**A socio-ecologically sustainable mobility regime: can we move beyond the car?**

**Section one: A socio-ecologically sustainable mobility regime**

We write this introduction to a special issue at a time when draughts and floods have once again underlined the extent of the climate crisis, and the necessity of a meaningful response to it has become largely accepted and foregrounded in public discourse. The current Coronavirus pandemic has showed that the way our societies operate, and the mobility that is inextricable to it, can to some extent transform when faced with shocks, whilst also revealing its inequalities and inequities. While up until then, transitions to socio-ecologically sustainable futures were commonly imagined as gradual, plannable, predictable and slow changes of the present, the current situation confronts us with disruptions, changes overnight and an open future. This alignment of circumstances makes even more than usually important the question of whether it is possible to imagine what a socio-ecologically sustainable mobility regime, that is, one which reconciles environmental sustainability and social justice concerns, might look like. We know that this regime, *dispositif* or system (Urry 2004; Paterson 2007; Manderscheid 2014) is not the current dominant regime, centred on the car: automobility. In the pre-pandemic world, the environmental crisis, ‘peak oil’, and potentially ‘peak car’ (e.g. Wittwer et al. 2019) already constituted sound reasons to think beyond this mobility system based on privately-owned cars. Critiques of automobility extended beyond environmentalism, touching on issues such as liveable cities, social cohesion, physical health, social justice, wellbeing or regional modes of production and consumption– changes to which are part of post- and de-growth scenarios (Cass and Manderscheid 2010). Yet, the taken for granted frame of social density in cities - physical proximity to other people - is also being put at stake in a post- or permanently-pandemic world. A time when the kaleidoscope has been shaken, seems to be a good time to reflect on how the shifting patterns of the future are changing.

With the aim to widen the horizon beyond the pressing problem of how to organize transport in a sustainable and pandemic-appropriate way, we have dug deeper and problematized compulsions to be mobile themselves. Together with other scholars, we understand the current (auto)mobility system as unsustainable and unjust (Sheller 2011; Cook and Butz 2016), and as curtailing freedoms (e.g. Lucas 2011; Manderscheid 2020; Rajan 2006). From the often stated coupling of the growth of the economy and the growth of transport (Paterson 2007; Rammler 2008) we deduce that there are socio-economic compulsions to travel which should be part of the broader picture which requires critique. What is missing are alternative imaginaries of an environmentally sustainable *and* socially just mobility regime. We suggested calling such an alternative regime “*autono-mobility*”; intending to underline altered understandings of (im)mobility, the self-determined conduct of life, and freedom. Rather than taking access to mobility or certain sites as an end (as proposed in a distributive model of mobility justice: Newman 2017), autonomobility entails both a right to move and a right not to (Cass and Manderscheid 2018).

This ‘imaginary’ of a potential mobility *dispositif* (Manderscheid 2014a), ‘*regime’* (Kemp, Geels and Dudley 2012) or ‘*system* (of practice)’ (Urry 2004; Watson 2012) that could reconcile strict sustainability, post-automobile futures, and autonomy, was first developed speculatively in 2010 as a response to alternative scenarios of (post-)automobility futures (Dennis and Urry 2009) that appeared to maintain certain undesirable aspects of automobility itself: reliance on technofixes, rampant individualism, paradoxical (un)freedoms and (im)mobilities, panoptic surveillance and inequalities or even post-apocalyptic warlordism (Cass and Manderscheid 2010). The imaginary of a sustainable mobility future that we outlined would have to move beyond rethinking the car itself, to rethink the myriad aspects of automobile consumer capitalism that have co-evolved with the spread of the automobile system across the planet; beyond questioning the car to questioning automobility *in toto*. These include seeing mobility as an unquestioned social good or end in itself, compulsions of proximity being cemented into conceptions of ‘the good life’, the spatial distanciation of sites of life practice, the temporal compulsions of wage labour, the attempts to ‘flatten out’ accessibility of *Lebenschancen*, the link between mobility and economic growth itself, and much else. The questioning of the car thus requires the questioning of the entire system through which the time-spaces, expectations, norms and cultural associations of the ‘free automobile subject’ (Manderscheid 2014b) have been embedded in everyday life.

