Matter in or out of place? Bicycle parking strategies and their effects on people, practices and places

Rachel Aldred[1]
Katrina Jungnickel[2]

[1] Faculty of Architecture and the Built Environment, University of Westminster
[2] Studio INCITE, Sociology Department, Goldsmiths College, University of London

This is an Author's Accepted Manuscript of an article published in Social & Cultural Geography, 14 (6). pp. 604-624, 2013. © Taylor & Francis. Available online at:

http://www.tandfonline.com/doi/abs/10.1080/14649365.2013.790993

R. Aldred and K. Jungnickel, accepted author copy (post-print), Feb 2013, published in Social and Cultural Geography, http://www.tandfonline.com/doi/abs/10.1080/14649365.2013.790993#.U_xwt84qOSp

Matter in or out of place? Bicycle parking strategies and their effects on people, practices, and places.

Abstract

This paper explores what bicycle parking strategies tell us about the place of mobility objects in contemporary urban streetscapes. It examines the bicycle's liminality by combining approaches from practice theory with Mary Douglas' concept of 'matter out of place'. Much research on cycling has concentrated on the bicycle in movement, yet in our research, based in four relatively high-cycling English urban areas, a common theme was concern about the bicycle when *not* in use. Bicycles at rest were perceived as threatened or threatening, risky or at-risk; affected by theft, vandalism, the weather, official and familial disapproval. In the article, we link this to the tenuous place of urban cycling in England; while bicycle ownership is widespread, everyday cycling remains marginalised and this shapes the place of the bicycle resting on city streets, in homes and in workplaces. Bicycles waiting for their owners are often 'matter out of place'. This is seen within the context of broader motorised landscapes which have made driving easier through locating driving competences in the car itself, while comparable cycling competences remain on the outside – with the cyclist.

Key words: affordances, bicycle, practice theory, waste theory, parking strategies

Introduction

This paper analyses bicycle parking strategies and what they tell us about the place of 'resting' mobility objects within urban landscapes. It contributes to our understanding of city materialities, and how places, objects and people are enrolled (or not) into particular mobility practices. How bicycles fit (or fail to fit) within city landscapes has broader implications for understanding how people adapt places for use within mobility practices: here including hallways,

front gardens, sheds, yards, drives, lockers, car parks, pavements, lampposts, and many other public and private urban places. Analysing these practices contributes to understandings of how transport practices are constructed, perpetuated, and marginalised, in particular, the continuing ways in which the bicycle is rendered problematic within a low-cycling context such as the UK.

Analysis of cycling practices often focus on the act of cycling itself, while we complement this work by considering what happens to the bicycle when it is *not* in motion. Within low-cycling contexts, the moving bicycle may often appear as 'matter out of place', a transport object of dubious legitimacy. We find that the bicycle at rest is often in a similar position; seen to be threatened by (for example) theft, vandalism, sabotage, water damage, official removal and familial disapproval. Cyclists respond to these challenges with a variety of strategies; often themselves also problematic. Parking strategies might affect choice of a new bicycle, or mean adapting an old bicycle. Most obviously, cyclists might attempt to secure their bicycle with locks, or in a dedicated locker. Yet other strategies relate to choice of place, adapting existing places, and adapting routines to enable the use of the bicycle. Strategies were extracted from a set of qualitative data comprising transcripts from interviews with 129 people who cycle, and 33 cycling stakeholders in four relatively high-cycling English areas.

In analysing the parking strategies, the paper draws on both practice theory and waste theory. Practice theory is used because of its focus on practices as systems that enrol individuals, mandating the use of particular objects, the accumulation of particular competences, the performance of other related practices, etc. We have found that practice theory helps illuminate how environmentally and socially damaging transport systems are reproduced and sustained, despite individual awareness of their problems. Using a practice theory lens directs attention to, for example, the redistribution of competences: the increasing responsibility of individual cyclists

in a mass motorised society to develop competences (from the ability to find a safe route to the correct use of protective clothing) while drivers increasingly shed corresponding competences to devices such as route-finders and airbags (Aldred 2012).

Practice theory directs attention to 'meanings' as well as to 'skills' and 'stuff'. However, in thinking about symbolic associations of immobile bicycles, we were drawn to supplement it using waste theory. Waste theory provides a rich seam of work exploring how objects move into (and out of) the 'rubbish' category, and how this is related to other value categories. Applying waste theory to the bicycle complements previous work (Aldred 2012) on the marginalisation of *cyclists*, through examining the processes through which bicycles at rest are seen as rubbish, as dirty, or as dangerous. In particular, we draw upon the classic work of Mary Douglas on contamination, given comments by interviewees about bicycles as (really or apparently) dirty as well as obstructive or dangerous. However, as bicycles in motion and bicycles at rest are defined differently, in relation to different although related practices (cycling and parking one's bike), a continued engagement with practice theory sits alongside our use of work on waste, dirt and danger.

Practices, Competences, Affordances

Practice theory has done much to emphasise the importance of the everyday. It shifts the study of consumption away from a focus on individual 'choice' to exploring how such behaviours are routinised; embedded in social institutions and technical infrastructures (Southerton et al 2004; Shove et al 2012). As Watson and Shove argue, 'the greater part of consumption is pressingly mundane and routinely embedded in typically inconspicuous socio-technical systems and routines' (2008: 70). Practice theory builds on socio-technical approaches to consumption, such as actor-network theory (e.g. Latour 1992; Star 1999), sharing an approach that decentres the individual, but seeking to avoid the risk of a technological determinism that can leave little

room for agency and change (Hinton 2010). Practices, for Shove and Walker (2010) continually reproduce (and, potentially, shift or challenge) socio-technical regimes.

Practice theory directs the attention of consumption theorists away from the symbolic and the spectacular (Warde 2005), individuals are instead understood as 'carriers' of regularly repeated practices. However, this does not remove agency; Hinton (2010:34) argues that within practice theory, 'individuals have agency as the conduits of practices'. Hence practices are not pre-determined and their stability (while often apparently complete) is in fact always provisional; they may change shape over time, multiply, and contract, as they are performed differently, in new contexts, or not at all. Shove and Walker (2010) use the example of the London Congestion Charge, which through a financial disincentive encouraged individuals to reconfigure and re-assemble their driving practices, shifting them in space and time.

Hand and Shove (2007) stress that the normalisation of a practice (such as freezing food within the home) does not mean closure, but is a dynamic and unstable process involving the ongoing integration of materials, ideologies and skills. Moving into the area of transport, we might think of that most dominant mode – the car (to which the bicycle is often contrasted: Horton 2006) – as an object whose ownership and use both enables and locks in a variety of practices. Driving has become such a normalised part of life within rich countries that it comes both to underpin and express a variety of practices, such as caring for one's children (Sheller 2004). Yet while it makes sense to talk of a practice of driving (Shove et al 2012) there are substantial geographical differences: the extent to which commutes are motorised is extremely variable within and between highly motorised countries. For example, within the UK London stands out as somewhere where driving to work is relatively de-normalised (Green et al 2012). Driving practices are variable and constructed differently within different contexts.

Shove et al (2012: 14) conceptualise individuals as 'actively [combining] the elements of which […] practices are made', these elements being materials, competences, and meanings. Elements are interconnected: as new objects become embedded in everyday routines, older practices are disabled and new ones enabled, enrolling other individuals and objects. 'Comfort practices' have been a major focus of research in this tradition (Hinton 2010), with writers exploring how changing understandings of comfort have been woven into everyday life and into the fabric of our cities. Shove for example demonstrates how the escalation of air conditioning in new buildings has meant that architectural features such as awnings, eaves and verandas disappear from new housing, which in turn demands the use of air conditions, because of the absence of such features. '[M]echanically cooled properties are designed *for* air-conditioning just as they were once designed *for* natural ventilation' (Shove 2003: 54, emphasis in original).

Exploring the secret lives of objects (such as freezers, cars, and air conditioning systems) can provide insights into social ordering systems, including the shifting distribution of skills between people and things. As Watson and Shove (2008: 77, emphasis in original) put it, '*competence is perhaps better understood as something that is in effect distributed between practitioners and the tools and materials they use*.' For example, Shove et al (2012) describe the complex role that masculinity played within early twentieth century practices both of driving and of repairing cars (essential to early motoring). They characterise driving as a process of 'collective forgetting' (2012: 34); as skills previously located in the driver and/or passenger (using hand signals, reading a map) become replaced by competences embedded in the vehicle and/or accessories. In the case of cars, driving competences have increasingly been embedded in GPS devices, headlights, indicator lights, air conditioning, and locking devices, leading to many skills

being unlearned (and others appearing). Practices depend upon one another; so, in the case of driving, changes in insurance practices affect 'choices' young people make whether to drive.

New technologies can appear for a time in public discourse as both fascinating and problematic; raising ethical and philosophical questions beyond their specific characteristics. In-car GPS has led to a wealth of cautionary tales along the lines of 'my GPS told me to drive into a lake', calling upon broader concerns about human capacities being taken over by technology. Yet once institutionalised, like indicator signals, technologies lose their novelty and become mundane; they 'linger in the background, doing their 'job'' (Michael 2000: 3). They script performances, prompting users to act in particular ways. Latour (1992) refers to such objects as 'missing masses', giving the example of hotel key fobs, which configure users through weight and size, insisting guests leave them at hotel desks.

Ingram et al (2006) stress scripting should not be seen as in itself determining actions. '[A]lternative scripts and unnoticed affordances emerge as users and consumers position objects—symbolically and materially—within existing complexes of possession and practice.' (Ingram et al 2006: 10). If 'scripting' draws attention to how objects can direct users in particular ways, the related concept of 'affordances' perhaps implies greater openness, highlighting the potential of objects and places to 'foster a range of actions, delimiting some and enabling others' (Edensor 2004: 110). Edensor (2004: 116) refers to how 'distinct sensations are produced by bodily interaction with particular cars, which possess particular affordances – the feel of the wheel, the seats, the rate of acceleration and the ease of changing gears – and […] impinge on how the car can be manoeuvred.' Thus the practice of motoring, for Edensor (2004: 109), is inherently bound up with how '[s]patial constraints and opportunities inhere in the organization and affordances of motorscapes, and [how] these mesh with the bodily dispositions engendered by driving.'

Matter Out of Place?

When exploring how bicycle parking was experienced, understood, and categorised, we found references to bicycles perceived as problematic; dirty, dangerous, rubbish and so on. The key contribution made by practice theory in this area is to focus on practices of wasting as not necessarily being the spectacular product of a 'throwaway society', but instead forming part of a related series of considered consumption practices that also involve an interplay with 'saving'. Gregson et al (2007) argue that consumption practices are fundamentally about identity performance and identity repair, such as being a 'good parent'. Moreover, objects such as tables, chairs, and carpets signify past, present and future relationships that we may want to emphasise and hold on to, or discard and forget. Gregson et al (2007: 688) briefly make reference to the work of Douglas, when they discuss the attitude of a participant towards having stained her rug:

> 'In a manoeuvre which is straight out of Mary Douglas (1966), the rug's contamination with Ribena threatens the social order of Florence's home; its respectability, indeed Florence's social respectability, is threatened by the visible stain that discloses the temporary absence of care.'

The stained rug thus signifying a potentially failing performance as a home-maker, and viewing the rug as spoiled, and thus as rubbish, 'solves' the identity problem, repairing the performance. Douglas' (2002(1966)) work argues that feelings that an object is dirty or disgusting (or, conversely, feelings that an apparently similar object is *not* dirty) can tell us much about symbolic orders. She uses the concept of 'matter out of place' to characterise those objects that are seen as being 'in the wrong context', such as a pair of outdoor shoes on the sofa. For Douglas, 'dirt' is essentially disorder; it expresses a society's culture and organisational structure. People

often respond by attempting to reinforce and protect spaces of order, whether these are seen in terms of the self or broader social groups, the home, or specific objects.

Developing Douglas' work, later theorists (e.g. Thompson 1979) shifted the focus away from disgust and dirt towards broader types of rubbish, and waste as a category. Objects in this category may be seen as dirty; or they may be seen as problematic in a range of other ways, being unfashionable, ugly, or simply failing to be new (Culler 1985). Rubbish is seen as a category lying on the margins of the value system; in many cases, referring to unused objects kept because we 'might want them some day'; or (we imagine) at least *someone* might. This might happen, for example, when a previously reviled furniture item becomes 'retro' and 'fashionable' (Gregson and Crewe 2003). Culler (1985: 9) stresses that '[s]truggles are always being waged over rubbish: struggles whether the system of transience or durability should prevail'.

Clearly many British-owned bicycles are 'rubbish', somewhere between disposal and re-use. While nearly three-quarters of households own a bicycle, around 40% of these households never use it, and most of the rest are only irregular users (Euromonitor 2011). As a transport object bicycles have a low exchange value; while the average purchase price of a *second-hand* car in the UK is £4,836 (OFT 2010), the average purchase price of a *new* bicycle is 320 Euros, or approximately £270 (COLIPED/ COLIBRI 2012)[i]. This brings into play a range of possibilities (such as lending to acquaintances) less likely with motor vehicles (Aldred 2010); however, within a society in which exchange value is a key arbiter of social value, it also carries the taint of cheapness.

Our concern here, however, is not so much with how bicycles are disposed of, borrowed, lent, and brought back into use, but how they are perceived when immobile as part of ordinary use. Such a state (and the problems associated with it) is particularly important to privately owned transport objects, which are designed for motion, yet which (even if regularly used) spend most of

their time stationary. This returns us to Douglas, and to thinking about what the classification of objects as problematic tells us about broader systems of social organisation. However, we do not limit ourselves to 'dirt'; while immobile bicycles are indeed seen as dirty in some contexts, more often if seen negatively they are 'in the way'; they 'look messy' or are a 'health and safety risk'. Like the view that an object is 'dirty', such feelings express the enactment of value categories in relation to everyday practices. The concept of 'matter out of place' can thus enrich practice theory by drawing attention to the inequalities which structure city spaces, and within which some mobility practices (and objects) appear as peculiarly problematic.

Within cycling studies, authors have frequently made reference to the liminality of cycling in low-cycling contexts (Horton 2007, Furness 2010). While the term 'matter out of place' has not so far been used, it clearly seems to fit with observations that cycling lack a legitimate place, materially or culturally, in low-cycling contexts. The practice of cycling is seen to symbolically undermine the motoring order: in the UK, motorists often complain that cyclists are 'in the wrong place' (DfT 2010; Aldred 2012). This is perhaps particularly acute where the cyclist is not even attempting 'transport' (the proper use of the roads, nevertheless fraught with difficulty where the user is non-motorised). For example, Aldred and Jungnickel (2012) discuss the legitimacy problems faced by group leisure riders, whose convivial use of city streets and country lanes is constructed as particularly annoying for those 'trying to get somewhere'.

Cyclists themselves may often be 'matter out of place', in Douglas's (2002(1966)) phrase. They are both viewed as threatening others (c.f. Skeggs 2005 on working-class women) and held responsible for inviting any harm that comes to them. Take the 2010 Liverpool Echo story, 'Cyclist drove straight into the path of oncoming car, inquest hears'[ii]. Here the dead cyclist (a boy) is described by the investigating police officer as having been 'riding his bike in a "careless,

inappropriate and unlawful way", which was compounded by his not wearing a helmet and possibly not hearing approaching vehicles because of his headphones'.[iii] Where a cyclist has been killed, news stories frequently report on his or her use of a helmet, high visibility clothing, or headphones, even though these are not covered by legal requirements and may often be irrelevant to the case at hand (e.g. a helmet will not protect a cyclist run over by an HGV).

If people riding bicycles are often out of place, threatened and threatening, stationary bicycles may face similar perceptions. One common complaint of cyclists (reported also in our research) is the availability of car parking (e.g. at home or work) while bicycle parking remains difficult or insecure. Of course, parking cars is not unproblematic. Traditionally, it has been seen as desirable to conceal cars when not in use, for example, through dedicated garages or underground car parks. However, rising car ownership during the second half of the twentieth century has led to an increase in on-street parking, and to the concreting over of front gardens for use as car parking (Department for Communities and Local Government, 2007).

Increasingly parking a vehicle outside one's house has become 'normal' in the UK, with many households now owning two cars yet lacking a two-car garage. Car parking on the footpath is widespread, and even in those places where footway parking is not common or not permitted (as in many parts of London), the default assumption is that parking is permitted on the road itself unless stated otherwise (e.g. by double yellow lines)[iv]. Dramatic improvements to vehicle security have assisted this normalisation of the car within the urban streetscape; the British Crime Survey 2010/11 reported a fall in vehicle-related theft of 72% since 1995, while other property crime decreased much less sharply (bicycle theft only fell by 20%). Thus one reason (security) for not parking on the street has been very much diminished (although certain streets may still hold specific perceived threats).

From the Cyclist to the Bicycle; Motion to Rest

Cycling studies has flourished in recent years, with projects, books, special issues, and symposia. In particular, we note the growth of social-scientific interest, with many authors dealing with cultures of cycling (and not-cycling), and intersections or conflicts between cycling and other social identities (e.g. Aldred 2012; Steinbach et al 2011; Green et al 2012; Fincham 2008; Pooley et al 2011). Other work explores experiences of movement (e.g. Aldred and Jungnickel 2012; Jones 2005; Spinney 2007; 2010; 2011). However, the focus tends to be upon the bicycle being (ideally!) in motion. Cycling identities are then explored with relation to, for example, masculinity and experiences of riding in heavy traffic.

Some work (e.g. Aldred 2012) has explored signs that may convey an association with cycling while the user is off-bike; for example, the rolled up trouser leg or the fluorescent jacket. However, the focus is still on the *cyclist even when s/he is not currently cycling*, and how the practice of cycling shapes what s/he does and how s/he is perceived. The social science literature has not yet explored in any depth what happens *to the bicycle* when it is not currently being ridden, and how this can then come to shape other practices and experiences. This is seen as an important policy issue (e.g. NESTA 2012) with cycle stands installed in residential, employment and shopping locations, and cycle parking guides and standards being developed in local authorities. However, there is little discussion of the topic in academic literature.

Work on the bicycle-as-object has explored the materiality of the bicycle to a greater extent than the literature on cycling. Pinch and Bijker's (1984) programmatic piece within the tradition of Social Construction of Technology (SCOT) explores the 'stabilisation' of the safety bicycle, arguing that its predecessor the Ordinary was a different artefact to different 'relevant social groups' (RSGs); to young men it could be macho while to women and older men it was

simply dangerous. The safety bicycle is seen as having become mundane and normalised because it was adopted and promoted by women, by older men, and by racing cyclists.

Rosen (1993) critiques Pinch and Bijker for naturalising RSGs (such as 'older men') rather than enquiring into their construction, and its genesis within broader socio-technical shifts. Rosen (1993: 485) seeks to 'show that the changes in [mountain bicycle] design bear a close relation to changes in Western society at large'; thus illustrating the need for closer attention to connections between closure mechanisms and their wider socio-cultural milieu. His analysis explores the technological controversy over frame geometries, and argues that a failure to stabilise must be explained by reference to wider cultural and economic contexts. The different analytical frames used shape the contrasting assessments of the bicycle's stabilisation. Rosen focuses on relatively small scale technological changes continuing to affect one type of bicycle, while Pinch and Bijker's approach is broader, seeing the 'safety bicycle' as relatively stable.

Despite their disagreements both Rosen, and Pinch and Bijker, analyse design processes in relation to bicycle use: as with the 'cyclist' literature, the focus remains upon the bicycle in motion. Yet thinking about the relationship of the bicycle at rest to the bicycle in motion brings up interesting tensions. The bicycle may – for much of the population – be a mundane object. Yet the practice of cycling (at least for 'utility' purposes) is in much of the UK far from mundane; it is an unusual practice to be engaged in by unusual people (Pooley et al 2011). The object is mundane, the practical unusual. This raises an intriguing comparison with driving. The car has traditionally been a sacred object in modern Western consumer culture (Barthes 2009 (1957)), yet although motoring practices remain deeply embedded within everyday lives, it is increasingly argued that the love affair with the car is ending (e.g. Economist 2012). The broader context for this paper is that of ongoing challenges to existing symbolic and material orders associated with transport.

In low-cycling countries, the associated objects and skills required often remain challenging and confusing. For example, in urban areas bicycle signage may be limited, and cyclists attempting to follow signs aimed at drivers may find themselves navigating busy and dangerous roads, or led into pedestrianised areas where cycling is not allowed. Dominant images of cyclists within such contexts remain off-putting, while driving is valorised and/or normalised (Aldred 2012). Thus studying practices of cycling and the materialities attached to them may help elucidate everyday struggles to makes practices unremarkable, rather than choices constantly made and re-made. The question of bicycle parking sheds light on the work required to make everyday cycling (cycling for everyday activities, such as going to work, to the park, to the shops) *mundane*, in low-cycling contexts where such practices are seen as *out of the ordinary*. It can inform us about parallel and related processes involving other modes of transport or other practices (such as the relative denormalisation of driving in London in recent years).

Methodology and Contexts

The data discussed below draws primarily on interviews conducted as part of the ESRC-funded Cycling Cultures project. This was a mixed-methods study of four urban areas in England where cycling rates are relatively high, seeking to examine places within a low-cycling country where cycling is relatively normalised. Interviewees fall into two groups: firstly people who cycle as part of their everyday lives, mostly involving regular 'utility' trips, and secondly 'stakeholders' identified as important within local cycling cultures. Most of the former were contacted via postcards either given to cyclists at junctions, events, or cycle parking locations, or left on bicycles. The latter included cycling officers, transport planners or road safety officers, advocates and managers of small businesses. Over 150 interviews were carried out, three-quarters with

'everyday cyclists' and one-quarter with 'stakeholders'. The research was approved by the UEL Research Ethics Committee and informed consent was obtained in writing from participants.

The 'everyday cyclists' interviews were conducted in a relatively unstructured manner (apart from several semi-structured pilot interviews); beginning with 'can you tell me about cycling in relation to your life' and continuing with questions related to the interviewee's response. We tried to cover identified areas of interest; parking was one of these, which was however (like other areas of interest) often raised by interviewees spontaneously. Stakeholder interviews usually began with an enquiry about the interviewee's role in relation to cycling, with follow-up based on the response and pre-planned questions tailored to each interviewee. This was complemented by in-depth ethnographic research and observations: for example, observing who cycled, what bicycles they rode, and how they behaved on-road and in shared space, or observing how and where bicycles were stored.

Some brief discussion is needed to contextualise the data. While cycling levels in England remain low overall (2.83% cycling to work in the 2001 Census), there is much local variation, with local authority cycle commuting rates varying between 0.1% and 25%. Our four case study areas, Bristol, Cambridge, Hackney, and Hull, were chosen to provide a diverse group of urban areas all with relatively high levels of everyday cycling by UK standards, having cycle to work rates at least double the 2001 average. In the 2011 Census, Bristol, Hackney and Cambridge all bucked the national stagnation in cycling and saw increases from 2001, with respective cycle to work rates of 7.2%, 15.4%, and 31.9% (excluding those working from home). Hull saw a decline, but at 8.3% (from 11%) was still substantially higher than the national average.

Cambridge and Hull have traditions of cycling demonstrated in successive censuses but the cities are otherwise very different; Cambridge being an affluent university city with a thriving

'knowledge economy' and Hull a working-class city with limited employment opportunities, having lost its traditional industries decades ago. In Bristol and Hackney, a large city and an inner city London borough respectively, cycling has risen recently. Neither have a tradition of cycling; in both places, commuter cycling rates were low in 1971 in national context (1.4% and 2.6% respectively, compared to an English average then of 4.4%).

Therefore, although the national context is low-cycling, the places studied have relatively high and/or rising levels of cycling within this. While findings may not be transferable to traditionally supportive countries such as Denmark and The Netherlands, there may be similarities with other traditionally lower-cycling European and Anglophone countries. Our areas provide a mix of geographical and political contexts, further increasing the relevance of findings; for example, the housing stock and the second-hand bicycle market were mentioned as shaping parking strategies adopted by local cyclists. For almost all interviewees, although strategies might differ, problems of parking were salient whether they lived in Bristol, Cambridge, Hackney, or Hull. The initials after quotes indicate the place (BR/CB/HA/HU), then type of interview (narrative/stakeholder) then a number to identify the interview. CP1-34 indicates pilot narrative interviews in Cambridge.

Parking strategies

The next sections explore how people responded to the perceived problematic and vulnerable nature of the bicycle at rest. This was a common problem for interviewees, yet was dealt with differently; by purchasing new (or old) bicycles or altering old ones, by adapting places and practices, by purchasing new items or accessories. Problems differed, depending on place, time and context; many interviewees also described contexts, times and places where lack of bicycle parking (sometimes combined with other issues) put them off cycling altogether. Parking

strategies have been organised into two broad categories: those related to the bicycle itself as mobility object, and those related to supporting (or not) infrastructures, considered broadly to include physical and social environments.

Objects: changing and choosing bicycles and accessories

We begin by considering parking strategies that involve modifying and accessorising bicycles, and purchasing particular types of bicycle. One response, particularly in Cambridge where very high cycling levels created a thriving re-sale market and many interviewees had at least some yard space, was to own spare bicycles. These were categorised as nearer to 'junk' than other bicycles, less demanding both of attachment and of protection:

> Well you, you need your one milers for Cambridge, which are outside there, parked outside.[…] So don't worry about those getting nicked sort of thing, you know. (CP14)

Having 'one milers' (or 'pub bikes', 'gash bikes' etc. as they were variously called) stolen was viewed as 'par for the course'; they were not insured, and the owner would simply pick up another second hand. Cambridge one-milers are even used to reserve parking at the station. On arrival, the cycle parking appears full of apparently abandoned bicycles; however in fact many of these are playing a distinctive and stationary role; keeping a parking space available for the owner's first or second bicycle[v].

Alternatively, rather than purchasing multiple bicycles, one could – with more limited space and/or money – own just one relatively cheap bicycle. Many such participants could describe a 'dream bicycle' while acknowledging that they would never buy such a bicycle, even if they could afford it, because they thought it would soon be stolen. Participants were often surprised by how upset they were when a less-than-dream bicycle was stolen; for those owning only one bicycle, it was hard not to become attached to it, even if it was cheap and/or did not

function optimally (one participant said how much he missed his stolen bike, despite its many problems including broken gears).

Rusty bicycles, bicycles covered with peeling spray paint, bicycles with broken parts: all might seem abused or uncared-for. However, these objects may have been deliberately adapted by their owners; either through making changes to the bicycle or through *not* doing so (in order to leave rust, tears, dirt etc. in place). Thus the lens of bicycle parking allows the uncovering of care for the object expressed in a superficial lack of care.

> I just sprayed it all over with loads of different crappy paints (…) my last three bikes I've done that, just make it look like crap. (HAN7)
>
> I've changed all the wheels and I re, I repainted it just to make it more bland because it still rides like it did but I don't want it to particularly stick out. (HAN10)
>
> My bike's covered in Sellotape, it's not quite as attractive as a bike to be stolen. That's the theory anyway. (BRN6)

The bicycle is protected from theft through being apparently devalued; the strategies above can mean 'it still rides like it did' while *looking* like a cheaper, less desirable bicycle. Its use value (to the owner) is maintained, while its exchange value (for the thief) is reduced or apparently reduced. By contrast, other participants mentioned passive neglect as a strategy (allowing the bicycle to become rusty, damaged, or muddy). This *did* devalue the bicycle in terms of use, risking damaging riding experiences:

> [Thieves] went round and they took something from loads of the bikes, mine was just there still intact, no one had touched it, rust all over it [laughter]. So actually it was ideal for what I needed. But then just things went more and more and more wrong with it. [...] I'd be cycling along a bolt would fall off. (HAN27)

Another bicycle-modifying solution involved choosing specific accessories, such as a 'little girly basket' (BRN12), which interviewees believed would make the bicycle less tempting to thieves. Alternatively, accessories could be changed or modified to make them practically less easy to steal (either securing them more closely to the bicycle, or ensuring they could be removed more easily by the owner when leaving the bicycle).

However, any change to the bicycle or its accessories may problematically impact the interrelations between objects and practices. One Hull interviewee used her bicycle to exercise her dog, so needed an adjustable saddle, to easily move between dog exercising and riding alone. However, the saddle was then less securely attached to the bicycle, itself becoming vulnerable to theft, meaning that she needed to purchase an additional saddle lock.

