

# MEDIÁLNÍ STUDIA

---

## MEDIA STUDIES

JOURNAL FOR CRITICAL MEDIA INQUIRY

**Exploring moving interviews:  
A three-step approach to researching how wheelchair users navigate**  
Lisa Schulze

To cite this article:

Schulze, L. (2021). Exploring moving interviews: A three-step approach to researching how wheelchair users navigate. *Mediální studia*, 15(2), 68–84.

ISSN 2464-4846

Journal website: <https://www.medialnistudia.fsv.cuni.cz/>

2/2021

# EXPLORING MOVING INTERVIEWS: A THREE-STEP APPROACH TO RESEARCHING HOW WHEELCHAIR USERS NAVIGATE

LISA SCHULZE

University of Salzburg

## ABSTRACT

*Navigating and following a route is a regular practice for many people. However, how do people who use a wheelchair plan and follow routes? To answer this question, a three-step process of data collection was used: online interviews, moving interviews and reflection interviews. By drawing on my experiences with five participants, this article argues that conducting moving interviews with wheelchair users is a useful method for studying mediated communication in urban spaces and reflects upon the challenges and opportunities this three-step method holds.*

Keywords: navigation ▪ wayfinding ▪ maps ▪ disability ▪ wheelchair ▪ accessibility ▪ mobility ▪ space ▪ moving interviews ▪ ethnography

## 1. RESEARCHING WHEELCHAIR NAVIGATION

Navigating and following a route is a regular daily practice for many people. Technological developments allow us to move from one place to another without much effort, even in unknown environments. Media, in the form of paper maps and guidebooks, have long helped the traveller, and digital media – mapping and tracking apps using GPS technologies – are making navigation easier for everyone. However, how does navigation look like for people using wheelchairs? What kind of navigation media and technologies do they use? Can they as easily rely on a smartphone application like *Google Maps* or a paper map and have all the information accessible that is necessary to navigate to a desired destination?

Studies that examine the navigation of wheelchair users often stem from the fields of computer science, human-computer interaction and software development and usually address the design of software (e.g., Mascetti et al., 2020; Tanert & Schöning, 2018; Ding et al., 2007; Beale et al., 2006; Levine et al., 1999; Yanco, 1998). These studies focus on how software for apps or other online services could be

improved and how spatial data can be made more accessible, but tend to exclude the lived realities of users of navigation services. Among the very few studies that look at the use of navigation services from a communication studies perspective, Savino et al. (2020) argue that user behaviour on *Google Maps* consists of different types of interaction: Search, Place, Direction and Map View Manipulation (Savino et al., 2020, p. 1). The Map View Manipulation is the most used interaction that captures how users explore surroundings on *Google Maps* by zooming in and out or by panning (Savino et al., 2020). Their work shows that *Google Maps* is used for more than text-based location searches and can embed a combination of different services and knowledge of a place (Savino et al., 2020, p. 9). However, while Savino et al. (2020) demonstrate how navigation media are embedded in the everyday lives of the users, they do not consider wheelchair users.

When it comes to the disability and media studies, these mostly focus on the lack of access to and the accessibility of digital media (see Fox, 2011; see also, e.g., Trevisan, 2017) rather than showcasing the lived experiences and coping mechanisms of the limited media. There is hardly any research on how wheelchair users actually perform navigation with the help of (digital) media, and the systemic exclusion seems to result from methodological choices. This article addresses the gap by proposing an ethnographic approach in mobile methods, the moving interviews. Moving interviews, being the centre of a three-step approach, allow exploring the use of media to support navigation of wheelchair users. The context of disability and space will frame the potentials and challenges of the method for communication studies.

Building on the work with my interview partners Mike, Anna, Alex, Veronika and Fritz, this article outlines the key elements of moving interviews as enabling tools for media research in urban space. The lessons learned from the moving interviews inspire more inclusive communication and media studies, since the method is applicable for a diversity of study participants – able-bodied or disabled. This article has the following structure: after the contextualisation of disability and space, I will argue for the choice of moving interviews as opposed to other mobile research methods. By bringing selected examples from the fieldwork, I will go through the three-step approach of the moving interviews that I conducted in Berlin. I conclude with the discussion of inclusivity in communication research and the benefits and challenges of the three-step process of conducting moving interviews.

## 2. HAVING A DISABILITY OR BEING DISABLED?

Even though the wheelchair is a central object to this text, the different bodies that might use a wheelchair are not. All the different terms that try to grasp what disability entails give insight into different understandings of disability. A disability focus foregrounds the participants' everyday lives as wheelchair users who are 'being disabled' by conditions that they experience (Alper, 2017, p. 22). Of course, this

understanding cannot ignore physical differences but they are not the focus when it comes to understanding disability as a whole experience.

A definition of disability is approached differently from various disciplines. On the one hand, there is a medical perspective that focuses on bodily limitations due to physical prerequisites or acquired conditions and thus distinguishes between bodies with disabilities and bodies without disabilities, understanding disability as an individual deficit (Shakespeare, 2006, p. 198). In disability studies and other related disciplines, on the other hand, this medical approach has been more and more discarded. Here, disability is perceived through a “social model” (Alper, 2017, p. 22). The focus shifts from physicality per se to the lives of people who fall under the broad concept of disability: “This model holds society accountable for shaping the lived experience of disability and its potential to enhance and detract from an individual’s life as well as our collective culture” (Alper, 2017, p. 22; see also Shakespeare, 2014), thus, distinguishing between impairment (physical impairment) and disability (the socially constructed environment that ascribes disabilities to different bodies and ‘disables’ people in their lives) (Alper, 2017, p. 22). The sociocultural model of disability expands the social view to include representation, personal experience and identity (Oliver, 1990; Gleeson, 1997). As Anna, one of my study participants articulated, a disability can also be a feature or characteristic of one’s identity or a community of belonging: “[disability] has become a part of my identity and I don’t know if I would want to change that”.

Disability is thus a complex construct infused with ideas and attributions, while also including practices and experiences. Disability and non-disability are influenced by social discourses (Alper, 2014, p. 7f.) and hierarchies, by how surroundings are designed, and what experiences are made. Whether a life without disability exists at all remains questionable: “Disability is central to the human experience. At one time or another, those of us who are ‘temporarily able-bodied’ will become disabled, whether as part of the aging process or unexpectedly at any age” (Alper, 2014, p. 1f.). Ultimately, there is no clear-cut definition for the term disability: “What is clear is that each individual with a disability understands their own relationships to disability, their bodies, and society in unique ways” (Alper, 2014, p. 8; see also Linton, 1998). The participants’ wheelchairs and the use of their wheelchairs is not to be understood as a metaphor for a lack of mobility, but rather as tools for overcoming existing barriers in space. One method to examine how wheelchair users navigate will be discussed in more detail in the following sections that will focus on mobile methods and elaborate on how they were made use of with references to empirical data.

### **2.1. Walking/Wheeling/Moving Interviews?**

Mobile methods such as the mobile interview (Finlay & Bowman, 2017), the go-along interview (Bergeron et al., 2014; Carpiano, 2009) or walking in thirdspace (Moles,

2008) cover a range of methods for data collection while both the researcher and the participant move through space. These mobile methods, whereby the researcher accompanies the research participants while they access places, originate from ethnography (Møller Jørgensen, 2016, p. 35f.). Their characteristic of being “on the move” (Finlay & Bowman, 2017, p. 263) allows for the researcher to grasp “the social organization of ‘moves’” (Büscher & Urry, 2009, p. 103) and to explore how navigation takes place and how space is perceived. Mobile interviews involve movement “through any mode of transit, including by foot, bicycle, car, and public transportation” (Finlay & Bowman, 2017, p. 263).

Considering my choice of participants, the mobile method ‘walking interviews’ seemed especially suitable because it does not take place in a ‘stationary’ manner, but while walking to a destination. Walking interviews cover the whole navigation process: the formulation of a destination, the planning of the route, the actual following of the route and reaching a destination. The researcher accompanies the participant during the entire process, and asks questions about what they observe and experience (Evans & Jones, 2011). Walking interviews address the constitution of meaning by experiencing the participants’ everyday lives (Breidenstein et al., 2013, p. 31), and the interviewees can consciously pay attention to places or objects relevant to their navigation, such as obstacles, route sections, special places, or road signs that might have meaning to them. The participants are asked to ‘think out loud’ during walking interviews, which offers the chance that interviewees do not have to generalise about a multitude of events and situations afterwards, but rather to experience and reflect on a situation in real time, providing information about their thoughts (Bilandzic, 2017, p. 406).

Following these instructions, the method looks well suited for studying navigation media use for wheelchair using participants. Remarkably, according to Laurence Parent, studies making use of walking interviews rarely include wheelchair users (Parent, 2016, p. 524). Even more so, socio-geographer Jana Kühl’s (2016) article on walking interviews even explicitly excludes wheelchair users: “A walking interview requires physical ability to visit relevant places on foot. This requirement excludes participants with restricted mobility from the sample. To avoid exclusion, interviews with mobility-impaired persons were carried out as stationary interviews” (Kühl, 2016, p. 41). The author gives neither the reason why movement on foot is necessary for conducting the interview nor a definition of mobility impairment. This requirement does not only eliminate wheelchair users from a sample but all people who may be ‘restricted in their mobility’ in any way. Where does restricted mobility begin then and where does it end? How about people who use a stroller, a walking stick or who are wearing high heels? Wheelchair users are able “to visit relevant places” (Kühl, 2016, p. 41) because of the wheelchair. Kühl’s (2016) requirement follows a possibly unintentional yet significant understanding of disability, using a set of assumptions and stereotypes about individuals with disabilities that ultimately discriminate and disable people from being part of a study.

Since wheelchair users are not envisioned within walking interviews, I considered broadening the concept by using the term wheeling interview as proposed by Laurence Parent (2016), herself being a wheelchair-using researcher. Her wheeling interviews are characterised by the fact that both the researcher and the participant move during the interviews using wheelchairs. Following their example, in the first phase of developing the methodology, I also rented a wheelchair to explore the possibility. However, I had to give up on this idea as I simply was not in the physical shape needed to roll the wheels of my wheelchair much longer than five minutes at a time and was not able to brake fast enough on even the slightest slope. I returned the wheelchair, feeling embarrassment and admiration at the same time. I was ‘restricted in my mobility’ and my bungling attempts to manoeuvre a wheelchair would only have hindered my participants in our wheeling interviews. To comprehend wheelchair navigation as an experience of moving through space, insights about the practice and related tool use can be gained by empathetically following and listening to my interview partners. Hence, I suggest the term moving interview, as a way to de-centre the mode of moving, and foreground the mobility itself.

### 3. THE THREE-STEP PROCESS OF DATA COLLECTION

Moving at the core of the method meant that my interview partners used a wheelchair and I accompanied them by foot. I extended the moving interview to a three-step combination of methods, a comprehensive and pandemic-compliant examination of the mediated navigation practices. This three-step process consists of (1) online interviews, (2) moving interviews, and (3) reflection interviews. The online interviews focused on the part of navigation that is “[...] trip planning at the kitchen table” (Montello, 2005, p. 260), and supported investigating mobility practices also with Covid-19-related lockdowns. The participants planned a route to the house of an imagined friend without actually leaving their apartments. We met in video meetings for about 30-45 minutes via the platform WebEx. Via screen-sharing, participants showed me how they chose and used the tools and other media to plan a route.

Participant	Age	Wheelchair	Destination	Media	Other tools
Alex	42	active wheelchair	a museum	smartphone – <i>Google Maps</i> application, public transport application <i>BVG</i>	skills and strategies learned from his military training
Anna	32	active wheelchair	new workplace	smartphone – <i>HERE WeGo</i> application, public transport application <i>BVG</i> , foldable paper map, underground map	bus- and metro drivers who install portable ramps

Participant	Age	Wheelchair	Destination	Media	Other tools
Fritz	52	electric wheelchair, hand-controlled	a coffee shop	PC – <i>Google Maps</i> website, <i>wheelmap.org</i> , foldable paper map, underground map	–
Mike	46	electric wheelchair, mouth-controlled	a friend's new address	voice assisted laptop – <i>Google Maps</i> website  voice assisted smartphone – <i>Google Maps</i> application	assistant, portable ramp
Veronika	62	electric wheelchair, hand-controlled	a park	smartphone – <i>HERE WeGo</i> application, <i>Google Maps</i> application	her dog

Table 1. Description of the interviewees

The first moving interviews were held during the summer and autumn months of 2021. Table 1 provides an overview of the participants. During the moving interviews, I positioned myself next to or slightly behind the respective participant, used my smartphone to record our conversations and took photos of objects or moments along the way that were in some way significant to their movement. This way, “the participants [and I] share virtually the same visual field” (Lee & Ingold, 2006, p. 80). The respective participant was encouraged to express his or her thoughts during our moving interview and I asked follow-up questions. The shared physical movement through space, in which we both moved at a similar pace to the same destination, made us both engage socially with one another (Lee & Ingold, 2006, p. 79f.). The moving interviews allowed me to experience the participants’ navigation and their use of navigation tools as I accompanied them throughout the entire process. We started by determining a destination, planning modes of transportation and route sequences, followed and updated the route if necessary, and finally reached the destination.

Step 3, the reflection interviews, gives the chance to reflect upon our experiences. We sat opposite to each other and looked into each other’s eyes, which allowed us “to communicate with far more precision and subtlety than [we] otherwise could” (Lee & Ingold, 2006, p. 79). This interview phase is important for reflection, because during the moving interview, we sometimes were distracted by some parts of the route, like crowded streets, and occasionally missed other elements that should have been focused on, like a decision to update the route or a detour that was not spoken about in that moment. This step made space for questions about elements on the route that were missed during the movement. In hectic situations like changing trains in crowded stations, for example, there is no time and no capacity to reflect on the tools used. The reflection interviews, usually taking place at a coffee shop or restaurant close to the destination lasted for 15-25 minutes.

#### 4. STEP 1: ONLINE INTERVIEWS FOR NAVIGATION

Adapting to Covid-19 limitations, I developed a version of the data collection that was compatible with the pandemic restrictions. I extended the two-step process (moving interviews and reflection interviews) by adding a preceding third step: the online interviews. These comprised the scenario that the participant would plan a route to the house of an imagined friend.

The online interview with Mike virtually took us to plan a trip into a suburban area of a German city to visit an imagined friend. We both sat in front of our laptops and he immediately proposed to share his screen, so I could watch him open the *Google Maps* website. Mike uses a voice assistant to control all his media devices, and he started telling his computer to select the user mode for motorists. When planning a route to a new destination, he first looks at the route that *Google Maps* suggests for car drivers to get an overview: “it is guaranteed to have good surfaces. But I know, for example, um, that I wouldn’t go along the main road because there are just too many cars” (Mike). Therefore, in a second step, he compares the suggested route for motorists with the bicycle route: “The bicycle route [...] has the additional advantage that you have an altitude profile, which is very practical for me because I can then see if it might be too steep somewhere” (Mike). He claimed: “You have to outsmart the system a bit” (Mike), meaning that he assembles a good route from bits and pieces from different route options. He combines the *Google Maps* bicycle route option with street view images of the surfaces to estimate if the route fits his requirements.

The online interviews allowed me to watch Mike, Anna and Alex plan routes and explain which tools they chose. As we could not actually follow the route, I asked questions like “What would be your next step now?”, “What do you bring with you?” or “What if you got lost there?”. The imaginary visit scenario, combined with questions, made the participants recall other experiences they had had while navigating. Mike told me about his last holiday trip on an island in the Indian Ocean: “[...] once, I [...] went down a very steep hill [...] and unfortunately, I had underestimated the risk and I fell over. [...] That was a bit annoying, but that’s just the way it is” (Mike). Navigation is always a negotiation of certain aspects of space, the materiality of the wheelchair and body, and the information about the route. Their complex reference systems are different from that of other people who use a different wheelchair, another tool, or none to travel and navigate. “[...] everyone has different mobility requirements, or navigation requirements, and everyone has different conditions, so you can’t compare a hand wheelchair that you have to roll yourself with an electric wheelchair” (Mike). Diverse interpretations of accessibility became visible when Mike shared his experiences of visiting the Elbe Philharmonic Hall in Hamburg, a newly built orchestra house that claimed to be fully accessible:

From an architectural point of view, they’ve put a lot of emphasis on this great escalator, which they also advertise everywhere, but it’s just not



accessible. Instead, wheelchair users have to use the garage entrance and an elevator to get up there. [...] that's stupid. And with a €12,000,000 building, sorry, but you could do better.

(Mike)

My participants did not have hard feelings towards inaccessible infrastructures that were historical or built several years ago. However, they resented feeling excluded from new buildings, especially places that have personal meaning for them.

The online interviews were a great starting point and allowed me to see the different media the participants used and their value in use. However, they were limited, creating an artificial situation only pretending to travel along a route. Thus, the online interviews complement, but do not replace the next step: the moving interview

## 5. STEP 2: MOVING INTERVIEWS

The moving interview began with a meeting at a pre-arranged meeting point, a bus stop near the participants' apartment, in front of or inside their homes. The participant would then tell me where we would be headed. I did not limit their choice of the destination: Every mode of transport was allowed, and the distance was estimated in accordance to the time they were willing to spend, but it was a place they had not been to before. The participants chose different destinations: Alex opted for a museum he had always wanted to visit. Anna needed to go to a place where she would meet her colleagues later that day and did not want to get lost, thus using the interview to check the route beforehand. Fritz and Veronika did not prepare a fixed destination and asked me to define one. Despite asking the participants to choose a destination before we meet, it does not always work, and some participants struggle with this exercise. Therefore, after meeting Fritz and realising how hard this task could be for some participants, I prepared a few possible destinations for the following interviews. The broad categories like a park, a coffee shop or a restaurant helped Veronika to formulate one particular destination of this category, making the task easier.

### 5.1. Planning a route: Making use of media

For all the participants, planning a route begins with using media. Most digital navigation systems let one choose a specific user mode to navigate: cyclist, pedestrian or motorist (e.g., in *Google Maps*, *Waze* or *Apple Maps*). All these modes come with assumptions about the respective user group to make their navigation as convenient as possible. The cyclist mode, for example, will give information about the slope of a path and will only offer routes that avoid stairs, as Alex told me while we planned our route. Fritz made use of a combination different media, namely a paper map and

online services. He used *Google Maps* to search for a coffee shop as his destination and then compared the information on the coffee shop shown by *Google Maps* with the information from a website called *wheelmap.org* to make sure that this place has a wheelchair-accessible bathroom and no stairs. *Wheelmap.org* is a website that displays information on the accessibility of public places, which is provided by users of the website. However, this website does not provide a route-planning service.

My participants did not feel represented in any of the navigation media. They combine different modes and services to create a route that suits them best. Each option brings its own advantages and disadvantages. One helpful feature mentioned was the visual representation of surfaces, since none of the route options contains information about the ground surfaces, the width of paths or possible obstacles. Yet, such information is of utmost importance for wheelchair users; for example, for Fritz and Veronika who use an electric wheelchair, cobblestones can be dangerous. However, information on ground surfaces is hard to find and can only be accessed through *Google Street View*, as Alex mentioned. Nevertheless, the images shown there are not available for every location and they are often not up-to-date.

## 5.2. Following a route: Making use of space

While we were moving through an area of Berlin with a ground surface that was in poor condition, I understood Fritz's rather pragmatic approach to how he handles (pre)defined places within the infrastructure around him. Upon encountering hindrances, he will find ways or make use of options that are actually not created for wheelchair users but need to be used to reach his destination. As we went on the pavement, we encountered a poorly parked car that blocked Fritz from following his path. He therefore went right onto the road, around the car, and back onto the pavement, waiting for me, as I had to run to catch up with him. It is impossible for me to get around a badly parked car on a busy road in Berlin at a speed of 20 km/h, as Fritz using an electric wheelchair could easily do. This situation made me aware of our different requirements and capabilities when following a route. Me not being able to follow Fritz in his fast wheelchair influenced our movement and was most certainly the reason he avoided going on the street for the rest of our interview.

A similar situation happened during my interview with Veronika. As we were crossing a road, we noticed that the other side of the road had a very high kerb. Veronika quickly drove on the street until she found a lower kerb to get onto the pavement again, while her dog followed her on the pavement. As I caught up with her, she told me: "I'm not so sure if it is legal for me to drive there but I do it anyway. That's just the way I am." (Veronika). With Alex, we faced several obstacles that were uncircumventable for him, such as high kerbs, a poorly parked car and tree branches that had fallen on the pavement. Alex often uses the bicycle lane, despite wheelchair users legally counting as pedestrians. My interview participants have developed ways to avoid barriers and obstacles using an existing infrastructure, even if it is

not intended for them. The legal definitions do not make much sense as wheelchair users share hardly any requirements with pedestrians concerning ground surface or width of the path.

The moving interviews allowed me to understand that the space we moved in comes with affordances. The surfaces the participants encounter determine how they plan and conduct routes, how destinations are set and what navigation tools are selected. As the psychologist Jamer J. Gibson claims: „The affordances of the environment are what it offers” (Gibson, 2014, p. 56). However, the natural environment is designed to fit the specific needs of a group of humans to make life easier for them but not for others (Gibson, 2014, p. 56). The infrastructures and the material form of space come with information on how to use it, what practices it allows (Cresswell, 2015, p. 70). Thus, the moving interview turned out to be a useful method, not only to research how people move and what media and other tools they used during their journey, but also to study the affordances of space. Exploring how the participants interacted with space and what types of interaction it offers showed how space functions as a reflection; it reveals hierarchies, notions of power, ideologies, and values (Soja, 1996, p. 6). Veronika and I went to a park that turned out to be inaccessible for her, Fritz and I went to a coffee shop that did not have a wheelchair-accessible bathroom, and Alex had to overcome a step at the door to enter a coffee shop. Those design decisions represent each place’s visitors and reveal whose needs are considered, who is considered a legitimate participant (Drüeke, 2013, p. 38). By designing space, landscapes, cities and infrastructures a certain way, some people are included, and others are excluded. The participants’ strategy to use the streets or bicycle lanes as a form of appropriation of space, re-claiming a part of public infrastructure as the area created for pedestrians does not represent their needs. These appropriation strategies allow making a place of their own.

### 5.3. Moving safely

The participants told me that safety was the main factor determining whether a route can be followed, needs to be updated or even cancelled. During the interview with Anna, we came across an emergency telephone at an underground station that she told me was very important in case a lift is broken at the station and one misses the last train at night. Veronika shared a story of being locked into a park at night and not getting out because she could neither open nor climb over the already locked gate. Both cases show what clearly applies to everybody: being able to call for help is very important, and media technologies, especially a smartphone or the mentioned emergency phone, are vital here. These examples also show that even regular situations can become dangerous for wheelchair users. A broken lift is a mere inconvenience for most people can lead to precarious situations for wheelchair users.

Anna explained her use of the public transport service app to check the lifts. “[the application] is very topical [...]. There was a broken lift at Hermannstraße yesterday

[...] we should better go by bus” (Anna). Media technologies and the processing and availability of real-time information on lifts throughout the city is a particularly important feature mentioned by my participants. The Berlin public transport application, therefore, serves an important purpose: “they have information on all the lifts” (Alex). While the Berlin public transportation service does not maintain all the lifts, they service most of those that are located at public transport stops, as Anna explained. Information on which lifts throughout the city are broken, where accessible toilets are located and when they are open are issues that directly influence how the participants plan routes and where they travel.

While Fritz and I were on the move, he told me that maintaining a certain degree of orientation is crucial, meaning that he always has a sense of where he is, or as Daniel Montello puts it, where he is relative to his goal and what obstacles there are in his way (Montello, 2005, p. 264). For Alex, his smartphone and a navigation app are therefore always present during navigation. He uses them to plan a route, to follow and to update it occasionally when he faces an obstacle. Albert Borgmann (1984) claims that technological devices, including navigation media, have a negative effect on memory and cognition, “resulting in loss of engagement with the environment and others” (cited in Leshed et al., 2008, p. 1675). Increasingly, people are losing their ability to practice wayfinding without the help of GPS (Aporta & Higgs, 2005, p. 740ff.), presumably being one result of the growing disengagement with their environment (Leshed et al., 2008, p. 1675). As a countermeasure, Fritz planned his route using a paper map, memorising smaller sequences of the route, thus ensuring that he would not be too distracted from the actual surroundings while following that route. Similarly, Veronika told me that it is necessary for her to be more engaged with her surroundings than it might be for other people. At the same time, she was not afraid to rely on navigation media when going to unknown areas: “[the smartphone] is so convenient, it knows so much!” (Veronika). The services her smartphone offers in means of navigation are very important to her: “Mobility is what is most important” (Veronika), she said. Her dog Emi is an assistant in this context as well. She will hold doors, push the buttons on a lift, she makes Veronika feel safe and she will know her way back home from many areas of Berlin. Alex also mentioned that, as a trained soldier, he always tries to keep track of where he is located: “Some details always strike me [...] I immediately notice which side of a tree the ivy grows [...] that is, where the sun is highest” (Alex).

To navigate, the participants use different strategies and tools that help them to make sense of the information around them. Navigation media are one of those and using them does not mean that one is disengaged from their surroundings. I experienced the participants paying close attention to objects, people, and infrastructures they come across. Using navigation media alters their experiences of place as they add information to their surroundings without making their own detailed observation and constant consideration of information obsolete.

The moving interviews vary greatly in duration, some lasting 40 minutes, others

almost 2 hours. They are strongly influenced by factors such as the weather or impressions of the destination. For instance, during Veronika's moving interview, we were hit by a huge storm and arrived at the destination being soaking wet and cold. The park we were headed for turned out to be surrounded by stairs so that we could not even access it. We reflected on these experiences during the last step, the reflection interview.

## 6. STEP 3: THE REFLECTION INTERVIEWS

After reaching the destination, the respective participant and I found some place to sit and speak about our experiences during the movement while having a warm drink.

Building on the moving interviews, the participants reflected on how they moved, made choices and interacted with other people and objects. Their reflections focused on the feeling of belonging to a certain place or being represented in the design of a place, and how this goes hand in hand with being a participant, or belonging to society. Referring to a damaged piece of pavement that we had encountered earlier, Alex said, "I do feel forgotten sometimes". On my way to meet him, I had already passed this piece of damaged pavement without paying any attention to it. When moving with Alex, I realised the significance of the pavement's condition not only for the way he would move but also for the way he felt and positioned himself within society. The moving interview method highlights both the importance of experiencing situations with the participants, and the reflection of the experiences in this third step. During this third stage, I ask more questions and let the participants reflect and expand on topics that they may have mentioned beforehand.

With Anna, Veronika and Fritz, for example, the reflection interviews focused very much on data security and reflections on their own media use. I found two opposing strategies here: Veronika who claims to follow a minimal data strategy to avoid *Google* services on mobile devices: "Who knows what they do with my data?!" (Veronika); or Fritz who does not even own a smartphone because it makes him feel less autonomous. On the other hand, for Anna and Alex, the convenience of *Google* services and the public transport service application outweighs all data concerns.

Another topic in all reflection interviews is accessibility. We rarely spoke about it during the movement, but as soon as we searched for a place to sit down for a cup of coffee and realised that the destination point was not accessible at all, as with Veronika or Alex, the topic came up naturally. Not being able to easily grab a cup of coffee in one of the biggest cities of Europe is frustrating for the participants. Anna told me: "I try not to get angry [...] I just don't want to". When we spoke about the term 'accessibility' and what it means and contains for the participants, it became clear that accessibility does not only mean that wheelchair users can enter a building or get to a certain spot in just any way, rather it means that they should be enabled to do so in the same way as others (cf. Napolitano, 1995, p. 33). Realising and reflecting on the fact that most shops or even parks have at least one step that makes them not

wheelchair-accessible, confirms Rob Kitchin's claim that space and its design directly exclude disabled persons (Kitchin, 1998, p. 345). However, the participants saw a great potential for more accessibility through media technologies, for example, by expanding existing navigation services to display wheelchair-friendly bathrooms.

## 7. CONCLUSION

The moving interview method introduced here allowed me to experience parts of navigation and movement through the participants' eyes and how navigation takes place with the help of technologies. A whole set of related concepts are needed to understand experiences of mobility, participation and navigation as a wheelchair user. The three-step process of data collection presented here, (1) online interviews, (2) moving interviews and (3) reflection interviews, produces a wide variety of data, for instance, audio recordings, photographs, maps, and notes. Every researcher can decide which of these to record. I recorded audio continuously, and took photos of objects and situations, pointed out by the participants or noticed by myself. For future moving interviews, I plan to attach a camera to the wheelchair (cf. Parent, 2016) that will continuously record to experience, for example, to what extent underground maps or information boards are accessible at a sitting height, and how this might influence the movement and choices of wheelchair users.

The online interviews have their limitations, as both the participant and interviewer need to have a stable internet connection. Secondly, online interviews are limited to certain groups of people. For instance, Veronika and Fritz preferred not to speak on the phone or via video call because they are often not understood due to their speaking disabilities, making telephone calls tedious and unpleasant. Inevitably, some elements of the online interviews re-emerged during the moving interviews, where the participants pointed out that they had already covered that issue in the online interviews, and felt a bit reluctant to repeat themselves, e.g., "but I already told you that" (Anna) or "as I said last time" (Alex). Although these statements show me how well a merely imagined wayfinding without actual movement can be performed from home, the step of the online interview is apparently not essential. The combination of methods showed me that not all uses of media technologies are reflected upon, and that the participants adapt their media use according to the circumstances. Being able to observe media use in situ reveals practices that might be overlooked in oral recounting and demonstrates the usefulness of moving interviews for studying mediated communication on the move and mediated navigation. Excluding wheelchair users from studies that use a mobile method is in no way justifiable. Moving interviews allow investigating how people perceive and move through space and how they make use of media to do so.

Moving with the participants (1) has enabled me to co-experience a part of the participants' mobility in real time, including how they navigate, what tools they use and how they perceive their surrounding and make use of it, but (2) has also exemplified

that my presence as a non-wheelchair user accompanying wheelchair users influences the way they move during the moving interviews. Adapting to me following them on foot most certainly influenced the routes the participants chose. However, the media use and needs differ even between an active wheelchair, an electric wheelchair or a hand bike. The interviewer will not be able to replicate all conditions, and walking along is most likely enough.

Despite the limitations, moving interviews allow the researcher and the interview partner to share similar experiences during the movement. The think-aloud approach led to a continuing reflection of what was encountered, and we discussed topics that would most certainly remain subconscious or not be recalled in a stationary interview. However, to compensate for the walker's field of vision differing from that of the one sitting in a wheelchair, adaptations or additional data collection might be needed. The aspects of different speed and different vision fields can and must be reflected upon but do not negate the value of the profound and diverse data that these moving interviews generate.

One major lesson learned of these moving interviews lies in the reflection of my position as a researcher, as I have had to reflect and challenge my standpoints, opinions and knowledge. Even though an estimated 1-2% of the world's population use a wheelchair (WHO, 2008; Wheelchair Foundation, 2021), these people are often-times not considered in many aspects of life, be it the design of spaces or technological devices. Working with moving interviews made me aware of ableism as a mind-set that many people unintentionally hold: "Ableism is the intentional or unintentional discrimination or oppression of individuals with disabilities" (National Conference for Community and Justice, 2021, para. 3). Several situations during the interviews challenged my ableist position. Mike talking about enjoying hiking in the mountains surprised me, as I had no idea then that mountain hiking was even possible for him as a wheelchair user. I assumed it to be very dangerous and would come with a lot of effort for himself and his assistants. Mike was very kind and made me question why I thought that way. Eventually, I concluded that although my assumptions were friendly and stemmed from concern for Mike's safety, they also showed my ableist standpoint, I pushed myself to reflect on it since.

Throughout the data collection and encounters with the participants, I have been confronted with my own unintentional conclusions that have not been mine to make. For instance, rain is no more of a problem to Veronika in her electric wheelchair than it is for me, not all wheelchair users will use their wheelchair all the time, but will still be called wheelchair users, and being outdoors in the mountains is definitely an activity to be pursued by wheelchair users. Just because one cannot imagine a person doing a particular action, this does not mean it is not possible. Moreover, although our motivations might be considerate on the surface, researchers are in no place to exclude people from certain areas of life. By using moving interviews, I see the ease of excluding entire groups of people from research projects (as both researchers and participants), how we do not question certain requirements, and

how we fail to reflect on traditions of how studies are conducted. Wheelchair users, as well as many other people, often experience multiple layers of oppression and exclusion. Even academia itself often (re-)produces ableism (Parent, 2016, p. 524) without being scrutinised. As researchers, we need to reflect on our imaginations and standpoints and find ways to make research feasible for different bodies. Moving interviews can include people with different bodies who inevitably come with different experiences of space that should not be ignored. Ultimately, if we cannot imagine a wheelchair user – or any other person – experiencing space as fully and complexly as non-wheelchair users do, we need to learn better.

**Lisa Schulze** is a doctoral student and research assistant at the Department of Communication Studies, University of Salzburg, Austria. She completed the Master's programme *Media Culture* at the University of Bremen, Germany. Her research interests include navigation and media use, space and mobile media, disability, accessibility and qualitative research methods.

## LITERATURE

- Alper, M. (2014). *Digital youth with disabilities*. MIT Press.
- Alper, M. (2017). *Giving voice. Mobile communication, disability, and inequality*. MIT Press.
- Aporta, C., & Higgs, E. (2005). Satellite culture – global positioning systems, Inuit wayfinding, and the need for a new account of technology. *Current Anthropology*, 46(5), 729–753.
- Beale, L., Field, K., Briggs, D., Picton, P., & Matthews, H. (2006). Mapping for wheelchair users: Route navigation in urban spaces. *The Cartographic Journal*, 43(1), 68–81.
- Bergeron, J., Paquette, S., & Poullaouec-Gonidec, P. (2014). Uncovering landscape values and micro-geographies of meanings with the go-along method. *Landscape and Urban Planning*, 122(2014), 108–121.
- Bilandzic, H. (2017). Lautes Denken. In L. Mikos & C. Wegener (Eds.), *Qualitative Medienforschung. Ein Handbuch* (2nd ed., pp. 406–413). UVK.
- Borgmann, A. (1984). *Technology and the Character of Contemporary Life: A Philosophical Inquiry*. University of Chicago Press.
- Breidenstein, G., Hirschauer, S., Kalthoff, H., & Nieswand, B. (2013). *Ethnografie. Die Praxis der Feldforschung*. UTB GmbH.
- Büscher, M., & Urry, J. (2009). Mobile methods and the empirical. *European Journal of Social Theory*, 12(1), 99–116
- Carpiano, R. M. (2009). Come take a walk with me: The “Go-Along” interview as a novel method for studying the implications of place for health and well-being. *Health & Place* 15, 263–272.
- Cresswell, T. (2015). *Place. An Introduction* (2nd ed.). Wiley Blackwell.



- Ding, D., Parmanto, B., Karimi, H. A., Roongpiboonsopit, D., Pramana, G., Conahan, T., & Kasemsuppakorn, P. (2007). Design considerations for a personalized wheelchair navigation system. *Proceedings of the 29th Annual International Conference of the IEEE EMBS Cité Internationale, Lyon, France*, pp. 4790–4793.
- Drüeke, R. (2013). *Politische Kommunikationsräume im Internet. Zum Verhältnis von Raum und Öffentlichkeit*. transcript.
- Evans, J., & Jones, P. (2011). The walking interview: Methodology, mobility and place. *Applied Geography*, 31(2), 849–858.
- Finlay, J. M., & Bowman, J. A. (2017). Geographies on the Move: A Practical and Theoretical Approach to the Mobile Interview. *The Professional Geographer*, 69(2), 263–274.
- Fox, S. (2011). *Americans living with disability and their technology profile*. Pew Research Center. <https://www.pewresearch.org/internet/2011/01/21/americans-living-with-disability-and-their-technology-profile/>
- Gibson, J. J. (2014). *The Ecological Approach to Visual Perception*. Houghton Mifflin.
- Gleeson, B. J. (1997). Disability Studies: A historical materialist view. *Disability and Society*, 12(2), 179–202.
- Kitchin, R. (1998). ‘Out of place’, ‘knowing one’s place’: Space, power and the exclusion of disabled people. *Disability & Society*, 13(3), 343–356.
- Kühl, J. (2016). Walking Interviews als Methode zur Erhebung alltäglicher Raumproduktionen. *Europa Regional*, 23(2015), 35–48.
- Lee, J., & Ingold, T. (2006). Fieldwork on foot: Perceiving, routing, socializing. In S. Coleman & P. Collins (Eds.), *Locating the Field: Space, Place and Context in Anthropology* (pp. 67–85). Berg Publishers.
- Leshed, G., Velden, T., Rieger, O., Kot, B., & Sengers, P. (2008). In-car GPS navigation: Engagement with and disengagement from the environment. *Proceedings of the SIGCHI Conference on Human Factors in Computing Systems. Association for Computing Machinery, New York, NY*, 1675–1684. <https://doi.org/10.1145/1357054.1357316>
- Levine, S. P., Bell, D. A., Jaros, L. A., Simpson, R. C., Koren, Y., & Borenstein, J. (1999). The NavChair Assistive Wheelchair Navigation System. *IEEE Transactions on Rehabilitation Engineering*, 7(4), 443–451.
- Linton, S. (1998). *Claiming disability. Knowledge and identity*. New York University Press.
- Mascetti, S., Civitarese, G., El Malak, O., & Bettini, C. (2020). SmartWheels: Detecting urban features for wheelchair users’ navigation. *Pervasive and Mobile Computing*, 62, 101115, 1–19.
- Moles, K. (2008): A Walk in Thirdspace: Place, Methods and Walking. *Sociological Research Online*, 13(4), 31–39.
- Møller Jørgensen, K. (2016). The media go-along. Researching mobilities with media at hand. *MedieKultur. Journal of Media and Communication Research*, 60, 32–49.

- Montello, D. R. (2005). Navigation. In P. Shah & A. Miyake (Eds.), *The Cambridge handbook of visuospatial thinking* (pp. 257–294). Cambridge University Press.
- Napolitano, S. (1995). Mobility impairment. In G. Hales (Ed.), *Beyond Disability: Towards an enabling environment* (pp. 30–35). Sage.
- National Conference for Community and Justice. (2021). *Ableism*. <https://www.nccj.org/ableism>
- Oliver, M. (1990). *The politics of disablement*. Palgrave Macmillan.
- Parent, L. (2016). The wheeling interview. *Mobile methods and disability. Mobilities*, 11(4), 521–532.
- Savino, G.-L., Sturdee, M., Rundé, S., Lohmeier, C., Hecht, B., Prandi, C., Jardim Nunes, N., & Schöning, J. (2020). MapRecorder: Analysing real-world usage of mobile map applications. *Behaviour and Information Technology*. <https://doi.org/10.1080/0144929X.2020.1714733>
- Shakespeare, T. (2006). The Social Model of Disability. In Lennard J. