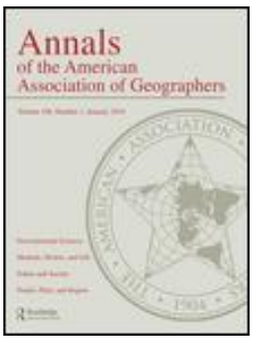

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Geographies of Mobility

Mei-Po Kwan* and Tim Schwanen†

*Department of Geography and Geographic Information Science, University of Illinois at Urbana–Champaign
†School of Geography and the Environment, University of Oxford

This introductory piece sets the context for the special issue and explains its rationale. It offers a series of reflections on the rise of the mobilities turn and its relations with preexisting research traditions, most notably transportation geography. Rather than placing different approaches in opposition and favoring one over others, we contend that all need to be seen as situated, partial, and also generative modes of abstraction. Each of these approaches makes mobility exist in specific and ultimately simplified and selective ways. In addition, we argue that geography as a pluralistic discipline will benefit from further conversations between modes of conceptualizing, theorizing, and examining mobility. We outline five lines along which such conversations can be structured: conceptualizations and analysis, inequality, politics, decentering and decolonization, and qualifying abstraction. The article concludes with discussion on three fruitful directions for future research on mobility. *Key Words: decentering, inequality, mobility, mode of abstraction, politics, transport.*

此一引介文章, 为此特刊提供脉络, 并解释其逻辑依据。本文提供一系列对于能动性转向兴起的反思, 及其与既有的研究传统之间的关係, 其中多半是运输地理学。有异于将不同的方法相互对立并偏好其中一种方法, 我们主张, 所有的方法皆需被视为情境化、不完全、且同时具有生产力的抽象化模式。每一种方法, 皆使能动性存在于特定且最终是简化且选择性的方式。此外, 我们主张, 地理学作为多元的领域, 将会进一步从概念化、理论化、以及检视能动性的各种模式之间的进一步对话中获益。我们概述此般对话可进行建构的五大方向▫概念化与分析, 不均等, 政治, 去中心化与去殖民, 以及限定抽象化。本文于结论中, 探讨未来能动性研究的三种成果丰硕之方向。 *关键词： 去中心化, 不均等, 能动性, 抽象化的模式, 政治, 运输。*

Esta parte introductoria pone el contexto para el número especial y explica su razón de ser. Ofrece una serie de reflexiones sobre el ascenso del giro de las movilidades y sus relaciones con las tradiciones de investigación preexistentes, más notablemente con la geografía del transporte. Más que formular diferentes enfoques en oposición y favoreciendo a uno sobre los demás, planteamos que todos los enfoques deben verse como situados, parciales y también como modos generativos de abstracción. Cada uno de estos enfoques hacen que la movilidad exista de maneras específicas y, en últimas, simplificadas y selectivas. Argüimos, además, que como disciplina pluralista la geografía se beneficiará de conversaciones avanzadas entre los modos de conceptualizar, teorizar y examinar la movilidad. Presentamos un esquema de cinco líneas a lo largo de las cuales puedan estructurarse tales conversaciones: conceptualizaciones y análisis, desigualdad, política, disgregación y colonización, y abstracción calificada. El artículo concluye con la discusión de tres direcciones productivas de investigación futura sobre movilidad. *Palabras clave: descentración, desigualdad, movilidad, modo de abstracción, política, transporte.*

It is now ten years since Sheller and Urry's (2006) seminal paper announced a new mobilities paradigm in the social sciences. Complementing and at times competing with established traditions of studying transport, daily travel, tourism, migration, and other forms of (im)mobility, research influenced by the ideas summarized by Sheller and Urry (2006) has taken flight in geography (for useful overviews, see Lorimer 2007; Cresswell 2011, 2012, 2014; Cresswell and Merriman 2011; Adey et al. 2014; Merriman 2015, forthcoming). The mobilities turn has had numerous beneficial effects on the discipline, including widespread acceptance of its key tenet that mobility is endemic to life, society, and space rather than exceptional and the attention it has drawn to a greater range of mobilities than previously considered worthy of academic geographers' attention. Perhaps its greatest achievement has been to elevate mobility to a class of core geographic concepts to which space, place, network, scale, and territory also belong. It is not surprising, therefore, that two of the contributions to this special issue (Cidell and Lechtenberg this issue; Miller and Ponto this issue) explicitly address the question of how mobility relates to those other core concepts.

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Conceptualizing Mobility

Perhaps inevitably, the elevation of mobility to iconic status in academic geography's panoply of core concepts has only diversified understandings and definitions of what has always been a fuzzy term. Were anybody to claim that mobility used to be a straightforward term prior to the mobilities turn, they could easily be proven wrong. A survey[1] of articles published in the *Annals of the Association of American Geographers* (1911–2010) suggests that in the last four decades of the twentieth century, the term *mobility* was used predominantly to denote residential movements by human individuals and households. Even in that period, however, the term had multiple uses: It was used in relation to individuals' daily and weekly trip-making (Wheeler 1972), the upward social mobility of individuals (Breese 1963), the ongoing movements of cattle and herders (Kollmorgen 1969), and even in Foucauldian fashion as a synonym for energy and force (Sack 1976). Nonetheless, it is before 1960 and from 2000 onward that meanings and referents—that is, the mobility of whom and what—are more diverse. Here we restrict attention to the pre-1960 period, as usage of the term at the start of the twenty-first century might well have been influenced by the early pulses of the mobilities turn.

