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The Making of a Pro-cycling City: Social Practices and Bicycle Mobilities

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Abstract This article explores the contemporary *co-production* of bicycle practices in Copenhagen and the heterogeneous work involved in making a city *pro-cycling*. Attention is given as much to the sayings and doings of everyday commuters, as to planners, physical designs and campaigns. I ask: why, and how, are cycling practices continually (re)produced in Copenhagen and how can they attract so many practitioners? The first section discusses and employs practice theory, as it is well suited for examining practices of cycling. The second section explores how Copenhagen Municipality designed and scripted a cycle-friendly space by installing bike infrastructure, promoting cultural meanings and nourishing user competences. I argue that this is done through a heterogeneous process of normalizing and mainstreaming cycling and making alliances with other commuters. The third section shows how cyclists co-produce cycling practices by performing cycling and by enlisting and passing on knowledge to new practitioners. The concluding highlights the potentials of practice theory to fully understand cycling, and it unravels some of the problems of Copenhagenizing low-cycling cities.

Key words: cycling, practice theory, mobility, cities

Introduction:

The history of urban cycling in Europe and America is dramatic, beginning with an epic rise in the 1890s and then flourishing in the first half of the 20th century. During the 1940s, up to 85 per cent of trips in many cities in Europe were by bike (Shove et al., 2012 page 61). An equally epic ‘dethroning’ by public transport and cars in the latter part of the century followed it. In the UK, the share of bicycle commuters fell from 40 per cent in 1940s to a few percent in less than twenty years, when cycling became more associated with leisure and sport (Shove et al., 2012: 71). In Denmark, cycling also dropped massively and roads became *redesigned* for cars and bike lanes were demolished (Gössling, 2013; Nielsen, Christensen and Jensen, 2013, page 154; Carstensen and Ebert, 2014). In a short space of time, commuters defected from cycling to embrace public transport and cars with their speed and sedentary benefits and modern coolness (Bissel, 2008). As cars began to colonize the streets, they pushed bikes ‘into the gutter’ and made cycling dangerous and intimidating, while urban ‘sprawl’ made commuting distances too far for cycling. This was a zero-sum game where cheap oil (Urry, 2013) and more driving meant less cycling, more streets solely for cars and fewer bike lanes (Watson, 2012). Bikes belonged to a bygone area with no future on the horizon.

The recent *resurgence* of biking cultures in western cities was therefore unanticipated. After decades of being largely snubbed by planners and most commuters, the old bicycle is, once again, desirable: it represents the return of an ‘old thing’ rather than the innovation of a new one (Vivanco, 2013). It started in the 1970s in cities like Copenhagen and Amsterdam (where commuter cycling never died out) and is now spreading: ‘London is going Dutch’ – (Goodman, Green and Woodcock, 2014) and New York is being ‘Copenhagenized’ (Larsen, 2014).

Drawing upon practice theory and ethnographic fieldwork, this article is concerned with

understanding the contemporary *production* of bicycle practices in Copenhagen and the heterogeneous work involved in making a city *pro*-cycling. 50 per cent of Copenhageners, and 45 per cent of those working or studying in Copenhagen, cycle to work and 80 per cent of them feel safe and the number of fatal crashes is historically low (according to the City of Copenhagen, 2015). Cycling is again an integrated part of the infrastructure and policy making; the municipality aims to design the 'best cycle city in the world', which is a city where cycling is experienced as safe and convenient, is the major mode of commuting, and continues to attract ever more cyclists (Copenhagen Municipality, 2011b). What is unique about the article (similar to Doughty & Murray, 2016; Jensen 2014; Aldred and Jungnickel, 2014) – commensurate with practice theory – is that it explores this production from a contemporary *co*-production perspective, where attention is given to the sayings and doings of everyday commuters as much as planners, physical designs and campaigns (for a historical account, see Carstensen and Ebert, 2012). My research question is: why, and how, are cycling practices continually (re)produced in Copenhagen and how can they attract so many practitioners?

This question is important for several reasons. If Copenhagen municipality – and bicycle-aspiring cities encouraged by Copenhagen's positive results – is to succeed with increasing the modal split of cycling, it is vital to understand why and how cycling attracts so many, but not all, Copenhageners. At present, international peer-reviewed research on this iconic cycling city is embryonic and the focus is mainly upon planning (Gössling, 2013; Jensen, 2013; Jensen, 2014; Koglin, 2015; Nielsen, Skov-Petersen and Carstensen, 2013). A practice-approach can enrich cycling literature by exploring cultural meanings, bodily competences and cyclists as co-designers, as much as physical design within a relational framework. A circumscribed focus on infrastructure that pays no heed to how cycling is practiced will struggle to understand how new designs and policies may fail to attract new cyclists or avoid defection, as demonstrated, to

some extent, in ethnographies of low-cycling London (Spinney, 2007, 2010; Latham and Wood, 2015) and Birmingham (Jones, 2005, 2012). Yet there is a paucity of ethnographies of *pro*-cycling cities (but see Larsen 2016b; Van Duppen & Spierings, 2013).

The first section discusses and employs Shove, Pantzar and Watson's specific take on practice theory that is well-suited for examining practices of cycling due to their focus on material designs and discussions of transitions to decarbonised transport. The second section explores how Copenhagen Municipality physically designed and discursively scripted a cycle-friendly space by installing bike infrastructure, promoting cultural meanings and nourishing user competences. The focus is not upon planning practices among planners but rather on how everyday cycling infrastructures and practices are imagined, designed and evaluated by them. How do they aspire to design the 'world's best cycling city' and continue to recruit cyclists and political sympathy? I argue that this is done through normalizing and mainstreaming cycling and making alliances with other commuters. The third section shows how everyday users co-produce cycling practices by performing cycling and by enlisting and passing on knowledge to new practitioners.

Materials, meanings and competences

Practice theories are concerned with the trajectory of routinized 'doings', with how practices come into being, endure or change over time, rise in popularity or suddenly die out (Shove, Pantzar and Watson, 2012; this section builds on Larsen, 2016b). They are also concerned with the stuff of practices, how practices attract 'carriers' and how novices learn to master them. Practice theory often conceptualises practices as stable and relative unchanging entities, governed by routines. Behavioural change is tricky to bring about, even in a climate of compelling reasons. Yet Shove, Pantzar and Watson simultaneously stress the plasticity and

mutability of practices (2012, page 8). The rise, fall and re-rise of bicycling practices over the past 150 years are illustrative hereof. A practice-theory approach can illuminate the following: how routinized practices sustain certain activities; why necessary behavioral change is difficult to bring about; and what it will likely require of new technologies, meanings, skills and routines.

Practices are made up of many heterogeneous *elements* (Reckwitz, 2002). Shove, Pantzer and Watson (2012) group them as ‘materials’, ‘competences’ and ‘meanings’. ‘Materials’ ‘include things, technologies, tangible physical entities and the stuff of which objects are made’ (2012, page 14). They stress the significance of designs – as *material*, rather than as symbolic, objects – in accomplishing practices, something rarely discussed in writings on practice (2012, page 9). I have elsewhere argued – drawing on Pink’s work on ‘emplacement’ (2011) – that we ought to include environments (e.g. the weather, roads, topography) and ‘biological bodies’ (e.g. fitness) to this list of materials when analysing practices of cycling (Larsen, 2016b). Thus, the ‘materials’ of cycling comprise bikes and equipment (e.g. bike parts, locks and helmets), road design, garages, racks, the weather, topography and ‘sweating bodies’.

‘Competences’ refer to ‘skill, know-how and technique’ (Shove, Pantzar and Watson 2012, page 14). Mastering a practice is a learning process and it takes time to require the requisite skills to ‘carry it out’. Cycling competences include ‘bodily fitness’; steering and balancing skills; and knowledge of the local traffic systems. This also implies that some people do not (yet) have the necessary competences to ride in a particular environment (Jones, 2012; Larsen, 2014; Spinney, 2007; Van Duppen and Spierings, 2013).

And finally with ‘meanings’, Shove, Pantzar and Watson refer to ‘symbolic meanings, ideas and aspirations’ (2012, page 14) attached to specific practices within a larger context. Mobilities scholars show that everyday commutes are tied up with both positive and negative

meanings (Cresswell, 2007); on the one hand, cycling is portrayed as dangerous (Horton, 2007) and a source of stigmatization (Aldred and Jungnickel, 2013); while on the other, cycling is seen as a source of freedom and well-being (Larsen, 2016b). Cycling is a contradictory and contested practice that people associate with different meanings.

So far I have looked at these three elements in isolation. In reality, they are 'connected' as they influence each other. The trajectories of practices hinge on upon the *connections* between these three elements and they change in meaning or popularity when the connections between these elements are remade because of some new innovation, policy, political movement or fashion or consumer preferences (Shove, Pantzar and Watson, 2012, page 12).

Cycling in low cycling cities (such as London and New York) illustrate this point. As Spinney has rightly argued, here 'cyclists are expected to perform largely in the same way as their motorized counterpart despite strikingly different affordances and possessing divergent capabilities' (2010, page 114). As there are scant bike lanes, cyclists are 'emplaced' on car-dominated streets and they may have to ride fast and slalom around cars to avoid being pushed into the gutter. On the one hand, cycling here is inscribed with positive sub-cultural *meanings* – adrenalin-rush and urban coolness – and of taking multiple risks on the other. On the other hand, such materials and meanings necessitate psychological and physiological competences that will rule out most people, especially children, those traveling with children, older people, and those more risk averse, and they will therefore be likely to associate cycling with fear (Steinbach et al., 2011). It requires nerves of steel and the physique to ride fast, to be explosive when accelerating or braking, and with quick responses to be emplaced in such a cacophony and unpredictable sensory overload of cars, cabs, trucks, fumes, sirens, horns, of constantly speeding up and slowing down, of signage and immense road systems (Jones, 2005, 2012; Larsen, 2014). There is a mismatch between most people's competences and the intensities and

demands that car-based societies throw at cyclists (Cupples and Ridley, 2008; Jones, 2005). As a consequence, cycling attracts young adults on sporty bikes or brakeless 'fixies' ('Bike Snob', 2010; Larsen 2014) and they often have to improvise rhythms and ways of cycling that contravene both the Highway Code and appropriate behavior (Spinney, 2010, page 114).

The three elements are 'connected' as an 'entity' and 'they have enduring existence across individual moments of activity' (Watson, 2012, page 489). Practices-as-entity frame – materially and discursively – how it is possible to do, learn, or speak about, a particular practice, and practitioners 'feature as the *carriers* or hosts of a practice' (Shove, Pantzar and Watson, 2012, page 7). Yet practices need to be performed to exist. This is what Shove, Pantzar and Watson call 'practice-as-performance' and they need to be filled out and reproduced through repetitive doings (2012, page 7). This means that cycling only exists if there are *active* cyclists who 'carry out' this practice.

While 'carriers' – or practitioners – are captured by practices and moulded by the elements rather than individual preferences and motivations, they are not passive, preformed consumers. Moreover, practices themselves are constituted through participation: 'It is only through successive moments of performance that the interdependencies between elements which constitute the practice are sustained over time' (Shove and Pantzar, 2007, page 157). 'Improvisation' is possible and practices change as and when they are performed differently, attract newcomers or loose regulars. Moreover, practitioners are *co*-producers that animate practices-as-entities (perhaps against the 'script') in words and actions, recruit new practitioners and pass on meanings and competences to novices. This means that we need to give equal weight to designers and users (Shove and Pantzar, 2007, page 155; Pantzar and Shove, 2010, page 448).

Practice theory is concerned with tracking the trajectories of specific activities and how

they attract, sustain and defect practitioners over time and across space. Rather than searching for ‘external explanations’ to why some activities enlist or defect people, they argue that ‘the methodological challenge is to home in on the details of what participation involves and how it changes’ (Shove and Pantzer, 2007, page 156).

Another key argument is that ‘practices compete with each other for recruits and carriers’ (Shove et al. 2012, page 87; Watson, 2012) and specific practice needs to be studied in *relation* to its competing practices. Cycling lost both old and new practitioners and enthusiasts to motorized transport and public transport. Moreover, we need to explore how specific practices ‘bundled with’ other activities and not others (Watson, 2012) such as cycling and sport in low-cycling societies, on the one side, and cycling and commuting in pro-cycling societies, on the other.

All this illustrates how practice theory improves the cycling literature by avoiding the fixation on physical design that sneaks into bicycle research (especially among transport researchers) where bike lanes are said to be fundamental in reducing the number of fatal crashes and attracting more cyclists (e.g. Buehler and Pucher, 2012; Dill and Carr, 2013; Thomas and DeRobertis, 2013). At the same time, practice theory advances accounts that list many – supposedly equally important – factors, whether they are physical, social or cultural. Cupples and Ridley illustrate this opposite tendency:

While the road network is an important dimension of cycling it is interesting that is perceived to be the fundamental facility. Surely, other dimensions are equally fundamental and might include an adequate level of competence, physical strength or fitness, inclination, ownership of a decent bike, a sense of danger or willingness to take multiple risks and interact with wind, rain, pollution and speeding cars, availability of

showering facilities at one's destination or whether it is acceptable (to the individual or the employer) to turn up to work a little sweaty and disheveled (2012, page 258).

Clearly, this 'list' is flawed within a context of bike-friendly cities where cyclists do not need to take multiple risks. So, lack of infrastructure and the need for fitness and willingness to take multiple risks are not equally fundamental. Practice theory embraces such 'other dimensions' by also exploring 'meanings' and 'competences' and cyclists as co-designers without rendering infrastructure (and campaigns) irrelevant. Infrastructure or campaigns 'shape the distribution of requisite elements' and reproduce 'versions of normal and acceptable life':

Investment in cycling infrastructure does not guarantee that cycling will capture willing carriers, but it does shape the distribution of requisite elements. Less obvious but no less important, governments have a hand in reproducing versions of normal and acceptable life, and in configuring 'projects' that require specific patterns of mobility (Shove, Pantzar and Watson, 2007, pages 157-8).