In 2019 we invited scholars to think through these aspects of a potential future mobility *dispositif* beyond automobility in a session of the panels on *Shapes of Post-growth Societies* in the conference *The Great Transformation: On the Future of Modern Societies*;held at Friedrich Schiller University in Jena, Germany, from September 23rd to 27th, 2019. This session, entitled *Shapes of socio-ecologically sustainable mobility regimes,* was the origin of the majority of the collection of papers presented in this special issue, which tries to address the following questions:

* How might we operationalise ‘autono-mobility’?
* How might we move ‘beyond’ automobility?
* What is the value (or otherwise) of *changing* elements of the car or car system, rather than rethinking it?
* What are the ‘values’ that would animate an autono-mobility/post-automobility system?
* What role in this do ‘commoning’ and velo-mobility play? (In either?)

In the remainder of this editorial, and the rest of the papers in this issue, we explore how difficult it is to escape the zombie-like clutches of the dying automobility system, to imagine ourselves free of it, and to tether our utopian visions of an alternative system back to reality.

**Section Two: A sustainable mobility transition to get there?**

With climate change presently unfolding, the question at stake is how to move society and mobility beyond the car. The dominant take is to envision changing elements of the car system itself. Such changes might be to the drive technology, from fossil fuel combustion to electricity. Another set of suggestions concerns traffic regulations, e.g. the car’s access to parts of cities, speed limits etc. A more individualistic psychologic approach emphasises the need to remove the symbolic value placed on car ownership through rising environmental awareness. Urban transport planners suggest to simply replacing or substituting trips made by car by trips by other means of transportation, especially public transport and cycling and combinations of both.

In research and writing seeking to mitigate climate change through transforming a range of energy consuming behaviours and the devices and infrastructures on which they depend, the answer is frequently framed as being a question of how to bring about a sustainable mobility or transport *transition* (Kanger, Geels and Sovacool 2019). Casting an eye backwards in order to predict (and importantly, manage) the future, transition studies have described the processes by which the car out-competed pre-existing mobility modes such as horse-drawn carriages and omnibuses, feet and cycles, to colonise the street (e.g. Norton 2008). The analysis of this process represents it as an orderly, explicable, linear process of substitution in a zero-sum competition for roadspace (although rivalry with other modes such as the train and canal are also relevant: Cass, Schwanen and Shove 2018). Being an evolutionary model of change, transition studies see such transitions as being akin to ecological changes between different equilibrium states, or to processes such as succession through which new species come to (temporarily) dominate an eco-system, maintaining the conditions for their own dominance. In addition, they see the origins of such ‘regime changes’ as being in (socio-)technical niches of innovation, which transition management (TM) says should be ‘hot-housed’ in order to protect them from the harsh environment of dominant regimes of socio-technical systems, in order to allow them to establish and eventually supplant. Other mobility scholars, for example writing from within radical geography, social practice theory, mobility cultures and the mobility paradigm, have critiqued aspects of this model of transition. Temenos et al. (2017) have pointed out that ‘transport transitions’ framed through transition management obscure much beyond the technologies of transport modes themselves, including cultural meanings of mobility, formal expertise and power, inequalities, radical alternatives, sources of change that are not (socio-)technical ‘niches’, intertwined practices and infrastructures such as networks of energy and production, and the narratives that hold these sprawling mobility assemblages together. The importance placed on *co-*evolution by writers such as Rip and Kemp (1998) or Shove and Walker (2007) reminds us that what is constantly evolving is not only species, but their surrounding eco-system conditions and therefore what counts as an evolutionary advantage or a ‘fit’ with the environment. In social practice theory, this means that ways of satisfying norms change along with the norms themselves. More shower-bathrooms, and more showering, reinforce each other (Hand, Shove and Southerton 2005). In the area of mobility, this might offer some hope that e.g. the car is being out-competed, in the eco-system of urban space at least, as cars grow ever larger, while the demands on, and value of urban space also grow. Other eco-system pressures such as the need for greenspace and air quality, and the need for other transport modes and housing to reclaim roadspace, may make the car the least fit mobility species, in a technological Darwinisnism.

**Section Three: Lessons from the pandemic**

The ongoing pandemic of Coronavirus-19, as another such crisis, may represent a turning point for transport and mobility. At the beginning of this crisis, there was mobility: the mutation of the virus that made it transmissible from human to human and thus mobile along human chains of interaction appears like the flapping of the butterfly's wings in chaos theory that triggers the tornado at the other end of the world. Causes and effects in this situation are not symmetrical or linear, but dynamic and above all unpredictable. With the spread of the virus, it became very quickly apparent how individual everyday life and social normality are tightly integrated in a network of physical-social relationships and interdependencies: communication and interactions with other people, flows of goods and money and the associated transport and logistics infrastructures as well as information and communication systems. These chains of interdependence, which underlie normality and extend globally to varying degrees of intensity, became visible because they were - temporarily or permanently - interrupted or disrupted (Manderscheid 2020c: 101f.). The onset of the Corona pandemic led to a previously unimaginable reduction, and standstill in parts, in transport and travel. Almost as an accidental by-product, the aims of the Paris Agreement - to reduce Greenhouse Gas emissions - were achieved for the first time in many countries, and overall GHG emissions from the transport sector were reduced. This highlights the fundamentality of a socio-ecological transformation, beyond a simple transition. In the words of John Urry *“to slow down, let alone reverse, increasing carbon emissions and temperatures requires the total reorganization of social life, nothing more and nothing less”* (Urry 2010:198). However, is such an exogenous shock to the automobility system, as predicted by mobility scholars (Dennis and Urry 2009, Cass and Manderscheid 2018), enough to displace the dominance of the car across the multiple systems that make up contemporary society? Or will there be a regression which strengthens the dominance of the car, which protects its passengers from the infected outside environment?

With the end of the pandemic hopefully in sight, a central question is whether mobility practices as part of the spatialities of everyday lives will simply switch back to pre-pandemic normality. Or whether a new normality in post-pandemic societies will entail mobility, transport and travel being more or less sustainable than before: During the pandemic, ways of overcoming distance have changed especially in urban settings. Public transport is being more avoided in most cities; after all, contact with others and the risk of infection are the rule here. Some research shows that this is affected by the prevalence of public transport use in that society[[1]](#footnote-1). Some trips formerly made by public transport were no longer necessary, because the destination was no longer accessible and replaced by working from home. Some of these trips were made by car, if available. Yet, cycling and walking became also proportionately more widespread. As long as motorised traffic was reduced, activists promoting sustainable transport saw an opportunity to expand the space for bicycle traffic in cities (figure 1). Reductions in car and air mobility were massive. In Germany, during the first lockdown, daily distances travelled declined by 30% of which around 60% were travelled by car as driver or passenger. The latter percentage is almost the same as pre-corona (Zehl et al. 2020: 25). Passenger air travel decreased by 80% (Statista 2021). In the UK, car miles travelled initially fell by 80%, but rebounded almost completely after 6 months, and public transport is viewed anew as risky – although familiarity with negotiating public transport space may help to maintain usage in places where its use is already widespread. However, to look beyond modal shift to broader values, our research (Cass 2021) has revealed that even individuals with extreme levels of personal mobility before the pandemic (including e.g. ’60 flights a year’) have re-evaluated their own personal mobility and the associated changes of lockdown life: the need for business travel to be curtailed, the value of time recovered from time-consuming commutes, the re-evaluation of life priorities associated with more family time, and active mode leisure activities. A true sustainable mobility transition and future post-automobile mobility system will have to extend and embed these re-evaluations of everyday life into every institution and sector of society.

Sustainable changes of mobility patterns may be caused by changes in the organisation of labour, especially a permanent shift to ‘working from home’. Especially in combination with the desire to leave the socially cramped cities and their high housing prices, some scholars expect a permanent reduction of commuting emissions (Lokesh and Marsden 2021). Yet, this option to replace physical travel by virtual mobility tends to be socially exclusive with place-bound work and compulsions for potentially infectious daily commutes being left to those in more precarious and frontline occupations: food delivery, retail, health and care, and construction, whose members are proportionately less white, poorer, and have lower car ownership. These unequal shifts of risk and (im)mobility cannot be a model of a just sustainable mobility transition.