In the first half-century of scholarship published in the *Annals*, the term *mobility* was used in relation to many different referents: from faunal life (Joerg 1914) and plants (Gleason 1922) to technology (Ginsburg 1957), armies (Frey 1941; Whittlesey 1945), cotton and other commodities (Platt 1927; Marschner 1944; Murphey 1954), oil and nuclear energy (Hoffman 1957), centers of dominance in economic areas (Sauer 1941), and indeed human individuals in subject positions as diverse as customers of shopping centers (Platt 1928) and the "North American Indian" (Dryer 1915, 122). The whole world is indeed on the move and has always been so; what has changed with globalization is the intensity of movement and the geographic scale over which many of those movements occur.

Moreover, in early *Annals* articles, mobility does not merely denote actual movement. The term has been used to denote potential movement or a capacity to become mobile, as in Smith's (1943) discussion of nomad mobilities that folds together everyday mobility and migration or in Hall's (1955) discussion of MacKinder's conceptualization of the transition from horse and camel to railroad mobility in what is now known as Russia and central Asia. Meanwhile, Sauer (1941) seemed to equate mobility with a certain level of energy and dynamism, which is common in more contemporary interpretations, and Whittlesey offered what today would be recognized as a relational understanding: mobility as a capacity to move afforded by the interactions between vessel and ocean (Whittlesey 1945) and between horse or motorized vehicle and state of the road (Whittlesey 1956). Our point is, of course, not to argue that nothing has changed in recent decades in either the realities we study or the worldviews, conceptualizations, and methodologies with which we try to make sense of those realities. It is rather that there are resemblances and connectivities between recent and older thinking about mobility in geography that can easily go unrecognized. Indeed, the suggestion of a linear progression from simple to more sophisticated understandings of mobility in geography caused by the mobilities turn should be avoided.

At the same time, it is also clear that conceptualizations of mobility and immobility have become richer and more diverse over the past decade (e.g., Adey 2006; Cresswell 2006, 2010; Merriman 2007; Hanson 2010; Bissell and Fuller 2011; McCann 2011; Ziegler and Schwanen 2011; Söderström et al. 2013; Adey et al. 2014). Arguably the most influential has been Cresswell's (2006, 2010) understanding of mobility as the fragile entanglement of physical movement, the socially shared meanings ascribed to such movement, and the experienced and embodied practice of movement. This conceptualization is also utilized by Eide, Turner, and Oswin and by Ritterbush in this special issue. It highlights effectively that mobility is more than a functional task imposed by the separation of objects—people, locations, services, and so forth—in space and time and that attempts to reduce mobility to merely the level of functionality amount to its depoliticization.

Cresswell's conceptualization has nonetheless been criticized. Frello (2008) and Enders, Manderscheid, and Mincke (2016) rejected its tripartite nature with reference to Foucault's (1972) archaeological method. They argued that the rules of discourse formation dictate first what can appear and be classified as movement and, second, who is in the position to legitimately claim understanding of movement. There is, then, no extra-discursive, empirical separation of movement from its other—rest, stillness, sojourn, mooring, stasis, and so on—and any such differentiation is a doing that enacts what it purports to describe (Law 2004). Mobility, on this reading, is an ever-changing object of knowledge that is coconstituted by

practices involving geographers and other social scientists, alongside all sorts of other agents.

Mobilities and Transportation

Cresswell's conceptualization can also be seen to reinforce a particular representation of transportation geography and transportation studies more widely. This representation separates rather than brings together research on mobilities and transportation within geography (for further discussion of this relation, see Shaw and Hesse 2010; Bissell, Adey, and Laurier 2011; Shaw and Sidaway 2011; Cidell and Prytherch 2015; Schwanen 2016). According to Cresswell (2010), transportation research has by and large failed to illuminate two of the three pillars under his conceptualization. In examining "how often [movement] happens, at what speeds, and where [as well as] who moves and how identity might make a difference," transportation researchers "have not been so good at telling us about the representations and meanings of mobility either at the individual level or the societal level [or about] how mobility is actually embodied and practised" (Cresswell 2010, 19). Implied here is an opposition rather than a contrast (Stengers 2011): transportation versus mobilities research. It would also seem that transportation geography is not merely partial and situated—as any practice of academic knowledge production inevitably is (Haraway 1991)—but severely limited. Defending transportation geography is not our aim here,[2] but Cresswell's account is problematic on two accounts. Not only is transportation geography internally heterogeneous and are parts of it closely connected to and coevolving with the mobilities turn (e.g., Kwan 2007; Schwanen and Kwan 2008; Goetz, Vowles, and Tierney 2009; Bissell, Adey, and Laurier 2011; Shaw and Docherty 2014; Cidell and Prytherch 2015; Wilsmeier and Monios 2015), but parts of the subdiscipline can also be seen to generate new understandings of mobility and not merely movement.

