Co-ordinating Passages: Understanding the Resources Needed for Everyday Mobility

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Co-ordinating Passages: Understanding the Resources Needed for Everyday Mobility

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ABSTRACT This article contributes to the ‘mobilities turn’ in social science by proposing new concepts and methods for analysing the ways in which people draw upon a range of resources to manage everyday mobility. We distinguish between the ‘projects’ people want to achieve and the ‘passages’ they need to go through in order to do so. We also distinguish between ‘pre-travelling’ and ‘re-ordering’. The analysis builds on insights from time-geography, mobility studies and actor-network-theory to develop a conceptual vocabulary for understanding the dynamic and situated nature of travel in everyday life. The study combines qualitative and quantitative data from a study of hypermobile people in the Netherlands.

KEY WORDS: Everyday; mobile phones; Netherlands, passage; project; exchange; resources; hypermobility; methodology

Introduction

From the perspective of the recent ‘mobilities turn’ in social sciences (Urry, 2000; Sheller & Urry, 2006, 2007; Büscher & Urry, 2009), everyday life involves mobility. Most people travel on a daily basis, to meet others, go to work, do the shopping or go to the dentist. Sometimes geographically dispersed people want or need to be co-present in the same place, such as for a birthday party or a haircut. Mobility can be understood as the ordinary and everyday achievement of planning and organising co-presence with other people and with material objects such as tables, chairs and occasionally also cake.

To establish these connections between people, people and objects, and people and places, co-ordination work is needed. For example, the organisation of a meeting requires colleagues to synchronise their diaries and schedule a meeting in a particular room at an agreed time. When parents bring a child to the nursery, they need to fit this
trip into their journey to work and remember to bring the nappies, baby food and clean clothes that the child may need that day. A group of friends that want to go to a concert need to arrange when and where to meet. Mobility therefore is more than just travelling from one place to another; it is also about arriving at the right place, on time, with the necessary things, often at the same time as relevant others.

This process is even more complicated for many people living in late capitalist societies such as the Netherlands. The complex tangle of social, economic, political and technological changes over the past decades means that many individuals and households are juggling multiple roles and responsibilities such as combining formal work and childcare or living in one place and working in another. We focus on those people we label ‘hypermobile’, a concept discussed further in the section on ‘methodology for studying everyday mobility’, but first we describe our approach to studying mobility. Drawing on insights from time-geography, mobility studies and actor-network-theory, we examine the heterogeneous resources people draw upon when planning and travelling. We make use of both qualitative and quantitative data, taking advantage of the enormous quantities of data generated by the use of digital technologies, such as mobile phones. In the discussion of our methodological approach and again in the conclusion, we reflect on different ways to track and represent movement and assess the challenges and opportunities facing researchers who have access to very different types of data. After the discussion of methodology, we illustrate the possibilities of our theoretical vocabulary and methodological approach to understanding the resources hypermobile people use to co-ordinate projects and passages in everyday life. In the conclusion, we return to the substantive and methodological implications of our analysis.

**Theoretical Context: Time-Geography and Everyday Life**

How do people time and space their mobility in order to accomplish their plans? What co-ordination problems, large and small, do they encounter when planning their activities and conducting their journeys? How do they solve these problems? Answering these questions requires a framework that allows us to study everyday mobility practices. We begin with a discussion of Hägerstrand’s time-geography (Hägerstrand, 1970, 1984). Following recent attempts to re-establish time-geography as a contribution to ‘rematerialised geographies’ (Schwanen, 2007), we focus on the possibilities and limitations of time-geographical representations of timing and spacing when we want to understand the work that goes into the co-ordination of everyday mobility. We argue that despite its name, time-geography does not offer the possibility to conceptualise the fluid and relational character of mobility practices. To understand the co-ordination work in these practices, we need to expand the concept of ‘project’ and make use of an additional concept, ‘passage’.

The time-space graphs introduced by Hägerstrand (1970) offer a seductively simple way of representing movement through space and time. An object moving through time-space follows a trajectory that can be pictured as in Figure 1, where it first only moves in time at (A), is then transported to another place (B) where it is stationary for some time, and then returns to its original location (A). Whereas this simple graph could be a representation of any object, Hägerstrand used it to model the movement of people through time-space. Interactions between moving individuals form time-spatial
‘bundles’ that coincide with concrete locations such as houses, streets, cities and states, which Hägerstrand calls ‘stations’. Note that the time-axis can be scaled: it can represent a day in the life of an individual or an entire life span.

People are not free to move around in time-space as they want. The time-space paths that result from human activity are subject to a number of ‘constraints’. (See Hägerstrand, 1970, 1984, 1988; Parkes & Thrift, 1980 for an extended discussion of capability, coupling and authority constraints.)

Although time-geographical graphs do not differentiate between people, objects and information moving through time-space, according to Hägerstrand humans are different from other entities in that their actions are goal-oriented. Hägerstrand used the term *project* to refer to ‘clusters of acts, individuals and items necessary for the completion of any intention-inspired or goal-oriented behaviour’ (Hägerstrand, 1973 cited in Schwanen, 2007; see also Lenntorp, 2004). To carry out projects, people need resources, of which space and time are the most obvious, since every activity takes place in time-space.

