the closing doors, please’
announcement in London) as the parable for thinking through several issues related to mobilities and passenger experiences.

More than two decades of mobilities research have identified one specific question as particularly interesting in this context. In all its banal simplicity it is the question: How does it feel? Seldom do transport planners, urban policy makers, developers, and professionals ask this question in its deepest and most profound way. But ‘how it feels’ to be moving or being moved is in no way a banal and simple question. Rather, it points towards the ontological levels of what it means to be a human within contemporary socio-technical mobility systems. As the infrastructural landscapes and networks of mobility technologies become our habitats and ‘second nature’ we may forget to question how it feels, how it transforms our experiences, and how we inhabit such complex geographies of mobilities. The multiple touch points and ‘handshakes’ with ticket machines, ramps, lifts, escalators, platforms, train doors, and subway cars are all vital and situational experiences wherein we realize what it means to be and become a passenger. This paper offers a few pointers for this conversation based on many years of research into mobilities and mobilities design.

The structure of the paper is the following: After the introduction, section two contains a short description of the movement from mobilities research to the field of mobilities design. Section three explores the conceptual and socio-material processes of becoming a passenger. From here follows section four where the paper moves towards a material pragmatist understanding of the passenger. This entails exploring how affordances, atmospheres, embodiment, and affect are coming together in the notion of the passenger, and the section will use the notion of ‘material interpellation’ to illustrate the ‘annunciation’ of the passenger. In the final section five we recapitulate some of the insights as well as pointing ahead towards future research and ways in which passengers might be conceptualized and theorized.

Watch the closing doors! – from mobilities research to mobilities design

From the criticism of transportation as an instrumental act of movement from point A to point B and traffic as a ‘derived demand’ (Dyson and Sutherland 2021), the mobilities turn has worked tirelessly on re-describing physical movement as something beyond just geographical displacement. The act of travelling, the wishes and dreams connected with it, and the repercussions for identities and social communities have rendered movement in an altogether different light after the advent of the mobilities turn. Several scholars have framed this so-called ‘new mobilities turn’ from its beginning in the early 2000s (Cresswell 2006; Jensen 2015; Sheller 2021; Urry 2000). The turn to mobilities and the realization of mobilities as important cultural and social phenomena seems now (at least in academic quarters) well established. The interdisciplinary gaze and re-description of movement as sociologically important and culturally coded is the foundational idea of such thinking.

At the Center for Mobilities and Urban Studies (C-MUS) at Aalborg University we have worked rather intensively with connecting the insights from the mobilities turn to our research and teaching within urban design. In the Aalborg curriculum of urban design, mobilities is therefore a fundamental part. Over the years we have articulated this as both a professional skill and a new research field we term ‘mobilities design’ (Jensen and Lanng 2017). This notion has caught on and is for example also present in Germany (Eckart and Vöckler 2022). The coining of mobilities design is somewhat inspired by Buchanan’s famous book ‘Traffic in Towns’ (Buchanan 1963) and his bold proposition for a new field of ‘traffic architecture’. Buchanan was commissioned by the British government to ‘solve’ the issue with the car and the city. As we all know, this did not happen. However, en route Buchanan voiced a regret at the lack of positive interaction between engineering and architecture. He saw this mismatch as one of the root causes for the ‘trouble with the car’. To remedy this Buchanan proposed to join architecture and engineering into a
new discipline he proposed to call ‘traffic architecture’. In a somewhat parallel move, we propose
to speak of ‘mobilities design’. Not traffic, but mobilities. Not architecture, but design. The former
because of our wider interest in mobilities and not simply transport, and the latter because we
want to address wider issues than simply architecture. Looking at design is a wider agenda, and
this connects directly to our acknowledgement of situated empirical studies within a pragmatic
framework. From the ‘Staging Mobilities’ framework (Jensen 2013) and onwards we have enter-
tained a simple, specific, and situated question: ‘What affords this mobile situation?’ Answering
this question takes us all sorts of places beyond architecture (e.g. algorithms, traffic light systems,
ticket machines, mobile apps etc.). Hence, the question of what enables the mobile situation
becomes one of ‘material pragmatism’. This both aims at the pragmatism governing the material
situation (what enables it), but also in a more epistemological sense that this research is influ-
enced by pragmatism as a stream of thought (Jensen 2023).

What we are speaking of is then yet another ‘turn’. Next to a turn from transport to mobilities
there is a turn to be made from mobilities to mobilities design. The latter is then not just an
interest in how spaces, sites, and infrastructures of mobilities are designed. It also reaches into
the toolboxes and mind-sets of designers. From the deep intertwinement with urban design, we
have come to appreciate two dimensions in particular where social science- and humanistic ori-
ented mobilities research might learn something. The first level of insights from the design world
lies in the ‘vocabulary’ enabling a more granular and detailed description, analysis, and under-
standing of the materialities of mobilities (Jensen 2016). For example, via expanding the vocabu-
lary with concepts like volumes, surfaces, shade, voids, tactility, materials etc., all terms designers
utilize in their way of understanding mobilities as a fundamental feature of any space. Secondly,
the mobilities research may learn from design thinking and the ways in which designers
approach a task. Here the simple question ‘what if?’ seems to be a crucial difference between
the analytical and descriptive mobilities researcher and the interventionist mobilities designer.
Instead of simply exploring ‘what is’ the designer questions ‘what is’ and furthermore imagines
‘what could be’. So, the critical-creative imagination of asking ‘what if this place could do some-
ting else?’ is an important add-on to the mobilities researchers’ analytical approach (Jensen and
Lanng 2017).