It is not simply the case that in conceptualizations like Cresswell's movement is separated from discourse. At a more fundamental level, mobility is bifurcated between an objective, primary realm of brute fact—movement—and a further reality of secondary qualities and human "additions"—meaning, sensation, perception, feeling, and so forth (cf. Whitehead 1920; Stengers 2011). Where in the current era of big data, physicists pride themselves on cutting through the "biases" resulting from human additions and finally uncovering the "laws" dictating movement (e.g., González, Hidalgo, and Barabasi 2008; Simini et al. 2012), Cresswell and various other mobility scholars criticize transportation researchers for, to paraphrase Latour (2005), substituting the cold fact of movement for the rich meanings or embodiment of mobility. Their critique is a version of what, after McCormack (2012), can be called the default understanding of abstraction as "a malign process of generalization and simplification through which the complexity of the world is reduced at the expense of the experience of those who live in the concrete reality of this world [and that] reproduc[es] disembodied habits of knowing, techniques of alienation, and fail[s] to recognize corporeal difference" (717). But what if the lived and the abstract cannot be placed in dualistic opposition? What if the object–subject bifurcation of mobility into objective and subjective elements is suspended and resisted? What if movement, meaning, and practice are understood as truly entangled and mutually implicated in ways that language struggles to make graspable?

This alternative imagining allows us to think differently about various ways and traditions of researching mobility and to turn oppositions into contrasts. It suggests that those transportation geographers who appear to reduce mobility to movement and those mobilities scholars who seemingly privilege meaning or practice are in fact creating different abstractions—here more affirmatively understood as selections and simplifications—through their particular methodological practices. In so doing they allow mobility as an ontologically uncertain, complex, and emergent process to be articulated and exist in new and differentiated ways. Whereas research on the embodied experience and politics of skateboarding (Stratford this issue) or Latin@ (im)mobilities (Maldonado, Licona, and Hendricks this issue) brings out unique aspects of mobility, studies using Global Positioning System (GPS) tracking technology, regression modeling, and Monte Carlo simulation (Hu and Wang this issue; Naybor, Poon, and Casas this issue) articulate mobility in wholly different ways that are likely to elude other methodological practices. In principle, then, the specific practices of all communities of geographers studying mobility are generative rather reductive (Latour 2005). This most emphatically does not mean that "anything goes" (Feyerabend 1975), as all articulations should be plausible to peer groups in academia and increasingly beyond; they must be sufficiently robust, logically coherent, and inscribed into one or more traditions of research that

they simultaneously prolong and change (Stengers 2000, 2005). Emphasizing the generative qualities of research makes clear that mobility is always more than, and in excess of, what a single study or a particular tradition of research can make understandable.

In many ways, different approaches to understanding and examining mobility are the consequence of differences in modes of abstraction. For Whitehead (1926), practices of abstraction were necessary and inevitable. He cast abstraction in a much more positive light than geographers tend to do nowadays because, as a mathematician turned philosopher, he understood that thought, research, and plausible articulations of mobility become impossible without selection and simplification; what matters is how abstraction is practiced (Stengers 2011; Schwanen 2015). Whether practices of abstraction are good or appropriate is difficult to tell because there is no external yardstick—logical positivism's absolute truth—against which abstractions can be evaluated. Any evaluation is necessarily relational and dependent on the purpose of analysis, the researchers' peer group(s), and wider dynamics in how academics and others understand the world.[3] Hence, as feminist theorists have long since reminded us (Haraway 1991; Mouffe 1999; Longino 2002), any such evaluation is also shaped in profound ways by asymmetric and unevenly changing power relations.

Yet, the complexities of evaluating and comparing modes of understanding and examining mobility should not result in what Barnes and Sheppard (2010), after Bernstein (1988), called fragmenting pluralism—a situation in which researchers are only able to communicate within narrow, homogenizing communities whose members share similar habits of thought, dispositions, and practices of abstraction. Barnes and Sheppard set a high standard and sought to avoid a range of (rather common) ways in which researchers situated in a particular approach or tradition engage with other modes of abstraction (see also Kwan 2004). They believed that paying lip service, superficial appropriation, and polemics are best eschewed as well. Theirs is a call for engaged pluralism—a conversation across dividing lines and uneven positions that is as open as possible, that is not rationalized by elimination of the passions, and that marginalizes or excludes no mode of abstraction.

We realize that Barnes and Sheppard's ideal of engaged pluralism for geographical research on mobility is far from straightforward. Yet, this special issue seeks to make a modest contribution to the creation of a pathway toward the habituation and institutionalization of such engaged pluralism. It does so in three ways: by offering a forum in one of the discipline's flagship journals that brings together the many different ways in which geographers currently study mobility, by identifying sometimes fragile lines of connection across the variegated body of research on mobility, and by outlining some avenues for future research where further conversations and debates would be fruitful.

As the eighth of a series of annual special issues of the *Annals* that highlight geographic research around a significant global theme, this special issue is certainly not the first forum for a plurality of geographic approaches to the study of mobility (see, e.g., Uteng and Cresswell 2008; Schwanen and Páez 2010; Ernste, Martens, and Schapendonk 2012; Cidell and Prytherch 2015). We believe, however, that this attempt is unique in scale, openness, and heterogeneity of contributors. It started with a broad call for papers issued in September 2013, asking for abstracts to be submitted to the Association of American Geographers (AAG) journal office. Contributions were sought from a broad spectrum of scholars who address social, cultural, political, environmental, economic, theoretical, and methodological issues related to human mobility. These include geographic research in areas such as: (im)mobility and social differentiation and inequality; (im)mobility of the oppressed, subjugated, and persecuted; (im)mobility and social exclusion; experience of (im)mobility; politics of (im)mobility; commuting; leisure travel; tourism; mobility by different transport modes; sustainable mobility; mobility and resilience; disasters, natural hazards, and mobility; mobility, well-being, and health; mobility, energy consumption, and greenhouse gas emissions; space–time modeling and geographic information system (GIS)-based analysis of mobility; mobility research methods; and other relevant areas.

The response to the call for papers was overwhelming: We received 230 abstracts in total. The selection process was difficult because we sought to achieve several goals, including diversity in theme, perspective, approach, method, and regional focus; contribution to geography through innovative theoretical, methodological, or empirical work; and adherence to the theme of mobility. Exclusions remain inevitable, however. Partly because of the requirement for abstracts and papers to be submitted in English and the communication channels used to disseminate the call for papers, researchs from non-Anglophone speakers and countries (and not only the Global South) remains

underrepresented. Also, as a result of a focus on human mobility that relates to relatively short timescales, papers that only consider the mobility of artefacts or migration in isolation from people's everyday trips, business travel, or tourism have not been included in this special issue.

Lines of Connection

The strength of special issues is that they enable new insights to emerge from bringing together the individual contributions. In this way, emerging themes, lines of connection, and differentiations within a research community become visible and new opportunities for conversation across shifting position arise. Although it is not a representative sample of all geographic engagements with mobility due to various considerations and reasons, this special issue suggests at least five lines of connection across the heterogeneous ways in which geographers study mobility. As it becomes clear later, these five lines are interwoven in multiple ways. They are also not the only ways in which the article are linked; other linkages could have been drawn out as well. For instance, quite a few articles deal with commuting as a more regular and repetitive form of mobility (Bissell this issue; Hu and Wang this issue; Naybor, Pool, and Casas this issue; Parks this issue; Preston and McLafferty this issue; Zhong and Bian this issue) and with questions of health and well-being in relation to mobility (Baker et al. this issue; Naybor Poon, and Casas this issue; Ritterbush this issue; van Blerk this issue; Zhong and Bian this issue). The fivefold division that follows offers a useful way of organizing the articles in this special issue.

Conceptualizing and Analyzing Mobility

Addressing general and broad theoretical, conceptual, analytical, and methodological issues is an important concern for many geographers interested in mobility studies. As mentioned earlier, mobility has now become a significant core geographic concept alongside space, place, network, scale, and territory. Two of the contributions to this special issue address how geographic work might connect theorizations of space and spatialities in geography with the rich conceptualizations of mobility that have emerged as a result of the mobilities turn. Cidell and Lechtenberg (this issue), for instance, draw on the work of a Czech geographer active in the twentieth century—Kamil Skrbek—to develop a theoretic framework for connecting the spatialities of transportation geography and mobility studies. They explore four kinds of spaces—spaces of movement, spaces of transportation, structural transportation space, and areas of transportation—and suggest that these notions could offer new analytic tools and the possibility for bringing together the two fields through one conceptual framework. Arguing that sociospatial theory is still largely rooted in a sedentarist perspective, and exploring ways for coherently integrating various dimensions of sociospatiality, Miller and Ponto (this issue) examine the connection between mobility and the four distinct sociospatialities identified by Jessop, Brenner, and Jones (2008): territory, place, scale, and networks. Based on an examination of the practice of automobility, Miller and Ponto argue that mobility is "a social, cultural, and political achievement, inherently power-laden and recursively bound up in the production of territory, place, scale, and networks."

Addressing analytical and methodological issues in human mobility studies that use big data, Kwan (this issue) highlights important changes in the geographic knowledge production process associated with the shift from using traditional "small data" to using big data and explores how computerized algorithms might considerably influence research results. She extends and goes beyond earlier arguments (Kitchin and Lauriault 2015) that big data is socially produced, power-laden, and oligoptic by showing that its use can introduce more rather than less uncertainty in geographical studies of mobility. Big data certainly does not speak for itself and its utilization makes mobility exist in selective, partial, and often problematic ways. She calls into question the notion of data-driven geography, which ignores the potentially significant influence of algorithms on research results. Instead she suggests that it is more appropriate to refer to this new kind of geographic inquiry as algorithm-driven geographies (or algorithmic geographies), as the production of geographic knowledge is now far more dependent on computerized algorithms than before. Birenboim and Shoval (this issue) discuss the opportunities and limitations of smartphone data for geographic scholarship on mobility. Many advantages of such data are summarized, but the authors also point to various risks, including selectivity in sampling, geoprivacy and data confidentiality, and data collection techniques that enact the mobility they purport to describe because participants adjust their mobility practices.

Together these two articles highlight significant methodological issues in human mobility research that uses big data.

