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ABSTRACT

This special issue is about the ways in which mobilities, as they are made and lived, tamper with a multiplicity of entwined normative and temporal orderings. Questions concerning the entwinement of temporal and normative orderings are not only a challenge for social theory. Mobilities, notably, make the intricate multiplicity of normative and temporal orderings a palpable, everyday issue: Distant spheres have to be linked, gaps to be bridged, connections forged, groups coordinated, timelines met, processes aligned etc. Serving flexibility, safety, synchronization and efficiency, contemporary mobilities involve diverse timings and commitments. This special issue, then, examines how multiple normative and temporal orderings unfold in practice, how they overlap and interfere, support and challenge one another. The multiple orderings that characterize today's mobilities are typically coordinated by means of infrastructure – sequences, breaks and buffers, brackets, borders and walls – in ways that we describe as co-existence, conflict, containment, and collation.

Skippers work hard to combine a profitable life onboard with a social life on land. Passengers on long-distance flights sleep in public to mute the temporal confusions that accompany travel across time zones. Municipal traffic engineers care for safety, efficiency, and tradition. Developers juggle fragments of code, each with a distinct history, to build navigation software. Automobile residents refer to a medley of rules, habits and entitlements when they coordinate their parking in crowded neighborhoods. Frontex officers, employed at Europe's borders, tinker with work flows and handle multiple temporalities at the same time. And simulation modelers mobilize various timing regimes to match limits and guidelines.

This special issue is about the ways in which mobilities, as they are made and lived, tamper with a multiplicity of entwined normative and temporal orderings. Taking its cue from Mimi Sheller's call for *Mobility Justice* (Sheller 2018), the special issue explores the diverse tempo-normativities implied in designing, maintaining and engaging mobilities. Take punctuality: being 'on time' is both an issue of timing as well as compliance – compliance with a cherished convention whose appeal is increasingly undermined by real-time synchronization. Real-timeness, in turn, relies upon an intricate mesh of practices that invoke multiple times and timings, commitments and rules, frames and conventions. Skippers, Frontex officers and smart city managers can tell you a thing or two about it. Ethnographers perhaps, too.

In the midst of time pressures and the ever-present possibility of breakdown and crisis, questions concerning 'normality' and the normativities implied in mobilities have long been backgrounded. With this special issue we seek to foreground how mobilities intertwine normative and temporal

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dimensions of social order. The COVID-19 pandemic makes these issues all the more visible and relevant: the mobilities of things, data and human beings are normatively and temporally regulated – as we all experienced ourselves in times of lockdowns, wearing masks in public, adhering to social distancing and sometimes even observing quarantines; a term derived from 14th century Venetian term *quarantino* referring to the 40 days one had to spend in confinement on ships entering ports during the Plague (Mackowiak and Sehdev 2002).

Questions concerning the entwinement of temporal and normative orderings are a challenge for social theory. While the multiplicity of normative orderings has emerged as a focal point of theorizing (Boltanski and Thévenot 2006; Lamont 2012), their temporal dynamics have received little attention so far. And while the multiplicity of time, its polyrhythmia and pluritemporalism (Adam 1994; Lefebvre 2004; Nowotny 1992) along with its uneven acceleration (Simmel 1903; Virilio 2006; Rosa 2015; Wajcman and Dodd 2017) have been recognized, its implications for theorizing the ways in which normative orderings emerge, persist and relate remain largely unclear.

Mobilities, notably, make the intricate multiplicity of normative and temporal orderings an issue: distant spheres have to be linked, gaps to be bridged, connections forged, groups coordinated, timelines met, processes aligned etc. Serving flexibility, safety, synchronization and efficiency, contemporary mobilities involve diverse timings and commitments. In the wake of digitization and the rise of 'smart' traffic technologies, for example, punctuality is increasingly complemented, and eclipsed, by real-timeness – a novel and heterogeneous tempo-normative regime of mobility that challenges traditional notions of being 'on time' and 'right on schedule' (Weltevrede, Helmond, and Gerlitz 2014; Kitchin 2018; Fisch 2018).

Presenting seven empirical studies, this special issue examines how multiple normative and temporal orderings unfold in practice, how they overlap and interfere, support and challenge one another. All contributions focus on various forms of mobility, such as, for example, traffic and transport, migration and travel, that – as 'active producers of realities' (Revill 2013) – receive and re-enact a stunning multiplicity of social orderings. Yet, as we know from everyday experience, mobilities are conflicting, capricious and 'crumpled' (*Vehlken* in this issue). Pressure and stutter, fudged compromise, frictions and frustrating breakdowns seem to be integral to what it means to be mobile and to mobilize others.

In the following, we briefly trace the temporality of normative orderings – as well as the normativity of temporal orderings (section 1). In anticipation of the contributions to this special issue, we then outline how the multiple orderings that characterize today's mobilities are typically coordinated by means of sequences, breaks and buffers, brackets, borders and walls. As we argue, particular attention is due to the ways in which infrastructures (de-)stabilize heterogeneous tempo-normative arrangements (section 2). Finally, we offer an individual introduction to all special issue contributions (section 3).

1. The temporality of normative orderings and the normativity of temporal orderings

It has been argued that 'time is central to order [. . .] since without a temporal order there is no order at all' (Adam 1994, 9). While functionalist social theory emphasizes stability and durability of social order, ethnomethodological and interactionist approaches stress its processual nature. Social order is seen as a continual accomplishment of a social setting's members (Garfinkel 1967) or as the preliminary result of negotiations (Strauss 1993). The mobilities turn similarly eschews 'sedentarist' or 'a-mobile' notions of social order and emphasizes movement: people, things and ideas are not fixed and stable, but mobile and dynamic (Sheller and Urry 2006, 208f.; Urry 2007). Building on these notions we see social order as something fluid, animated by a multiplicity of entwined and conflicting mobilities.

Dynamic notions of social order are connected to the idea of *kairos* – the right moment to do certain things, a window of opportunity that opens itself for a short time only (Cipriani 2013, 9ff.).

Kairotic time is opposed to chronological time. While the former denotes subjective experience, the latter refers to calculated notions of time as expressed in clocks and calendars. Often these two temporal regimes are at odds. When, for example, railroad workers are coupling trains they have to coordinate subjective 'switching time' and objectified 'clock time' (Kemnitzer 1977) – the latter being precisely measured and expressed by the schedule of trains, the former resting on experience and the 'ability to integrate time, distance, and subjective estimates about weight, slope, and speed in making decisions about the movement of cars and engines in switching' (Kemnitzer 1977, 27). In a similar vein, European border patrols make use of data infrastructures, they have to compromise between situational awareness and the needs of proper administrative time-keeping (*Pollozek* in this issue).

Of special importance in that regard are 'critical moments' (Boltanski and Thévenot 1999). When things are not working and, as a consequence, people become vocal, disputes and controversies arise – for example, when public transport breaks down (Röhl 2019) or motorists unknowingly violate informal parking rules (*Kurnicki* in this issue). Persons involved in such situations are subjected to an imperative of justification. Critics must produce justifications in order to support their criticisms just as the person who is the target of the criticisms must justify his or her actions in order to defend his or her own cause. Society's members are competent to criticize others making use of a repertoire of different established 'orders of worth' (Boltanski and Thévenot 2006). Normative orders are thus established temporarily during moments in which things are at stake. They are themselves temporal with regard to the relations they enact between 'different sets of people and objects' (Boltanski and Thévenot 1999, 361). Industrial orders of worth, for example, are characterised by the idea of efficiency governing different entities: things need to be done as quickly as possible. In contrast, domestic orders of worth value long-term relationships more highly and thus emphasize durability and stability.

Specific social situations and their specific order ('frames') are singled out temporarily and are often ostentatiously marked by 'brackets' (Goffman 1974). An obvious example is a theatrical play where the opening of the curtain and its subsequent closing designate the beginning of something different. A less obvious example are the material surroundings of public transport demarcating that the informal rules of traveling, for example, on a bus (Kim 2012) or on a train (Bissell 2009) apply during a journey. Yet, even when a frame is established, social order is still fragile and ambiguous. A social scene can become something different by small changes and signals ('keys'; Goffman 1974, 43): Rude behaviour such as talking loudly on a bus can become a funny prank, honking a car's horn can turn from warning someone to a greeting: 'a given activity, one already meaningful in terms of some primary frameworks, is transformed into something patterned on this activity but seen by the participants to be something quite else' (Goffman 1974, 43–44). Moreover, social situations are usually characterised by the simultaneity of multiple normative orderings. Normative orderings are thus only temporary and have marked beginnings and endings. And they also compete with other orders that are present at the same time.

A long-standing question is to what extent social order is a local accomplishment, negotiated in the situated here and now. Can actors build on pre-established conventions (Boltanski and Thévenot 2006) or informal rules of an 'interaction order' (Goffman 1983)? Or is social order mainly 'produced from within' (Suchman 1997, 54)? To give an example illustrating these different approaches: Imagine a crowded bus. At a bus stop people are trying to get on by squeezing themselves in. Since people are standing in the doors, they cannot be properly closed and the journey cannot continue. The bus driver wants to adhere to the schedule and drive on as soon as possible, since they risk sanctions by their employers. An approach drawing upon the sociology of conventions (Boltanski and Thévenot 2006) could argue that the bus driver and passengers recur to established collective orders to solve this problem: an industrial order that values efficiency, or a civic order asking for equal rights, a domestic order of personal relations and trust etc. Should the bus driver simply close the doors and drive on? Or should they and the passengers decide on some principle to select who can get aboard – based on, for example, passengers' age or the urgency of their journey? An ethnomethodological approach (Garfinkel 1967), on the other hand, highlights the situated methods employed to settle this issue.

With what means do bus driver and passengers enact different principles and orders? Do they talk loudly and interrupt each other? How are alliances practically formed? Taken together, however, both approaches stress the fragility of social order, its multiplicity and its propensity to change – pointing to the temporal dimension of normative orderings.

Yet temporalities are in themselves normative. Timings can work as prescriptive devices as they convey norms and normative shifts. Rhythms enforce forms of life, conveying routines, rules and principles. In his ethnography of long-haul delivery, Benjamin Snyder describes the various temporalities that truck drivers are juggling to 'turn late loads into on time loads' (Snyder 2016, 107). There is the chronological time of the HOS (Hours of Service Regulations) that drivers are obliged to observe. There is flexible freight time. There are rush hours in urbanized areas; and there are day and night, demarcated by sunrise and sunset. There is family time, and then there is sleep time. Kevin, one of the younger drivers Snyder accompanies, 'affectionately refers to his alarm as "the bitch"' (Snyder 2016, 113). Apparently, Kevin's affection is ambivalent. He purchased a special alarm clock to help him synchronize the time he is awake with the time he is able to earn money. So the alarm does its job and regularly disrupts his sleep, pushing him to drive in a groggy state, with 'zombie-like bleakness' (Snyder 2016, 113). What is bad timing for his body (he can feel it wearing off), is good timing for long haul. Kevin is paid for delivering on time, as his company attaches worth – market value – to having its freight delivered fast and on ever-changing schedules.

As they interweave timings and rhythms, temporal orderings have worth attached to them: 'On time' pays, but faster may pay more. Real time may be considered even better. Throughout industrialization, the disembodied time of *chronos* served as default, as the 'normal' time against which efficiency is measured and with the help of which complex corporate undertakings are coordinated, standardized and synchronized (Lefebvre 2004; Schivelbusch 2014; Zerubavel 1982). The last century has witnessed how the unrelenting beat of chronological time has been accelerated continuously (Rosa 2015; Wajcman and Dodd 2017). More recently, however, it seems that clock time 'is being supplanted [...] by a mix of instantaneous and glacial times' (Urry 1994, 131; see also Hassan 2007; Fisch 2013; Kitchin 2019) – against the backdrop of which it has become invaluable to have 'your own time' and 'time for yourself' (Lyons and Urry 2005; Sharma 2014).

Notwithstanding grand narratives about standardization and acceleration in (post)industrial societies, temporal orderings are far from being universal. Attempts to standardize time have always been contested, and standardization itself has never been a streamlined process (Ogle 2015). People, for instance, switch between solar Gregorian and lunar Islamic calendar (Hijri) to anchor and synchronize everyday and religious practices. Lived time, however, is bound to escape the rigidity of calendars.