New infrastructure will change the emotional and affective experience of cycling and indeed increase the likelihood that cycling practices will attract more practitioners, but there is no guarantee for a direct causality. Finally, while practice theory will agree with 'including' many different factors, it will trace connections between them and explore how they influence each other, and this might mean that some 'facilities' are more fundamental than others.

The ethnographic study

I now explore the particularities of cycling in Copenhagen. Since ethnography evaluates people in terms of their sayings and doings in the material world, this account will combine interviews and observations. I start out with describing how the municipality invests in cycling infrastructure and reproduces versions of cycling as normal. This section is based on the municipality's own official accounts of how cycling is designed and takes place in the city. I have interviewed three planners (including the former head of Copenhagen Municipality's bicycle secretariat) and analyzed their public bike publications (City of Copenhagen, 2015, 2013, 2012, 2011a, b, c). To counterbalance these accounts, I have studied five major streets to explore the affordances and distributions of bike lanes, racks and so on, and how such bike infrastructure fits into the overall street design (see Larsen, 2015, for the bike rack study).

My subsequent account of everyday bike practices also combines interviews with street observations on the same streets. I have conducted 16 in-depth home interviews with cyclists in Copenhagen; they were aged between 25 and 50, and there is an almost equal gender distribution. They were recruited among students and staff at Roskilde University; personal contacts and their friends; and subsequent snowballing (this article is part of larger study where some 100 cyclists have been interviewed (see Larsen and Christensen, 2015; Larsen, 2015, 2016a, b, for more detail). Using a GoPro camera, half of the interviewees video recorded their commute to work before the interview (as Spinney, 2010) to get a sense of how they cycle and interact within the wider environment. Inspired by practice theory, the interviews explored the materials, meanings and competences that the interviewees associate with cycling in Copenhagen, and the transcribed interviews were coded according to these categories. My observations of cycling practices *in situ* and *in actu* explored how cycling takes place in the material world and how cyclists interact with each other.

Planning

Materials

The municipality is clearly committed to investing in cycling, with ‘delivering and maintaining world-class facilities’ (City of Copenhagen, 2011b). Bike lanes are *the* ‘material’ used to design an inclusive environment where cycling is perceived as culturally acceptable, safe and time effective, and the required corporeal competences are low, so that new practitioners can be recruited and deflection of older ones can be minimizedⁱ. Bike lanes have always been ‘the bread and butter of the system’; the first was built in 1905 and many more was built over the next decades (Christensen and Ebert, 2012; Gössling, 2013). As one planner says:

In the 1980s there were maybe half of the bike paths we have in Copenhagen today. In Copenhagen, we have built cycle paths since 1905 or something... The fact that we have had bike paths for so long meant that there was a tradition to build onⁱⁱ.

The Copenhagen-based Danish Cycling Association (established in 1905 as an advocate of *utility* cycling) was an early advocate of bike lanes, to offer protection from horses and later cars (Knudsen and Krag, 2005). They believed that they would increase the security and speed for cyclists and car drivers alike.

Yet many lanes were demolished 1960s and 1970sⁱⁱⁱ. But they resurrected in 1980s when planners rekindled their affection for bikes and bike infrastructure^{iv} (Interview with planner, 2015). In 2014, Copenhagen had around 492.5 km of bike lanes, compared with 380 in 2004 (City of Copenhagen, 2015 page 5) and it has now more kilometres of bike lanes per population than any other ‘big city’ (Buehler and Pucher, 2012, page 297). They are in place on almost all

bigger roads, and many more are in the planning stages. While fairly cheap to build, they depend upon political willingness to sacrifice existing space for cars, especially for parking (Interview with planner, 2015), and this slows down the process somewhat.

The common bike track design in Copenhagen is curb-elevated, one-way, and between 2 and 2 ½ metres wide, fitted in between the road and pavement (Jensen and Røhl, 2014, page 40). The elevation effectively separates cars and bicyclists so they are not getting in each other's way and car parking is often not allowed next to bike lanes, which minimize risks of being 'doored'. A recent problem is overcrowding caused by many new users and the recent influx of cargo bikes that are larger and slower (unless they are e-bikes) than the usual two-wheeled bike, and the municipality has widened some of the busier ones up to four metres. Bike lanes are traditionally placed alongside busy roads and are designed for time-harried commuters rather than leisure cyclists (City of Copenhagen, 2011c). They are only placed within green areas – those with scenic qualities – if they also provide faster and more direct commute with fewer stoplights and detours (City of Copenhagen, 2013, 2015). More recently, and with much international media hype, striking bike bridges have been erected.

Given that most bike lanes run alongside busy streets, cyclists are never fully separated from drivers. At busy intersections (a notorious place for bike crashes and perceived fear ()), as drivers turning right cut across the bike lane, Jensen, Rosenkilde and Jensen (2007)) the municipality has successfully experimented with designs (e.g. back stop-lines for cars, pre-green signals for cyclists and 'blue cycle crossings') that increase the visibility, and awareness, of cyclists (City of Copenhagen, 2011c; Jensen and Røhl, 2014).

The municipality also provides parking for bikes. Copenhagen Municipality has a 'stabilized' rack – The Grid Rack – that has been implemented throughout the city for decades on major streets, outside public institutions and stations (Larsen, 2015). The latter indicates

how cycling and train commuting 'bundled', which is further underscored by the fact that it is free of charge (on city trains and Metro) or very cheap (on regional trains) to take one's bike on the train, and this can be done at all hours (with the exception of 'rush hours' in the Metro). There is also an easy availability of bikes and bike repair. Supermarkets and smaller bike-and-repair shops sell inexpensive bikes as well as specialist chain stores selling slightly higher-priced bikes. Expensive 'niche' bikes are sold in road racer and 'vintage bike' shops. Copenhagen Municipality was a first mover when it came to provide shared public bike scheme. The first system was launched in 1995 but this and later 'systems' were largely unsuccessful in attracting – especially local – practitioners and there has been long periods without a system. Yet a new high tech system with electric-bikes with tablets with a built-in GPS was launched on the streets of Copenhagen in yearly 2015 (www.gobike.com).

Feltkode ændret

Meanings

The municipality argues that cycling practices becomes a 'regime' – e.g., legitimate, widespread and integrated – through *normalising* them (on 'mobilities regimes', see Manderscheid, 2014; Sheller, 2015). As the former head of the bike secretariat says:

Cycling needs to be seen as something that is normal – not a niche, not something special or something "green" and certainly not stuck in a corner locked in competition with public transit for increased market share. Cycling is treated, and should be treated, as a very important part of the overall transportation system in Copenhagen".