The success or failure of projects thus depends on the situated interplay between constraints and resources. Therefore, projects need so-called *pockets of local order*:

In order to carry out any project smoothly and undisturbed an actor needs access to room and periods of time that are sufficiently free from encroachment emanating from processes in the vicinity. He needs, technically speaking, one or more space/time pockets where a local order (from the actor’s point of view) can be maintained. (Hägerstrand, 1984, p. 207)

Schwanen (2007) points out that the time-geographical vocabulary can be combined with (post) actor-network approaches (see Law & Hassard, 1999; Latour, 2005) in that Hägerstrand describes projects as the co-ordination of heterogeneous elements, both material and immaterial, into spatio-temporal arrangements. Schwanen goes beyond the implicit human-centredness in Hägerstrand’s definition by drawing attention to the ‘set of actions performed by an association of materially heterogeneous elements working together’ (Schwanen, 2007, p. 15). Further, he highlights the ways in which projects are fluid and likely to change over time.
As an analytic framework of travel time, the time-geographical vocabulary is valuable, but to obtain a pragmatic understanding of the different ways people co-ordinate their daily travel in relation to their projects, we need to extend it in order to embed how people experience travel time in everyday practices (Urry, 2006). We therefore suggest adding the concept of ‘passage’ (Peters, 2006) to the vocabulary. Seen in terms of the simple time-space graph in Figure 1, we would thus locate the passage as follows (Figure 2):

Another way of conceptualising travel time is needed in order to understand the everyday co-ordination of mobility. How can we understand travel time, not just as a neutral yard stick used to sequence activities in time, but as the outcome of situated travel practices? This would mean that a ‘passage’ is not just a measured span of clock time nor even the subjective temporal experience of a journey.

Thrift has addressed the question of what it means if everyday practices are foremost in accounts of time (Parkes & Thrift, 1980; Thrift, 1990, 1996; May & Thrift, 2001). Thrift claims that if we want to make sense of the construction of time practices, we have to pay attention to four inter-related domains, which together constitute ‘networks of time’. The first, previously identified by Elias (1988), concerns human-made, biological and cosmological timetables, calendars and rhythms. Second, a sense of time is shaped by and enacted through various systems of social discipline that can be broadly secular or religious. A sense of time, third, emerges from a variety of instruments and devices. These are not just sundials and clocks used to measure the passage of time, but also the DVD players and refrigerators used to order and time-shift activities like watching television and drinking milk. Fourth, a sense of time emerges from various texts that set out particular understandings of time (May & Thrift, 2001, pp. 3–4). Following Thrift, we suggest that to understand the role of time in everyday travel practices, we have to examine how travel time is constructed within practices of travel. Thrift’s points about ‘networks of time’ are crucial to working out
If travel is about spacing and timing of humans and artefacts in transit practices (Peters, 2006; Schwanen, 2007), understanding travel in terms of co-ordinating these heterogeneous elements means that we need to know why people travel. When and where do people need to arrive, what do they need to bring, whom are they going to meet? We also need to understand how people travel. What means of transportation do people use, who is travelling with them, what objects are they carrying? How do the why and the how of mobility practices inter-relate? In other words, how does a planned project influence the organisation of the journey, and vice versa? To research these questions empirically, we distinguish between projects and passages and further define these concepts in the remainder of this section.

Projects

Following Hägerstrand’s definition, projects can be said to have spatio-temporal characteristics. Projects are enacted at a specific time at a specific place, whether this was planned as such or not. Projects have a temporal structure: they have a certain duration, even if the actions only take a few minutes. Projects thus often include the passing of time, but not very often the traverse of space. They are relatively stable and take place in a bounded space like the office, someone’s home, or a concert hall. Some projects are steadily structured in time and place, like a meeting that is scheduled at lunchtime in the canteen. Other projects, like meeting a friend for a chat, can be more flexible and open to negotiation about the exact place and time. Still other projects are recurring and develop a routine character, for example, picking up the children from the nursery at 5 pm on Mondays and Thursdays.

Larsen et al. (2006b) have extensively discussed the impact of the spatial patterns of social networks on mobility (see also Axhausen, 2002, 2007; Axhausen & Zimmermann, 2002). We stress here that projects require co-ordination not just of the different geographies of network members, but also of their temporalities. For example, a working mother of a three-year-old boy has to co-ordinate her work time with the opening hours of the nursery. If she is late picking up her son, she risks incurring a fine, and annoying the staff, because the nursery closes at 6 pm sharp. The geographies and temporalities of social networks are thus strongly inter-related.

Our definition of a project entails that the heterogeneous elements of the project need to be timed and spaced in such a way as to fulfil the project’s goals. This does not mean that people and artefacts necessarily have to be co-present and nor does the use of ‘goal’ imply a functionalist view. Certain artefacts may make it possible for
people to act at a distance and be able to fulfil the project’s goal, for example, the mobile phone that allows people to communicate with others who are not in the same place (see Larsen et al., 2006a; Schwanen, 2007).