The most obvious accessories used to secure bicycles are locks, and many interviewees spoke of purchasing high quality and/or multiple locks to reduce the chance of theft. However, what counted as 'a good lock' and/or 'enough locks' varied from interviewee to interviewee, and from place to place. Some interviewees spoke of using or building bicycle lockers, which themselves could be locked (as well as the bicycle inside them):

> The lock is more expensive than the bike. (BRN28)
>
> It's a really strong one that I've got. (CN6)
>
> I've had wheels nicked, now I have locks on the wheels. (HAN1)
>
> I built a shed specially for the bikes […]. And it's been broken into twice and cleared out so now it's like… It's got a padlock, a Chubb lock, the window has been replaced with wood, so it's like a bit of a fortress. (HAN2)

People talked at length about doing research and learning what counted as a 'good lock':

> [T]hey can all be cut through given the time, it's just about who can cut what in three minutes, and to have a variation, like two different types so they need different tools, all these type… It took a long time to read up on these things. (HAN28)

Thus while competence in car locking would often reside largely in the vehicle itself (via integrated locking systems), the distribution of competence is different with bicycle locks. Cyclists need to know what counts as a 'good lock'; yet people often disagree on this, including the best types of lock and how many locks are needed. Locks can weigh so much they affect the practice of cycling: using both a 'sold secure' D and chain lock (recommended by the London Cycling Campaign) can easily add 4kg to the weight of a bicycle, requiring additional energy to move it, as well as costing more than a cheap mountain bicycle. Cyclists sometimes leave one of their own locks attached to bicycle parking, in order to avoid carrying the lock around; although this then reduces security if the bicycle is parked elsewhere. Moreover, we were told that even 'well locked' bicycles remained vulnerable to theft, meaning that acquired competence remains constantly under threat. Some interviewees were concerned that whatever one did, it would not be enough – and could potentially even be counter-productive:

> [If] somebody wants your bike they will get it erm.... even, even the best lock. Again, and it is probably a bit of an old cyclist's tale but you hear that all you need is a small bit of liquid nitrogen to freeze the lock, hit it with a hammer and it will shatter. (HUN22)

> [Y]ou're not going to stop a determined thief whatever you do, all you do is you're going to create more damage to get at what they want. (CN9)

The impact of this was a feeling of constant insecurity. Many participants described never being 'quite sure', of not feeling 'comfortable' or even being 'paranoid'; looking over their

shoulder to see if the bicycle was still there. Others were resigned to the idea that at some point, their bicycle would disappear:

> I don't know anyone who has been riding for more than, you know, two or three years who hasn't had a bike nicked and it's really sad and it's expensive but that's life and I'd rather not be paranoid all the time because it's boring and stressful. (HAN1)

> [I] don't like the idea of my bike being stolen but at the same time I don't want to inconvenience myself in the off chance that it might get stolen. (BRN1)

In summary, this section has highlighted multiple parking strategies affecting objects and accessories, also exploring how these affect riding practices and experiences. The lack of built-in locks – at least among bicycles commonly sold in the UK – places the burden of competence on cyclists, and yet exactly what counts as competence remains contested and often insufficient. Hence, many use additional strategies, choosing and adapting bikes (including through passive neglect) to make them less attractive to thieves; sometimes having knock-on impacts on the practice of riding itself. Often, the bicycle owner attempts to damage the 'exchange value' of the bicycle, while maintaining its use value; seeking to possess a useful transportation object that is simultaneously marked as 'junk' to those who might seek to steal it.

Infrastructures: negotiating places and people

This second empirical section explores the impact of infrastructure on parking strategies, using 'infrastructure' broadly to include social as well as physical infrastructures. A key concept here is affordances, described by Edensor (2006: 30) as 'those qualities which are spatial potentialities, constraining and enabling a range of actions'. In the case of bicycle parking, often apparently unpromising places can be adapted for use; although often requiring continued negotiation. Affordances (e.g. by lampposts and railings, as well as more 'official' bicycle parking)

offered within the urban streetscape should be seen in tandem with the pressure to lock one's bike 'correctly'; securing 'two wheels and the frame' as advised by authorities[vi] cuts down potential locking places, comparing with the need only to secure one wheel.

Most of the time, most people make do with what is available, making trade-offs and incrementally adapting or improving its affordances through various forms of DIY (Atkinson 2006; Watson and Shove 2008). However, when cyclists look for a new home or job they have a chance to think about bicycle parking. In particular, this was an issue for people looking for inner city or city centre housing, where home might be an apartment or a room in a shared house. Bicycle parking figured less strongly in work choices, perhaps partly because the bicycle would only live there during the day, figured as a less risky time than the night.

With the bicycle remaining a marginalised form of transport in the UK, cyclists face a public lack of understanding of what might constitute 'safe parking'. One participant described how a prospective landlord had expected him either to carry his bicycle up three flights of stairs, or to leave it locked to a lamppost:

> [W]hat other people that don't cycle think is a safe place to put your bike is not where I think is a safe place to put my bike. And one guy said, oh yeah, you can keep it in the flat, no problem, and I got to the flat and it was up three flights of stairs. I was like, I'm not carrying my Kona[vii] up three flights of stairs every single morning and every single night. And he said, oh, you could tie it to the lamppost outside. (HAN19)

While accommodation is often advertised as having 'on' or 'off-street' car parking, the same is not usually true for bicycle parking. Therefore these interviewees often had to go and see what the bike parking situation was like, because agents, landlords, and vendors could not be trusted to know what was acceptable parking (as with HAN19, horrified at the idea of his Kona

spending nights tied to a lamppost). There are similarities here with car parking needs, although the normalisation of the car and standards related to car parking mean such details are often immediately understood; indeed, 'parking' *means* parking for cars, not bicycles.

Most of the time, people must make do with the places they have, and many spoke of the need to adapt places, at work and at home. Just as the cyclist adapts, accessorises and secures his or her bicycle, s/he may also adapt and use back gardens, sheds or garages to store the bicycle at home. This sometimes brought objects and routines into conflict with each other; people told stories of struggling with piles of objects; of having to negotiate 'the lawnmower and the power washer and everything all, all locked to the bikes' (HUN12). One interviewee who stored the family bikes in a locked pile in the back garden said that her son was put off using his bicycle because it took so long to find the right key and extricate his cycle from the pile.

Many people in less spacious housing (especially in Inner London) stored bicycles inside from necessity, but this often 'got in the way':

> Yeah, we keep our bikes just in the hallway, which isn't ideal because the hallway gets very cluttered up, but it is secure. (HAN20)

Parking strategies at work or at college often relied upon reconverting space intended for other purposes, although such informal spaces were insecure in the longer-term; we were given examples of employers changing their minds and putting such spaces to other purposes. Some people took their bicycles into their office, although this is often frowned upon even when offices are private. One interviewee (in a workplace where most offices are private or only shared with one or two people) described her struggle to redefine offices as suitable parking space, and not, as the employer initially insisted, a 'health and safety hazard'. After securing permission, this participant had found herself appointed as gatekeeper, responsible for signing off *other people's*

use of offices to store bicycles. Other interviewees spoke of employers or commercial landlords disapproving of bicycle parking and acting more or less subtly to discourage it:

> [W]e did have a court yard they let us use and there was a key to lock it but then that disappeared and was used for something else and we were thrown out on the streets. (BRN26)

This potential transience was a common theme; even in an office with excellent bicycle parking and strong managerial support for cycling, the office manager discouraged us from taking photographs, because she was not sure whether the building owners had given permission for the space to be used in this way.

Where interviewees used their cycles to travel for work, or for other purposes, such as shopping, carrying out errands and visiting friends, this could create additional problems as parking had to be located or created on the go. However, while cyclists are adept at seeing – and utilising – street furniture as parking affordances, these are often not perceived as secure for several reasons. While a minority of cyclists had had informally bikes removed by officials, more expressed the fear that this *might* happen to them. The lack of legitimacy enjoyed by bicycles in public spaces deters cyclists from using 'unofficial' locking places, yet – as participants commented – there is often a lack of 'official' bicycle parking near popular destinations. In the UK, bicycles may be removed and (often expensive) locks broken, without the bicycle having caused any specific obstruction. The government in 2012 passed the *Protection of Freedoms Act*[viii] making clamping or towing a *motor vehicle* on private land illegal, unless on behalf of a public authority. But removing or immobilising a *bicycle* has not similarly been prohibited. This suggests differing official attitudes towards 'obstructions' caused by motor vehicles and bicycles, especially as the former are larger.