Worth is attached to time(s) in utterly different ways. Drawing upon Thévenot (2007), time can be understood as being valued in different 'regimes of engagement' (in terms of convenience, performance, or justice) and with reference to a variety of measures of worth (Mandich 2019). Measures of worth may concern, e.g. family, efficiency, or pecuniary market value, notorious for being volatile and scrimpy. Worth is attached to time for purposes of coordination. While market value mediates between supply and demand, what Boltanski and Thévenot (2006) call 'domestic value' helps align practices that make for families and parenthood. Much of mid-20th-century Western labor and tax regulations sought to help foster the steady rhythm of what was deemed conventional family life, protecting weekends and holidays. Snyder (2016, 93) observes how federal deregulation at the company level, combined with tightening HOS regulations at the worker level, have made it ever more difficult for truck drivers to extract domestic value from long-haul driving. Skippers in European inland navigation face similar challenges when they try to make time for both family and profit (*Boersma* in this issue). Today, entire categories of workers – such as, for example, temporary migrant workers and domestic workers – around the world experience great difficulties in attenuating work time and family time. Global economies have come to depend on these workers giving up family time. The time of different people is valued differently and decisions of how to use time for whom are increasingly questions of power – for example, academic supervisors granting 'their' time to PhD

students, or refraining from doing so (Bourdieu 1990). These temporal 'valuations' (Lamont 2012) are thus intimately linked to social inequalities.

2. Sequences, brackets, and walls: the socio-temporal infrastructures of mobilities

Think of the yoga mat that grounds you in the 'here and now,' in between corporate meetings, in between work and leisure (Sharma 2014). Think of a truck driver's sleeping berth and its thick curtains (Snyder 2016, 108). Think of coffee. Think of the infrastructures that control urban traffic and navigate cars. Think of the earplugs and sleeping masks that frequent flyers bring with them (*Schindler* in this issue). Think of the bells that alert ferry passengers to arrival (Stäheli 2012). Think of the borders that migrants pass and the rigid, sequential hierarchies by which international border police manage to report migrants' movements 'in real time' – only to stop them before they reach their destination (*Pollozek* in this issue). A plethora of artefacts (slides, buffers, switches) as well as the skilled use of stimuli (caffeine, light, noise, signal) and infrastructures (traffic, energy) help manipulating im/mobilities as they enmesh, and cut, temporal and normative orderings (Hannam, Sheller, and Urry 2006).

Infrastructures are temporal phenomena in their own right (Star and Ruhleder 1996; Star 1999): they have a history and a future (Anand, Gupta, and Appel 2018). As 'promissory assemblages' (Färber 2019) they are accompanied by visions of a better and brighter future which becomes especially apparent in the case of infrastructures that were never built or finished (Carse and Kneas 2019). Their temporality is also evident in the work needed to keep infrastructures operational and updated, to deal with legacies and different kinds of knowledge and expertise (see the work of IT engineers to design navigation software; *Bialski* in this issue).

Always in flux, infrastructures are fragile (Denis and Pontille 2015), and subject to inevitable decay (Cohn 2019). They require a whole work of maintenance to fix, update and repair (Henke 1999). The fragility enables unconventional orders of mobility, ways through which things and bodies are enforced or escape enforcement, are included or excluded, donated, exchanged or smuggled, colonized, reminding us that mobility orderings are uneven and contested (Sheller 2017) and in turn create and carry uneven temporal and normative orders (see the case of traffic lights management; *Wagenknecht* in this issue). At the same time, leaks represent kairotic opportunities where other normative and temporal orderings are negotiated or become visible – for example, when European border patrol officers struggle with predefined categories and the 'realtimeness' of Frontex' data infrastructure (*Pollozek* in this issue). Data transfer protocols, sensors calibration and all the Internet of Things devices that form the 'smart city' discourse fall in the same temporal, normative and material enactment of mobility, especially since mobility management processes are increasingly automated.

As shown by a recent series of contributions at the intersection of STS, Organization Studies and Science and Technology Studies, also inspired by Lefebvre's rhythmanalysis, the temporality and normativity inscribed in digital infrastructures connects the tiny scale of *algorhythms* and calculations (Miyazaki 2012) to the large-scale flows of, for example, water, energy, and finance (Palmer and Jones 2014; Walker 2014; Borch 2016). The mobility of data mingled with urban management practices allows the mobility of vehicles and people which in turn offer further data that feed back into the system and inform management, planning and governance (Coletta and Kitchin 2017). As a result, the 'real-timeness' of urban management is a combined effect of latency, adaptation, prediction, and simulations that shape the timescape of the (smart) city (Stehle and Kitchin 2020), test urban possibilities and model social relations while producing hybrid epistemologies (*Vehlken*, this issue).