The claim is now that this emerging framework exploring the materialities and multi-sensorial
dimensions of mobilities is very well geared to explore a theme such as passenger experiences.
The sensitivity to human-spatial-technological mediation that comes out of the research into
mobilities design renders the mobile body and the protocols specifying these practices compre-
hensible at a more detailed level. So, from here let us turn to the passenger as a concept, and a
phenomenon on its own.

Watch the closing doors! – socio-material processes of becoming a passenger

Let us begin by asking the obvious (but as it shows, complicated) question; What is a passenger?
According to the Oxford Advanced Learner’s Dictionary a passenger is:

‘A person who is travelling in a car, bus, train, plane or ship and who is not driving it or working on it …’

or more metaphorically a member of a group and team who does not do as much work as the others.

(Hornby 2005,1107)

We are in other words dealing with the peculiar phenomenon of bodies moving but without
exercising any (or much) effort. Across multiple mobility modalities there are ‘elementary geogra-
phies’ of passengering that reach across functionalist understandings to affects as well as explor-
ing passivity versus activity in passenger geographies (Adey et al. 2012, 180). In French the noun
and the adjective ‘passager’ are related to ‘birds of passage’ or migration. Hence it signifies
impermanence and fleetingness (Marder 2022, 80). A passenger is a subject category deeply con-
nected to spatial and temporal processes of becoming and an embodied, multi-sensorial and
affectual manifestation (Adey 2011; Cresswell and Merriman 2011; Edensor 2011; Laurier 2011; Merriman 2007; Thrift 2004). The passenger is both a subject category and a practice category. In the case of air passengers Adey argues that:

Passenger mobilities are treated indivisibly. They are imagined as flows and rivers and, thus, modelled as vectors that eventually become real in the ‘real’ material environment of the terminal. (Adey 2011, 140)

They, according to Bueno, also have differing levels of ‘airport literacy’ (2020).

**Autonomy or not …**

Human passengers are capable of some level of autonomy which for example comes across in the terminology used by pilots when referring to passengers as ‘SLF’ or ‘self-loading freight’ (Dyson and Sutherland 2021, 4). However, passengers are ‘passive’ compared to when operating the vehicle or mode of transport. The terminology of airline companies is ‘PAX’ for the generic, aggregate passenger typologies (Bissell 2010, 271). PAX is the acronym for ‘Passenger Airport Experience’. In the words of Cresswell:

PAX are a symptom of a synoptic perspective on space that enacts a transformation of mobile bodies into a legible record that can be analyzed by the panoptic gaze of the architect, planner, and engineer. (Cresswell 2006, 238–239)

Seen this way, being a passenger is contradictory to one of the key ideas related to human mobility: autonomy. To be able to move by will and bodily force is seen as a key practice in which individual autonomy is exercised (needless to say, this is problematic when humans do not have the cognitive or physical abilities to move). So, there is an element of idleness and dependency on artefacts, systems, technologies, and spaces present in the world of passengering. Shilon and Shamir define an airline passenger as a BLD (a body carrying luggage and documents) (Shilon and Shamir 2016, 249). To be a passenger has therefore to do with ‘mediation’ (Adey 2017, 209). There are also attempts to measure ‘holistic passenger experiences’ or HPX within the tourism research area. Here the general idea is to identify the variables and metrics that will indicate how passengers feel (e.g. comfort, price, speed etc.) (Ittamalla and Kumar 2021).

The passenger’s mobility is mediated by different modality-specific features. There is obviously a big difference between being a passenger on a rural countryside bus, a jammed subway, or a high-end cruise ship. Moreover, being a passenger is of course not just about not exercising autonomy or being deprived of free will. Becoming a passenger is related to comfort and resources as well. Up to this point we have seen the passenger as a human only. However, the experiences of the Covid-19 pandemic vividly illustrate that passengers may also be viruses (Adey 2017; Jensen 2021). When thinking about the non-human dimension we may also consider when humans are utilizing non-humans for transportation purposes such as horseback riding or donkeys dragging wagons and such. Presented in more conceptual terms:

Passengerhood is an organizing principle behind our sense of time and space, not to mention our sense of sense, the paradigm of meaning in perpetual motion and of rapidly shifting sensory fields. (Marder 2022, 10)

The broader category of passengers as related to mass transit and global flows of mobile humans is connected to the modern, industrialized mass society:

There is no community of passengers, but we live in a passenger society … It is a togetherness based upon impersonal contracts and formal roles (as in passengerhood) instead of blood, family, and clans, among other natural, personal, direct ties and their attendant value systems. (Marder 2022, 25–26)

The social organisation of passengers into groups, with particular profiles (Adey 2017; Botton 2002; Dant 2014; Graham and Marvin 2001; Marder 2022) should be seen as a subset of the
social stratification that we find within all sorts of systems wherein different social groups are present. The social geography of passengers has to do with competencies, abilities, resources, and signifies social hierarchies, power, in- and exclusion processes that allow for some to move and some not, or for some to move fast and others slow, and yet again some to move with expensive or fast modalities. Fast lanes, smart travel cards, and biometrics, are just some of the mediation and filtering mechanisms that allow for radically different passenger experiences. Besides being socially organized passengers are connecting to subject positions and categories:

As a passenger, I am already not here and not now, in the here-and-now of my trip. So, how do things stand with ‘I am’, the sum in Descartes’s famous cogito ergo sum, ‘I think, therefore, I am? I am a passenger: I am in a passage and in passing, en passant, fleetingly. (Marder 2022, 89–90, emphasis in original)

