Sharing Mobilities

Sharing Mobilities focuses on the emergence of future sustainable and collaborative mobility cultures. At the intersection of physical and virtual capacity and access to people, goods, ideas, and services, this book poses fundamental challenges and opportunities for governance, economy, planning, and identity.

The future of new collaborative forms of consumption and sharing would play a key role in the organization of everyday life and business. Sharing mobilities is more than simply sharing transport, and its diverse impacts on society and the environment demand thorough theory-led sociological research. With an extensive global range, the contributors present radical manifestations of sharing capacities throughout diverse countries, including Germany, Denmark, Japan, and Vietnam. The phenomenon of mobility is highly actual and social as well as politically relevant and urging.

This collection focuses on open questions from the perspective of the mobilities turn while presenting state-of-the-art theory-based articles with applied perspectives. An ideal read for scholars based in social science and the interdisciplinary research on mobility, transports, and sharing economy. Sociologists, geographers, economists, urban governance researchers, and research students would also find this book of interest.

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In 2016 he became the Co-Editor of the Routledge journal *Applied Mobilities* (with Kevin Hannam and Malene Freudendal-Pedersen). He was a Research Fellow at Hans Böckler Foundation, Erich Becker Foundation

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Sharing Mobilities
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1 Sharing Mobilities and the Mobile Risk Society

An Introduction

Sven Kesselring, Malene Freudendal-Pedersen, and Dennis Zuev

Why is the idea of sharing and sharing mobilities so fascinating and appealing for so many? Why does it fall way too short just to think about sharing cars, bikes, scooters or rides? Or, more specificly: why do we, the editors, think *Sharing Mobilities* is worth publishing and why did the international research network Cosmobilities, whose members we are, even organize a whole conference on the topic?[1]

Two reasons, mainly, are driving this publication towards a – still preliminary – answer of these questions: first, we are all witnessing the transformation of the "system of automobility" (Urry 2004) into a system of *mobilities*. Multiple practices, forms and models of mobility and transport shape this system in which sharing becomes a major dimension of connecting people, places, organizationsand events. And, second, mobility has become reflexive in the sense of Ulrich Beck's theory of the risk society (Beck 1992; Beck, Bonss, and Lau 2003). Mobility in the first, industrial modernity has been a struggle between the idea of an (auto)mobility of individuals with more collective forms of mobility where people move in groups and association with others. With the rise of shared mobility and shared autonomous vehicles we are discussing mobility beyond the "paradigm of either/or" (Beck, Bonss, and Lau 2003), of either indvidualized car-based mobility *or* collective public transportation systems. In fact, the organization of mobility is moving away from Le Corbusier and his followers' concepts of spaces structured around one iconic mode of transport and into a variety, a multplicity and a diversity of ways of getting around, geting connected and moving between places, spaces, people, events, work, leisure and pleasure etc. (see Kesselring 2008, 2019).

In part, these paradigmatic reorientations are propelled by recent changes in the socio-technical infrastructures of the "mobile risk society" (Kesselring 2008) and, of course, by the increasing omnipresence of the internet in modern everyday lives. Since its privatization in 1992 this historically unique invention has changed, shaped and modified almost everything from social interaction to communication, from intimacy to public life, from life spheres to business and from everyday life, family, love and community to work,

supply chains, logistics and transport. Mobilities in the digital age are quite different "things" compared with pre-internet times.

This goes along with the rise of platform economies, sharing economies and highly debated perspectives and questions of "post-capitalism" (Mason 2015) and the "zero marginal cost society" (Rifkin 2015). But it also opens a whole field for social experiments and a laboratory-like social situation in modern societies where IT and communication infrastructures exist that enable people to develop new ways of getting together and sharing technologies, houses, know-how, care, food and so forth.

In the terminology of risk society theory (also: theory of reflexive modernization), it can be said that with an upcoming second modernity, or as we prefer, "mobile risk society" (Kesselring 2008, 2019; Freudendal-Pedersen and Kesselring 2018b), the main orientation of urban planning, mobility engineering, business and so forth moves away from "one-best-way solutions" and towards "multiple-best-way solutions" and technologies. In a nutshell,: the platform economy as being offered by big providers and companies such as Amazon, Alibaba, Tencent and the more focussed ones such as moovel, as well as the newly put together joint ventures of BMW and Daimler called ShareNow and ReachNow, provides infrastructures where not just one mode of transport is being promoted, but rather a variety of different options and seamless interfaces between different transport and mobility modes. In the future, the mobility markets and cultures will probably not be dominated by car producers but by companies for which the product is more or less marginal. The technological infrastructures of Amazon, Alibaba and other companies can potentially sell everything from books to furniture and washing machines and to cars, rides and travels.

The discussion on sharing mobilities is still on the rise. This book cannot offer much more than glimpses into the highly diverse and heterogeneous complexities of the topic. Multiple different phenomena are at stake here: from car, bike, scooter and ride sharing to ride hailing and pooling, to sharing apartments, food, tools, workplaces, expertise and so forth – often even while being (touristically or professionally) on the move – and to the recent debates on the future of automobility and the opportunities of sharing automated/autonomous vehicles and the efficient use of artificial intelligence in transport.

Hopes are pretty high on the positive impacts of the rising sharing culture which potentially might replace or supplement private ownership. In particular, when it comes to questions about the sustainability of mobility and transport, there are many expectations and often also wild guesses to be found. Many different calculations are floating around of how many cars can be replaced by one shared car. The numbers range from conservative estimates of three to highly optimistic estimates of up to 20 cars being replaced by one shared automobile. In particular, the possible introduction of automated driving gives space for quite optimistic outlooks as to how much energy could be saved by the new technology. Anders

Eugensson, a representative and former manager at Volvo Group, Sweden, recently said in an interview:

> We looked quite a lot at the fuel efficiency of the vehicles, how you can have a much better management in driving. I mean, if you go from A to B and you let the car plan the whole journey, we measured about 30 percent reduction in fuel consumption.
>
> (Elliott, Kesselring, and Eugensson 2019, 2–3)

There is much techno-optimism and, seemingly also, techno-determinism in the current debate on the future of mobility and transport. But since climate change, the future of urban living and life quality, and the future of energy provision put obvious limitations on the current energy-consuming forms of modern lifestyles and consumption, the discussion will become increasingly pressing and the time to act gets shorter (Stern 2016; Weizsäcker and Wijkman 2018). In an age of urbanization, cities are strategically key for the invention, experimentation and implementation of sustainable policies (Hajer and Dassen 2014; Freudendal-Pedersen, Kesselring, and Servou 2019). Cities need to rethink their relations to mobility, tourism and logistics in an even more radical way than that in which it has been debated throughout the last decades.

In this context, the sharing of resources becomes conceptually relevant and might open up new perspectives for a mobile risk society which threatens itself by its increasing hunger for mobility and energy. Of course, sharing is not a virtual innovation. In contrast, it has always been an essential part of human lives – be it in tribes, in nomadism, early urban and semi-urban communities, in social networks or whole modern societies. Sharing and exchanging values, assets, skills and knowledge and giving and taking in general, supporting and exchanging things, activities, services and common resources etc. have always played a major role in civilization (Ostrom 2012). In capitalist societies markets came into play and colonized sharing as a basic human activity by commodifying all sorts of "work." The labour force became a commodity and it lost its character of an activity orientated towards the common good (Polanyi 1944). Throughout history, the sharing of resources, tools and knowledge has been a key component for humans to survive, develop and coexist (Sahlins 1974; Fisher 1979; Shiva 2016; Scott 2017). Nevertheless, practices of sharing have changed from mainly encompassing exchange, common ownership and consumption to also include early capitalism such as trading, renting and leasing into today's evolved capitalism where co-creating, co-financing and co-working have become buzzwords. Industries develop highly complex technological infrastructures and business models. Many things we take for granted, today, are being shared: public transport, public libraries, laundromats, public places in the city and so forth, just to name a few. In communities, cities, towns and

villages sharing has occurred and what we see, today, is that virtual mobilities have expanded as mediators (see Wessels in Chapter 2). Some (digital) pioneers might even claim that they reinvented sharing as part of daily life and business since today villages, cities and urban regions are increasingly dependent on mobilities and the sharing of knowledge, materials, resources, data, capital and consumption (Graham and Marvin 2001; Sheller and Urry 2006; Sheller 2014).

In the last several years, studies on sharing have been booming. Specifically this happened under the umbrella of the "sharing economy" concept, often critically questioning the paradoxical nature of it as a niche or a subculture within seemingly "monolithic capitalism" (Tsing 2009). However, the studies of noncommercial sharing practices and alternative shared mobilities (See special issue of *Hospitality & Society* 2012; Picard and Buchberger 2013; Zuev 2018; Fjalland 2019) have preceded this boom of studies dedicated to for-profit platforms (Schor and Attwood-Charles 2017). Currently, the sharing economy in general, and the increasing number of sharing services in mobilities in particular, stands, in many ways, for a phenomenon which is somehow bulky and unwieldy for classical economic theory. The sharing economy is referred to in a variety of ways, such as "forms of exchange facilitated through online platforms, encompassing a diversity of for-profit and non-profit activities" (Richardson 2015, 121); or here: "the value in taking under-utilised assets and making them accessible online to a community, leading to a reduced need for ownership" (Stephany 2015, 205). The new economic practices of sharing rather than owning have been labelled in different ways i.e. as "crowd-based capitalism" (Sundararajan 2016), "platform economy" (Kenny and Zysman 2016) and collaborative consumption (Hamari, Sjöklint, and Ukkonen 2016).

This book undergoes the effort to exemplify different approaches by investigating different contexts, services and resources, that are shared in relation to mobility. The examples collected here embrace elements of sharing and common ownership. The sharing of mobility infrastructures, technologies and resources for transport and connectivity comes along as new phenomenon, due to its software-based nature. The public rhetoric on sharing mobility has changed significantly. Throughout the past few years not just start-ups or alternative innovators but also the car industry increasingly consider the sharing of mobility in relation to new financial services, mobility-as-a-service (MaaS) and the sharing of autonomous vehicles in particular as key elements of their strategic orientations (IHS Automotive 2014; Schaller Consulting 2018). Volkswagen's strategy "Together 2025,"[2] BMW's concept of ACES and Daimler's CASE concept stand paradigmatically for the combination of autonomous, connected, electric and shared mobilities. They are all different instances of the contemporary social, of the new infrastructures of connectivity, and of what Urry (2016) called the "social futures" of an organization of mobility where different modes of

transport, different technological assets and networks construct the grid for networked (urban) mobilities (Freudendal-Pedersen and Kesselring 2018a).

Cosmobilities

The international research network Cosmobilities (www.cosmobilities.net) dedicated its twelfth international conference to the topic of "Sharing Mobilities: New Perspectives for Societies on the Move?"[3] Co-organized by Cosmobilities, Nürtingen-Geislingen University, Roskilde University and the Protestant Academy Bad Boll the conference took place in 2016 at the academy's facilities in Bad Boll, near Stuttgart. Several chapters in this book have been given as papers on the conference and been part of a special issue in *Applied Mobilities* in 2018 (Freudendal-Pedersen and Kesselring 2018c). Being redrafted, recrafted, sharpened and now published together with other articles they push the debate further. They broaden it and illuminate more examples of the many different approaches to sharing within the mobilities turn. The authors pick up on the conference concept and critically investigate, think through and analyze this highly topical phenomenon. They discuss its urgency and relevance for societies, social life, politics and business. By so doing they follow the idea of the conference and bridge the gap between science, different disciplines, politics and practice.

In 2016, we stated that sharing has been discussed and analyzed so far mainly as an economic issue. But even more so today, some authors argue that there is a significant difference between sharing as a practice and the sharing economy (Light and Miskelly 2015; Freudendal-Pedersen and Kesselring 2018c). Many authors focus on platforms for economic exchange, while others engage in the more altruistic community-based cultures of sharing. This differentiation highlights distinctive characteristics of what sharing mobilities might mean for different people and networks. A common characteristic seems to be that sharing concepts are all highly ambivalent and often constitute a paradox between being *part* of the capitalist economy or providing an *alternative* to it.

This demonstrates how sharing implies different modalities of value production and trust established between the system and the users, and also between the users themselves, when they are engaged in sharing activities. Sharing platforms such as Uber and Airbnb successfully commercialized practices of hospitality and ride sharing that already existed, thus revolutionizing by the way of creating digital infrastructures and digital practices of trust in shared web-platforms that can be accessed by users with internet connections. Both Uber and Airbnb, just to mention two names of the rising sharing economy phenomenon, have developed into billion euro businesses. In 2018, Uber ranked number 13 amongst the largest companies worldwide with a market capitalization of 75 billion USD, right behind Booking.com and far ahead of eBay (33 billion USD).[4] On the other side,

companies such as Amazon, Alphabet (Google), Alibaba and Tencent, which consider sharing mobility concepts as either already being part of their portfolio or as a nearby future target for using their platform infrastructures and logistical networks are much further ahead and have the capital, the resources and know-how to change the market soon and significantly (McKinsey 2016; Tyfield 2018).

Digital platforms are the object of heated controversies as they are not necessarily used by people to supplement their income or just to share their commodities for a small compensation, as sometimes argued by Airbnb. Instead, we see agencies that utilize the Airbnb platform to rent a number of properties, thus inflating the rental prices and contributing to the rise of real estate prices and squeezing out the local population, as well as competing with traditional hotels (Bialski 2018). In the same manner the penetration of Uber in cities around the world commenced protests of taxi drivers, and in many industrialized nations, including Germany, Denmark and Taiwan, it is still illegal. The precarity exacerbated by Uber and the touristification stimulated by Airbnb's logic of commercial rental rather than free hospitality and cultural exchange has come to signify the critiques of the sharing economy. This implies critiques of the social unsustainability of the model and as a business model that makes economic sense mainly for the privileged few.

Simultaneously, the internet is increasingly becoming the communication medium and major infrastructure for managing distributed renewable materialities and mobilities and, also, to discuss global commons (see Rifkin 2015; Mason 2016). This can be understood as a specific form of what Ulrich Beck once coined as "reflexive modernization" (Beck, Bonss, and Lau 2003) and which is becoming an increasingly global phenomenon (Beck 2008; Kyung-Sup 2010). Against this backdrop, sharing mobilities is not an isolated, marginalized phenomenon; it is at the very heart of transitory developments, which may have the potential to change the socio-technical figurations of modern societies and capitalism. Individuals draw on culture and the language of the second modernity to assess the meaning of sharing versus the meaning of transaction, and accessing resources becomes meaningful through a reflexive engagement with the social values embedded within.

Food sharing platforms are examples of a successful computer-mediated, grassroots, bottom-up, noncommercial initiative aimed at redistributing surplus food and aimed at a greater systemic change in the food system. In Germany and Austria, it is a part of an anti-consumerist social movement. In Austria it has been used as a practice for reducing the prices of academic conferences, where food for coffee breaks has been supplied from bakeries via a food sharing platform and its associated users. The mobilities of food sharing (see Fjalland in Chapter 4), its pickup and redistribution, are crucial, as food has to move fast through the city from regular pickup appointments at bakeries, cafes, restaurants and farmer markets to its final

destinations. Often, during gridlock hours, only nonmotorized transport makes it possible to deliver on time. Sometimes, going by tricycle is the only feasible way to guarantee reliable delivery for food sharing events. Digitally based social networks allow even households to redistribute any of their food that is likely to end up as waste (Schanes, Dobernig, and Gözet 2018).

Food sharing can be seen as an alternative and resilient sustainable practice where access to resources (food) is free of charge and sharing is unconditional of the subject's social status. It shows how an "old" practice is being reinvented within the infrastructures of the digital age to a sharing-based sociality. Strangers socialize and share regardless of their social background (see Zuev 2011). They engage in the co-creation of ideological meanings, the values of a new sociality through co-working out performative scripts to increase trust and reduce risks in the exchange of knowledge, emotions about experiences and negotiating access to valuable resources (food, space, networks).

In the mobile risk society (Kesselring 2008) distinct categories of "host and guest," "foodsaver and foodsharer" become fuzzy and imply that one can be both at the same time across a multiplicity of instances and places. Being on both sides – host or guest, user or provider, producer or consumer (prosumer) – presupposes the immense and multiple risky and unclear situations, where trust has to be negotiated, established and repetitively performed to reduce uncertain outcomes.

The implications of trust and risk behind sharing are key in our conceptualization of sharing mobilities. Individuals are responsible for navigating safely through the world of complexity augmented by the internet and its emerging new mobility technologies. Reflexively they have to choose the trajectories and interactions that they engage in, learning about navigating through the emergence. People engaged in sharing practices need to be capable of turning on and off a cosmopolitan perspective as spaces and objects are increasingly accessible and shared with strangers on the move or in a state of immobility (i.e. dwelling). While distinctions between mass and privileged access to spaces and objects will remain, there is increasingly less certainty who and how they will be accessed and shared by, and on what terms.

Sharing as Unavoidable in Future Cities

With mobilities' strong impacts on modern economies, cultures and cities, this exchange of resources, knowledge and information has become even more significant (Hannam, Sheller, and Urry 2006; Freudendal-Pedersen, Hannam, and Kesselring 2016). Concurrently, this process has enabled a degree of specialization and expertise, providing cities and societies with economic efficiency and technological development. Seen from a social science perspective, the rise of sharing services from Uber, Lyft and

BlaBlaCar, to Airbnb and Couchsurfing, and from station-based car-sharing services such as DriveNow, car2go, CleverShuttle and the like makes sharing systems a growing part of urban mobilities. Right now, Uber, as one of the giants in the field, is pioneering mobility and transport and has recently been estimated to be worth more than 70 billion USD (Tyfield 2018, 194). But Uber is just the glossiest competitor in a wide field of big players, such as Alphabet (Google), Alibaba, Tencent and Baidu, all of which have entered the highly diverse global market of "After-the-car" (Dennis and Urry 2009) services or as it has been named, Mobility-as-a-Service (MaaS). The economic dynamic and disruptive quality of sharing mobilities has neither been intended (by most economic actors) nor foreseen or even actively sought; instead, the dynamics of new sharing practices and of global commons have developed a self-organizing energy which has not been "on the radar" for most players in the field. The rise of new mobility services in multinational corporations such as General Motors, Daimler and Toyota is more a reaction to the social transitions in the "system of automobility" (Urry 2004), and the disenchantment of the automobile as an object of conspicuous consumption, than an intentionally propelled business model.

But where does this social change come from? What drives Deutsche Bahn, BMW, Daimler, Uber, Alibaba, and many other local and regional companies and initiatives like Cambio in Germany and GoMore in Denmark (just to name a couple) into a highly risky and uncertain market and business endeavour? Can we seriously expect a new mobility regime, with completely new players in the field, with more diversity and maybe even higher efficiency, especially in cities with growing markets for sharing mobilities? Do we need to say goodbye to the (auto)mobilities world as we know it?

Maybe another unintended consequence, a positive side effect of these economic and social shifts, may be conceivable: new forms of accessibility to common goods could generate more equality, social participation and social sustainability by making mobility available for wider social groups. This could even have positive effects on labour and the sustainability of mobility cultures in general. Access to people, goods, ideas and services forms the basis of urban developments. It could be a pathway for alternative ways of thinking about mobilities, individual ownership, the organization of space, and the changing relationships people have to mobility artefacts, such as cars, bikes, scooters and so forth. Instead of searching for the "one-best-way-solution" (Kesselring 2019), this might be a new, almost playful way of experimenting with possible solutions.

Increasing and improving the accessibility of cities, places and sites is an important reason why people increasingly share cars and bikes as well as houses, food, expertise and mastery in science and craftsmen's work, etc. (McLaren and Agyeman 2015; Meyer and Shaheen 2017). Once radical visions have become part of the lingering but steady transformation of values, norms, procedures, institutional routines and even capitalist

principles (Ostrom 2012; Mason 2016), a burgeoning political awareness can be witnessed in cities, regions and in mobilities as well as in transportation research, planning, politics, business and civil society. As mentioned before, global car producers not only become part of the new sharing culture and economy, they also become drivers of the whole process, moving away from mobility concepts that built on the centrality of individual car ownership. It is not only the "classical sharing concepts" that play an essential role here – the discourses on automated driving, electric mobility and the discussions around congestion charges and other restrictions on automobility must also be taken into account when trying to understand the current transitory disruptive dynamics of mobility and transport (Freudendal-Pedersen, Hannam, and Kesselring 2016).

In first and second modernity the "system of automobility" (Urry 2004), with its credo of the car as the one best way of being mobile and connected, has seemingly been unbeatable. There wasn't serious competition for this symbol of flexibility and success. But right now, modern societies are observing an accelerated diversification and the rise of a system of multi-mobility. This is strongly driven by the digitalization and mediatization of all spheres of modern lives (Canzler and Knie 2016; Couldry and Hepp 2017). The digitalization and "robotization" (Elliott 2016) of, for example, the automotive industry and its major product has a deep impact on the organization of everyday life, economic activity and sociality in general (Fraedrich and Lenz 2014; Fraedrich, Beiker, and Lenz 2015). In this sense, sharing mobilities is much more than just a case of sharing cars or any other mode of transport; against the backdrop of climate change, sustainability and individual ownership of vehicles, the car – as the facilitator and the main social technology of modern lives that gives access to individual freedom and self-actualization – has been fundamentally questioned. When global car companies invest in new mobility concepts it has to do with the fact that the car industry knows that the future of automobility will look different. The equation "freedom = individualized, privately owned automobility" does not apply in the same way as it did throughout the twentieth century.

In relation to physical mobilities (bike- and car-sharing), it seems quite clear that these sharing platforms are a new form of rental economy facilitated on a peer-to-peer level through the internet and the many new portable technologies increasingly becoming normalized in today's world (Kallis 2014). The gathering, combining and privatizing of user data in an ICT-based Public Bike Sharing System has created a resource that is not currently being used to achieve civic goals, but rather is being used to enhance both the brand image of operators and to increase leverage in order to facilitate the cooperation of municipal governments. Thereby, the shared bike is being transformed into a vehicle for harvesting, recording and combining user data with a view to monetizing this resource and the

relatively pervasive and black-boxed nature of this datafication and its politicization is a key issue.

However, these kinds of sharing fundamentally alter modern principles of mobility and flexibility and also feed emerging discussions on the rise of commons as a social and cultural resource in a cosmopolitan world full of social, ecological, economic and cultural risks.

We are witnessing how sharing is not only seen as a radical vision (see e.g. Wolfgang Sachs' work), but has become a part of a slowly emerging but steady transformation of norms and routines. "Networked (urban) mobilities" (Freudendal-Pedersen and Kesselring 2018b) can be interpreted as a growing social and political awareness and an opportunity to act, which is interwoven with the global environmental crisis (Urry 2011; Dennis 2013). The consequences that consumption has on the condition of the planet (see Urry 2010) have been at the forefront in the media and, thus, in our daily lives. However, this is often ignored since it is hard to determine how to act on these concerns. The sharing economy provides an opportunity to act collectively. Modern everyday life is full of choices (even if, sociologically, choice is a concept which needs careful treatment as there is no such thing as completely free choice). Virtual mobility, smartphones and computers provide a previously unseen awareness of options which increase our physical mobility – we want to get out and see, notice, taste, smell or participate in some of the opportunities we discover on the internet. Most people are aware that this increased mobility plays a role in allowing our cattle to overgraze our community pasture. But the ability to act for the common good in a world where individualization plays a major role is the big challenge. This should not be confused with egotism or a lack of ethics or common responsibility; paralysis by analysis has become an increasing problem in a world where information saturates our everyday lives, especially when it comes to information about environmental crises. In many ways, the sharing economy can be viewed as an opportunity for individuals to step up to these challenges. The sharing economy therefore has an opportunity, and a responsibility, to establish new types of communities that can handle local/global responsibilities and transform them into positive visions for both cities and regions.

Content of the Book

In this book, we conceive of sharing mobilities as an emerging system of socio-material relations, digital and tangible infrastructures, politics of access and connectivity, co-worked performative scripts, co-created values and temporalities, that offer many potentials and also challenges. In Chapter 1 we tried to set the stage for this emerging phenomenon and elaborated on the openness and the uncertainties linked to it.

In Chapter 2 Bridgette Wessels approaches the field through a focus on the platform economy as virtual exchange-based mobilities comprised of

networks of sharing and transactions that seek to add value to resources. She understands it as both an extension of commercial exchanges and as non-profit-making communal activities. Individuals draw on culture and the language of the second modernity to assess the meaning of sharing versus the meaning of transaction. Thereby, accessing resources becomes meaningful through a reflexive engagement with the social values embedded within.

In Chapter 3 De-Jung Chen contributes to the discussion on virtual exchange-based mobilities by focusing on Couchsurfing. She demonstrates how a global network of free-hospitality provision is being redesigned by the locals in a specific context for specific users' needs. The hosts in her fieldwork in Taiwan are not simply providing a space to stay, they extend the space and time by creating a new type of educational context and exchange between the locals and travellers. The crucial insight from the study is how the global platform is being appropriated and kept alive in a specific local context, as an element of infrastructure, and where access is the key value and the often taken-for-granted privilege.

Following this, in Chapter 4, Emmy Laura Perez Fjalland takes a different focus and concentrates on sharing as the outset for the evolution of human populations. Sharing resources collected or hunted in order to keep one's tribe strong, and thus able to survive, was what held societies together, grounded in trust-based local communities. She moves on this perspective to understand the community-based aspect of sharing as a way to co-create other and more sustainable futures. Fjalland's focus is on the sharing mobilities of food and opens up the importance of sharing information and knowledge in the form of storytelling. Storytelling is co-creating reparative futures that can create a common platform to act from.

Philipp Rode and Nuno F. da Cruz focus, in Chapter 5, on governance aspects of the overarching topic. They show how access to people, goods, ideas and services comprises the basis of city development. Rode and da Cruz discuss a pathway for alternative ways of thinking about mobilities, individual ownership, the organization of space and the changing relationships people have to mobility artefacts, such as cars, bikes, scooters and so forth. This is done through a discussion of accessibility governance, where they argue that a focus on the accessibility paradigm affects the capacity for integrating shared mobility and mobility as a service in transport and planning policy.

Chapter 6 by Justin Spinney and Wen-I Lin focuses on a different aspect of the platforms of sharing: the gathering, combining and privatizing of user data in an ICT-based Public Bike Sharing System in China. They discuss how this has created a resource that is not currently being used to achieve civic goals, but rather is being used to enhance both the brand image of operators and to increase leverage in order to facilitate the cooperation of municipal governments. Thereby, the shared bike is being transformed into a vehicle for harvesting, recording and combining user

data with a view to monetizing this resource and the relatively pervasive and black-boxed nature of this datafication and its politicization is a key issue.

In Chapter 7 Kaima Negishi provides insights into the shared time-space continuum of socio-materiality in public transport through a focus on the coexistence of diverse temporalities in Tokyo's metro system. Approaching shared mobilities from a temporal perspective, where understanding of time is borne out of the time discipline and punctuality of the train, shows how ordered time is appropriated by passengers to structure their routine of daily movement. However, disruption and disrupted routines affect psychological state as passengers risk being late for work and provides insights into the promises of digital mobility, where our movement is assumed to become seamless and more coordinated and thus embedded into our everyday experience. However, one has to account for the inevitable risks of overreliance on this promise of seamlessness, the habituation of singular temporality and expected rhythm.

Vincent Kaufmann's contribution in Chapter 8 deals with the issue of automated vehicles as a matter of the mobile risk society. He critically interrogates the promises formulated by industry and planning in relation to shared autonomous vehicles, in particular. By looking into the potential consequences and risks, which cannot yet be fully estimated or forecasted, he raises fundamental questions for the future of sharing mobilities. With an unfamiliar technology such as autonomous vehicles, he states, we are forced to dream of an unknown and uncertain modernity, that will be shaped – potentially – by this technology. Modernity will not be devoid of familiar risks and tensions, the risk of losing a job or the risk of being run over by a rogue, hacked, virus-infected or "simply" overly artificially intelligent vehicle.

In Chapter 9 Tom Erik Julsrud and Cyriac George change the focus into car-sharing in Norwegian households who adopt organized car-sharing services as their family transportation option. They show how car-sharing can be perceived as a healthier habit, as it becomes incorporated into the everyday life of the suburban family. The authors lead us to a key insight about car-sharing as a part of sustainable mobility systems, irrespective of class, income or gender. Adopting a lifestyle without the private car requires active effort and determination to adjust life habits, which will produce stable routines of movement. It may require active learning of additional computer apps and co-working out of performance scripts with other members of the household.

Arve Hansen, Nguyen Tuan Anh and Luu Khanh Linh venture, in Chapter 10, into the so far little-explored case of informal mobilities in a rapidly changing mobilities scene in Vietnam. They present research on the arising social tensions between motorbike taxi drivers using the Grab-Bike application and traditional motorbike taxi drivers. They outline a clear similarity to the grievances of taxi drivers across the world opposing Uber

and similar ride-hailing applications. What makes this case different is that they are part of the informal transportation provision and, as such, the flexibility and precarity are characteristic for employees in both motorbike taxi systems. They are somehow caught in the insecurities of the mobile risk society since they are part of and dependent on a highly risky and fluid employment sphere, where coexistence rather than violent competition is the norm for sustaining livelihoods and survival.

Notes

1 See: www.researchgate.net/publication/334397737_Sharing_Mobilities_Cosmobilities_Conference_2016_Program.
2 See: www.volkswagenag.com/en/group/strategy.html (last accessed 11/07/2019).
3 See: www.researchgate.net/publication/334397737_Sharing_Mobilities_Cosmobilities_Conference_2016_Program (last accessed 11/07/2019).
4 See the market capitalization of the biggest internet companies worldwide as of June 2019 (in billion U.S. dollars): www.statista.com/statistics/277483/market-value-of-the-largest-internet-companies-worldwide/ (last accessed 6/17/19).

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Notes

Chapter 1

1 See: www.researchgate.net/publication/334397737_Sharing_Mobilities_Cosmobilities_Conference_2016_Program.
2 See: www.volkswagenag.com/en/group/strategy.html (last accessed 11/07/2019).
3 See: www.researchgate.net/publication/334397737_Sharing_Mobilities_Cosmobilities_Conference_2016_Program (last accessed 11/07/2019).
4 See the market capitalization of the biggest internet companies worldwide as of June 2019 (in billion U.S. dollars): www.statista.com/statistics/277483/market-value-of-the-largest-internet-companies-worldwide/ (last accessed 6/17/19).