'Normalization' involves 'de-politicizing' cycling: not associating it with specific environmental or sub-cultural values, including declaring war on cars and alienating car drivers

(Gössling, 2013: 201). Even in Copenhagen, cars still constitute a strong ‘regime’: while the number of kilometres by car is decreasing, car-ownership is increasing (City of Copenhagen 2015, 2013; Pineda and Vogel, 2014, page 19); there are few restrictions on driving; a proposed congestion road price ring failed to materialize; and most cyclists are also car-drivers (Freudendal-Pedersen, 2015b). Cycling is said to be ‘civil’ here, not ‘militant’ as in car-based cities where cycling is contested and cyclists and drivers fight with each other^{vi}. The municipality is not running campaigns about the societal and personal benefits of cycling, nor is it pursuing aggressive campaigns about the detrimental effects of car driving (e.g. obesity, pollution, road deaths) (Gössling, 2013). Car drivers are *not* the new smokers (Douglas et al., 2011) and there is no attempt to undermine the car regime as such. Cyclists are not celebrated and drivers are not ‘demonized’ (Gössling, 2013, page 201).

Cycling is getting ‘normalized’ by making ‘alliances’ with other commuters and their organizations. This may also explain why few car drivers contest bike lanes (as in Australia, Vreugdenhil and Williams, 2013) as they benefit them too: they can go faster, be less on the lookout, and they corroborate that roads are predominately for cars, since cyclists belong on the bike lane or at the far right-hand side of the street. And rather than being in competition with public transportation, the two need to be ‘bundled’.

Cycling is portrayed as ideal for *short* trips but less so on longer distances where cycling cannot compete with the speed and comfort of motorized commuting (this is slowly changing with the new cycle superhighways, which run long distances to some of Copenhagen’s suburbs, Larsen, 2016b). On shorter distances within Copenhagen, cycling attracts many practitioners because the bike infrastructure makes it easy, convenient, and fast. Based upon surveys, the municipality writes that ‘Copenhageners choose the bike because it is the fastest and easiest option – period’ – while health and environmental responsibility only motivate 25 and five per

cent respectively (City of Copenhagen, 2011a page 5). Moreover, according to the former head of the cycling secretariat, for many Copenhageners cycling is as routinized as ‘brushing one’s teeth’^{vii}.

The municipality also tries to recruit cyclists and political support by highlighting how cycling is a ‘common good’ that improves public life (Freudendal-Pedersen, 2015b). They write:

A bicycle-friendly city is a city with more space, less noise, cleaner air, healthier citizens and a better economy. It’s a city that is a nicer place to be in and where individuals have a higher quality of life ... Fortunately it pays off to invest in cycling. Increased cycling levels give society less congestion, fewer sick days, longer life expectancy, less wear and tear on the roads and less pollution. Cycling initiatives are also inexpensive compared with other transport investments (City of Copenhagen, 2011b page 6).

The municipality’s attraction toward cycling is somewhat instrumental: it is a cheap fix to solve car-inflicted problems and achieve a livable city attuned to people. This is not a ‘bleak scenario’ of future post-car societies (as with Urry, 2013). A cycle-friendly city is desirable, prosperous and ‘trendy’ (Gössling, 2013, page 203) and it attracts young professionals and defect young (often high-income) families from fleeing to the suburbs (for similar US findings, see Stehlin, 2015). Also, it is healthy citizens, and not obese ones (as in car-based societies), who populate such a city. Cycling has become a new frontier of public health; cycling fits the bill when it comes to both the municipality’s and health organisations’ campaigns urging people to exercise for at least half an hour each day.

Competences

While car competences are formally taught and require a license in Denmark, there is no such teaching when it comes to cycling.

Due to the prevalence of bike lanes there is no *urgent* need to ‘nourish’ or engender the public’s bicycle competences (this illustrates the point within practice theory that the elements influence each other). There are no teaching programs or publications on ‘how to ride a bike’ produced by the municipality, cycling organizations or individual writers (as in low-cycling societies such as New York: www.nyc.gov/html/dot/html/bicyclists/biketips.shtml). But children will learn basic traffic rules in school and there are short-term courses for refugees and migrants.

The municipality is also aware that some bike lanes can be overcrowded and therefore be perceived as unsafe and negative portraits of ‘reckless cyclists’ abound in newspapers and on social media. Such issues deflect potential cyclists (according to Municipality’s surveys, City of Copenhagen 2015)) and the municipality has run ‘humorous’ campaigns that instruct cyclists to show courteous ‘bicycle karma’ (<http://video.kk.dk/video/6555498/karma-film-uk-tekster>). Moreover, the Danish Council for Traffic Safety and the Danish Bicycle Association routinely make campaigns that urge cyclists be super assertive and wear helmets and not be dulled by the subjective feelings of safety that bike lanes evoke (www.sikkertrafik.dk).

User practices

I now explore why and how Copenhageners are attracted to, and in turn reproduce, cycling practices through their mobile performative engagement with cycling ‘entities’, and by recruiting practitioners and passing on meanings and competences. I will show that they both concord with, and add something new to, the planning discussed above.

Materials

One reason that Copenhageners routinely cycle and that new practitioners are enlisted is that there are about 550,000 bikes in the city, and the population is 562,000 (Larsen, 2015). These figures suggest that it is odd *not* to own a bicycle (at least among ethnic Danes). Many of my interviewees – especially the families – were both bike and car owners, and they could easily have five or six bikes between them as bikes are *not* shared and family members *always* have access to their *own* bike(s). The interviews and my observations indicate that they can afford this because Copenhageners tend to ride modestly priced upright bicycles designed for comfort and convenience (including shopping and transport of children) and not expensive ‘racer bikes’ (unless used for sport). Recruitment does not require an expensive or specialized bike. Many buy cheap bikes or invest little in repair, because they fear that a new, expensive or shiny bike will be stolen or ‘scratched’ in overcrowded bike racks. Indeed there are many bikes with dried-out or sloppy chains, rusty parts, semi-flat tyres and missing, broken, or bent parts. (Larsen, 2016a). The cargo-bike is an exception: it is more like a car, being shared between the parents, and it is now owned by 26 per cent of the families in the city (Copenhagen Municipality, 2015, page 12). The interviewees point out that these bikes resemble, and can substitute, cars, as they can transport children to-and-from institutions, and carry bags and groceries in a protective box with three stable wheels (*Bakfiets* play a similar role in Amsterdam, Eyer and Ferriera, 2015).

The interviewees also revealed that bikes and cars do not so much compete as fulfill different needs. Bikes are deemed essential for short and individual trips while cars are deemed essential for longer commutes and (family) trips at weekends. However, bikes often outcompete local public transport and travel cards. This is particularly the case amongst students and young professionals that cycle to places in order to save money. The interviewees

found public transport within the city to be inflexible, slow and expensive compared to cycling, and they would only use it when their bike was awaiting repair or in inclement weather. They are dependent upon their bike for getting to work, visiting people and for accomplishing their daily and nightly errands across the city. Being without a bike is a bit like being without one's smart phone, it is difficult to meet up with others and to synchronize travel. There are high expectations that people own and regularly use a bike, and this creates a critical mass of cyclists that further normalizes and diffuses cycling. No one talked about the new public bikes, which suggests that this system so far has largely failed to attract practitioners except tourists (Larsen, 2016a).