Passages

In this article, we focus on projects that require some form of interaction with distant entities and/or places through travel. We analyse travel as the active construction of ‘passages’. The word passage refers simultaneously to a span of time, the passing of time, and to a space that is traversed. We take the idea of space and time as being related in a heterogeneous ordering of material and immaterial elements from Law’s classic description of Portuguese sea journeys in the fifteenth century as products of ‘negotiations’ between the heterogeneous elements in a network that enabled their oceanic transits (Law, 1987). Sailing ships were part of that network, but so too were the wind, sea currents and the King of Portugal’s opinions. The construction of passages can thus be defined as the ordering of heterogeneous entities in such a way that a situated relation between time and space is produced (Mol & Law, 1994; Law, 2002). We can think of travel as the active construction of passages as spatio-temporal orders in at least three ways: creating heterogeneous orders, planning and repairing these orders en route, and finally including and excluding people, places and times from these orders.

Analogous to projects, passages thus assume a spatio-temporal order. But unlike in the time-space graphs of Hägerstrand, this order cannot be reduced to a single time dimension in which different forms of travel can be compared from a perspective ‘outside time’, and that reduces journeys to a mere sequencing of activities and events. Instead, describing the spatio-temporal order of the passage assumes an actor’s perspective on the practical achievements that go into a journey. For example, both cyclists and car drivers plan and realize passages that in turn have spatio-temporal characteristics, but because cars and bicycles do not move in an empty time-space, but in a densely shared traffic landscape, as in a Dutch city, their passages are related. In practice, cyclists usually have to give priority to cars and also have to wait longer for traffic lights in order to let cars pass. Simply comparing the prisms of car drivers and cyclists in terms of decontextualised time ignores the myriad of local circumstances and practices that produce the complex spatio-temporal order of their passages.

Projects and Passages as Inter-Related Achievements

Building on concepts from time-geography and further elaborating the concepts of projects and passages, we can now begin to understand how people co-ordinate their mobility. Studying projects and passages allows us to study both the reason for travelling and the actual travel itself. Making an analytical distinction between passage and project is useful, because people need to adjust project and passage to each other for them to form a successful whole. Different projects require different types of passages. A project like a job interview requires a much more reliable passage in terms of timing and spacing the different elements than a visit to a good friend who lives nearby. Additionally, each project has a range of potential passages. People may have the choice to travel to work by car or by train, and will choose the passage that suits them best in any
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particular situation. Mobility practices thus involve a specific passage-project combination. The elements of both the passage and the project need to be ordered in such a way that they result in a successful combination. We should keep in mind, however, that it is not always possible nor helpful to distinguish between projects and passages because sometimes the two are intertwined. Touring by car, sightseeing, and holidays are all examples of passages that are simultaneously projects.

Projects and passages as heterogeneous spatio-temporal orders may have become stable over time because people perform them on a routine basis, yet they are never fixed. In projects all elements have a role in accomplishing the project, but this also means that each element can potentially disturb the order. Each person or artefact necessary for the fulfilment of the project’s goals influences the time-space constraints of the project, and if that element is not timed and spaced well, the project may be disturbed. Schwanen (2007) explains the importance of artefacts in projects through his research on the role of artefacts in the way working parents cope with childcare responsibilities. One of his cases is of a mother who forgot to bring her toddler’s favourite cuddly toy to the nursery and thus returned home to collect it. She was afraid her child would not be able to sleep without it (a disturbed project) and thus needed to take a detour via home to her work (create a new passage). Similarly, each person or artefact that constitutes a passage can potentially disturb the order. It is important to note here that contingencies in passages not only disturb the passage, but may also disturb the project. The heterogeneous elements of the passage need to be timed and spaced in such a way as to make the project possible.

In sum, to understand how people co-ordinate their projects and passages, we propose to study the creation of passages and projects as ongoing and inter-related achievements. People need to plan and to create their passages and projects, but also to maintain this order once it has begun. Co-ordination of mobility thus takes place both before and during the actual travel. Passages and projects are co-ordinated in advance because people plan their activities and journeys. Yet, projects and passages may differ from the planned orders and new elements, such as a different route or a delayed train, may come to play a role. Projects and passages therefore need to be studied and researched as planned and as real-time orders and in the next section, we describe how we approached this.

Methodology for Studying Everyday Mobility

The research on which this article is based was commissioned by the Dutch Ministry of Transport, Public Works and Water Management and focused on how so-called ‘hypermobile’ people use transport and communication technologies to maintain their social networks. ‘Hypermobiles’ were defined as people with complex spatio-temporal activity patterns, who regularly experience time stress, and whose travel behaviour is not completely routinised.

We recruited 13 respondents consisting of nine men and four women, aged 29 to 54 years. Nine respondents live together with their partner, three have a long-distance relationship and only one is single. Seven respondents have children. All have a higher education degree. Six respondents work in the public sector, three are self-employed as interim manager, producer and consultant and the other four have jobs in the private sector, particularly in management and sales. Ten respondents live and
work in the Randstad, a metropolitan region that consists of the four largest Dutch cities (Amsterdam, Rotterdam, The Hague and Utrecht) and the surrounding areas. Two people work in the Randstad, but have their home in the south of the Netherlands or Belgium. They stay in the Randstad a few days a week and return to their homes at weekends. One person lives and works in the south of the Netherlands. Since our study was meant to be exploratory, the sample is by no means representative of the Dutch population. Our respondents can be considered as 13 individual case studies of the ways people co-ordinate their mobility, and the strategies they have for solving problems. The research was conducted between September 2006 and June 2007.

Our methods consisted of a combination of interviews, travel reports and mobile phone records. As argued above, we adopted an actor-oriented perspective and engaged with our respondents before, during and after the actual journey. We were interested not only in people’s daily routines, but also in the way people solve co-ordination problems, disruptions to routines. In the first interview we invited our respondents to ‘look at themselves through the lens of a researcher’ and to make notes of two journeys: one that went as planned and another in which they encountered one or more unexpected passage or project problems. We also obtained their consent for gaining access to their mobile phone records. The respondents made their travel reports with the help of a topic list that focused on the reason for making the trip, the way the trip was planned, the objects that played a role, and the ways problems were solved while travelling. We conducted a second interview after respondents had made the journeys and asked them to elaborate on their travel reports as well as additional material we had collected, discussed below. A one-page summary was prepared for each respondent, largely serving as an aide-memoire for the research team.

Whereas the travel reports written by our respondents were helpful in discovering the strategies people have for planning and performing their journeys and activities, they were not sufficiently detailed to make representations of how journeys and activities are unfolding in real time. We therefore complemented people’s stories and reports by making use of their mobile phone records. Table 1 gives an extract of the data collected by the mobile phone provider. For each respondent, there were 15 columns including date, call duration, location of the nearest transmitter, whether our respondent originated the call or not and so on.

Each row is a distinct voice or text message. Over five weeks, respondents made or received between 50 and 1000 calls and messages. Via the location information of the mast, it is possible to reconstruct the approximate position of our respondent during the phone call. Depending on the density of the mast infrastructure, the location information can be as accurate as 300 m in Dutch urban areas. Figure 3 illustrates the location of the caller and the called. These data were of more limited value as we only had the second party if they used the same mobile phone provider.

The mobile phone data collection started after the first interview and lasted for five weeks. This resulted in a large data set of more than 2000 kb that we analysed prior to the second interview. We derived the number of phone calls to significant others and the places and times at which phone calls were made. In the second interview, we discussed these findings openly, allowing respondents to react to their mobile phone records and explain the situation in which a phone call was made. Because the two travel reports were noted within that same five-week period, we could use the mobile phone records to enrich respondents’ accounts of their travel experiences. For example,
Table 1. Extract of data collected by mobile phone provider

<table>
<thead>
<tr>
<th>Call date</th>
<th>Start Time</th>
<th>Direction*</th>
<th>Originating Number</th>
<th>Terminating Number</th>
<th>Duration</th>
<th>Domestic or not</th>
<th>Start Cell</th>
<th>Calling circle</th>
<th>Type</th>
<th>Postal Code</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>17:48:15</td>
<td>MO</td>
<td>413,7</td>
<td>N</td>
<td>39032</td>
<td>0</td>
<td>1 voice</td>
<td>08.00-18.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:33:31</td>
<td>MO</td>
<td>424</td>
<td>R</td>
<td>0</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:33:58</td>
<td>MO</td>
<td>0</td>
<td>N</td>
<td>0</td>
<td>0</td>
<td>1 mess</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:18:16</td>
<td>MT</td>
<td>121,8</td>
<td>I</td>
<td>?</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17:48:51</td>
<td>MO</td>
<td>5</td>
<td>N</td>
<td>0</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Connected to</td>
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<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>mobile provider</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:52:55</td>
<td>MO</td>
<td>135</td>
<td>N</td>
<td>11852</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14:09:23</td>
<td>MO</td>
<td>49,4</td>
<td>N</td>
<td>38672</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:15:13</td>
<td>MO</td>
<td>158,2</td>
<td>N</td>
<td>6302</td>
<td>1</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:13:06</td>
<td>MT</td>
<td>48,3</td>
<td>I</td>
<td>?</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:36:16</td>
<td>MO</td>
<td>188,3</td>
<td>I</td>
<td>2843</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:18:12</td>
<td>MT</td>
<td>115,7</td>
<td>N</td>
<td>?</td>
<td>1</td>
<td>0 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:39:10</td>
<td>MT</td>
<td>84,1</td>
<td>I</td>
<td>?</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13:14:14</td>
<td>MO</td>
<td>34,4</td>
<td>N</td>
<td>24183</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19:30:10</td>
<td>MT</td>
<td>100</td>
<td>N</td>
<td>?</td>
<td>0</td>
<td>0 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:40:28</td>
<td>MT</td>
<td>126,2</td>
<td>I</td>
<td>?</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20:55:47</td>
<td>MO</td>
<td>14,3</td>
<td>I</td>
<td>601</td>
<td>0</td>
<td>1 voice</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:27:45</td>
<td>MT</td>
<td>0</td>
<td>R</td>
<td>0</td>
<td>0</td>
<td>1 mess</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:
1. Direction: MO indicates respondent originated call; MT indicates respondent received call.
2. Dates, originating and terminating numbers and the postal code and address of the 2nd party have all been deleted for privacy reasons.
Table 2 summarises the number of voice and text messages of each respondent. Table 3 illustrates the distribution of calls over a 24-hour period and the duration of each call. For the 13 respondents, the total call time over five weeks varies from 40 minutes to 35 hours. The average duration of a single call is 2.06 minutes. Table 4 shows the calling circle of one of the respondents providing insight into the relationships with significant others.