Inequalities in Mobility

Inequality and exclusion are classic concerns in transportation geography and research (Hanson and Kwan 2008; Lucas 2012; Schwanen et al. 2015; Weber and Kwan 2015) and are equally prominent in the mobilities literature (Uteng and Cresswell 2008; Ohnmacht, Maksim, and Bergman 2009; Söderström et al. 2013; Adey et al. 2014). Despite many differences in exact focus and conceptualization, it has long been recognized that mobility or mobilities are both generating and an outcome of inequalities and exclusion. One of the most insightful strands of literature in this regard is the work by feminist scholars on home–work relations and strategies for overcoming the space–time constraints imposed by competing claims on one's time and for navigating the social norms and emotions associated with care and employment (e.g., Hanson and Pratt 1995; England 1996; Kwan 1999, 2000; Jarvis 2005). Another such strand is the work on race or ethnicity and mobility, much of which has been influenced by Kain's (1968) spatial mismatch hypothesis (e.g., McLafferty and Preston 1992; Ihlanfeldt 1994) but has since moved beyond this idea to address other concerns, including social exclusion and sociospatial segregation (e.g., Uteng 2009; Farber et al. 2015). Both strands of work are represented in this special issue through articles on commuting as a racial mobility project (Parks this issue), on the ongoing evolution of gender and racial differences in commuting in New York (Preston and McLafferty this issue), and on the activity and travel patterns of widowed women in rural Uganda (Naybor, Poon, and Casas this issue).

The emphasis on gender, race, and their intersections with other processes of social differentiation is complemented by an explicit orientation on other social identities that have more recently attracted attention in the literature on mobility—youth, migration and refugee status and sexuality. In keeping with the wider children's geographies literature, there is now a vibrant body of work on the mobility of children and young people across different modes of abstraction (e.g., Kullman 2010; Buliung, Selima, and Faulkner 2012) to which this special issue adds in various ways (Aitken this issue; Cope and Lee this issue; Van Blerk this issue). Cope and Lee, for instance, qualify now popular arguments in the transportation literature that young people are the driving force behind "peak car" (Goodwin and Van Dender 2013)—the idea that across the Global North car ownership and use are no longer growing and are possibly declining. Using a mixed-method approach, Cope and Lee show the continued importance of the car alongside smartphones and other digital devices in fulfilling young people's mobility needs, particularly in areas with low population densities. Attention for the everyday mobility of migrants and refugees and of LGBT+ individuals is much more recent and nascent (Bose 2014; Nash and Gorman-Murray 2014), but the contributions by Maldonado, Licona and Hendricks, and Ritterbush demonstrate how migrant or refugee status and sexuality are coproduced and coevolve with inequalities in and exclusions from mobility, with forms of involuntary immobility as limit cases.

Mobilities scholars have shown convincingly that inequalities in mobility are not only linked to social identity; differences in network capital (Urry 2007) and motility (Kaufmann 2002) create social stratifications that are only weakly correlated with gender, class, age, and so forth. Sheller (this issue) contributes to work in this tradition through a study of how communities in Haiti seek to resist the uneven distribution of network capital in postearthquake Haiti.

Politics of Mobility

The studies mentioned under the previous heading also fit under this one, particularly if politics of mobility is defined as "the ways in mobilities are both productive of social relations [involving the production and distribution of power] and produced by them" (Cresswell 2010, 21). The contributions in this special issue extend understanding of such politics in various ways. Eidse, Turner, and Oswin (this issue) profitably draw on Cresswell's six elements—force, tempo, rhythm, route, experience, and friction—of a politics of mobility, combining this with Kerkvliet's (2009) notion of everyday politics in their study of street vendors in Hanoi. Struggles over who belongs in streetscapes, where, when, and how are also at the heart of Stratford's article, which combines Cresswell's six elements with Lefebvre's right to the city and thinking on play and generosity through a focus on street skating.

Other articles extend the burgeoning literature on mobilities and citizenship (Cresswell 2006, 2013;

Spinney, Aldred, and Brown 2015). In different ways, Aitken (this issue), Price and Breese (this issue), and Staeheli, Marshall, and Maynard (this issue), as well as Maldonado, Licona, and Hendricks (this issue), show how citizenship as an assemblage of roots and routes (Cresswell 2013) "is produced at many different 'sites' and increasingly [from] the relations between these" (Spinney, Aldred, and Brown 2015, 326). Where Aitken (this issue) and Price and Breese (this issue) consider the relation between individual and nation-state through an analysis of minority populations in Slovenia and Latino migrants in the United States, respectively, Staeheli, Marshall, and Maynard (this issue) focus on citizenship beyond the state and as emerging from transactions and circulations through the example of international conferences as space–times where young citizens are formed. The theme of geopolitics is also picked up by Rowen (this issue), who analyzes the relationships between tourism and state-level geopolitics through a study of tourism mobilities that help to reconfigure the relationships of the People's Republic of China with Hong Kong and Taiwan.

Bissell's (this issue) contribution takes the politics of mobility theme in yet other directions. His concern is that the conventional focus on subject-centered analysis concerned with particular figures—the employed mother, the migrant, the sex worker, the citizen, the tourist, and so on—risks drawing attention away from the micropolitics associated with the ongoing churn of events and encounters during particular movements. His Deleuzian approach—illustrated through autoethnographic research on a commute between Sydney and Wollongong—offers a useful complement to other macropolitical work in the special issue and elsewhere on how gender, race, and migration status shape and distribute (im)mobility.