Even without official condemnation or sanction, adapting places to generate parking affordances often involved negotiations with others, which was often problematic. Non-cycling others might be hostile; cycling others might sympathise, but want places to store their *own* bicycles:

> [I]'m not sure my wife fully appreciates it, she's not a cyclist so I think she'd rather there wasn't a bike in the front hall when everybody comes in (laughs). (BRN6)
>
> At the moment there are three [bicycles in the hall] but sometimes there are five, so it's just… I don't know. It's quite challenging, because the staircase up to our flat is quite narrow so we can't actually feasibly move the bike all the way up, there's just one point where you have to turn and you can't actually get it unless you take the wheel off, so… I don't know, we just put it there until somebody complains. […] Sometimes it's a bit problematic, like with recycling days when there is all the boxes down and it's quite difficult to get the bikes in and out. (HAN28)

Bicycles were perceived to be not just in the way, but also out of place in the indoor environment, threatening to damage or dirty other home objects and furnishings:

> [P]eople used to put [bikes] in the front passage ways but I think people pay so much on carpets and wallpaper now, that that, that don't happen (HUN5)

In other words, bicycles living inside risk being seen to pollute 'indoor space' with dirt from the streets; they may not even be welcome in hallways, even though boots and shoes may also live there. One possible solution might be to re-define the bicycle as a stylish urban indoor object; and in fact, one of our stakeholder participants had designed a wall parking device aimed at doing exactly that. Much work on 'rubbish' has focused on the passage of objects between different value categories, for example, from junk to valuable (through second-hand economies: Gregson

and Crewe 2003). In this case, we see a context-specific redefinition: a useful object 'out of place' in the living room is remade as belonging there: no longer 'in the way' but aesthetically attractive (and hence not subject to being defined as 'dirty', 'a nuisance', etc.) Of course, not all bicycles (and homes) may susceptible to this redefinition; it will depend on the object and its place within current systems of value (for example, a second hand, 'classic' Raleigh Shopper would likely fit better than a new £200 mountain bicycle).

Given insecure places, participants spoke of negotiating routines, in dialogue with others. This might relate to timing (arriving early to secure a place) or more complicated systems, involving swapping bikes, using different bicycles for different tasks (as above), or storing extra bicycles at stations. In some contexts (particularly for shopping, errands, and outings, and where public transport is used), interviewees decided not to use their bicycle at all, either using a different mode or not making a journey, because the routine or the place could not be adapted sufficiently. However, many were persistent and creative in challenging circumstances. One interviewee described detailed planning involving two adults, two children, two workplaces, a nursery, a bicycle and a cargo tricycle (complicated by the fact that the latter was only suitable for riding relatively short distances, and handled very differently when empty or full):

> [T]he day nursery that we had [the children] in was basically, probably about fifteen minutes from the house, on the way to [Alan]'s work, and that was my route to work as well, but then I would carry on and do another sort of twenty five minutes. So, we would erm… cycle together erm… with the tricycle, kids on the back. We'd take them to nursery erm… then we would park the tricycle at [Alan]'s work, and I would take the bicycle from [Alan]'s work to Addenbrooke's, and then I would cycle from Addenbrooke's back, leave the bicycle [at the nursery], pick up the tricycle, pick the kids up and take them home, and

> that way I wasn't commuting too far on the tricycle. We could get the kids by bike and it worked well with time starting, and things like that. (CN18)

The tricycle was heavy and would have been relatively unwieldy to cycle empty, so this complicated bicycle relay was primarily necessitated by cycling rather than parking practices. However, it relied upon there being parking available at the two different workplaces, including tricycle parking (potentially more problematic than bicycle parking). More often when faced with such logistical inconveniences, people described not cycling in certain contexts, places and times:

> I've bought a D lock and a chain to go round the front wheel and, I just think oh, the faff of putting it on and getting somewhere. And I can't do it quickly yet and I get grease all over my hands and I just think oh I'll get in the car [laughter]. (HAN8)

> [W]e're fine taking [our bikes] to work because there's somewhere super secure and I don't worry about them, but I don't think I'd really want to lock them up like in a public stand in the city. (BRN11)

Others spoke about trying out 'many different things' in an attempt to create a reliable routine. Combining public transport and bicycle commuting could be problematic, due to carriage restrictions, vandalism, and lack of parking, for example. The general themes here are a lack of permanence and legitimacy (the bicycle as associated with nuisance and dirt) alongside the continual making and re-making of affordances from unpromising landscapes. This involves both material and symbolic changes, including redefining an outdoor transport object as an attractive addition to one's living room. Cyclists also learn specific parking competences, reading unsympathetic landscapes in particular ways; for example, identifying railings as parking spaces.

Parking, affordances and competences

We have argued that the hitherto unexplored place of the parked *bicycle* – how it is categorised and problematised – can tell us much about the urban streetscape and the affordances perceived to exist within it. Although bicycle parking has now been included as an item on the Code for Sustainable Homes (2006), both compliance with higher levels of the Code and the specific inclusion of cycle parking both remain voluntary. The vast majority of the housing stock is not new, and in high-density urban areas dedicated cycle parking space is unusual (unlike Denmark, where many blocks have ground or basement rooms allocated to cycle parking).

Even if relatively secure against theft or weather damage, the stored bicycle may still be at risk of being 'in the way', even (perhaps in the context of apartment living, or the 'War on Terror'[ix]) a 'health and safety hazard'. We would argue that fundamentally, the problem is use, and this works both materially and more symbolically. Bicycles associated with regular cycling risk coming into contact with the negative associations still prevalent in low-cycling countries such as the UK (Aldred 2012). The unused (or rarely used) bicycle at the back of the shed may be 'benign junk' (Culler 1985), protected by its invisibility. Yet once regularly used, it must simultaneously be readily accessible *and* secure, often in the process becoming out of place: risking becoming threat, nuisance, and (to thieves) desirable object. Cyclists struggle to manage these often contradictory demands: in an urban landscape offering only limited affordances, their bicycles must simultaneously be less of a threat, less of a nuisance, *and* less vulnerable to theft.

We have shown how the bicycle is seen as both threatened (by thieves, vandals, officials, employers, even partners) and a threat to others (for example, a 'health and safety risk' in offices or in deck access flats). Our research uncovered many consequences, some involving purchasing choices, others adaptation strategies (adapting objects, places, and routines) and negotiation with

others. Cyclists are expected to bear the weight of many competences, including how to lock their bicycle safely and appropriately (and knowing which parking places are both secure and officially sanctioned). But what is safe and appropriate is contested and context-dependent, engendering failure, insecurity and fatalism. However knowledgeable, it is always possible for the cyclist to be caught out; failing to notice a vandalised bicycles parked nearby (a sign of danger) or not seeing the 'Bicycles Will be Removed' sign.

Unlike car parking, bicycle parking is not perceived as an essential by most vendors, landlords, and employers but as an additional perk (if provided at all). Hence, interviewees spoke of utilising laundry areas, sheds, garages, hallways, offices, back yards, ceilings, living rooms and kitchens for bicycle parking. Often this had to be negotiated with sometimes hostile others who viewed bicycles as being 'out of place', even dirty or hazardous; it could also have knock-on effects on other practices, with for example recycling practices obstructing, and obstructed by, bicycle parking in Victorian houses that had been converted to flats. The extent to which routines can be adapted is affected by the affordances offered by places, and vice versa.