My interviewees are enthusiastic about the bike lanes and they prefer them to 'street riding' while my observations indicate that a heterogeneous group of riders with different routines, desires and bodies inhabits bike lanes: men and women, boys and girls, abreast-cycling friends, parents with infants and people carrying shopping. Several talk on the phone while others smoke a cigarette. Many wear headphones. Some potter about while others ride at great speed. The bike lanes are 'inclusive', largely self-managed and polyrhythmic spaces (on rhythms, see Edensor, 2012): slowed down by bulky cargo bikes and speeded up by Lycra-clad road-racer commuters and electric bikes. However, very few bother to wear specialized clothes. Copenhageners cycle in their *normal* clothes and a few wear helmets (more common among children), which further suggests that a fit body or nerves of steel is not a requisite for being a competent-enough-cyclist in this bike-friendly environment.

Meanings

The interviewees tell many of same tales as the municipality. They agree that cycling is a normalized practice that does not carry particularly strong – positive or negative – identities

(see also Jensen, 2013, page 224) and they do not fear looking silly, poor or uncool. Having said that, for some people – especially so-called ‘hipsters’ – cycling represents a cool urban lifestyle that is the polar opposite of suburbs, where cars and long commutes are commonplace. As in many low-cycling cities (Bike Snob, 2010), ‘hipsters’ are avid cyclists. Indeed, magazines, blogs and coffee-table books celebrate ‘cycle chic’ (especially young female) Copenhageners (www.copenhagencyclechic.com; Vanman, 2010) and ‘going out’ on a bike is common, so the outside areas of cafés and bars are packed with bikes.

These interviewees do not associate cycling with environmental responsibility or feel that it labels them as alternative (unlike London, Steinbach et al., 2015). As one said:

Being environmentally friendly is, sad to say, not my primary reason for cycling. I enjoy cycling, I get exercise and the convenience is far better than driving in terms of getting around. It’s quicker, easier (woman, 20s).

When I asked if they would continue to cycle if, somehow, cycling was *bad* for the environment, all the interviewees said ‘yes’. While they like the fact that cycling is good for the environment, they do *not* cycle to ‘save the environment’ or as a response to a sustainable transport strategy. They cycle when it *feels* right – or at least not wrong – (Cupples and Ridley, 2008, page 260) and it happens to be faster and more practical than driving and public transport, which is often the case because of congestion, lack of parking and what is perceived as poor public transport (for instance, the metro from 2007 still only has two lines and they do not run through some of the most populous areas).

At the same time they acknowledge people's right *not* to bike if an alternative makes better sense and their body does not agree with cycling. This was strongly argued by a woman who commuted by bike for the simple reason that it was the fastest option:

Everyone does what is best for themselves, and, I think, that's okay... It is completely rational for me to cycle. It has nothing to do with the fact that it is more fun, or more pleasant, or more relaxed, or anything else. It is all about getting from A to B. So, if people work further out, can avoid being stuck in the traffic, and can get to work in no time, I'll understand why they choose to drive (woman, 20s).

Cycling does not feel better or worse for her than driving or taking public transport, so this 'rational' approach to travel time is not at odds with the thesis that people only cycle 'if it feels right'.

Moreover, this also demonstrates the relational argument within practice theory that different transport practices compete for practitioners, although travel distances often determine that choice. The interviewees main concern is to *reduce* travel time and make the entire commute (including 'stops' at schools and supermarkets and parking) fast and practical. This can sometimes be achieved on bike because cycling affords 'short cuts':

The bike affords easy access. It is actually quicker to cycle than taking the car to work. With the car, I hit all the traffic from here and back, whereas with the bike, I make a short cut through the hospital and park ... (girl, 20s).

Reduced travel time is also afforded by easy parking, especially when compared to notoriously difficult car parking. The interviewees like the fact that bikes can be easily and legally ‘fly parked’ at the exact destination (often on the pavement and with a simple bike-fitted lock (few lock their bike around something as chain locks are not that common, see Larsen, 2015). Time is not squandered on searching for and walking to-and-from parking spaces. Since most bike trips are short-distance, time is saved on short cuts, ‘locking light’ and fly parking, and all this flexibility can make cycling faster and convenient than the alternatives. This flexibility attracts practitioners:

The advantage of cycling is the independence... not being stuck in the traffic ...or dependent upon public transport, and its timetable. Time is more predictable with the bike; it is your own time. If it takes five minutes longer to deliver our daughter in the morning, I’ll not reach the connecting bus to the train... but on a bicycle you’ll just ride a little faster and you’ll catch up (mother, early 30s).

This flexibility is, however, diminished with growing distances. On most occasions, the bike loses out to motorised vehicles when the distance becomes too great. When I asked if they would continue to cycle if they got a new job 14 km away, most said it would probably take too long and be physically too hard. However, a couple of interviewees could imagine themselves cycling 14 km each way: ‘The calculation will be: What will take the least time: Bike, bus or car? It would fit me very well if cycling were the fastest option, because I *like* cycling’ (mother, early 30s). Some of the present car-commuters insist that they will begin to cycle (again) if they got a job within cycle distance: ‘Time is essential. If I got a job where it took me the same time

to cycle as driving, I would definitely go by bike. It makes more sense to cycle' (father, early 40s).

While travel time is essential, so is the affective experience of riding a bike. These two interviewees are willing to cycle relative long distance it feels right and make more sense to them. They belong to that group of the interviewees that 'bundle' transport, exercise and health into one practice. As the same women said:

I don't particularly like to have an office job: it is so claustrophobic... If I don't get my daily bike ride I'll be in a bad mood when I get home because I'll not have had enough light and air during the day. It is also the time of the day where I have time to unwind and de-stress, now that I have a little baby ... Much of the exercise I get is through cycling... So if it takes a little longer than the alternatives it is ok as I get exercise (mother, early 30s).

Several say (especially those with children) that active commuting is a desirable way to get daily exercise and fresh air (see also Larsen, 2016b).

Competences

The competences of cycling are partly 'physiological'. Copenhageners are lighter and fewer are overweight than Danes as a whole (Christensen et al., 2013). Yet heavier and older bodies are not excluded and dispirited. Cycling is, for instance, less physically demanding and puts less strain on the body than running. Cycling resembles walking in this regard and yet it is a much faster option. Furthermore, since cycling in Copenhagen (similar to Amsterdam) is 'emplaced' in a topographically flat, compact city (with distances never exceeding nine kilometres from

one side to the other within the city) and bike-friendly infrastructure, the practice is less corporeally demanding (with the exception of relative cold winters) than in most other cities. It is an ideal environment for cycling practices to flourish and to capture and maintain practitioners. Given, moreover, that the typical ride is short, cycling in Copenhagen is seldom strenuous. What is more, since cyclists tend to ride in work or party clothes and sometimes with their children so people need to learn to pace themselves. Few are gasping for air or sweating at red lights. All this suggests that cycling in Copenhagen does not require much fitness and endurance work, which explains why it draws in so many differently bodily-enabled and aged practitioners, of both sexes.

Being 'emplaced' in a bike-friendly infrastructure also means that practice does not require specialised competences. Based upon my observations at bike lanes and busy crossings, I will argue that a distinctive feature of Copenhagen's cycling practices is that it sometimes resembles walking and that cyclists behave like pedestrians. The road design and traffic law does not invite or force Copenhageners to mingle with cars when making turns nor is there a culture of zigzagging in and out of cars to get to the front in stop lights, which is common in London and New York (Spinney, 2010; Wood and Latham, 2015). Copenhageners 'hug the kerbs' and make turns in the same way pedestrians do, by going from corner to corner rather than cutting into the street. This is a time-consuming turn, but the interviewees perceive it as the only safe option for a cyclist (for more detail, see Larsen and Funk, 2017).

When performing this turn, and in many other situations, cyclists in Copenhagen – as in London – improvise their movement in unique ways and often against the intended use of the design and the traffic law. This is done in order to feel safe and get faster through crossing. As I wrote at a busy intersection after days of observation:

A police officer could handout fines every ten seconds, with cyclist after cyclist facing a red light making a simple right turn if the bike lane is free or turning left and cycling through pedestrian crossing when they have to make 90 degree left turns (so only waiting for one instead of two red lights) or riding on the pavement, or ghost riding, to cut corners. And while all this law breaking unfolds, car drivers wait (im)patiently for the light to turn green (Diary notes, 2015 15 Marts).

Almost all of my interviewees disclosed – by and large, remorselessly – that they, as *cyclists*, routinely break traffic law when it is considered safe and appropriate (as in other places, see Fajans and Curry, 2001; Nixon, 2012; Johnson et al. 2011). Cycling is generally slower than driving but such ‘improvisation’ makes up for the slower speed. Without it cycling would become too slow and therefore less attractive and widespread. This gives cycling a competitive edge to driving. None of the interviewees admitted to breaking the law while driving with the exception of occasional ‘speeding’ (none of them reflected upon the evident dangers of speeding) and I did not witness any car disobeying a red light. As one said:

On the bike, I behave like all the rest! I’m good at signalling and being considerate, but I run red lights and things like that.

Interviewer: Do you do this more frequently than when driving?

Yes, much more. The car is dangerous; it is a weapon (father, early 40s).

They do so without feeling criminal or unruly, as they are ‘oriented to the world differently from the car-driver’ (Spinney, 2010 page 144). Breaking the traffic law is perceived as acceptable, common, and not at all dangerous, which is the complete opposite of the potential

‘weapon of the car’, which forces people to be more civil and law-abiding. This again illustrates affinities between cycling and walking and, in turn, differences between cycling and driving.

However, some contest such unruly bike practices; they see law breaking as giving cycling a bad name and potentially endangering others:

Many take stupid chances, running red lights and things like that. It is their own problem that they stupidly expose themselves to dangers, but it is unacceptable that simultaneously exposes everybody else to unnecessary risks (mother, early 30s).

While the municipality describes the Copenhagen cycling culture as ‘civil’, the reality is, that some of the interviewees sometimes denounce it as little ‘militant’: crowded lanes mixed with ‘incompetent’ (e.g. people going too slow or not holding the line) and ‘reckless’ cyclists (e.g. breaking the law or riding very fast) are said to produce intermittent situations of danger and road rage. Newcomers to Copenhagen explained how the many bicyclists, and the close proximity between them, made them anxious. Getting used to cycle in Copenhagen is a process that takes time. Moreover, the interviewed parents expressed concerns about letting their children bike on their own before they were teenagers.

Busy bike lanes, dangerous crossings and ‘uncivil’ behavior means that cyclists in Copenhagen need to cultivate mobile competences, such as keeping calm when narrowly overtaking, or being overtaken by, slower and faster riders, respectively. Contrary to the image of reckless riders, my observations at rush hour gave another picture: a disciplined flow of signalling and negotiating cyclists that kept the line and did not abuse each other, despite – or precisely *because* – of the restricted space. Carelessness can cause danger and cascading crashes.

The perception that 'others' are irresponsible actually disciplines cyclists and makes them extra vigilant, and this, ironically, produces competent riders, social orderliness and sense of community.

Conclusion

This article has explored why, and how, cycling practices are continually (re)produced and attract so many practitioners in Copenhagen. It is something performed; a learned and socially ordered practice. Theories of practice draw attention to the specific trajectories of what people do, and how practices attract or lose faithful carriers or practitioners. Cycling – as with all practices – involves specific and societally variable bodily competences, materials, and meanings, and the analytical task is to understand the changing relationships between these three interdependent elements. Practice theory is particularly concerned with how specific practices enlist, or deflect, practitioners, and how they carry out the practice. Such enlisting and defection can be explored by analyzing the changing demands of doing a specific practice, and how it becomes, or fails to become, a widespread routine or suddenly dies out. In this article, I have explored how everyday cycling in Copenhagen is routinized and popularized by planners and planning policies on the one hand, and cyclists and their embodied practices of cycling and inhabiting the city more generally on the other.

The municipality tries to recruit cyclists by providing the 'materials' – especially bike lanes – that can make cycling safe, fast and mainstream, and a realistic alternative to motorised commuting for the wider population. Cycling is portrayed as 'normal' and part of the overall transport system (rather than a slowed-down leisure activity or demanding sport). Bike lanes are delegated the task of fulfilling the municipality's policy of improved safety, fewer crashes and increasing the number of cyclists. Moreover, cycling is promoted as a 'common good' and

a route to a healthier and more pleasant city, so transport, health, environmental and urban politics are ruled – bundled – into each other. This promotion is inclusive and friendly. The municipality is aware that most cyclists are car drivers too and that bikes cannot replace the (perceived) need for car ownership that many Copenhageners – especially families – have. They try to persuade people to use the bike on some of their shorter trips instead of the car now the environment affords a safe and fast bike ride.

The second part showed that Copenhageners have invented their own unique meanings and ‘ways of cycling’ that make cycling do-able and easy to integrate into their wider ecology of everyday practices. They understand cycling as a form of convenient transport (rather than leisure) that they perform if it is faster (or at least not much slower) than motorised transport and their body does *not* disagree with cycling affectively. This study forcefully shows that travel time (the typical argument of transport scholars) and the affective, corporeal experience of cycling from A to B (the tenet of the ‘mobilities paradigm’) are equally fundamental for understanding how commuter cycling enlists so many practitioners.

While travel time is essential, speed and fitness are not essential elements of this practice in Copenhagen. Copenhageners can be quick without going particular fast; they have learnt to master, and are embedded into, a cycling practice of short cuts, gentle law breaking (sometimes by pushing their bike), everyday clothing, fly-parking and light locking. If most Copenhageners did not consider cycling as culturally ‘in place’ – as perfectly normal, but also a little ‘cool’ – then the provision of bike lanes would be much less crowded. Freedom, speed and flexibility are ‘meanings’ associated with car-mobilities (Sheller and Urry, 2000). However, in Copenhagen such meanings are attached to cycling: bikes are seldom stuck in traffic; they are easy to park; you can make short cuts and bend traffic laws on a bike; and all of this often makes cycling the fastest (and indeed cheapest) option in Copenhagen.

What can planners and scholars learn from practice theory and Copenhagen? I have shown that practice theory stresses the contingency with which practices emerge and develop and there are therefore no easy lessons to be learned. One insight is that the development of a 'cycling city' is a slow moving, complex, multifaceted process, and one that necessitates planning of practices-as-entities by supportive planners and politicians. It is crucial that a public body invests in appropriate cycling infrastructures and free of space for cycling to make cycling fast, safe, mainstream and part of the overall transport system. But it takes more than simply building bike lanes to get people genuinely motivated to take up, and become interested in, cycling, and this is largely beyond physical planning. Of equal importance are practices-as-performances by devoted and vocal practitioners that may be attracted to cycling for very different reasons: the promotion of any urban bicycle practice depends as much upon supportive everyday users as engaged planners and politicians.

Another insight is that it is not easy, nor necessarily advisable, to simply 'import' the Copenhagen (or Amsterdam) model of bike lanes, slowed paced cycling and privately owned bikes, as practices are situated performances that depend upon local context. And there is no quick fix either, as it takes years, if not decades, to build the required materials, meanings and competences. Even in a globalized world, practices are not easily exported (Shove and Pantzer 2005: 59) and any design intervention requires sensitivity to the local context and home-grown practices. Whereas the public shared bike has so far failed in Copenhagen, it may be that this bike design will propel cycling forward in cities with excellent Metro connections and where fewer people own their own bike. There are multiple paths that future cycling cities can take.

References

- Aldred, R. 2010, "On the outside": constructing cycling citizenship" *Social and Cultural Geography* **11** 35–52
- Aldred, R., Jungnickel, K. 2014, "Why culture matters for transport policy: the case of cycling in the UK" *Journal of Transport Geography* **34** 78–87
- Aldred, R., K. Jungnickel 2013, "Matter in or out of place? Bicycle parking strategies and their effects on people, practices and places" *Social & Cultural Geography* **146** 604–624
- Bissell, D. 2008, "Comfortable bodies: sedentary affects". *Environment and Planning A* **40** 1697–1712
- "Bike Snob", E. Weis 2010 *Bike Snob Systematically and Mercilessly Realigning the World of Cycling* (Hardie Grant: London)
- Buehler, R., Pucher, J. 2012, "Cycling to work in 90 large American cities: new evidence on the role of bike paths and lanes" *Transportation* **39** 409–32
- Carstensen, T. A., Ebert, A. K. 2012, "Cycling cultures in Northern Europe: From 'golden age' to 'renaissance'". In *Cycling and Sustainability*, Ed J. Parkin (Emerald Bingley: Insight) pp 23–58
- Christensen, A., Davidsen, M., Ekholm, Pedersen, P., Juel, K. 2013 *Danskernes Sundhed – Den Nationale Sundhedsprofil 2013* (Sundhedsstyrelsen: Copenhagen)
- City of Copenhagen 2015 *Copenhagen, City of Cyclists. Bicycle Account 2014* (Municipality of Copenhagen: Copenhagen)
- City of Copenhagen 2013 *Copenhagen, City of Cyclists. Bicycle Account 2012* (Municipality of Copenhagen: Copenhagen)
- City of Copenhagen 2012 *Trafikken i København: Trafiktal 2007-2011* (Municipality of Copenhagen: Copenhagen)

- City of Copenhagen 2011a Copenhagen, City of Cyclists. Bicycle Account 2010 (Municipality of Copenhagen: Copenhagen)
- City of Copenhagen 2011b *Good, Better, Best. Cycle Strategy 2011–2025* (Municipality of Copenhagen: Copenhagen)
- City of Copenhagen 2011c *Focus on Cycling: Copenhagen Guidelines for the Design of Road Projects* (Municipality of Copenhagen: Copenhagen)
- City of Copenhagen and YouGov 2012. *Cykelkampagne: Evaluering af KarmaKampagnen* http://kk.sites.itera.dk/apps/kk_pub2/pdf/963_6hRulsa5xp.pdf (accessed 24.01.2015).
- Cresswell, T. 2007 *On the Move: Mobility in the Modern Western World* (Routledge: London)
- Cupples, J., Ridley, E. 2008, "Towards a heterogeneous environmental responsibility: sustainability and cycling fundamentalism" *Area* **40** 254-264
- Dill, J., Carr, T. 2003 "Bicycle commuting and facilities in major US cities: if you build them, commuters will use them" *Transportation Research Record* **1828** 116-123.
- Doughty, K., Murray, L 2016, "Discourses of mobility: Institutions, Everyday Lives and Embodiment" *Mobilities* **11** 303-322
- Douglas, M. J., Watkins, S. J., Gorman, D. R. and Higgins, M. 2011, "Are cars the new tobacco?" *Journal of Public Health* **33** 160-169
- Edensor, T. (Ed.). 2012, *Geographies of Rhythm: Nature, Place, Mobilities and Bodies* (Ashgate: Aldershot)
- Eyer, A., Ferreira, A. 2015, "Taking the tyke on a bike: mothers' and childless women's space-time geographies in Amsterdam compared." *Environment and Planning A* **47** 691-708
- Fajans, J., Curry, M. 2001, "Why bicyclists hate stop signs". *ACCESS Magazine* **1** 28-31

- Forsyth, A., Krizek, K. 2011, "Urban design: is there a distinctive view from the bicycle?" *Journal of Urban Design* **16** 531-549
- Freudendal-Pedersen, M. 2015a, "Cyclists as part of the city's organism: structural stories on cycling in Copenhagen" *City and Society* **27** 30-50
- Freudendal-Pedersen, M. 2015b, "Copenhagen cycling communities: is this a common good?" *Acme* **14** 598-621
- Geels, F. W. 2012, "A socio-technical analysis of low-carbon transitions: introducing the multi-level perspective into transport studies" *Journal of Transport Geography* **24** 471-482
- Goodman, A., Green, J., Woodcock, J. 2014, "The role of bicycle sharing systems in normalising the image of cycling: An observational study of London cyclists" *Journal of Transport and Health* **1** 5-8
- Gössling, S. 2013, "Urban transport transitions: Copenhagen, city of cyclists" *Journal of Transport Geography* **33** 196-206
- Heinen, E., van Wee, B., Maat, K. 2010, "Commuting by bicycle: an overview of the literature" *Transport Reviews* **30** 59-96
- Horton, D. 2007, "Fear of cycling" In *Cycling and Society* Eds. D. Horton, P. Cox. and P. Rosen (Ashgate: Aldershot) pp. 132-152
- Jensen, O. B. 2014 *Designing Mobilities* (Aalborg Universitet: Aalborg)
- Jensen, N., Røhl, A. 2014, "Cykelfokus i København Trafik og Veje" **April** 40-41.
- Jensen, U. S., Rosenkilde, C., Jensen, N. 2007, "Sikkerhed og tryghed på cykelstier i København" *Trafik og Veje* 42-45
- Jensen, A. 2013, "Controlling mobility, performing borderwork: cycle mobility in Copenhagen and the multiplication of boundaries", *Journal of Transport Geography* **30** 220-226