Decentering Mobility

Of the twenty-six main articles in this special issue, four concentrate on East Asia (including China); three on Africa; one each on Latin America, the Caribbean, and Eastern Europe; and another one—by Cidell and Lechtenberg—draws explicitly on notions postulated by Czech geographer Kamil Skrbek. If Staeheli, Marshall, and Maynard's and Best's contributions are added,[4] it can be argued that half of the contributions have a clear link with settings outside North America, Western Europe, and Australia and New Zealand. This is clear evidence that, as a consequence of and enabled by the globalized and globalizing mobilities of people (not least academic geographers!), information, and ideas, geographic scholarship is undergoing a long overdue shift away from its conventional orientation toward the Global North.

This decentering of orientation is beneficial for multiple reasons. It opens up new questions and concerns across traditions of studying mobility within geography. For instance, both the analysis by Naybor, Poon, and Casas (this issue), which is firmly set in the transportation geography tradition, and the mobilities articles by van Blerk and Ritterbush highlight the complex relationships between mobility and livelihoods. Naybor, Poon, and Casas show how the lifting of constraints on mobility makes it easier for widowed women in rural Uganda to earn a living, thereby empowering a group that is otherwise at risk of social marginalization. In contrast, van Blerk (this issue) and Ritterbush (this issue) each study sex workers, with the former working with young women in Ethiopia and the latter with transgender women in Bogota. Both show how livelihood and identity can trap sex workers in particular places but are also made possible by—indeed necessitate—moves away from familiar places, relatives, and friends. Mobility and immobility become imbued with multiple and profoundly ambiguous meanings and affectivities in the process.

Second, a focus on mobility outside Global North settings can easily demonstrate the spatial and historical contingency of understandings of mobility. This is convincingly shown in Porter's (this issue) contribution on the interconnections of physical mobility and mobile phone usage in rural areas in Tanzania and Malawi. Her research suggests that the widely reported conclusion in Western studies that increased mobile phone use has not generated a major reduction in travel activity does not hold in parts of rural Africa. There, the friction of distance is (still) so much larger because walking remains by far the most dominant way of getting around, mobility is costly in financial terms, and traffic accidents take many lives.

Finally, although the connection is certainly not inevitable, a decentering away from Global North settings might facilitate the diffusion of postcolonial and decolonial thinking[5] throughout geographic scholarship on mobility. Past research has certainly engaged with postcolonial theory (e.g., Sheller 2003; Roy 2012), but it is fair to say that such thinking has been taken up less in both transportation geography and mobilities scholarship than in other parts of geography. That postcolonial theory can strengthen mobility

research in geography is in this collection most clearly demonstrated by Best's (this issue) study of dollar cabs operated by Caribbean immigrants in Brooklyn, New York. More conventionally seen as an informal, semiclandestine form of transport in urgent need of regulation or as a last resort for poor people without access to "regular" public transport or private car use, dollar cabs become ambiguous elements in contemporary New York that open new understandings of speed, time, and everyday life in transnational migrant communities as well as the racialized nature of automobility if examined through a postcolonial lens. Best's paper therefore offers an interesting complement and contrast to other papers on mobility, race, and migrant status in this special issue (e.g., Maldonado, Licona, and Hendricks; Parks; Preston and McLafferty).

Qualifying Abstractions of Mobility

From an affirmative perspective on abstraction (Whitehead 1926; McCormack 2012; Schwanen 2015), all articles in this special issue selectively engage and simplify mobility as an ontologically uncertain, complex, and emergent process. They might do so in radically different ways but always innovatively. It can, in fact, be said that the articles qualify abstractions: Not only do these articles make mobility to exist in particular ways through their conceptualizations, theorizations, and methodological practices, but they also identify and "add" particular qualities of and to mobility that in previous and other contemporaneous research remain more or less unarticulated. The set of articles under this heading of the special issue is fairly arbitrary but gathers contributions that innovatively bring out aspects of mobility by linking various understandings of mobility to specific strands of literature and theory, methodological tools, and new data-producing technologies from other parts of the discipline and beyond.

Some papers articulate specific facets of mobility by drawing on specific bodies of literature in geography and beyond. Thus, Spinney (this issue) seeks to understand governmental interventions to encourage cycling through the lens of biopolitics and Harvey's (2001) work on spatial fixes. Baker et al. (this issue), in contrast, focus on the mobility of ideas as "emerg[ing] from people and their relations with others" and more specifically on policies, thereby combining understandings from the new mobilities paradigm with similar developments in urban planning and anthropology. Hu and Wang (this issue) evaluate excess commuting and examine the temporal trends of commuting patterns in both time and distance, using a Monte Carlo simulation-based approach that takes into account the effects of land use patterns. Zhong and Bian's (this issue) article offers an interesting contrast with that by Baker et al., although the former engages less with a particular body of social theory than the now widely deployed analytical frameworks (in transportation geography) of network science and graph theory. Like Baker et al., Zhong and Bian examine how a particular object—in their case influenza—diffuses spatially through the movements of people. Although not explicitly interested in meaning and power, these processes are still shaping and implicitly considered in Zhong and Bian's analysis of individuals' daily travel between homes and workplaces. The final contribution speaks to the question of how big data—in particular those generated with and through mobile phones—enable new practices of abstraction to geographers interested in mobility and other issues (see also Graham and Skelton 2013; Kitchin and Lauriault 2015; Rae and Singleton 2015). Xu et al. (this issue) show how big data collected with mobile phones can be used to extend and improve time-geographic analyses of human activity spaces.