Figure 3. Map of Netherlands, illustrating location of callers.
Table 2. Numbers of voice calls and text messages for each respondent

Table 3. Call duration in seconds, over the course of a day
Table 3. Call duration, over the course of a day.

<table>
<thead>
<tr>
<th>Name</th>
<th>Place of residence</th>
<th>Voice out</th>
<th>Voice in</th>
<th>Text out</th>
<th>Text in</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>The Hague</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>B</td>
<td>Brussels</td>
<td>3</td>
<td>5</td>
<td>242</td>
<td>123</td>
</tr>
<tr>
<td>C</td>
<td>The Hague</td>
<td>3</td>
<td>0</td>
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Mobile phone records provide possibilities to develop more detailed representations of mobility than Hägerstrand’s time-space graphs do (see also Laurier, 2001; Diminescu et al., 2006). The records give a real time, though partial, account of where people are when (Licoppe, 2004; Ohmori, 2005). The account is partial because we could access location information only when a sufficiently long phone call was actually made; moreover, if respondents do not use their phone for two hours, we do not have information about their movements. The data do, however, provide a range of opportunities for exploring how people deal with problems. A series of short phone calls to a partner could, for example, point to a ‘co-ordination knot’ like a discussion about who would do the shopping on the way home from work. Other situations that we were able to reconstruct together with respondents include the rearrangement of a meeting place, marked by a series of short phone calls to a friend. We also observed that some people had daily routines, like phoning their partner while driving home after work. Seeing the data also sometimes resulted in unforeseen situations. For example, one respondent was shocked to see the amount and detail of data collected by the mobile provider. Another was able to confirm her feeling that she always called one of her friends who never took the initiative in calling her. This raises ethical considerations: both of these respondents were aware of these situations, but seeing the ‘hard’ data can transform the experience.

The mixed methods approach we adopted, combining qualitative and quantitative data, provided ourselves as researchers as well as respondents with a variety of interpretative moments. Drawing on the interviews, travel reports and mobile phone records, we were able to capture both the small routines underlying the daily travel practices of our respondents as well as the ways in which respondents deal with contingencies. In the conclusion, we reflect further on the methodological consequences of our approach but first we present some key results.

Results: Planning and Improvising

In this section, we discuss some of the results that can be obtained with our theoretical and methodological approach to mobility practices. We distinguish between ‘pre-travelling’ and ‘re-ordering’. First, we discuss pre-travelling which involves attempts to create predictable passages and projects, which decrease the chance of contingencies. Even if travellers know what to expect from their journeys and even if these have been carefully planned, at any moment contingencies can arise that will disturb the planned projects or passages. We claim that people know this and we will show how
they sometimes deliberately leave room in their plans for contingencies to happen. Second, we discuss some of the problems people encounter when they are *en route* and the various strategies they employ to deal with these problems. We analyse this by approaching passages and projects as ‘situated actions’ (see the following for explanation) that often involve a re-ordering of planned passages and projects. Re-ordering assumes that there are resources available to create alternative orders or to repair planned orders. In both ‘pre-travelling’ and ‘re-ordering’ we pay attention to the resources or ‘exchange’ that people deploy.

**Pre-Travelling: Planning Projects and Passages**

Creating a heterogeneous spatio-temporal order begins with the planning of a project and a passage. People already do a lot of work before they actually start becoming mobile: they schedule their journeys, communicate with relevant others, pack their bags and so on. We call this process *pre-travelling*: the organisation of a predictable heterogeneous order by creating connections between different elements (see Brown & Chalmers, 2003 for the similar concepts of revisiting and post-visiting by tourists).

We have identified four main ways in which our respondents ‘pre-travel’: use of codified information, tacit knowledge and experience, delegation to others and building in contingency. In all four, discussed below, respondents make use of resources, sometimes as means of exchange.