Thinking about such socio-temporal infrastructures, we can delineate several overlapping ways of coordinating normative orderings temporally: *co-existence, conflict, collation* and *containment*. As part of material devices and infrastructures, several normative orderings usually *co-exist* without any overt problems or conflicts. Studies on the development of technological artefacts and infrastructures offer a number of accounts telling us about the plurality of normative orders that needed to be aligned: early bicycles, for example, needed to adapt to new groups of users that looked for a safe

and comfortable means of transportation instead of a fast and rather uncomfortable sporting device (Bijker 1995).

The co-existence of normative orders was thus preceded by negotiations and *conflicts*. These conflicts are, however, temporarily suspended and blackboxed at some point during development. Yet, they can resurface anytime, especially during breakdowns and disruptions (Pinch 2010; Trentmann 2009). When, for example, Iceland's volcano Eyjafjallajökull erupted in 2011, European's aviation infrastructure in all its fragility came into view and the very notion of mobility had to be re-negotiated (Birtchnell and Büscher 2011). And when non-residents park their car in a neighborhood characterised by informal parking rules, implicit normative orders re-surface (*Kurnicki* in this issue): Notions of familiarity on the one hand, and of official legitimacy on the other can be at odds. Such negotiations and trade-offs between different normative orders extend beyond present persons and encompass past and future actors via material residues of their practices. For example, when automobilists and traffic managers negotiate how traffic is governed by signals, they have to deal with the rhythms already implemented (*Wagenknecht* in this issue).

Material devices also *collate* a range of temporal and normative orderings, bringing them into contact with each other and synchronising them. Prime examples are calendars and clocks (Peters 2013) and other time-measuring devices employed to coordinate mobilities of people, goods and things. They serve as reference point for a number of mobile practices: schedules and timetables in public transport, for example, can be used to establish punctuality as a norm – and in turn, deviations and delays come into being due to this norm. And traffic simulations (*Vehlken* in this issue) and navigation software (*Bialski* in this issue) coordinate mobility practices by making assumptions about motorists and their typical behaviour. Material infrastructures and artefacts such as schedules and software code consequently are not mere representations of time, but are used in practice invoking chronological time as a normative order (Suchman 2011): by referring to schedules or code one can call for orderly and timely conduct reminding others to 'stick to the plan'. On the one hand, this seemingly homogenizes practice, on the other it highlights the plurality of temporal and normative orders – orders differing from objectified time become highly visible *because* of their deviation creating opportunities to resist (Orlikowski and Yates 2002). Schedules can make it apparent that nobody adheres to them thus making it easier to admit that the plan does not work and likewise ignore it. And when workers go on strike they actively oppose the objectified time of working according to plan.

Another way of coordinating normative orders temporally is *containing* and suspending one order in favor of another. For a restricted time, one order is foregrounded and any deviation from that order warrants an account. Public transport *contains* collectives of people in its vehicles and subdues them to its temporal and normative orderings. By putting them in enclosed spaces different forms of transport temporarily structure collective experience and submit them to their own temporal logic: for example, being rather immobile as a passenger onboard a plane (*Schindler* in this issue) or being subject to the temporality of waterways onboard an inland navigating vessel (*Boersma* in this issue). Modern forms of public transport like ferries in the 19th century create particular forms of temporalities experienced by collectives – 'as material infrastructure [the ferry] enables a repetitive ritual of gathering characterised by a specific temporal rhythm of its own' (Stäheli 2012, 109; our translation). Entering a ferry or other means of public transport means subduing oneself to such rhythms. Often this means that passengers first have to wait for the arrival and departure of their means of transport – a specific temporal experience that is neither active nor entirely passive (Bissell 2007). In general, the rhythms of journeying often diverge clearly from other temporal orders, for example, the temporal order of the mainland connected to islands in British Columbia via ferry service (Hodson and Vannini 2007). Similarly, the literal containers of international shipping hide away the diversity of goods and their worth, allowing them to be treated universally and making standardization and synchronization of international logistics possible (Dommann 2020; Levinson 2008; Martin 2014). Literal containment, again, separates different ideas of treating things, foregrounding one normative order (efficient handling and transporting of goods) in favour of another (selling and presenting specific products). Consequently, containing means to tempo-rally sequence normative orderings in an attempt to separate them. Island life and its rituals are kept

separate from mainland life, some practices are frowned upon aboard a plane (like cutting one's nails) or have to be transformed (like sleeping). Such containments are often signaled via visible, tangible or audible 'brackets' (Goffman 1974): horns and bells that signify a departing vehicle, closing doors, packaging and wrapping things, the material environment of ships, planes and trains.

We would like to invite the reader to take co-existence, conflict, containment and collation as interpretive categories for the contributions included in this issue, observing how they shift into each other and intersect in various accounts. These categories also help us think more broadly about mobilities, and help us to theorize the interplay of different im/mobilities within and across temporal frameworks.

3. Overview of the special issue

The papers gathered in this special issue originated in an interdisciplinary workshop held at the Collaborative Research Center 'Media of Cooperation' at the University of Siegen in Germany in September 2018. We invited contributions addressing how temporal and normative orderings are related in the realm of different mobilities. They combine an empirical – mostly ethnographic – outlook with an interest in conceptual and theoretical questions. As is to be expected in the interdisciplinary fields of mobilities research drawing on a number of quite heterogeneous approaches (see Büscher, Sheller, and Tyfield 2016), the disciplinary scope of the papers is quite broad. Nonetheless, their common denominator is an openness to concepts from the interdisciplinary field of Science and Technology Studies in which strict disciplinary boundaries are questioned.

Larissa Schindler studies the practices of waiting in airborne travel, a mode of transport that dramatizes time as it entwines waits and hurries, slack time and harsh deadlines. Flights are not to be missed – but once you queued up, are seated and served a drink, you may as well sleep. Highly mobile and immotile at the same time, passengers of airplanes are confronted with multiple temporal and normative orderings. When they cross time zones, unambiguous clock time loses its grip and metabolic times becomes prevalent. On longer flights, many passengers prefer to sleep in order to mute the multiplicity of time and cope with the forced immotility of their bodies. While sleeping in public is typically deemed inappropriate in Western societies, it is common on planes and Schindler draws attention to *keying* of sleep in travel: Passengers' sleep is reframed, and reframed sleep helps transform the 'interaction order' (Goffman 1983) on board a plane. Airborne sleep invokes a normative ordering that transgresses the ways in which public and private, sleep and alertness are ordered on the ground.

Asher Boersma examines the shipped, riverine mobilities of skippers in inland navigation. He describes how skippers navigate shifting waters and shifting markets, regulations and cuts in control room personnel, tight dock schedules and jammed sluices, boredom, long hours at the helm, family commitments and the growing presence of leisure yachts on the Rhine. Boersma describes this navigation work as technologically-mediated coordinative efforts, efforts that are forging alignments and handling friction (when, e.g. a skipper with too heavy a load is scratching the rocky riverbed). Referring to Suchman's (1997) notion of 'orderings' – orderings that are forged, time and again, in the situated practices of everyday life – Boersma foregrounds four such orderings: navigation, regulation, market, and intimacy. These orderings come with distinct normative and temporal pressures; they conflict and support one another in ways that transcend clear-cut distinctions between land and water, nomadism and sedentarism.

Silvan Pollozek investigates the data infrastructures of Europe's border control organization Frontex. Frontex' information system JORA (Joint Operation Reporting Application) promises to provide real-time information on migratory movements and incidents. With Susan Leigh Star and others (e.g. Star 1999; Star and Ruhleder 1996) Pollozek understands this data infrastructure as an ongoing accomplishment in constant need of readjustments and work-arounds. This allows him to make visible how officers on the ground and in their offices have to tinker with the system in order to create real-timeness while also ensuring that data is reliable and valid. The result is a compromise in

which data on migration and border incidents is reported via two channels: a preliminary fast-track stream of data that allows for situational awareness, and validated but slow data used in long-term risk analysis. There is an inherent tension between producing valid data according to administrative standards and doing police work on the ground. While the former values accuracy and long-term use, the latter is more concerned with quick reactions to a dynamic and mobile field.

Susann Wagenknecht observes how municipal traffic engineers handle complaints about traffic lights, the pace makers of public space. Immersed in the nitty-gritty of traffic infrastructure, municipal engineers are challenged to answer to demands for justification while they keep traffic running. To do so, they tinker with seconds, fudge solutions, and find middle grounds. Engineers invoke safety, and are criticized harshly for not doing enough to serve citizens at the same time. Wagenknecht shows how traffic light sequences, the epitome of authoritative clarity, are the result of complex 'valuation' (Lamont 2012). Carefully, these valuations trade worth at varying scales in a moral economy that cultivates a heterogeneous set of values, such as, e.g. safety, efficiency, civic equality, as well as proximity and authority.

Karol Kurnicki investigates the understudied and rather immobile side of automobility: parking. In his research on parking practices in three Polish cities (Kraków, Tychy and Lublin), he identifies different normative orders present in the temporal coordination of parking. In many of the neighbourhoods he observed parking spaces were sparse requiring residents to temporally coordinate their parking practices. Formal rules of parking were often disregarded in favour of informal rules. Such informal rules are not derived from general rules but based on 'mutual accountability' (Rouse 2007, 3). Performing these rules facilitates synchronisation and coordination of practices. The parking needs of residents are coordinated in time by referring to notions of familiarity. Familiar cars – i.e. cars of residents and their visitors – can occupy spaces that are normally considered parking violations and obstruct other vehicles. With regard to other practices – such as celebratory practices – parking spaces are often temporarily reconfigured to meet other demands and can, for example, become a place to gather and celebrate.

Sebastian Vehlken dissects the temporal and normative dynamics of mobility as embedded in traffic simulations and modeling. He understands multi-agent based modeling (ABM) systems such as TRANSIMS as 'virtual testbeds' where different time scenarios and management regimes as well as social interactions are experimented with, anticipated and performed together. Especially when integrated into real-time big data analytics, we can see that the scenarios produced by ABM allow exploratory modeling between a multiplicity of disciplines, theories and events shifting from the realm of probability to the one of 'possibilities' (Amoore 2013). It is in this open (and risky) field, that sociology, media theory, political science and other disciplines can intervene and contribute to review and tune up the parameters and biases of the existing modeling practices.

Paula Bialski draws upon John Urry's (2007) typology of mobility to explore the mediations that produce mobility software and the temporal order that are inscribed into it. In her ethnography of 'BerlinTech', Bialski observes how software developers collaborate in the creation of a navigation system such as the one that calculates the ways to reach a specific destination. Far from being a linear path, finding the 'estimated time of arrival' from A to B becomes a complex journey involving multiple forms of expertise and organizational processes where knowledge is negotiated (and contested) between back-end and front-end developers. Temporal issues related to maps and software updates, optimization and speed as well as legacy need to be constantly revised and affect what Bialski calls the 'spatial world-making'.

These contributions are an invitation to scrutinize how mobilities – as they are made and lived – entwine, unravel, and dodge a plurality of temporal and normative orderings, how timings help mediate between conflicting normative orderings, how conflicting norms and notions of worth can be handled appropriately, how the rhythms of mobilities comprise (and compromise) worth and heterogeneous sets of value, how worth is extracted from time and timings are used to cut worth short, how time is valued and valuation timed, how rules persist in time and how regulatory regimes are switched on and off. In short, they address the minutiae of social order in which mobilities

thrive – i.e. the myriad, ever changing and fragile arrangements in which heterogeneous tempo-normativities, along with spaces, materials, and affects, come together (or apart).

The heterogenity of tempo-normativities also raises important questions about mobility justice (Sheller 2018). What kind of mobilities and their temporalities are valued highly? Who has to synchronise their temporal rhythms according to what principle? What kind of asynchronous effects are created? The abrupt reconfiguration of mobilities that we experienced during the COVID-19 pandemic highlighted and exacerbated such already existing inequalities. Take for example the workers in sectors such as: healthcare, logistics, cleaning, public transport, food and others. They fill the temporal and normative gap between the reduced mobility and the access to essential services, working overtime in extreme and precarious conditions, often without adequate protection, and suffering the stress of the lockdown once off work. As the rationale of containment prevailed over conflict, the rhetoric of 'heroes and angels' hindered the acknowledgement of these inequalities, as well as the rhetoric of the home as a 'safe place' did. The pandemic reminds us that mobilities rely on such normative frictions and temporal asynchronies, making some mobile and immobile conditions overexposed and others invisible. This special issue is exactly about the contested nexus of temporal and normative issues that underlie mobilities.

Acknowledgments

Disclosure statement

Funding

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