Avenues for Further Research

Bringing together many different ways of conceptualizing, theorizing, and empirically examining mobility and thereby creating new connections across modes of abstraction, the special issue also points to various themes and developments that could stimulate further conversations across traditions and modes of abstraction within geographic scholarship on mobility. Here we limit ourselves to identifying three such themes and developments.

Health and Well-Being

As suggested earlier, health and well-being is a theme that runs across a number of article in the special issue. In many ways it is central to geographic scholarship on mobilities because exposure to factors that influence health and well-being, access to or use of health care facilities, and spread of disease are inextricably connected to human movement at various spatial and temporal scales (Gatrell 2011; Kwan 2012, 2013; Schwanen and Wang 2014; Chen and Kwan 2015). As people move around in their daily life and over their life course, they are under the influence of

many different places (or geographic contexts) and come into contact with different persons or social groups, in particular during time they spend outside of their residential neighborhood and during travel between different locations. Thus, people's exposure to environmental and social influences that affect their health and well-being changes over space and time in a highly complex manner. Moreover, particular forms of mobility might be more or less healthy because of the level of physical activity involved—witness the large literature in transportation and health literature on cycling and walking as "active travel" (Gatrell 2013; Schwanen 2016)—and because they can induce and stimulate experiences of belongingness, freedom and autonomy, and self-esteem (Hanson 2010; Nordbakke and Schwanen 2014).

Several areas seem especially fruitful for future research on the relationships between mobility and health and well-being. First, moving beyond the traditional notion of static, area-based geographic context (e.g., the residential neighborhood) to take into account the effects of people's mobility on their health and well-being will be an important research area. Adopting dynamic conceptualizations of geographic context and developing methods for collecting and analyzing dynamic data of human movement and environmental influences will be essential tasks (Kwan 2012, 2013). Second, future work on the relationships between mobility and health and well-being "should consider both the objective and the subjective" dimensions of well-being; researchers should also pay attention "to the multiple ways in which well-being and its linkages to mobility are context-dependent and shaped by the particularities of time and place" (Nordbakke and Schwanen 2014, 104). Third, because researchers from a wide range of disciplines have contributed important insights to understanding the complex relationships of mobility with health and well-being, future research can benefit considerably from adopting interdisciplinary perspectives that integrate diverse elements of various conceptualizations and methods. Fourth, the experiences of mobility and well-being seem drastically different for different social groups (e.g., older people). It is important for future research to be attentive to the effects of social difference that are relatively understudied (e.g., sexuality, religion, migrant or refugee status), while also heeding what Bissell (this issue) calls the micropolitics of mobility to which people of any social group might be exposed during everyday movements. Finally, the discursive constitution of certain forms of mobility as healthy or unhealthy and the effects that such constitution has on mobility practices and experiences in different places deserve further scrutiny. For instance, can positioning urban cycling as healthy by policymakers and public health officials trump well-known barriers to cycling such as traffic safety risks, poor air quality, and inadequate physical infrastructure? To what extent do discourses that link automobility to obesity make car use a guilty pleasure or even—as with smoking (Tan 2013)—a form of resistance for particular groups in specific geographical contexts?

Further Decentering and Decolonization

This special issue suggests a broader trend of decentering of geographic scholarship on mobility away from the Global North. For various reasons, though, this process needs to be taken much further. First, from a policy and governance point of view, mobility poses one of the biggest challenges in regions outside the Western world. It is in emerging economies and developing countries that both overall mobility levels and inequalities in mobilities are growing most rapidly and seen to cause difficult ethical questions about priorities. For instance, should governments in these countries actively encourage (motorized) mobility to enhance (economic) development and individuals' life chances at the cost of slower emission reduction and decarbonization? Should governments condone growing sociospatial polarization in the short term in the hope that trickle-down effects will improve overall welfare in the long run, or should they reduce inequalities in mobility and guarantee "mobility rights" from the start? Geographers should not only address such questions but also critically interrogate their framing and unpack the often taken-for-granted assumptions on which they are based.