In relation to codified information, almost all use travel planning websites when they plan to travel by public transport, and online route planners when they travel by car; checking connection times and printing maps. One respondent travelled to Berlin for an interview and prepared himself by bringing an image of his destination:

> I even printed the address that I took from the Internet, but it also had a picture of the building. There are so many office buildings in the neighbourhood, so it is much easier to see where it actually is and how it looks. That was my visual supporting information. (Lex, first interview)

Planning and co-ordination in advance do not necessarily mean that a person needs to do a lot of work beforehand. Routine projects and passages, for example, no longer require active planning, because the heterogeneous orders are ‘planned’ on the basis of previous experience. Most respondents have performed their journey to work so often that it has become a series of small routines:

> First I cycle to the station, then I put it in the bicycle shed. I pay for a monthly subscription, so I put it in the cycle rack myself. Then I buy a newspaper. Then I get on the train to Utrecht, where I get off. If I am lucky, I can just catch the train to The Hague on the other side of the platform. And if I am not lucky, I have to wait for ten minutes. I arrive in The Hague forty minutes later. I buy a bottle of milk at the station, and if everything goes according to plan, I am at my desk at 9:15, or am at the coffee machine. (Joanna, first interview)

Small routines like these, together form highly standardised passage orders. Because of their repetition over time, the relations between the elements have become reliable. On the basis of experience, Joanna knows exactly what she has to do at any
moment. This project and passage can be seen as a plan that involves expectations about how the heterogeneous order will work.

Although planning in the form of pre-travelling helps to create a reliable passage, an over-planned passage, or a standardised project or passage that cannot accommodate contingencies may not work. In a study on the mobile practices of tourists, Brown and Chalmers (2003) argue that tourists’ plans are often deliberately ambiguous so that they can take into account future contingencies. Instead of planning a route completely in advance with maps, tourists plan an ambiguous route in advance and then choose specific roads by using road signs when they are driving. In this way, a road block or spontaneous detour via a scenic road does not lead to problems. Suchman also argues that ‘plans often do not determine behaviour but rather are used flexibly in deciding what to do’ (Suchman, 1987, p. ix). In line with Suchman, we argue that people know that their planned passages and projects will differ from situated practices. They know that unexpected situations may arise when they are on the move and that they will have to make decisions in that specific situation. What is important about people knowing this is that they act upon this knowledge in advance. They make space to deal with contingencies in the planning phase. In other words, they include room for manoeuvre in their projects and passages, or the possibility to create alternative orders in real time by making use of certain resources. A few examples of the strategies adopted by our respondents illustrate this.

Fred often tries to create room for manoeuvre in his projects. He owns a filter technology company and spends a lot of time on the road visiting his clients. Many of his projects take place 200 kilometres from his office, in an area where there are often traffic jams. Fred always tries to combine several projects to make his long journeys worthwhile. Around one fixed appointment he plans a number of flexible appointments. He calls these different types of meetings respectively ‘must-go’ and ‘nice-to-go’ meetings:

Suppose I go to Rotterdam on the 6th of the month, then I am already certain that I will plan at least two or three other meetings. I just scan my client file. Yes, it is actually in the back of my head, and I know: yes, I still had to visit so-and-so. That way you get a more efficient trip. (Fred, second interview)

In this case, Fred expects constraints in the planned passages because of the traffic jams in the area, and he tries to create room for manoeuvre in his projects by making flexible appointments that include the possibility to cancel the project, or to change its time or location.

In other cases, people create room for manoeuvre in passages, because there is little room for negotiation in their projects. Here the project may be easily disturbed which may eventually lead to a failed project. Richard, a 30-year-old branch manager, recounted how he dealt with a very rigid project, a job interview. Richard lives in a suburb of the city of Utrecht and almost always travels by car. His job interview took place at a company in Amsterdam and Richard was expected to be there at 5pm.

I did know where it was, in which building, because I drive there more often. I only needed to know the number of the exit and then I would get there. I did not want to arrive stressed, so I left very much on time. The traffic remains a risk, but I had anticipated it by leaving earlier. But there was no traffic jam, because
it was 3.30pm in the direction of Amsterdam. But you don’t know, that’s why. I know that during the rush hour the trip would take an hour, at least. Or the traffic can be totally jammed and then it takes one hour and a half, but I even had that time to spare. The trip went quickly, there was no delay whatsoever, so I arrived much too early and parked my car in the neighbourhood and waited for thirty minutes, or even longer. (Richard, first interview)

How can we understand this in terms of creating room for manoeuvre in passages? Richard’s project, a job interview, leaves very little room for negotiation in case of contingencies. There are several constraints in his project: Richard absolutely needs to be physically present at his project at the agreed time. It is unacceptable to be late for a job interview, or to change the location at the last moment. These characteristics make it vulnerable to contingencies. By pre-travelling, Richard creates a very predictable passage. The passage is routine to Richard, and he knows he will recognise the building visually. Still he looks up the exit number to be absolutely sure he will not miss it. Moreover, he creates room for manoeuvre by leaving in good time, which becomes a resource to use along the way. In case problems had arisen while he was on the road, he could use this extra time to create and coin exchange and in this way counter the risk of a failing project.

Time is not the only resource that can be used to create room for manoeuvre in passages. Material and immaterial resources include money, transportation (e.g. folding bike), technologies (e.g. mobile phone, email), information (e.g. maps), public transport cards, knowledge, skills, etc. If and how people create room for manoeuvre during the planning phase depends on how likely they expect the project or passage to become disturbed, and how they assess the flexibility and constraints of the project or passage. Everybody knows from practical experience that some projects allow for more room for manoeuvre than others. Whereas it may be possible to reschedule a meeting with a friend when you are stuck in a traffic jam, it would be impossible to reschedule your presence at a live event like a pop concert. Projects and passages can therefore be described in terms of rigidity and flexibility. A project may be called rigid when the time-space constraints are not negotiable, and flexible when they are. How serious a disruption is for passages and projects depends on the obligations connected to the people and materialities that constitute the order and to the time-space constraints this creates. To understand how room for negotiation is used during the actual journey, and how resources can serve as ‘exchange’ we now turn to the problems that occur in everyday mobility situations.