As Douglas (2002) notes, feelings that an object is dirty or disgusting (or, we would add, inappropriately placed or obstructive) can tell us much about symbolic orders. (Indeed, so can the converse: why are some types of obstructions 'in the way' but not others?) We have illustrated how the symbolic understanding of the bike as 'in the way', 'a safety hazard', 'dirty' and so on is connected to the lack of normalisation of cycling as a practice, also embedded in the design of bicycles as sold in low-cycling countries: in particular, the lack of integrated locking devices, common within higher-cycling countries.[x] The same is true for integrated lighting and parking devices, both again found within bicycles sold in higher-cycling countries. In this context, attempts

to secure bicycles in unpromising contexts often have negative impacts on cycling practices; for example, as people purchase less good bicycles, leave them to go rusty and carry heavy locks.

Studying bicycle parking makes clear the level of inter-relation between different systems of practice, particularly important with respect to transport, which connects so many different aspects of life. In exploring this often dysfunctional aspect of the UK's 'bicycle system'[xi] (Horton and Parkin 2012), our findings have touched on links between cycling and housing provision, and how different housing systems provide different mobility affordances. For those living in inner city areas such as Hackney, where commuter cycling is rising, and housing scarce and crowded, parking issues are different to those facing cyclists living in places like Hull, with more stable levels of cycling and generally more spacious housing, often with (albeit insecure) shed and garden parking. Among young professionals living in compact Hackney accommodation, we found attempts to re-define the bicycle as attractive and desirable within the home, for example, through the use of home parking systems to showcase the bicycle on the wall. However, this may be seen as suited only to some furnishing schemes and to some types of bicycle. The varied availability of second hand bicycles also shapes parking strategies, with at the extreme (Cambridge) second or third bicycles used to reserve scarce parking spaces.

Across all case study sites, participants had developed skills that involved a complex mapping of places and times where parking may or may not be safe, as well as the cataloguing of locks and parking facilities. For those making combined trips, or trips to places seen as insecure (or new places with unknown security), cycling may become particularly problematic. Participants had to become resigned to the likelihood that they would lose a bicycle. The fear of one's car being no longer there has been much reduced, partly due to improved locking devices. However, fear of the bicycle disappearing or having been damaged was still very much present for our interviewees.

This counters the affinity with local environments that cycling can encourage (Aldred 2010), making people feel *less* at home in their house or neighbourhood, because of experiences or fears of losing their bicycle there. Cyclists often feel marginalised while cycling (Aldred 2012); this paper demonstrates that the problems of bicycle parking can have a similar impact. One cyclist described the mind-set as being 'you're always wary', paralleling the pressure on cyclists while riding to be constantly aware of threats. This is very much linked to the UK context, where cycling is low and relatively marginal; such pressures when riding or parking may be absent, or at least less extreme in higher-cycling contexts.

Finally, we would draw analogies with more normalised practices, specifically other transport modes. Our case study areas are all relatively high-cycling contexts (for the UK), where driving is sometimes experienced as problematic in terms of parking and safety. In the final three extracts below, participants describe their perception of car ownership as troublesome, requiring too much effort and cost to be 'worth it'.

> [I]t doesn't make sense the amount of energy that goes into a car compared to the amount of neglect that I can give a bike and it's still working for me (laughing). (BRN20)
>
> I just find living in London [the car] became more of a hindrance than a help, once I no longer used it for work it tended to sit outside and it wouldn't get used for five or six weeks at a time and there was always something or other happening to it like a wing mirror getting knocked off or somebody trying to break into it and then you've got to tax it and make sure you pay the congestion charge. (HAN6)
>
> [T]here's no parking anyway, so I was keeping [the car] at my parents' house, bringing it in, you know, there was a lot of faffing around just to use it. (CN14)

Clearly this perception of 'hassle', like perceptions of bicycle parking, is shaped both by issues related to urban form and allocation of space, and to a *relative* (and contested) denormalisation of driving within some urban contexts. Like the material presented above, these quotes demonstrate the importance of shared meanings and feelings in relation to where objects are placed; what 'makes sense', is 'too much faff' or is 'in the way'. They demonstrate the potential for change, and how that change might be articulated and experienced, and how it might be made visible within urban streetscapes.

Bibliography

Aldred, R. (2010) "On the outside"? Constructing cycling citizenship. *Social and Cultural Geography* 11(1): 35-52

Aldred, R. (2012) Incompetent, or Too Competent? Negotiating Everyday Cycling Identities in a Motor Dominated Society. *Mobilities*, published online before print http://www.tandfonline.com/doi/abs/10.1080/17450101.2012.696342

Aldred, R. and Jungnickel, K. (2012) Constructing mobile places between 'leisure' and 'transport': a case study of two group cycle rides. *Sociology* 46(3): 523-539

Aldred, R. (forthcoming) Still 'Stepping Outside the Establishment'? The changing and contested meanings of cycling in the UK. Under peer review.

Atkinson, Paul (2006) Do it yourself: democracy and design. *Journal of Design History*, 19 (1): 1-10.

Barthes, R. (2009) *Mythologies*. London: Vintage

Bickerstaff, K. and Walker, G. (2003) The place(s) of matter: matter out of place - public understandings of air pollution, Progress in Human Geography 27 (1): 45-67

Bijker, W. and Law, J. (1992) General Introduction, in Wiebe E. Bijker and John Law, eds., *Shaping Technology/Building Society: Studies in Sociotechnical Change*, Cambridge, Mass: MIT Press: 10-13

Chaplin, R., Flatley, J. and Smith, K. eds. (2011) *Crime in England and Wales 2010/11: Findings from the British Crime Survey and police recorded crime*. London: Home Office.

COLIPED/COLIBRI (2012) *European Bicycle Market: 2012 editio*n (2011 Statistics). Available at http://www.colibi.com/docs/issuu/European%20Bicycle%20Market%20&%20Industry%20Profile%20-%20Edition%202012.pdf

Culler, J. (1985) *Junk and Rubbish: A Semiotic Approach*, Vol. 15, No. 3 (Autumn, 1985), pp. 2-12

Department for Communities and Local Government (2006) *Code for Sustainable Homes*, Department for Communities and Local Government: London.

Department for Communities and Local Government (2007) *Residential Car Parking Research*, Department for Communities and Local Government: London, available from http://www.communities.gov.uk/documents/planningandbuilding/pdf/residentialcarparking.pdf

Department for Transport (2010) *Safety, cycling and sharing the road. Qualitative research with cyclists and other road users*, available from http://www.dft.gov.uk/pgr/roadsafety/research/rsrr/theme1/researchreport/pdf/rswp17.pdf

Douglas, M. (2002) *Purity and Danger*. Oxford: Routledge.

Economist (2012) Seeing the back of the car: In the rich world, people seem to be driving less than they used to, *Economist* 22nd September 2012, available at http://www.economist.com/node/21563280

Edensor, T. (2006), Sensing Tourist Space, in Minca, C. and Oakes, T. Travels in Paradox: Remapping Tourism, Rowman and Littlefield, Oxford, pp. 23-46

Edensor, T. (2004) Automobility and National Identity: Representation, Geography and Driving Practice, Theory, Culture & Society vol. 21 no. 4-5 101-120

Euromonitor (2011) 'Could Bicycle Ownership be an Indicator of Outdoor and Sports Toy Sales?' Blog post, available at http://blog.euromonitor.com/2011/07/could-bicycle-ownership-be-an-indicator-of-outdoor-and-sports-toy-sales.html, accessed 16/12/11

Fincham, B. (2008) Balance is Everything: Bicycle Messengers, Work and Leisure, *Sociology* 42(4): 618-634

Furness, Z. (2010) *One less Car: bicycling and the politics of automobility*. Philadelphia: Temple University Press.