- Johnson, M., Newstead, S., Charlton, J., Oxley, J. 2011, "Riding through red lights: the rate, characteristics and risk factors of non-compliant urban commuter cyclists" *Accident Analysis and Prevention* **43** 323-328
- Jones, P. 2005, "Performing the city: a body and a bicycle take on Birmingham, UK" *Social & Cultural Geography* **6** 813-830
- Jones, P. 2012, "Sensory indiscipline and affect: a study of commuter cycling" *Social & Cultural Geography* **13** 645-658
- Knudsen, W. B., Krag, T. 2005, *På Cykel i 100 år: Dansk Cyklist Forbund 1905-2005* (Dansk Cyklist Forbund: Copenhagen)
- Koglin, T. 2015, "Organisation does matter – planning for cycling in Stockholm and Copenhagen" *Transport Policy* **39** 55-62
- Larsen, J., O. Funk 2017, "Inhabiting Infrastructure: the case of cycling in Copenhagen", In *Networked Urban Mobilities* Eds M. Freudendal-Pedersen, K Hartman, (Routledge: London)
- Larsen, J. (2016a). Leisure, Bicycle Mobilities and Cities. *Tourism and Leisure Mobilities: Politics, Work and Play* (Routledge: London) pp. 39-54
- Larsen, J. 2016b, "Commuting, exercise and sport: An ethnography of long distance bike commuting" *Social and Cultural Geography* (Ahead of print).
- Larsen, J. 2015, "Bicycle parking and locking: ethnography of designs and practices". *Mobilities* (Ahead of print)
- Larsen, J. 2014, "(Auto) Ethnography and cycling" *International Journal of Social Research Methodology* **17** 59-71
- Larsen, J., Christensen, M. D. 2015, "The unstable lives of bicycles: the 'unbecoming' of design objects" *Environment and Planning A* **47** 922-938

- Latham, A., Wood, R. 2015, "Inhabiting infrastructure: exploring the interactional spaces of urban cycling" *Environment and Planning A* **47** 300-319
- Nielsen, T. A. S., Christensen, L., Jensen, T. 2013 *Cyklen – Redskabet til Sundhed og bedre Miljø* (DTU: Lyngby)
- Nielsen, T. A. S., Skov-Petersen, H., Christensen, T. 2013, "Urban planning practices for bikeable cities—the case of Copenhagen" *Urban Research and Practice* **6** 110-115
- Nixon, D. V. 2012, "A sense of momentum: mobility practices and dis/embodyed landscapes of energy use" *Environment and Planning A* **44** 1661-1678
- Pantzar, M., Shove, E. 2010, "Understanding innovation in practice: a discussion of the production and re-production of Nordic Walking" *Technology Analysis & Strategic Management* **22** 447-461
- Pineda, A. F. V., Vogel, N. 2014, "Transitioning to a low carbon Society? The case of personal transportation and urban form in Copenhagen: 1947 to the present". *Transfers* **4** 4-22
- Pink, S. 2011, "From embodiment to emplacement: re-thinking competing bodies, senses and spatialities" *Sport, Education and Society* **16** 343-355
- Reckwitz, A. 2002, "Toward a theory of social practices a development in culturalist theorizing" *European Journal of Social Theory* **5** 243-263
- Sheller, M., Urry, J. 2000, "The city and the car" *International Journal of Urban and Regional Research* **24** 737-757
- Sheller, M. 2012, The emergence of new cultures of mobility: stability, openings and prospects. In *Automobility in Transition?: A Socio-technical Analysis of Sustainable Transport*, edited F. Geels, R. Kemp, G. Dudley and G. Lyons, 180-204. London: Routledge.
- Shove, E., Pantzar, M., Watson, M. 2012 *The Dynamics of Social Practice: Everyday Life and How It Changes* (Sage: London)

- Shove, E., Pantzar, M. 2007, "Recruitment and reproduction: the careers and carriers of digital photography and floorball" *Human Affairs* **17** 154-167
- Shove, E., Pantzar, M. 2005, "Consumers, producers and practices understanding the invention and reinvention of Nordic walking" *Journal of Consumer Culture* **5** 43-64.
- Stehlin, J. 2015, "Cycles of investment: bicycle infrastructure, gentrification, and the restructuring of the San Francisco Bay Area" *Environment and Planning A* **47** 121-137
- Spinney, J. 2010, "Improvising rhythms: re-reading urban time and space through everyday practices of cycling", In *Geographies of Rhythm: Nature, Place, Mobilities and Bodies*, Eds T. Edensor (Ashgate: Aldershot) pp 113-128
- Spinney, J. 2007, "Cycling the city: Non-place and the sensory construction of meaning in a mobile practice". In *Cycling and Society*, Eds. D. Horton, P. Cox, P. Rosen, 25-45. (Ashgate: Aldershot)
- Thomas, B., DeRobertis, M. 2013, "The safety of urban cycle tracks: A review of the literature" *Accident Analysis and Prevention* **52** 219-227
- Urry, J. 2013 *Societies beyond Oil: Oil Dregs and Social Futures* (Zed Books: London)
- Vivanco, L. A. 2013 *Reconsidering the Bicycle: An Anthropological Perspective on a New (Old) Thing* (Routledge: London)
- van Duppen, J. and Spierings, B. 2013, "Retracing trajectories: the embodied experience of cycling, urban sensescales and the commute between 'neighbourhood' and 'city' in Utrecht, NL" *Journal of Transport Geography* **30** 234-243
- Vanman, C. 2010. *City of Bicycles* (Arnold Busck: Copenhagen)
- Vreugdenhil, R, Williams, S. 2013, "White line fever: a sociotechnical perspective on the contested implementation of an urban bike lane network" *Area* **45** 283-291
- Watson, M. 2012, "How theories of practice can inform transition to a decarbonised

transport system” *Journal of Transport Geography* **24** 488-496

ⁱ With the exception of one street, Nørrebrogade, more radical ideas such as closing streets for cars or building whole streets specifically for bikes, are not discussed. This is part because Nørrebrogade project caused much controversy (Freudendahl-Pedersen, 2015a)

ⁱⁱ <http://navisen.dk/blog/cykelhvdngen-har-vundet-kampen-om-gaden/>

ⁱⁱⁱ <http://navisen.dk/blog/cykelhvdngen-har-vundet-kampen-om-gaden/>

^{iv} https://www.youtube.com/watch?v=0lvNTT6e-_k

^v https://www.youtube.com/watch?v=0lvNTT6e-_k

^{vi} https://www.youtube.com/watch?v=0lvNTT6e-_k

^{vii} <http://news.bbc.co.uk/2/hi/europe/8223520.stm>