The very notion of being a passenger suggests a process of enunciation and becoming. Bueno (2020) show how this happens in airports where ‘becoming a passenger’ is a process of ‘handling’ bodies within complex socio-technical systems, powerful airport choreographies, and overlayed institutional complexity. To Dant (2014) the passive passenger subject position is set against the active driver subject position. This indeed might change with hybrid relationships between for example driverless cars and passengers/drivers. But the key point in Dant’s analysis is to understand how the passenger ‘gives over’ agency to infrastructural systems and mobility technologies. The driver does of course also share some level of distributed agency with for example the car in order to drive. But to the passenger, the distributed agency with technologies and infrastructural systems is the thing that allows for being inattentive to the actual drive, the routing, or the multiple micro-practices that the driver must do to perform driving. Passengers may indeed doze, sleep or as we increasingly see today investigate their mobile phones and other devices. However, as we shall see below (and in accordance with the findings of for example Laurier 2011) passengers are not just passive.

**The work of passengering**

One might be inclined to overemphasize the passive dimension of being a passenger. This is, however, a mistake. Rather we need to take the passive out of passengering (Cresswell and Merriman 2011; Edensor 2011). In line with the mobilities turn understanding of mobilities as being more than movement from A to B, we suggest that being and becoming a passenger is far from a passive and dehumanizing phenomenon. This may of course be the case when passenger comfort, sensations and emotions are neglected, and people are being moved ‘as cattle’. However, just as ‘travel’ connotates ‘travail’ in the sense that it means more than overcoming distances but also being and relating to the world and others, so is being a passenger related to practices, sensations, interpretations, and ways of being in the world that move far beyond passive, physical displacement. We are not ‘switched off’ as we move but rather entangled into complex webs and relations of technologies, artifacts, infrastructures, and spaces (Jensen 2013). Hence, there is agency and power related to being and becoming a passenger. It goes without saying that it is a distributed agency and a mediated capacity, but nevertheless so. We might think of an ‘active sense of passengering’ as the opposite of a ‘cargo perception’:

Our transportation systems draw an important distinction between cargo and passenger vessels or vehicles … the two types of transport correspond neatly to the philosophical division between subject and object, the who and the what … Instead of who is who? and what is what?, the relevant questions of a passenger society and thinking are who carries what? and what carries whom? … each of us is a small-scale transportation system with hybridized passenger and hold compartments, circulating in public transit and transportation networks worldwide: a transported and transporting microcosm in a transported and transporting macrocosm. (Marder 2022, 111–112, emphasis in original)
Somewhat like Coccio’s notion of a ‘vehicle theory’ (Coccio 2021, 120–123) we are here invited to reflect upon the nestedness of whom or what carries whom or what? Coccio argues that ‘everything is a vehicle for something else’ (121) and hence that everything must be thought of as being in a ‘vehicular relation’ with others. We might be passengers, but at the same time we are ‘hosts’ to other passengers (like when humans carried Covid-19 across countries mediated by international flight).

In complex infrastructural landscapes and systems, passengers gather and disperse along the lines of synchronized timetables and sophisticated algorithms. They form ‘temporary congregations’ (Jensen 2013) that are ephemeral and dissolve by the arrival of the next bus, flight, or train. Hence the fleeting and often anonymised relation to other passengers. They are a little like dust; ‘they gather temporarily in haphazard social formations only to disperse again’ (Marder 2022:124). When being processed within systems of mobilities and infrastructural landscapes passengers move along arteries, armatures, and lines. However, they stop, pause, and filter at strategic points, hubs, and ‘critical points of contacts’ (Jensen and Morelli 2011) where their speed, status, or other qualities becomes modified. This is what happens when passengers are being ‘datafied’ (Adey 2011) and bodies with accompanying artefacts such as the occasional luggage have information and data ‘attached’ to them. Either as legitimate documentation for travel, legal payment, or instructions for stratification according to the specific passenger category. In other words:

While you are riding in public transport, you are being read by ticket scanners and QR code readers that have either supplanted or supplemented human ticket controllers, not to mention body-temperature monitors, millimetre wave scanners, metal detectors, and the unblinking camera-eyes of surveillance networks. (Marder 2022, 141)

Hence, we are ‘all passengers of a vast text’ (144). In this process passengers are being ‘read’ as much as ‘written’ and the process of making passengers is a process of creating ‘imaginary mobile subject types’ (Richardson and Jensen 2008). These are subject positions for a planetary or local system of circulating bodies as passengers. Our passenger experience enacts the ‘drama of relation’ every time we board a plane, bus, or arrive at a train station (Marder 2022, 115). The notion of everyday life and ‘drama’ owed to Goffman (1959) may indeed be extended to mundane mobilities and the ways in which these are ‘staged’ (Jensen 2013). Hence, the experiences afforded for passengers are intimately (but not causally) linked to design decisions and choices. Vannini points at the problem that too often (according to his analysis) the passenger is equated with the alienated and the subject without initiative and agency. Rather, he argues, we should move beyond this notion:

The creation of the figure of the ‘passenger’ has resulted in a simplistic dichotomy, I believe. On one side we have alienating technologies of mass transport – from trains and cars to airplanes and buses – and their alienated passengers. On the other side we have the practices of walking and cycling and their courageous, environmentally responsible, critically minded, counter-cultural practitioners. Thus, while on the former side we find everything that is ‘wrong’ with mobility, on the latter side we find everything that is ‘right’ with it. (Vannini 2012, 51)

This is a strong critique of the ‘alienating passenger’ notion that would become even more strong if connected to the insights from critical disability studies. The point is, that the ‘courageous, environmentally responsible, critically minded, counter-cultural practitioners’ that Vannini criticizes are able and ‘normal bodied’ subject categories (Chen et al. 2023; Gissen 2022; Goodley 2017; Hamraie 2017; Hendren 2020; Sawchuk 2014). This is what Vannini terms the ‘natural body-centred movements’ that become romanticized as the authentic modes of moving actively in the world (Jensen and Jensen 2021). The passive, alienated passenger enrolled into machinic, and motor-driven mobility modes becomes an inauthentic existence. Vannini is highly critical of this dichotomy and argues instead that ‘mobility is always creative, regardless of its mode’ (52).
Making passengers

The industry producing and designing vehicles and mobility systems of various modes is of course more than aware that passenger experiences are important (Votolato 2007). For one thing, they are part of the ‘product’ offered when selling travels, journeys and mobilities. The experiences may determine if customers are coming back or will downgrade one at the website Trustpilot for example. Passenger experiences are intertwined with the rest of the ‘package’ and if the train was late, the flight cancelled, the bus overheated, or the taxi dirty all these dimensions are inseparable features of the passenger experience. The design of transport systems and vehicles is however as any other form of design only partially within the control of the designer. Hence the complexity of interfacing mobility infrastructures often leads to ‘unintended consequences of design’ (e.g. queuing and waiting, or additional costs in time and money). The emerging discipline of ‘mobilities design’ takes the perspective of the mobile subject and the ways in which design and its related disciplines might cater for the best experiences. The research agenda aims to move this out of passenger comfort/safety/efficiency-only and to add affect and aesthetics to the discussion. And even more importantly to reinsert this understanding in the context of green transition and climate challenges. So, passenger experiences are not just related to comfort, safety, and budgetary concerns. They are about deeper relationships between sensing bodies and movement systems, and between these systems, their practices, and the environmental conditions for ‘hosting’ these. In the mobilities turn we therefore see all transport as ‘travels’ (to equate Ingold’s understanding of ‘wayfaring’, Ingold 2011). Movement in other words, always makes (some kind of) sense! We are always affected by movement, and this is even so when we do not notice since we have internalized mobility patterns and practices into our mundane everyday life (Bissell 2018). One such example of the meaningful mundane mobility is driving along the motorway:

The practice of driving or being a passenger in particular cars, travelling to and from particular places, along particular stretches of motorway, provoke a range of emotions, thoughts and sensations: from feelings of anxiety or excitement about being in motorway traffic, to emotions surrounding one’s departure and arrival at another place. We may get bored, feel strangely alone, or feel quite excited or relaxed on the motorway, but our movements and actions are still implicated in the working and performance of the motorway landscape, the ongoing ‘placing’ of these driving environments in a myriad of different ways. (Merriman 2007, 218)

Here Merriman represents a position that sees the mobile subject in its relational transaction with the landscape and the infrastructural systems as habitats of the contemporary human.

In public transit the ‘gathering of strangers’ as passengers is a well-known trope (Levine, Vinson, and Wood 1973). The city as an exchange field between strangers is equally a well-known idea within the literature on urbanism (Sennett 1994; Simmel 1903/50). What happens is that infrastructural spaces and mobility systems ‘gather’ people who for shorter or longer duration become a ‘social unit’. Elsewhere this is described as ‘temporary congregations’ (Jensen 2013) and is illustrated by examples such as entering a train compartment, embarking on a bus, or onboarding an aircraft. Common to all these practices is that people who often do not know each other ‘become a group’ for the duration of the trip. Unless something dramatic happens (like an accident) the passengers brought together ‘mind their own businesses’, exposing acts of ‘civil inattention’ (Goffman 1959). However, being a passenger in public transit is also connected to bodily sensations and (thermal) comfort as here in an analysis of the Sky Train in Bangkok:

What strikes one as a passenger of the BST [Bangkok Sky Train] is the relative seamless experience of travel that one gets whilst first embarking on the journey above the busy and smoggy streetscapes of ‘Bangkok below’. Sensing the cool breeze of air-conditioned environment is probably the most evident difference relating to the bodily sensation that makes one feel that this is not a municipal bus … The design and the layout of train stations, ticket machines and the interior of the carriages is cool, functional and aesthetically held in an international/generic style leaving you with no clues whatsoever whether you are in Asia, North America, or Europe. (Jensen 2007, 24)
When we try to understand how a passenger might experience ‘being processed’ in whatever modality and system we can think of we are already engaging in a big task. The complexity and multidimensionality of contemporary infrastructural landscapes makes this a daunting job. However, here we might offer a modest analytical scaffolding for this understanding.

Towards a material pragmatist understanding of the passenger
The most recent research coupling architecture, mobilities, urban design, and neuroscience might be a case in point of the increasing complexity facing mobility analysts (Djebbara et al. 2022). However, in the context of this discussion we could find help in already existing attempts to understand ‘full situations’ as it were.

‘Holistic’ accounts try to capture the ‘full situation’ (for an account on how this aspiration links to the pragmatic enquiry of John Dewey see Nold 2023). The work of Jensen in ‘Staging Mobilities’ with its focus on ‘mobilities in situ’ (Jensen 2013) is one such attempt to frame the whole ‘ecology’ of what matters for the mobile subject. Of course, delimitations need to be made as much more than can be accounted for matters. However, the important point is to move away from a cartesian notion of bodies versus spaces (or technologies). The work of STS and ANT such as that of Latour (2005) share this ambition of enlarging the understanding of human capacities and illustrating how dependent they are on artefacts and non-human agencies. Elsewhere the relationship between post-phenomenology, STS, ANT, design thinking, and pragmatism has been coined under the heading of ‘material pragmatism’ (Jensen 2023). The essence of the argument is that the ways in which the different materials and materialities congregate and assemble is understood and valued by their practical influence on the mobility/immobility studied. It is in other words a pragmatic framing taking human multisensorial and embodied dimensions into account, at the same time as acknowledging that the mobile subject is never alone. Artefacts, technologies, spaces etc. are intertwined with the passenger body in complex ways. That it is pragmatic does not, however, suggest that it is oblivious to issues of power and social exclusion. Rather, the situated and pragmatic research approach enquires into what things, resources, and competencies favour the process of becoming a passenger. This is a power-laden question of social stratification that is directly connected with the material design of passenger environments.

From here we would like to propose a few key terms that seen together should form an operational framework for understanding passenger experiences. Hence, we will turn to the key terms of such an analytical scaffolding.

Affordances and bodies
The pragmatic and situational outset for this thinking relates to the concept of ‘affordance’ coined by environmental psychologist James Gibson in the 1980s (Gibson 1986/2015). Gibson sees affordances as a relational coupling between animal and environment. Importantly, affordances are not the attributes of a space or an artefact, but its relation between these and a living body. Many in the social sciences have worked and re-worked the notion (e.g. Ingold 2022; Lanng and Jensen 2022; Urry 2007). Davies further elaborated on the notion and pays attention to how spaces, artefacts, and technologies afford practices, and not just what they afford (Davis 2020, 8). A final source of inspiration is the Canadian cultural sociologist Rob Shields who put the matter this way:

Affordances are the kind of interactions you can engage in conjunction with a given site or element. For pavement, you can walk on it; you can sit on it; you can drive on it … you have to actualize it as this or that. What will it be? It is your choice at any given time. So, in the actualization of things, people may play essential roles. But one should not underestimate the materials: their hardness, their softness, their ability to
These ideas form the basis of the notion of ‘mobility affordance’. Mobility affordances concern ‘how the specific relation between the moving body and its material environment opens up (or narrows down) to particular modes of mobilities, different speeds, trajectories etc’ (Jensen 2013, 120).

This is precisely the point about mobility affordance. We ‘scan’ the material environment for options, clues, and obstacles with the question: What are my (mobility) options here? At times consciously and reflectively, and at times without thinking about it at all (hence the notion of ‘scan’ is in brackets since we scan by all available means, for example seeing, smelling, hearing, touching, and noticing the atmosphere). The answer to the question is based on familiarity with materials, knowledge about infrastructure, spatial awareness, and a bunch of other things … and most often simply answered on the fly. The scanning takes place at times very consciously (as in looking for a vacant seat) and at times without any reflexive processing (as when we adjust our body position to allow space for new passengers in the train while reading on our mobile phone). Habit and routinized mobility practices makes some of the scanning and decision-making process work as ‘automata’. So, in the case of riding a subway (Figure 1) a prior knowledge about gravity, social distance, and bodies, all comes together in a material, pragmatic ‘reading’ of the situated mobility affordances. The point is that regardless of mode of mobility we are constantly assessing our ‘mobility affordances’.

As we start seeing how deeply intertwined the bodies and vehicles, systems, and infrastructures are we may indeed also start thinking about the specificities of passenger experiences related to the modes of moving. There is a ‘modality of passengering’ in which the designs and technologies in question co-shape agency, affordances, and experiences of passengers:

‘Mobility affordances’ illustrate the very specific and material dimensions to mobile situations. As the body in motion is working hard to orient itself, make complex decisions and interpret the motives and intentions of other bodies we may say that what is taking place is ‘coordination in motion’. This relates to the more instrumental feature of continuous monitoring and more or less self-conscious work by mobile bodies aiming at preventing physical contact with fellow mobile subjects as well as avoidance of collision with physical obstacles or ‘dangerous’ mobile objects (e.g. cars, trains). (Jensen 2013, 120)

Figure 1. Train compartment design affording passenger experiences (own photo).
We cannot think of passenger experiences and the affordances made for these by infrastructure, spaces, and technologies without thinking about multi-sensorial and embodied practices. Passenger experiences are indeed about bodies!

In line with the material pragmatist understanding of mobilities mentioned above, we see the relationality between bodies and spaces as a fundamental pragmatic issue. We are not thinking of an abstract or generic body, but an always situated and concrete material body. Here we are inspired by the American yogi and pragmatist philosopher, Richard Schusterman and his ideas about ‘somaesthetics’:

To focus on feeling one’s body is to foreground it against its environmental background, which must be somehow felt in order to constitute that experienced background. One cannot feel oneself sitting or standing without feeling that part of the environment upon which one sits or stands. Nor can one feel oneself breathing without feeling the surrounding air we inhale. Such lessons of somatic self-consciousness eventually point toward the vision of an essentially situated, relational, and symbolic self rather than the traditional concept of an autonomous self grounded in an individual, monadic, indestructible and unchanging soul. (Schusterman 2008, 8)

There is a critical programme of anti-Cartesian thinking present in Schusterman’s work. This is important and even though much thinking has tried to overcome the subject-object dichotomy we still seem to struggle with this ontological assumption. Exploring passenger experiences (or any kind of experiences for that matter) thus needs to connect to a different understanding of how bodies relate to spaces, artefacts, and technologies. Travel always involves corporeal movement, and this is entangled with the immediate environment:

… physical travel involves lumpy, fragile, aged, gendered, racialized bodies. Such bodies encounter other bodies, objects and the physical world multi-sensuously. Travel always involves corporeal movement and forms of pleasure and pain. Such bodies perform themselves in-between direct sensation of the ‘other’ and various ‘sensescapes’. Bodies are not fixed and given, but involve performances, especially to fold notions of movement, nature, taste, and desire into and through the body. Bodies navigate backwards and forwards between directly sensing the external world as they move bodily in and through it and experiencing discursively mediated sensescapes that signify social taste and distinction, ideology and meaning. The body especially senses as it moves. Important here is that sense of movement, the ‘mechanics of space’, of touch, such as feet on the pavement or the mountain path, hands on a rock face or the steering wheel. There are thus various assemblages of humans, objects, technologies and scripts that contingently produce durability and stability of mobility. (Elliot and Urry 2010, 16, italics in original)

When we think of our bodies two key features stand out, according to Brian Massumi:

It moves. It feels. In fact, it does both at the same time. It moves as it feels, and it feels itself moving. Can we think of a body without this: an intrinsic connection between movement and sensation whereby each immediately summons the other? (Massumi 2002, IX)

Mobility or movement is intrinsic to sensing and experiencing the world. This ontological condition clearly also has repercussions for passenger experiences.

Coming from mobility affordances we need then to understand better how we relate to the material world and our physical environment. Elsewhere researchers have speculated about mobile bodies and their relations via the presence of Covid-19 (Jensen 2021). The concept of ‘extended bodies’ is related to our multi-sensorial engagement with the world. From earlier mobilities research, we have seen that we are related to the world in much more complex ways than simply being subjects standing against an object-world. The notion of ‘osmosis’ was coined to show how we are ‘open to the world’ via our multiple sensations:

This is for example the case when flying a passenger aircraft with pressure cabin technology. Many will be familiar with the ear pressure and dry mouth resulting from this interface. It is an interface of osmosis where the body–world relation is much more complex that the subject–object dichotomy will allow for. (Jensen 2016, 593)

We might say that ‘the boundaries of the self extend beyond the body’ (Hall 1966, 11). Similar ‘holistic’ perspectives on the body-environment relation are to be found amongst
Theorists such as Jane Bennett (2010) and Tim Ingold (2021), who despite their differences both critically address the fact that matter is vibrant and materials matter. Within the field of gerontology, Reynolds articulates the notion of the ‘extended body’ to describe a somewhat similar idea:

The ‘extended body’ refers to the ways in which one’s body always extends into its environment, just as its environment extends into it. For example, my ability to run a five-kilometer race depends on a host of natural and social conditions, from proper running gear to navigable paths to a nontoxic environment. It also depends on the conditions of my upbringing and labor: what I was or was not exposed to as a child and the types of demands my economic situation places on my lungs and immune system. It of course also involves my particular body: circulation; central nervous system functioning; joint, ligament, and muscular strength and flexibility; the presence, absence, or particular formation of lower limbs; and so forth. But the point is that my body is just one component, and my ability to run extends far beyond it. (Reynolds 2018, 33)

The ‘extended body’ illustrates via the Covid-19 virus that there is ‘something between us’, such as sound, air, atmospheres, and many other things. Obviously, we have known this for a long time (media theorist Marshall McLuhan spoke about electric technology as a global extension of the human nervous system already in the 1960s, see McLuhan 2001, 3). However, the awareness and anxiety about ‘virus in the air’ was a window into the fact that we are related and connected beyond the Cartesian subject/object model. Covid-19 became a proverbial parable for thinking about how we related in public spaces, and the notions of the ‘extended body’ and ‘osmoses’ acted as a hypothesis for this. The extended body suggests that we are related with humans and non-humans in more complex ways than we often think to be the case. The ‘volumetric dimension’ of the mobile practices (i.e. the ‘space and air between and around us’, see Elden 2013; Graham 2016) needs to be taken into account and the potential presence of virus in the air affords these reflections and conceptualizations. This echoes Georg Simmel’s point from the essay ‘Sociology of the Senses’ in which he describes how modern man (sic!) has become ‘short sensed’ (Simmel 2019). By this Simmel referred to the situation in which humans within the urban masses are being stimulated in such a way that the ‘short’ senses (smell, tactility etc.) increasingly matter. In relation to smell, Simmel remarks that when we smell another person, it is a very intimate sensation in which this person ‘penetrates into’ our most inner senses in ‘air-form’ (Simmel 2019, 104). In other words, our osmotic openness to the world (including other bodies) is best described as a relation beyond subject and objects. Design thinker and practitioner Robert Sommer (who designed everything from interior airplane cabins to public spaces) speaks of the ‘emotionally charged zone around the body’ (Sommer 2007:39) and that we all carry a ‘portable territory’ (42). Hence, both a dimension of territoriality and belonging, as well as a mobile, sensorial, and affectual relation (Anderson 2009; Lin 2015). Our bodies connect, relate, sense, and touch in various ways mediated by different forms of materials (from air and particles to hard surfaces and human-made artefacts). The notion of the ‘extended body’ is one way of articulating this assemblage of passenger bodies and context.

Beyond the Covid-19 parable we see how this way of thinking has repercussions for our understanding of passenger experiences. These are deeply intertwined with mundane decisions related to the design of spaces and vehicles. Anything from air-conditioning to queuing systems contributes to passenger experiences as a factor of bodies and affordances.