Figure 1 COVID-19 measures tracker, European Cyclists' Federation (https://ecf.com/dashboard)

The massive shifts in the organisation of everyday lives caused by policy regulations aimed at controlling the spread of the virus underline the potential of politically-induced change, although the situation differs between cities and countries. It became visible that with the political will, means and measures to act can be mobilised quite easily. For a pandemic or a post-corona society one can conclude that once there is a broad political agreement on the goals – avoiding the uncontrolled spread of the virus or unlimited climate change – formerly taken for granted normalities can be adapted overnight. Applied to the field of transport and travel, such changes need to be ‘locked in’ and not ‘locked out’ (cf. Marsden and Docherty 2021) by a *retour au normale.*

The massive shifts in everyday social practice represented by the seemingly permanent changes in working from home and commuting do signal that such change is possible in the context of exogenous shocks, but only if also accompanied by re-evaluations of the most important aspects of life and massive control-economy-style, top-down, state support and investment in shifting what it means for people to be supported in and out of work. Such modes of governance are political anathema in many states, such as the UK. The furlough schemes we have seen rolled out provide unintended evidence for the value of a Universal Basic Income. The Corona pandemic thus puts the politically-chosen path of a sustainable transport mobility transition up for grabs: public transport has lost the trust of the population to a large extent and alternative offers such as car-sharing are fighting for their economic survival. At the same time, the protective qualities of the private car are being rediscovered.

Personal choice and state restrictions have vied as influences over mobility as never before, and this makes us reflect on whether a ‘sustainable mobility transition’ (with its sense of an orderly and managed shift in mode use) is the right way to think about the changes in mobility that may lie ahead. Rather, we have seen an unimaginable shift in social practices, because of a massive reflexive policy response to an endogenously-produced risk that manifests as an exogenously experienced threat to human society, which imposes limits on all our activities, and requires individual and collective re-evaluations of priorities, and huge state intervention. We argue that the climate crisis is another such situation, requiring state policy responses on a scale at least as large as those deployed for the pandemic.

**Section Four: (How) Can we move beyond the car? The contributions.**

Having expounded at length on our thoughts about what it means to rethink mobility systems beyond the car and beyond automobility, we now turn to the papers presented in this issue. Each contribution deals with aspects of our central concern and together they highlight the complexity and multiplicity of the problem. Their explorations took our invitation to think beyond the restrictive paradigms of conventional transport research, assessment, policy, and planning to heart, and their starkly different approaches demand some reflection at length.

For some, environmental and social justice concerns can be to some extent addressed, or at least, raised in consciousness, *within* automobility. That is to say, for Nitschke and Dangschat and Stickler, the car as a technological artefact features in their visions of future mobility systems: in either shared, electrified or automated forms. For Randall and Braun, a diagnosis of the totalising control of humanity by the car-driver hybrid is also not followed by a panacea or prescription that rejects the car completely, instead they focus on rejecting the psychic domination of the car, and a new focus of ‘commoning’ mobility, that is more explicitly considered in Nikolaeva and Duffhues’ discussion of exactly that concept between academic and transport planner practitioner perspectives. Von Schönfeld and Ferreira take a different tack, of abstractly thinking of the values behind, and purposes of, mobility itself, and they then reflect on mixed methods exercises that sought to rethink what mobility might be for in a context of environmental and social justice limits. Cox more explicitly answers whether an alternative mobility system centred on a constellation of cycle-powered artefacts might reconfigure mobility and mobile spaces, and thereby everyday life and society, around a more diverse and human-scaled technology.

Randall and Braun accept the case for ‘autono-mobility’ as a concept, but turn the focus of attention to dismantling the automobility ‘sociotechnical apparatus’, without reproducing its negative elements – something they too identify with the car-based alternatives on offer. Their focus is on *destituting* automobility; by which they mean imagining “the actions by and through which automobility, not the planet, is rendered destitute”. They add to our understandings of automobility as a system, regime or *dispositif* that it is an *imaginary* – composed “not only of images and visions but also the ostensible materiality of automobility”. The automobility system’s own proponents, that is to say, the human staff of automobility, focus on the technological materiality of automobility as a closed system, within which technological progress alone can be legitimately addressed. Tinkering with the various elements of this closed system in the name of efficiency and improvement, they say, is the purview of more limited ‘sociotechnical imaginaries’ as defined by Jasanoff and Kim (2015). Future-facing and promissory, EVs and autonomous vehicles fit comfortably within this Promethean discourse of never-quite-attained utopian technological futures. Randall and Braun instead implicitly suggest that ‘actually existing automobility’ – that is, the sociotechnical reality of automobiles and the world they have really created - is the essential aspect of the ongoing and eternally unfolding ‘automobility imaginary’ to grasp. Facing up to the social realities created by pursuing the ideological dreams of the automobile’s promises - the freedom of the individual, the freedom of the road, the autonomy and convenience of the car advert – is therefore the key to deconstructing its hegemony and power. The demythologising of automobility that they advocate therefore reminds one of the fall of the Berlin Wall and the Soviet system in its intention and effect, however, the means by which it is to be politically and materially accomplished remain, to them and us, obscure.

Their expansion of the understanding of a ‘sociotechnical imaginary’ to encompass all potential material-cultural-social-semiotic actors, actants, images, objects and relations in a phenomenologicallly and actor network theory-influenced assemblage (Latour 2005; Law 2002) or *agencement* (Callon 2008) that they title the ‘automobile imaginary’ is an impressive ontological-epistemological accomplishment; a construction in itself. They draw attention to the particularly political, order-making aspect of this imaginary, as a Foucauldian apparatus that shapes subjectivities and the conduct of social reality through its (self-)disciplining power; which ironically operates as and through the promise of freedom. Violence is bracketed out of this imaginary. The question therefore becomes, in trying to think ‘beyond the car’: “how is it possible to conceive of a different (ontological) politics or think a world in which the deployment of power is radically different than under the current automobility regime?” Their answer lies in Agamben’s distinction between a constituent power – the swapping of one dominating regime for another, the replacement of ICE cars with electric and autonomous ones – and destituting power/potential: an active process of undoing automobility dominance, they suggest, through commoning. This requires us “to radically rethink movement, (mobility) meaning and (mobile) practice”, but specifically, as ‘amateur private citizens’, to render “visible the violence by which the imaginary has been constituted, through which it governs everyday life”, as a first step in imagining new ways to live. The suggestion of “making violence visible and by this disrupting the deployment of power in automobility” is not filled out by practical, tactical rather than strategic suggestions, but the bare description resembles the anti-car demonstrations of Amsterdam that directly led to its (re)development of a safe, working class, utilitarian infrastructure of vélomobility (Emanuel 2012, 2016; Cass, Schwanen and Shove 2018) , or the UK’s ‘Reclaim The Streets’ demonstration/direct action/parties of the 1990s (Jordan 2009), which rejected propaganda of the word for a material demonstration of how automobility could be disrupted by a performative politics of re-ordering the meaning and function of ‘the street’. Their other suggestion of ‘commoning mobility’, as a rejection of the neo-colonialism of automobility’s appropriation and violent control, is tantalisingly vague, but contains promises of rethinking (mobility) politics and policy in terms of sharing and democracy, processes which Nikolaeva and Duffhues discuss in more depth.

Dangschat and Stickler identify Connected and Automated Vehicles (CAVs) as a dominant ‘sociotechnical imaginary’ (again, cf. Jasanoff and Kim 2015) of safe, clean, efficient, comfortable and even socially integrative car travel; a techno-fix that promises to reproduce automobility, but better. They reveal the numerous conditionalities, contingencies and assumptions that render these promises highly dependent, for example on a complete substitution of the entire automobile fleet with E-CAVs. They then outline the ‘challenges’ for the automobile industry, which stands in for the ‘automobility system’ in much of their analysis, and the ways in which CAVs and linked aspects of a ‘new mobility’ promise to answer them. Their analysis does not really assess whether or not CAVs are a necessary part of a future mobility system, given that the conditions under which they say they would be acceptable appear potentially to rule them out. Instead, the modes through which transport futures could be planned (i.e. in a participatory manner) are thought to provide legitimacy for including CAVs in such a system, if indeed, they were to be included. These include more critical thinking, participatory and collaborative transport planning processes, and the use of ICTs by environmental movements. Their conclusion seems to be that CAVs *might* be acceptable in future mobility systems if they were used in “small scale applications … used according to specific needs … in low-speed multimodal shared and public transport systems as a new mode of public transport”, which we can see as a radical scaling back of the ambitions of their proponents.

Luca Nitschke similarly offers a modest proposal for the contribution that non-commercial car-sharing might make to a longer-term goal of sustainable transport transitions, while seeing no immediate prospect of large-scale systemic change:

*“radical change currently appears unlikely on a systemic and structural level … wherefore the issue of how bottom-up change can occur locally gains significant importance … It is on the local level and in everyday life that ‘real utopias’ … can emerge, which are able to fill and widen the cracks in the overwhelming dominance of capitalist production and the hegemonic ‘system of automobility’”*

His article is focused on a “re-embedding of the system of automobility into its social and ecological context” – *not* an escape or reordering. He examines how car-sharing as a practice can be seen as a dual process of bringing into consciousness the intrinsic links between society, economy, and nature, and thereby resisting their abstraction and mystification through purely marketised social relations.

Car-sharing, he says, is an effective mechanism of challenging the private car, because it accepts and reinforces the other elements of automobility as a social practice; the car’s “skills, images and materials” (Kent and Dowling 2013: 87), while particularly capitalist versions of the practice of car-sharing may even *increase* car fleets and usage. Profit-seeking is, at base, the market social relation which acts as a social and ecological curse: a Midas touch that kills all. Sharing, on the other hand, should be seen as a non-marketised social relation enacted through practices that have simultaneous effects on reducing environmental impact and challenging the hegemonies of private ownership, individualisation and atomisation. Nitschke’s informant in a vignette stresses that car-sharing’s breach of the driver-owner-car hybrid is a breaking of a spell of zombification: a trope that directly reflects Randall and Braun’s conclusion, that “the technology owns us instead of the other way round”. Furthermore, car-sharing is said by Nitschke to explicitly and implicitly raise questions of efficiency and sufficiency: not only that the existing fleets of private cars are incredibly inefficiently utilised, but also whether their very existence in such numbers is disastrous for future generations. In other words, efficiency is not a sufficient or appropriate metric for assessing and approving the creation of yet more devices as units of resource-consumption that are justified as providing energy services to fulfil human needs. Sufficiency is the required concept in the face of ecological collapse (Rijnhout and Mastini 2018). The fulfilment of human needs is paramount, but the question is how to achieve this not only with the fewest devices possible, but also through the minimum use of ‘energy services’ possible.

Cox, like Randall and Braun, uses the concept of the ‘imaginary’ to capture the combined social, technological, spatial, temporal, political, economic and discursive aspects of mobility systems, and wishes to re-open the political potentials of such a system centred on the artefact of the bicycle (“vélomobility”), but also with concomitant differences in – and therefore changes required to - cognitive understandings and political priorities. He highlights automobility’s autopoetic characteristic of self-replication, its addictive qualities (the way it inculcates a dependence to things located outside the self and the locality) and the way it frames discussion of other modes of travel, as a domineering, over-shadowing background, all in order to address whether or not the bicycle as a technology can shape society and mobile experience around itself in the same ways that the car has. What would the surrounding values, space-times and infrastructural arrangements of a vélomobile society look like? Cox’s first response is that simple refutation and substitution of the myths and seductive imagery of car-driving are not sufficient strategies, and will result in a mere extension of the bicycle’s current ‘supplementarity’ with regard to the mobilities of the 21st century. What needs to be challenged wholesale is *“automobility’s entanglement with the reproduction of capital in an accumulative (growth) economy”,* to bechallenged by *“alternative economic paradigms* […] *synchronous with a retreat from hypermobility* […] *If vélomobility is to be a mobility system for a degrowth society, then it has to be part of a reframing of mobility itself, not simply the practices*”. Crucially, and reflecting Randall and Braun’s distinctions between constituent and destituent power, this also involves rethinking change in line with feminist and anarchist principles, as not inverting dominatory hierarchies but abolishing them. Principles that shine through Cox’s suggested propositions of how to conceptualise such vélomobilities include those of unity through diversity, and ongoing reflexivity to the ever-present possibilities of reproducing or recreating alienation and inequalities, or enforcing ‘closure’ through the imposition of uniformity. In other words, in the interests of equity and democratisation, the forms that vélomobilities take, in the broadest sense of streetscapes, cycling technologies and practices, must be as multiple as the diversity of cycling bodies. According to Cox, the additional ways in which an ‘autonomo-vélomobility’ would contribute to a rethinking of the meaning of and need for travel in a post-growth society include: its unmediated and embodied nature, reinforcing the awareness of supervening planetary and climatic realities; the fact that its liberatory promises are accomplished without displacing costs onto others; the potential for material independence from distant fuel and manufacture industries with democratic design for repair and reuse; and instituting adaptability and inclusivity as the principle of design for vélomobile spaces, to overcome the dominatory or hierarchical power relations of space.

Von Schönfeld and Ferreira centre their discussion of ‘mobility auterianism’ on the values underlining travel, trip purposes, and the current and potential future principles governing mobility. Their theoretical model of a hierarchy of values shaping individual mobile performances accurately reflects how supervening abstract values filter through governing values (which come across as filters that de-radicalise abstract values’ potential) thanks to the power of incumbent forces over the discursive field. This means, they highlight, that ecocentric and equity-based visions of sustainability and social justice are defanged in favour of anthropocentrism and meritocracy, which are further operationalised in governance as the mundane application of instrumentalism, of speed, comfort, convenience and efficiency, in transport policy. A great deal is occluded in this model, which appears to view exisiting practices of mobility as simplistically the pursuit of values, ignoring the shaping of possibilities and opportunities by the other socio-economic and particularly material elements of mobility systems. However, their basic argument that *“re-thinking how space, time and resources are valued, by whom and for what purpose, is deeply necessary for any effective attempt to address the major shortcomings of the currently dominant way of life in the Global North, and in increasingly significant areas in the Global South”* is inescapable. Their analysis performs this rethinking through the concept (familiar from traditional transport research) of ‘trip purposes’, and they propose that ‘mobility austerianism’, as a response to environmental restrictions, focuses on limiting mobility to necessary journeys – defined by a hierarchy of trip purposes – rather than focussing on absolute amounts of travel or inequalities in access to (different types of or purposes for) mobility *per se*. Their mixed methods findings roughly support a position where ‘primary’ mobility needs are prioritised, followed by leisure and social contacts, and then experiences of other societies, cultures, and nature. Travel for its own sake, they find, is consistently valued less than these trip purposes, leading the authors to propose a form of mobility rationing or prioritisation, presumably at an aggregated level, when restrictions due to limits are applied in proportion to the relative valuation of different trip purposes. This seems to be an approach for reducing mobility based on preferences, rather than one based on environmental impacts, or differentiated needs, and furthermore, one based on the preferences, as they admit, of wealthy elites (academics) with relatively international social networks. The same mixture of mobility valuation methods might fruitfully be applied more broadly in order to assess priorities for mobility in future systems, but without substantial modifications, still represents something of a superficial logging of preferences. Their use of Raworth’s (2017) ‘doughnut economics’ does however provide a framing for a sustainable space of mobility between satisfying basic needs and respecting environmental limits.

Finally, Nikolaeva and Duffhues bring us back to earth. It is easy to answer a question about ‘how to get to a sustainable, ecological and just mobility future’ by answering ‘well, I wouldn’t start from here’! Instead, this academic and transport planner offer a thinking through of one of the more commonly-suggested first steps from here: the idea of ‘commoning’ as a way to tackle the selfish individualism inherent in automobile consumer capitalism. In one sense, commoning is a simple but vital *Gestalt* shift, from seeing mobility as an individual freedom and a lubricant for the economy, to seeing it as “something that we do *with* each other and *to* each other”, a public good that could be owned, managed, and planned together in community, for each other. Jan Duffues, as a transport planner, frames this shift as thinking of public values rather than personal interest, and if possible, making the two identical. ln the context of his city of Amsterdam, the autonomy implicit in ‘commoning’ is particularly linked to spatial issues – to neighbourhoods controlling the use of their own space, particularly through community participation in planning and visioning – so long as this (and the public space involved) is not in turn captured by participation ‘elites’. Sharing is also a key ‘mode’ of commoning, whether that is sharing data, ‘devices’ (such as vehicles) or space: communing is not extractive, unlike the current disruptive mobility services which like everything in capitalism, are driven by shareholder profit. This raises the question of whether commoning, and its organisation, are seen as ‘niches’ within capitalism, rather than as transforming it: Nikolaeva seems to suggest the first, while stressing that non-mobility policy such as Universal Basic Income is essential to make low carbon mobilities and lifestyles more available, by challenging compulsions to be mobile. Importantly, the opportunities both conversants see as arising from the experience of the covid pandemic seem to be synergistic. Walkable, liveable neighbourhoods, with green space, work hubs, and consumption opportunites, seem to answer the crises of both travel emissions and public health at the same time, fulfilling an established planners’ dream of decentralised urban development, and possible through co-operatives or commons. Again, such visions have to be tempered particularly by the realities of the inequalities of urban space and life, and the mobility that is enforced on the low-paid to reach the sites of their compelled physical proximity for work. The commoning of autonomobility cannot just be for the elites of academics and local government!

**Section five: Where do we go from here? Outlook**

In the face of the challenges of climate change and the Corona pandemic, what can critical mobilities research contribute? Is it not time to act rather than to write, read and reflect? Is continuing to ‘research’ mobility itself not a form of (to mangle a couple of metaphors) ‘rearranging elephants on the Titanic’[[2]](#footnote-2)?

The Corona pandemic highlighted in a nutshell the danger of the crisis, which lies in dealing with the problems at hand and losing sight of the bigger picture. In the case of mobilities and transport, the most pressing problem at hand seems to be CO2-emissions and their reduction. With the new EU ‘fit for 55’ package, it is all about reduction and compensating carbon emissions. Sustainable transition and climate protection becomes a problem to be solved by increasing energy efficiency, new fuels, better infrastructures and electric drives. The questions that lie behind - which society, which city or which world do we want to live in, which regime of accumulation and consumption fits best with ecological and social sustainability and how and how far do we want to move goods and ourselves in future, who and what should part of it? - disappear.

Although we as social scientists or mobilities scholars do not know the answers to these general questions, we can use our academic freedom to problematize the problems at stake, to highlight the complex interdependencies between technological innovation, social practices, economic structures and social power relations. We can add to the social debates concepts, ideas and arguments that challenge everyday thinking and dominant socio-political assumptions. We can try to give a voice to people and creatures that are less present in the discourse. But being part of the transition as it unfolds, we have to continuously include new insights, new knowledge into our thinking ourselves and adapt our arguments to changed socio-material realities and political challenges. The trope of zombies raised in two of the special issue’s contributions seems apt. The car or automobility as a system, anthropomorphised, appear as a headless chicken or a zombie. Systemic connections and functions are still operating, the oil blood still flows, and yet the ever larger Golem seems to blunder about, destroying everything it touches, without any sense or purpose. SUVs grow ever larger, as city-space becomes ever more important. Autonomous cars promise to reproduce the experience of public transport passengers, with added expense and cost – both personal and planetary. Road-building schemes are still cynically approved by governments in breach of everything that is known about traffic induction. Two centuries after Mary Shelley’s warnings of scientific progress turning on its creators, the car as Frankenstein’s Monster shows no sign of flagging in its murderous pursuit of man. Like most Gothic horrors, and indeed, viruses, the car appears to be undead, and therefore almost beyond killing.

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1. This is the subject of a paper still in review, seen by one of the authors. [↑](#footnote-ref-1)
2. The title of Jillian Anable’s keynote speech to the 51st Annual University Transport Studies Group conference,

Leeds, 10th July 2019: https://www.creds.ac.uk/wp-content/uploads/UTSG-2019-Abstract-and-paper-for-circulating-003.pdf [↑](#footnote-ref-2)