Second, research on mobilities beyond the Global North is for the most part conducted by scholars born in or at least trained in the center—academic institutions in the Western world or heavily influenced by Western thought. Conversations on the geographies of mobility would be greatly enriched if they became more "worlded" in the way urban theory is now starting to be (McCann, Roy, and Ward 2013; Sheppard, Leitner, and Maringanti 2013; Sheppard et al. 2015). The result will be the coming into being of geographies of mobility that durably reconfigure familiar distributions of core and periphery, theory and empirics. It would also enable the generation of mobility theories that are no longer formulated predominantly in the West or on

the basis of European-American ideas and practices regarding methods, data, and analysis. Also, Western theories would not simply be exported as if they were universal tools for making sense of other parts of the world that are taken to be little more than fields where materials can be harvested to test and refine theories formulated from a Western standpoint. This form of geographic scholarship on mobility would not be a hegemonic project seeking to provide somehow superior alternative knowledges but options (Mignolo 2011)—that is, modes of abstraction that neither take as given the epistemological, political, economic, and social domination of Euro-American ideas, institutions, and habits nor seek to marginalize and displace other conceptual and methodological practices. It would engage in dialogues and, through engaging other modes of abstraction in "publicly recognized forums for the criticism of evidence, of methods, and of assumptions and reasoning" (Longino 2002, 129), seek to induce change in those other modes.

Combining Big and Small Data

Geographers and transportation researchers have studied human mobility for decades. Many past studies used detailed data collected through activity-travel diary surveys, which provide rich and detailed information about many attributes of respondents' activities and trips. Geographers have also incorporated GPS data as an important element in this research (e.g., Shoval and Isaacson 2007; Shen, Kwan, and Chai 2013; Shoval et al. 2014). As collecting this kind of detailed data is costly and time-consuming, the rapid increase in the volume, diversity, and intensity of inexpensive data from various big data sources in recent years has stimulated new developments in human mobility research (e.g., González, Hidalgo, and Barabasi 2008). Although this research has yielded interesting findings (e.g., people make more short trips than long ones, and they return to certain locations regularly), what can be observed from big data about actual human movement is rather limited or can be highly misleading, as Kwan (this issue) argues. Studies using big data sets also tend to overestimate people's mobility and underestimate their daily travel distance.

An important area for future research is thus how traditional "small data," including qualitative data, can be used together with big data for overcoming the limitations of the latter (see also Kitchin and Lauriault 2015). For instance, activity-travel diaries record the details of respondents' activities and trips according to the temporal sequence in which they are undertaken on a particular survey day (Hanson and Hanson 1981; Kwan 1999). Qualitative or mixed mobile methods, such as ride-along interviews and GPS and video-based geonarratives, have also been used to capture people's experiences while moving around (e.g., Kwan and Ding 2008; Bell et al. 2015; Curtis et al. 2015). Because none of the rich and nuanced data collected through traditional or qualitative methods are available in popular big data sets, these data can be used to complement or enrich the analysis performed with big data in human mobility research. Future research can also explore the intersection between geographic studies of mobility and the broad concerns in digital humanities and the development of mobile methods in mobilities research. In this way, further connections can be forged between different approaches to the study of mobility in geography and engaged pluralism can become the norm that is enacted in research practices rather than an abstract vision for the future.

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Notes

1. We conducted a search of the journal's back catalogue by using *mobility* as the search term for the first 100 volumes of the *Annals* on the JSTOR Web site. More than 400 articles and commentaries were returned, going as far back as 1914.
2. Although the field is more vibrant, engaging, and concerned with more topical issues than many geographers believe (Schwanen 2016), it remains slow in engaging with the wider philosophical and theoretical debates

elsewhere in the discipline. It continues to struggle with the legacy of the quantitative revolution of the 1950s and 1960s and finds it difficult to reconcile the concerns of cultural and critical geography with the pressures exerted by cross-disciplinary dialogues with engineering, economics, and business studies and the unequal power relations characterizing those dialogues (see also Hanson 2000; Ng et al. 2014).

3. Whitehead himself was particularly concerned about inertia and obsolescence in abstractions. His philosophical project in the 1920s and 1930s can be seen as a fallible attempt to revise abstractions in thought dating back to the seventeenth and eighteenth centuries but no longer appropriate in light of the works of Darwin, Einstein, Bohr, Heisenberg, and others.
4. Staeheli, Marshall, and Maynard (this issue) discuss ethnographic fieldwork conducted at an international youth conference that took place in Sri Lanka, and Best (this issue) studies dollar cabs operated by Caribbean immigrants in Brooklyn, New York.
5. See Mignolo (2011) for discussion of the differences between postcolonial and decolonial thought. Although both seek to confront the legacies of colonialism, these bodies of thought have different origins and genealogies. Postcolonial scholarship emerged from the experience of British colonization in the Middle East and South Asia and has been influenced heavily by postmodernity and poststructuralism. Originating from the Caribbean and Latin America, decoloniality seeks to make visible, critique, and move beyond historic and contemporary forms of epistemic, social, political, and economic domination that place Eurocentric concepts and practices at the apex of civilization.

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MEI-PO KWAN is a Professor in the Department of Geography and Geographic Information Science at the University of Illinois at Urbana–Champaign, Champaign, IL 61820. E-mail: mpk654@gmail.com. Her research interests include GIScience, environmental health, human mobility, sustainable transport and cities, and GIS methods in geographic research.

TIM SCHWANEN is Associate Professor of Transport Studies and Director of the Transport Studies Unit in the School of Geography and the Environment at the University of Oxford, OX1 3QY, UK. E-mail: tim.schwanen@ouce.ox.ac.uk. His research interests include mobility, cities, well-being, energy consumption, and the conceptualization of temporality in geography.