Chapter 3

1 The poem 'My Cottage Unroofed by Autumn Gales (茅屋為秋風所破歌)' was composed by a famous Chinese poet, Tu Fu (杜甫) (A.D.712–770), and translated by Prof. Dr Xu, Yuan-Chong.
2 People registering on Couchsurfing can choose different ways to interact with other members. Some people choose to be the 'hosts' offering their places to travellers, while some people choose to be the 'surfers' staying over with the locals. The rest, who are neither hosts nor surfers, can meet other members by having 'coffee or drinks' together.
3 Tim Berners-Lee is a software engineer, who is best known as the inventor of the World Wide Web (abbreviated WWW) and the first web browser computer program (https://webfoundation.org/about/sir-tim-berners-lee/).
4 LiveJournal is a Russian social networking service where users can keep a blog, journal or diary. It was launched in April, 1999.
5 Blogger is a blog-publishing service, which was launched in August 1999.
6 Tim O'Reilly popularized the term, Web 2.0, which was proposed to improve WWW websites by emphasizing user-generated content, usability and interoperability for end users.

Chapter 4

1 Miljøministeriet, Regeringens Strategi for affaldsforebyggelse "Danmark uden affald II". Numbers are from 2015.
2 CONCITO (2011) Rapport: Det skjulte madspild. (Report: The Hidden Waste of Food). CONCITO is "Denmark's Green Think-Tank", and the referred report is based on two analyses conducted by Aarhus University (DK) and Copenhagen University (DK). Link: https://concito.dk/files/dokumenter/artikler/madspild_-_kortlaegning__handlingskatalog_juni2011_pressemeddelelser—18-bud-p–mindre-madspild-i-f-devaresektoren_2_1038998358.pdf.
3 The study is based in my PhD project that was funded by Roskilde University and the Danish Architecture Centre.
4 The Danish Veterinary and Food Administration under the Ministry of Environment and Food of Denmark, explicate the arguments on this website by drawing on EU legislation and regulation: www.foedevarestyrelsen.dk/Leksikon/Sider/Fodring_af_dyr_med_rester_fra_fodevareproduktion.aspx.
5 In developing countries, 40% of losses occur at post-harvest and processing levels while in industrialised countries more than 40% of losses happen at retail and consumer levels. In the Global South, the main part of food waste – food loss – occurs before the food gets to the marketplaces. This happens due to failed harvesting techniques, poor storage and refrigerating techniques, and transport conditions. The problem is not that not enough food is being produced, the problem is that too much food is being produced, but never gets to the mouths that need it the most. Also, it is estimated that between 25 and 35% of initial foods are discarded before getting to the Global North, due to strict standards on size, shapes, and colour. Link to the FAO (Food and Agriculture Organization of the United Nations): www.fao.org/save-food/resources/keyfindings/en/ (website accessed December 4, 2018).
6 Link to the new Mighty Earth report on the relation between soy production in the Global South, and feed companies and agriculture in the Global North: www.mightyearth.org/avoidablecrisis/ (website accessed December 4, 2018).
7 These were listed in the Nordic Kitchen Manifesto in 2004 by 12 visionary chefs: www.newnordicfood.org/.

Chapter 6

1 We make a distinction in this chapter between PBSS 1.0, the older generation of docking and largely municipally governed public bike sharing, and PBSS 2.0, which refers to the newer generation of ICT-based and dockless bike sharing, financed and operated by private firms.

2 Whilst there is some evidence that similar civic realm issues have been experienced in other cities around the world they have generally not been as intense as the situation found in Shanghai. The authors are currently conducting research into the spread of PBSS in the UK.

Chapter 7

1 A subsequent report compares definitions of delay in different countries (BBC 2017b). It shows that the Japanese railway network issues a certificate as a proof of delay when a train runs five minutes behind schedule. By contrasting this with railway networks of other countries including the U. S, the U.K. and Switzerland, the report concludes by stating that 'on-timeness' and 'delay' is differently measured in different places.

Chapter 9

1 The data collection is the first round of interviews within the TEMPEST project, where a larger number of interviews with car sharing households will be conducted across four European countries.

Chapter 10

1 Although the law restricts the number of passengers to two.
2 Drawing on Urry's (2004) "system of automobility".
3 About USD 2300.
4 The Vietnamese website states that you need your own motorbike and a 3G compatible telephone with minimum Android 4.1 or iOS 8.1. www.grab.com/vn/driver/bike/.

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