**Atmospheres and affect**

Coming from affordances and bodies we should also look towards the atmospheres and affects that coin the often unconscious or pre-reflexive (but no less important) dimensions of passenger experiences.

The turn to atmospheres means shifting attention from what people do in the city, to how it feels and how it is designed to feel (Bille and Schwabe 2023, 12). Here mobilities plays a significant role. We might say that we are not statically experiencing atmospheres but rather that we
are ‘moving through atmospheres’ (Bille and Schwabe 2023, 77). So, as we perceive the city (and the world for that matter) through some amalgam of mobility and immobility, the atmospheric and sensorial relationships change and shift according to these mobile interdependencies between bodies and environments (Bille and Schwabe 2023, 93). When being a passenger this has both an individual component (how do I as a body sense and feel this space or transition from one to another?) and a collective component (how do the co-presences of mobile others/passengers shape and form my sensation and experience of spaces or transitions hereof?) If, for example, we stand in close bodily proximity in a subway, that will shape our atmospheric registrations and our sensations of that space. Elements such as the felt closeness of other bodies, the thermal quality of the situation (e.g. too hot, and humid), the smell and bodily odour of co-present passenger bodies are dimensions of how body and atmosphere mutually reinforce one another.

Passengers are related to vehicles and transport systems in more subtle ways than simply by being customers (if we think of commercial operations). The ways in which human bodies are configured together with objects, technologies, and other bodies affords different traveling experiences where sensation and affects are as important as conscious attention and reflection (Bissell 2010, 272). Interestingly enough, the experiences and sensations registered by the individual passenger body may indeed be seen as just part of a larger collective experience. As passengers form ‘temporary congregations’ (Jensen 2013), they share experiences that may ‘galvanize the passenger body’ such as when a number of fellow passengers are subject to a delay that then aligns them with one another, intensifying their relationships (Bissell 2010, 276).

We should see affects as more than ‘reactions’ to the world. Rather, they might be understood performatively:

Affects are more than mere feelings and emotions; they also constitute action-potential, or an individual’s dispositional orientation to the world. (Duff 2010, 5, emphasis in original)

Passenger experiences emerge from a complex intertwinement of bodies, affordances, atmospheres, and affect. We want to propose the idea of ‘material interpellation’ as an explanation of how these dimensions come together in ‘announcing’ and articulating passengers and passenger experiences.

**Material interpellation**

From the staging mobilities framing (Jensen 2013) we have seen that mobile practices are enacted by rules, designs, plans and other elements staging the mobile situation ‘from above’. Not deterministically since the free will and choices of humans always have primacy. We are staging ourselves ‘from below’ through choices we make (e.g. late lane merging, giving way, aggressive driving etc). However, with the notion of material interpellation we want to propose another layer of ‘bringing things together’.

Artefacts and spaces entangle and enrol soft vulnerable bodies in immobile/mobile assemblages via affordances and atmospheres in processes we term ‘material interpellation’. Here we are partly inspired by Louis Althusser and his notion of interpellation (see Jensen 2023 for a more elaborate unfolding of the inspirations behind the concept). In Althusser’s understanding powerful ideologies inscribed and enrolled state subjects into fixed positions via a process of interpellation (1972). It is not quite the same way in which we will speak of interpellations here, but the classic example of the shouting police officer used by Althusser may indeed also be of relevance here. Althusser used the police officer shouting ‘Hey, you there!’ on the street as an example of interpellation. Being ‘positioned’ as a subject to the State (embodied by the officer) Althusser argued that the shout would name and position the subject with the assumption that the person would stop and turn around for further police inspection (and clearly, if someone starts to run in such a situation that becomes a suspicious act in the eye of the officer). In
Althusser’s words ‘by this mere one-hundred-and-eighty-degree physical conversion, he [sic!] becomes a subject’ (Althusser 1972, 174). Much in the same way as the shout ‘hey, you there!’ articulates a law-abiding subject, so will benches on a train platform or queuing lanes in front of ticket machines ‘announce’ us as mobile subjects and hence passengers. What happens is that the material composition and design of the artefacts and spaces ‘announces’ or articulates its relationship to any passing human bodies. For example, how the ramp announces a path for the wheelchair user, or how the fast lane ‘welcomes’ the frequent flyer. So, there is a clear relation between material design choices and the mobility affordances of passengers. Furthermore, this relation is always normative and power-laden even if the passenger does not seem to recognize it. The mobility affordances and the ways in which one can perform as passenger are shaped by design. Moreover, the ‘assisted mobility’ that passengers engage suggest that they are performing a form of ‘prosthetic travel’ (Langan 2001, 461). Within critical disability studies the reliance on designed artefacts and systems are, however, not considered a straightforward dependency relation. Rather, as Dokumaci (Dokumaci 2023) shows quite clearly, humans with bodily constraints are constantly finding themselves tinkering, adjusting, or even ‘hacking’ artefacts and technologies designed with an ableist bias. Hence Dokumaci speaks of ‘activist affordances’ as the process wherein disabled people re-design or hack the design of everyday artefacts in order to suit their needs. The parallel here is that even though passengers might perform prosthetic travel the dependencies and the counter-powers of challenging these are often dormant or non-present for able-bodied passengers. However, if one has a disability this is another story, and the activist engagement makes the biases, powers, and normativity visible (Gissen 2022).

