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Sustainable cycling futures: can cycling be the future?

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In a world which is constantly 'on the move' (Urry, 2007), increasing attention has been given to the practice of cycling and its potential contribution to a more sustainable re-configuration of everyday living and moving (Cox 2010; May 2013, Sheller and Urry, 2000). Despite its long history, cycling has been re-introduced as a 'new' mobility practice that could configure more sustainable futures, by addressing a wider range of socio-environmental issues: from pollution, congestion, health, disease and climate change to quality of life, community cohesion and poverty alleviation (OECD 2004; ITF 2016).

Such developments have not left academia untouched. Scholars from diverse disciplinary backgrounds have attempted to unpack the complex, diverse and global nature of cycling beyond its singular sense and understanding (Horton et al 2007; Vivanco 2013). They have provided historical accounts of technologies, sports and innovation for cycling (Oldenziel et al 2016; Hadland and Lessing 2014). Coming from the disciplinary approaches of engineering, planning and design, they have debated cycling futures with regard to places, infrastructures, products, policies and technologies (Bonham and Johnson 2015; Forsyth and Oakes 2015; Cervero et al 2009; Gerike and Parkin 2015). They also underlined the need for a more critical engagement that would help understand the social, cultural and political conditions driving cycling practices (Hoffman 2016; Cox 2015; Furness 2010; Stehlin, 2019; Männistö-Funk and Myllyntaus, 2019).

However, what does all this research tell us about the future of cycling? What can it tell us about the sustainability potential of cycling as well as the sustainability of cycling as a mobility practice? This special issue aims to contribute to a more critical approach to the study of cycling that would help us better understand the complexities and the challenges of developing sustainable cycling futures. Existing social science studies of cycling have researched cycling identities, cultures and subcultures (Oldenziel and Trischler 2016; Kuipers 2012; Aldred 2010; Cox, 2019), developed an embodied multi-sensorial approach to cycling (Simpson 2016; Jungnickel and Aldred 2013; Spinney 2006), and shed light on the power relations with regard to policies and infrastructures (Spinney 2016; Hoffman 2016; Aldred 2012; Cox and Koglin, 2020). All these studies have important implications on discussions about the future of cycling, however, they still need to be brought together in order to think about cycling and its future. Research has explored cycling's sustainability potential, but paid less attention to the possible unsustainabilities embedded in the practice of cycling (although see Parkin 2012; Hoffman, 2016; Stehlin, 2019). The latter might also be due to a prevalent advocacy tendency within existing cycling research, but also a predominant focus on case

studies from the West that might ignore the greater diversity of socio-spatial geographical contexts in which cycling can be perceived and performed (although see Yang and Zacharias 2015; Tucker and Manaugh 2017). So, if cycling is so good, why does not everybody do it? Is there anything problematic about it? Can cycling be the future?

This special issue aims to contribute to the emerging *Mobilities* turn in the study of cycling. It contributes to emerging debates and questions around cycling in order to critically analyse and assess its potential to configure sustainable mobility futures. However, in doing so, it also aims to explore the sustainability of cycling itself as a mobility practice, and to further invigorate the role that social studies of cycling can play in advancing current Mobilities research and practice. In September 2016, we organised the 13th Cycling and Society Symposium which gathered academics from all over the world with an input on such areas (see http://www.cyclingandsociety.org/). In this special issue, we bring together some of the contributions from this event, which we structure around four different but variously interconnected thematic areas that we identified as critical 'pillars' for the sustainable future of cycling: (a) Cycling Innovations, (b) Cycling Inequalities, (c) Everyday Cycling, (d) Cycling Governance. By bringing together these topics, we would like to contribute to a more comprehensive and synthesized understanding of cycling and the issues that we need to take into consideration when challenged to think about cycling, sustainability and the future. However, through these contributions, our aim is to also help understand as well as challenge dominant framings and conventions of 'good cycling'. This is also manifested in our attempt to bring together a diversity of case studies of different types of cycling from diverse geographical contexts, with a view to not only show the heterogeneity of cycling and the plurality of futures that might be enacted, but also be reminded of the possible unsustainabilities and injustices in which cycling futures need to also be situated and understood – even when considering the most 'exemplary' cycling cities or 'successful' innovations of the 'developed' North.