Green, J., Steinbach, R. and Datta, J. (2012) The Travelling Citizen: Emergent Discourses of Moral Mobility in a Study of Cycling in London, *Sociology* 46(2): 272-289

Gregson, N. and Crewe, L. (2003) Second-Hand Cultures. Oxford: Berg

Gregson, N., Metcalfe, A. and Crewe, L. (2007) Identity, mobility, and the throwaway society, Environment and Planning D: Society and Space 2007, 25: 682-700

Hand, M. and Shove, E. (2007) Condensing Practices: Ways of living with a freezer. *Journal of Consumer Culture*, 7(1): 79-104

Hinton, E. (2010) Review of the literature relating to comfort practices and socio-technical systems. Environment, Politics and Development Working Paper Series, Department of Geography, King's College London, Paper 35, available at http://www.kcl.ac.uk/sspp/departments/geography/research/epd/HintonWP31.pdf

Horton, D. (2006) Environmentalism and the Bicycle. *Environmental Politics*, 15(1): 41-58

Horton, D. (2007): Fear of Cycling, in Dave Horton, Paul Rosen and Peter Cox (eds.), *Cycling and Society*, pp. 133-52, Aldershot: Ashgate.

Horton, D. and Parkin, J. (2012) Conclusion: Towards a Revolution in Cycling, in John Parkin (ed.), *Cycling and Sustainability,* pp. 303-325, Bingley: Emerald.

Ingram, J., Shove, E. and Watson, M. (2006), Products and Practices: Selected Concepts from Science and Technology Studies and from Social Theories of Consumption and Practice, Design Issues, 23(2), pp. 1-16

Jones, P. (2005) Performing the city: a body and a bicycle take on Birmingham, UK, *Social and Cultural Geography* 6(6): 813-830

Jungnickel, K. and Aldred, R. (forthcoming) Cycling's sensory strategies: How cyclists mediate their exposure to the urban environment, under second stage peer review

Latour, B. (1992) ''Where Are the Missing Masses? The Sociology of a Few Mundane Artifacts'', in Wiebe E. Bijker and John Law, eds., *Shaping Technology/Building Society: Studies in Sociotechnical Change*, Cambridge, Mass: MIT Press: 225–258.

Michael, M. (2000) *Reconnecting Culture, Technology and Nature: From Society to Heterogeneity*. London: Routledge.

NESTA, National Endowment for Science, Technology and the Arts (2012) Hands Off My Bike! Available from http://www.nesta.org.uk/areas_of_work/challengeprizes/cyclingchallenges/assets/features/hands_off_my_bike, accessed 24/07/2012

Office of Fair Trading (2010) *The second-hand car market: an OFT market study*, available at http://www.oft.gov.uk/shared_oft/reports/676408/oft1217.pdf

Pinch, T. and Bijker, W. (1984) The Social Construction of Facts and Artefacts; or How the Sociology of Science and the Sociology of Technology Might Benefit Each Other, *Social Studies of Science* 14: 399-441

Pooley, C. Tight, M. Jones, T. et al. (2011) *Understanding Walking and Cycling: summary of key findings and recommendations.* Lancaster: Lancaster University.

Rosen, P. (1993) The Social Construction of Mountain Bikes: Technology and Postmodernity in the Cycle Industry, *Social Studies of Science* 23: 479-513

Sheller, M (2004) Automotive Emotions: Feeling the Car, *Theory, Culture & Society* 21, 4-5: 221-242

Shove, E. (2003) *Comfort, Cleanliness and Convenience: The social organization of normality*, London: Berg.

Skeggs, B. (2005) The Making of Class and Gender through Visualizing Moral Subject Formation, *Sociology*, 39(5): 965–982

Southerton, D., Chappells, H., and Van Vliet, B. eds. (2004) Sustainable consumption: The implications of changing infrastructures of provision. Northampton, MA: Edward Elgar.

Spinney, J. (2007) 'Cycling the city: Non-place and the sensory construction of meaning in a mobile practice', In D. Horton, P. Rosen and P. Cox (eds.) *Cycling and Society,* Aldershot: Ashgate, 25-45.

Spinney, J. (2010) Improvising Rhythms: Re-reading Urban Time and Space through Everyday Practices of Cycling, in Tim Edensor (ed.) *Geographies of Rhythm: Nature, place, mobilities and bodies*, England: Ashgate, 113-128.

Shove, E., Pantzar, M. and Watson, M. (2012) The Dynamics of Social Practice: Everyday Life and how it Changes. London: Sage.

Shove, E. & Walker, G. (2010) Governing transitions in the sustainability of everyday life. *Research Policy,* 39**,** 471-476.

Southerton, D., Shove, E., Warde, A. and Deem, R. (2001) 'The Social Worlds of Caravaning: Objects, Scripts and Practices' Sociological Research Online, vol. 6, no. 2, <http://www.socresonline.org.uk/6/2/southerton.html>

Spinney, J. (2011) 'A Chance to Catch a Breath: Using mobile video ethnography in cycling research', *Mobilities* 6(2): 161-182.

Star, S. L. (1999) The Ethnography of Infrastructure. *American Behavioral Scientist* 43 (3): 377-391

Steinbach, R., Green, J., Datta, J. and Edwards, P. (2011) Cycling and the city: A case study of how gendered, ethnic and class identities can shape healthy transport choices, *Social Science & Medicine*, 72(7): 1123-1130

Thompson, M. (1979) Rubbish Theory: the creation and destruction of value. Oxford: Oxford University Press.

Warde, A. (2005) Consumption and theories of practice. *Journal of Consumer Culture* 5(2): 131–153

Watson, M. and Shove, A. (2008) 'Product, Competence, Project and Practice: DIY and the dynamics of craft consumption', *Journal of Consumer Culture,* 8(1): 69–89

Acknowledgements

We would like to thank the ESRC for their support (RES-061-25-0390) and to thank all our participants; and the four peer reviewers and editor for their help in improving the article.

[i] Most cars are purchased second-hand and most bicycles purchased new.

[ii] http://www.liverpoolecho.co.uk/liverpool-news/local-news/2010/02/06/cyclist-drove-straight-into-the-path-of-oncoming-car-inquest-hears-100252-25774103/2/#sitelife-comments-bottom

[iii] In the UK, wearing a helmet is not compulsory, neither is using earphones on a bicycle prohibited.

[iv] One campaigning tool used by a cycle campaign group asks: 'What would British roads look like if we treated them the same way we do our cycle lanes?' - http://lcc.org.uk/articles/what-would-british-roads-look-like-if-we-treated-them-the-same-way-we-do-our-cycle-lanes

[v] A variant on the tradition of cyclists leaving a lock attached to a parking space!

[vi] e.g. http://www.kryptonitelock.com/Pages/HowtoSecure.aspx

[vii] Kona make mid-market to high-end bicycles; traditionally mountain bikes but now also urban bikes. For the interviewee, locking his Kona to a lamppost in London seemed akin to leaving a motor vehicle unlocked.

[viii] http://www.legislation.gov.uk/ukpga/2012/9/part/3/chapter/2/enacted

[ix] Bike parking has been banned in some locations in the City of Westminster on the grounds that terrorists might store a bomb on a bicycle.

[x] Such 'rear wheel locks' are unlikely to suffice on their own in many contexts, yet are suitable for securing a bicycle during, for example, a brief visit to a shop, or, to lock the bicycle somewhere with otherwise good security.

[xi] Or, perhaps, anti-bicycle system.