It seems fair to say, that part of the process of material interpellation has to do with levels of situational ‘reading’ from the point of view of the subject. One is a semiotic or hermeneutic level, upon which the subject sees the sign, artefact, or ‘message’ and reads it. The theories of geosemiotics (Scollon and Scollon 2003) and material hermeneutics (Ihde 2009) may indeed enable our understanding of these immediate levels of situational interpretation. However, there is another layer. And this is the one that justifies speaking of material interpellation. Here the go-to theoretical apparatus is a mix of Mobilities design theory (Jensen and Lang 2017) and the notion of affordance (Gibson 1986/2015). The question becomes one of situational pragmatism; What can be done here? What can this body do, with this artefact or space? Here we are getting closer to design, but also to the materiality of infrastructures and spaces.

Much more could be said about the passenger, however, here we have aimed at establishing some very basic ideas behind passengers and passengering.

**Watch the closing doors! – as we move towards new horizons of passengering**

We want to argue for a notion of the ‘sentient passenger body’. In many ways an obvious, banal, and existential understanding of how our sensorial and bodily (in)capacities are key to understanding passenger experiences. Space prevents us from deeper dives into the theoretical underwood. However, current work on how to connect these already presented ideas to perception, experience, cognition, atmospheres, comfort, and a host of other relevant dimensions is taking place (Tvedebrink et al. 2023). And who said subway-riding is trivial? One could consider it mobilities research’s task to re-describe the familiar and enact new understandings of invisible, mundane practices. The key is, that by commuting between theoretical conceptualization and situated empirical ethnographies we establish a more granular and finetuned vocabulary for thinking through what mobilities means. Getting more ‘analytical grain’ to our understanding is the precondition to research-based policies and interventions in the world. We will therefore end this paper by saying a few things about the application of this thinking and how it may relate urgent matters of concern. Given this way of thinking about the multitude of banal, minute, and
situated mobility practices taking place all over the world as we speak, what are the more political matters of concern that we must pick up on?

One obvious trend or tendency is digital technology. Here we would argue that the attention to affordances, bodies, atmospheres, and affect suggests that we should pay attention to the hybrid intertwinements between passengers and digital technologies. The ways in which passengers are enrolled into digital technology relations are powerful acts of material interpellation. A number of concerns may raise from this. One would be if passengers are turning into ‘cyborgs’ mediated by digital technology as a precondition to being mobile? In many places the GPS-based travel information and services seems to suggest this. Research on airports also suggest that the ‘cyborg passenger’ is an emerging category (Bueno 2020). The potential for surveillance is huge. Moreover, the digitization of passenger experiences also points to digital divides. From research into exclusionary design and social exclusion of homeless people in urban spaces, we have seen how the lack of Internet-connected digital technologies have strong exclusionary effects. However, this also excludes and stratifies along lines of age. Many senior citizens struggle to cope with the increased digitization of all walks of life – including everyday mobilities. The UN goal of ‘leaving no one behind’ thus not only becomes a matter of including all on the proverbial train, as it were. It also becomes a question about understanding the stratifying dimensions of digitized mobility services, and how they may indeed end up leaving many groups on the metaphorical ‘platform’.

A second matter of concern we need to address is climate change. As opposed to the ‘question of technology’ raised above we are here dealing with a phenomenon whose scale and magnitude seems to hinder our ability to understand how mobile bodies are contributing to climate change. However, targeting the micro-subtleties of affordances, bodies, atmospheres, and affect might bring us closer to realizing the impacts of passenger practices in this way. At times the material interpellation of passengers seems acknowledged but rationalized away by ideas of ‘everyone else does so do’ types of arguments. However, there is more to the discussion of climate change and passenger mobilities than the CO2 imprint. The declining and aging rural population in many Western countries have a hard time turning to sustainable modes of mobilities when their towns and villages have developed over decades into car-dependent networks. Dramatic events have shown us that we might have to adjust because of need, catastrophes, and system breakdowns. But still, we praise ourselves for giving choices to citizens as a hallmark of our societies. Closing bus routes or removing parking spaces might be part of a sustainable mobility transition. However, if they leave citizens with no alternatives, we haven’t really solved the problems. The interaction taking place between spaces, designs, technologies, and human bodies suggests that there is a thick level of mediation at play. Becoming passengers and having passenger experiences are all about the mediation of sensations, cognition, affect, and perception shaping specific experiences.

A third matter is the mobility exclusion taking place as a function of design. This is clearly seen within the realm of disabilities where the lack of ramps for example prevents wheelchair users from becoming passengers. However, many more subject categories are facing challenges with the ways in which transport systems and infrastructures pay insufficient attention to their capacities and needs. Even if all passengers are to some extent performing ‘prosthetic travel’ there is an unevenness to the geography and affordances of humans with special needs. Thinking about power and exclusion of types of passengers suggests that ‘hosting passengers’ is about more than comfort and passenger hospitality. It is ultimately about what we might think of as ‘mobility care’.

Let us end on a similar note as the one that opened this paper. However, this time we will look back into rock history to an iconic song immortalized by Iggy Pop and The Stooges in 1977. The song ‘The Passenger’ is far from the repetitive hip-hop groove we kicked-off with. Rather this song is a rock classic with a rebellious punk-feel. The lyrics were written by Iggy Pop and the legend has it that the song was conceived aboard the S-Bahn in Berlin! Many see the
text as an attempt to capture the restless and nomadic ethos of the punk rock sub-culture. Hence, besides the bare acts of physical displacement, passenger experiences are about how one sees oneself and others. They are about how we appropriate a place in the world. In so many ways we all need to ‘watch the closing doors’!

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**References**