The first theme touches on an area that, for many, has a default association with the future: **'innovations'**. In many policy and practice circles, cycling is perceived as essential for 'innovating' more sustainable futures – though, how about innovating cycling? This section introduces us to two different examples of cycling innovations, from two very different geographical and socio-cultural contexts: the Netherlands and China. The first article takes as its point of departure 'one of the world's cycling capitals', as the authors call it, that is Amsterdam, in which cycling constitutes the 'regime' with its own embedded conflicts. In order to further unpack that, **Brett Petzer and Anna Wieczorek** (2020, this issue) focus on the dockless bikeshare system in Amsterdam, which they approach as the innovative 'niche' within the dominant cycling landscape. By adopting a 'mobility justice' framework, they point our attention to the conflicts and institutional power that are embedded within cycling and that we need to consider in order to move to fairer sustainability transitions. Institutional power is also key in **Dennis Zuev**'s article (2020, this issue) focusing on e-bikes in China, 'a unique case for learning about paradoxes of low carbon mobility transition and specifically long-time existence of e-bikes in China at the boundaries of 'formal' and 'informal', 'niche' and 'regime'. Zuev takes a socio-historical approach to understanding e-bike as a

technological innovation, that has long been considered a low-tech, fringe mobility. He identifies three different phases constitutive of formation of e-bike technological innovation system: from 'spontaneous growth' to 'fractional restriction' to 'institutionalised certainty', underlining the significance of the latter in the current and hopefully future normalisation of e-bike as an everyday form of mobility that has already been adopted by 200 million people in the country. Zuev's article reminds us of the ever more complex socio-cultural processes that we need to take into consideration when attempting to examine and comprehend specific mobility patterns as everyday forms of mobility in different geographical contexts. Innovations are often branded as high-tech or low-tech as in the case with Chinese e-mobility (Tyfield et al 2014), "green" and sustainable and thus in concordance with the dominating top-down narratives, such as "ecological civilization" in China.

Touching upon key emerging topics of the first thematic unit, innovations is also key in Psarikidou's article focusing on **'cycling inequalities'**, whereas **'the everyday'** becomes the focus of Popan's article for configuring sustainable cycling futures. In most academic and policy circles, cycling is usually perceived as a response to wider set of socio-economic inequalities, including issues of *Transport* and *Fuel Poverty*. However, less attention has been paid to the various socio-spatial, infrastructural, political and economic inequalities that can be embedded within the cycling system itself (Horton and Parkin 2012; Buehler and Pucher 2012; Psarikidou, forthcoming 2021). In her article, **Katerina Psarikidou** (2020a, this issue) points our attention to the multiple inequalities and practices of exclusion that are embedded within current cycling practices, and that become important in 'em-powering' cycling as an innovative mobility practice of the future with a transformative sustainability potential. She focuses on the city of Birmingham, underlining the significance of studying less traditional cycling cities, in order to understand as well as overcome some of the key challenges that other car-dependent cities currently face in terms of cycling. The article argues that understanding and addressing the inequalities and power relations that are embedded within the usually portrayed 'power-less' alternatives or niches are central for not only locating cycling in the centre of developing a more sustainable mobility future, but also creating a more sustainable future for the practice of cycling itself. **Cosmin Popan** (2020, this issue) is also interested in looking into sustainability of cycling itself as an alternative mobility practice, by particularly focusing on cycling as an embodied practice beyond narrow utilitarian and instrumental meanings. Much research has focused on what is often called utility or rational cycling (Aldred 2014), however less attention has been paid to developing less 'utilitarian' types of cycling as distinctive mobility practices for the formation of a 'vélomobile subject' (Pesses 2010; Aldred and Jungnickel 2012). Based on novel mobile methods of sensuous and video ethnographies of cycling, Popan explores the multi-sensorial, embodied nature of cycling, encourages us to understand cycling as the entanglement of movement, representation and embodied practice (see also Cresswell, 2010), and underlines the significance of such an approach in moving beyond the narrow 'instrumental' framing of

cycling dominating current mobility policy and planning. In this context, sustainable cycling futures can only be achieved by attending to the manifold feelings, affects and emotions that a sensorial investigation of cycling brings to the fore and which are oftentimes left out of meaningful discussions about what drives into or, on the contrary, deters people from cycling.

'Cycling governance' is our last thematic unit delving deeper into questions around policy and planning as well as broader questions of multi-level governance and politics for sustainable cycling futures. This section focuses on two different examples of governance, arguing for the significance of understanding the role of both top-down and bottom-up, state and non-state governance mechanisms and approaches in appreciating the more complex and multi-faceted political landscape of cycling, as well as exploring the limitations *and* possibilities for change that can be opened up around such governance processes. In her article, **Chelsea Tschoerner-Budde** (2020, this issue) provides a socio-historic account of policymaking for cycling in Germany, by specifically focusing on the case of cycling promotion. She underlines that governing cycling is not just about cycling, but the wider spectrum of social realities that can both shape and be shaped by cycling. Her case study of cycling promotion reiterated that cycling needs to move beyond a narrow conception of cycling as a weak 'addition' to a planning framework for automobility. It reveals that such a policymaking shift *is* possible, if we appreciate the broader social and cultural context, institutional structures and groups of political actors who are able to frame problems and develop narratives on cycling promotion in more holistic ways, encompassing the broader socio-cultural contexts, values and meanings attributed to cycling. Broadening our understanding of political actors involved in formulating sustainable cycling futures is also central in **Dag Balkmar**'s article (2020, this issue). Balkmar focuses on Sweden's National Cycling Strategy as an example indicating complexity and diversity within cycling governance processes based on the participation of both state and non-state organisations, top-down, hybrid and bottom-up advocacy groups. However, through his account of Swedish cycling politics, Balkmar also wants to underline the heterogeneity within non-state cycling activism and advocacy organisations – as also manifested in the ways they influence change, either at a formal policy-making or a more grassroots level. Here, he addresses particular attention to the transformative political role that can be played by blogs and other online activist initiatives now and in the future: to not only voice critical cyclists' perspectives but also configure a new cycling citizenship that becomes pivotal in re-imagining cycling governance processes in the pursuit of sustainable cycling futures.

It is therefore our attempt in this special issue to open up debates that will encourage us to think about sustainable cycling future more holistically, by particularly considering the sometimes-ignored role of 'the social', as well as the heterogeneity and diversity embedded

within cycling – for example, in terms of the types of practices, users, policies, socio-cultural contexts, stakeholder groups. Such an approach is also important for further unpacking the diverse imaginaries that are constructed around such complex heterogeneous cycling landscapes and cycling societies (see also Zuev, Psarikidou and Popan, 2021, forthcoming), but also identifying and materialising some of those ideas and practices, which would help enact a more sustainable cycling future.

More specifically, by looking into cycling innovations, we wanted to reiterate not only the significance of innovations for the future of cycling, but also the role of cycling as an innovation that could enact a more sustainable mobility future. Our aim here is also to move beyond a mere technological understanding of innovation (see also Psarikidou, 2015), but also underline the limitations of technology to get us to a more sustainable cycling future. We want to underline the importance of appreciating the broader socio-cultural, geographical context in which cycling innovations are situated (see also Zuev, 2018), but also understand the broader landscape of social injustices, inequalities and power relations embedded within the practice of cycling itself and can shape its future. We thus argue for the urgency to develop a more intersectional understanding of the diverse inequalities and exclusions within cycling – an understanding that will also stress the significance of 'the social' in our thinking of 'sustainability' for sustainable cycling futures, by bringing class, race, gender, institutions but also other species together (see also Psarikidou and Szerszynski, 2012; Psarikidou, 2020b). We want to claim that 'the social' is also important for a sustainable cycling future that can move beyond dominant framings or narrow conceptions of cycling, and build into a more 'socio-material', multi-sensorial understanding of cycling and the more diverse sets of practices, values and meanings that need to inform and shape future policy and planning for cycling (see also Popan, 2019). 'Opening up' more inclusive processes and avenues of participation in cycling governance is also important for 'moving' towards more sustainable cycling futures, based on a diversity of top-down and bottom-up stakeholder groups, but also appreciating the heterogeneity of values and voices that exist within each of these groups.

Through such a complex analysis, we want to argue that, in order to pursue sustainable cycling futures, it is not enough to look into cycling as a sustainable mobility practice. If we want to further empower cycling as the sustainable mobility practice of and for the future, we need to understand and further support the sustainability of cycling as a practice, also by acknowledging and addressing the possible unsustainabilities that can be embedded in it. Cycling needs to be part of the future. Cycling can be the future, it is important to learn from our present, in order to (re)configure and enact a more sustainable future for it.

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