Re-ordering: Improvising Solutions En Route

We have shown how people can anticipate contingencies by including different resources in their orders that can serve as exchange. Whether or not they can actually use their resources only becomes clear once a specific problem arises. The possibility to use resources as exchange and create an alternative order, or to repair the planned order thus arises in situated actions. This means that we can only speak of exchange when resources are actively used, or in other words, when exchange is coined in the situation. To understand how people use exchange, we need to look at what happens when our respondents face problems when they are on their way, and how they try to solve these.
Traffic jams and public transport delays are problems our respondents face regularly. Egbert, a 46-year-old sales manager, always drives to work. There are often traffic jams on the way home:

I know I can take two routes, so I often look if something happened along the routes. If there is an accident, or if there are cars behind you when you enter the motorway, and there is congestion, then you can get stuck for hours. It does not happen often, but if it does, it is quite annoying. (...) It is a bit of a standard protocol: if I am late, I immediately take the A12; if I am early, I take the A4 and N11 in the direction of Utrecht. (Egbert, first interview)

The exchange in this case consists of Egbert’s knowledge of the two routes. Coining this exchange means picking a different route, which results in a repaired passage: Egbert drives home successfully and is home on time.

Train passengers may encounter problems in their passages when services are suddenly cancelled:

Sometime ago, I took the slow train to The Hague, there is no longer an intercity, but there is a fast train. But still I took the slow train, to be sure that I was moving. Yes, that is one of my problem-solving strategies when travelling. I always try to get as far as possible if something goes wrong. I prefer to take a slow train and move on than to wait for a fast train that may be delayed indeterminately. (Joanna, first interview)

Joanna’s knowledge of the rail network and train schedules brings her as close to home as possible. She does not get stuck at the station, but repairs her passage by taking a slower service. Coining your exchange in passages, as Egbert and Joanna do, is one of the strategies to deal with problems that arise en route.

Another strategy to deal with contingencies is to coin exchange in projects. Often, the mobile phone allows people to reschedule their meetings. Doreen was on her way to meet a friend at the university when the friend encountered problems and could not reach the city centre. Doreen and her friend made three short phone calls to change their meeting place:

I then walked to the Central Station, otherwise [my friend] would have come to the university. I said to her: don’t come to the city centre with your car to pick me up, that is too complicated for you, I can walk. (Doreen, second interview)

In this case, Doreen did not repair her disturbed passage, but coined exchange in her project. The project allowed for sufficient room for manoeuvre, which made it possible to change the location of the meeting. We can conclude that problems that occur along the way in passages can be solved by coining exchange in passages as well as in projects, depending on the flexibility or rigidity of both.

These examples demonstrate how the concepts of projects and passages help us to understand the different ways people co-ordinate their everyday mobility which occurs before and during journeys. We found that these two temporalities of co-ordination increasingly mix. Our respondents showed a great deal of mobile co-ordination, in other words, they adjusted their activities when they were already on the move. These
new styles of travelling are very much related to new technologies of communication and information: the mobile phone, online travel information and navigation technologies such as real-time route information systems. The mobile phone in particular gives new opportunities to adapt passages and projects in real time. Doreen’s case shows a new type of rescheduling with the help of mobile phone communication, described by Green (2002) and Ling and Yttri (2002) as micro-co-ordination. From our interviews we learned that the possibility to change plans while travelling does not mean that people plan less than they did in earlier times. Rather, the character of the planning process changes, and thereby people make different types of plans.

**Conclusion**

The main question addressed in this article is how do people co-ordinate their everyday mobility? In order to answer the question theoretically, we draw upon the vocabulary of time-geography in which people’s everyday lives can be depicted as paths through time-space, and journeys as movements between stations and bundles that are restricted by different types of constraints and enabled by various resources. In the interplay of these constraints and resources, projects are realised in local pockets of order. In this framework, however, both the concept of travel time and the role of transportation and communication technologies remain underdeveloped. Projects tell us why people travel, but not how: what means of transportation and communication do they use, who is travelling with them, what objects do they carry? We therefore added the concept of ‘passage’, aiming for a pragmatic understanding of situated travel instead of reducing it to a measured timespan between two abstract locations. Analysing projects and passages as inter-related achievements allows us to study the reason for travelling, the travel itself and the relation between the two. Making an analytical distinction between passage and project is useful because it shows how people need to adjust the two in relation to one another in order to form a successful whole. Because projects and passages can be understood as inter-related achievements, the constraints and resources that shape these heterogeneous orderings can be ‘exchanged’.

The concepts of passage, project and exchange (of resources) provide us with a theoretical vocabulary to study mobility as both planned and situated action. People need to plan and to create their passages and projects, but also to maintain this order once it has started. Co-ordination of mobility thus takes place both *before* and *during* the actual travel, what we termed above as ‘pre-travelling’ and ‘re-ordering’. Passages and projects are co-ordinated in advance because people plan their activities and journeys. Yet, as situated actions, projects and passages may differ from the planned orders, and new elements, such as a different route or a delayed train, may emerge. We claim that it is necessary to study the co-ordination of mobility both in its planning phase and as a situated action. Studying passages and projects as routinised practices that can be generalised overlooks the uniqueness of each passage or project. On the other hand, studying passages and projects only as situated actions does not enable us to go beyond the uniqueness of each situation.

In addition to providing a conceptual vocabulary for analysing the ways in which hypermobile people co-ordinate everyday mobility, we have also reflected on the uses of different types of data, old questions in the social sciences but made new by the growing availability of digitally generated and stored data. Despite having very
different epistemological foundations, qualitative and quantitative data are sometimes combined within social science research, so-called mixed methods. The most common way is to use qualitative methods in order to generate research questions, codes, categories or hypotheses which subsequently form the basis for the collection and analysis of quantitative data. Less frequently, researchers may use quantitative data to identify patterns or categories, and use that to select individuals or organisations or cases of some sort for further qualitative analysis. Within this project, we adopted a mixed methods approach, using quantitative data (telephone records for a five-week period) and qualitative data (two largely open-ended interviews as well as travel reports made by respondents themselves). To use both types of data simultaneously is unusual not only because of the different epistemological foundations underlying the construction of the data, but also because of the very different skills researchers need in order to analyse such different types of data (Büscher & Urry, 2009).

One way of reconciling the apparent epistemological contradiction between quantitative and qualitative methods is to recognise that both types of data require interpretation, not only by researchers but also by social actors, including the respondents. We were primarily interested in the ways in which people, ourselves as researchers as well as the respondents, create meaning using a variety of conceptual resources, in this case both interview data and that generated by telephone records. The social science separation between quantitative and qualitative methods can be seen as artificial if one recognises that people are confronted with many different types of data and information in the media, in work, in interactions with friends and family. The challenge we all face – as actors and analysts – is to make sense of these very different sorts of data which continue to proliferate under conditions of reflexive modernity.

Understanding social networks requires a great deal of interpretation as they most certainly do not have an existence independent of human understanding of them, especially as they become spread further across time and distance. The different data sources and the different ways we have represented the data all contribute to our interpretation of the emerging phenomenon of ‘hypermobility’. Our approach to data enables a richer understanding of what the mobile phone and other resources means for everyday life and mobility in a late capitalist society. Further, we have demonstrated how actors reflexively plan their mobility, drawing on a range of data and information sources in order to do so.

Notes

1. This relates to discussions about A- and B-series time, introduced by McTaggart (1908) and taken up by others including Gell (1992) and Adam (1990). Very briefly, A-series time assumes an observer for whom there exists a past, present and future; it is thus dynamic. B-series time is not dynamic and is more objective in that the relation between earlier and later does not depend on the perception of the observer.

2. Within transport studies, others have done empirical research using digitally-generated data, most notably the work of Doherty and colleagues (Papinski, Scott and Doherty (2009) and Mohammadian and Doherty (2006). However, as they themselves admit, their models based on attributes of the activity and the traveler need to be supplemented by qualitative research (such as that reported in this article) that explores why people adjust their pre-planned activities.

3. The term passages more closely relates to the idea of travel as both a spatial and a temporal practice. Moser and Law (1999) define ‘passages’ as parts of trajectories that cross boundaries. It has also been used by others to indicate a transition of translation. In his important study of the cultural
history of travel, Leed (1991) describes the sequence ‘departure - passage - arrival’ as the basic structure of every journey. Finally, of course, the word ‘passage’ has connotations with the romantic idea that travel not only means transportation, but also transformation, as in a ‘rite of passage’.

4. Our approach is similar to that adopted by Wajcman et al. (2008) in that we both use mixed methods. Wajcman et al. used a combination of a questionnaire and a log of phone calls retrieved from respondents’ handsets. The key issue addressed by Wajcman et al. is the extent to which the mobile phone blurs the work-home boundary, a much-posted feature of late modarity, for which they do not find much support. Our approach is very different from that adopted by Castells et al. (2007) which is breathtaking in the volume and scope of data deployed and equally breathtaking in its cavalier treatment of data. Castells and his co-authors admit to moving freely ‘from Europe to China, from the United States to Japan, from Africa to Latin America’ (p.5) in order to develop their analysis and later in the same paragraph claim to do justice to the specificities of local situations. However, they earlier stated that Norwegian data is much better than Nigerian data so have a lot more to say about Norway, which one feels must affect their analysis of the rise of the post-patriarchal family. There is very little discussion of the specificities of the data collection. While they are to be congratulated for trying to develop a global perspective on the rapidly growing phenomenon of wireless communication, the ways in which data is combined is not convincing and nor is the claim that there is any serious attention to the local.

References


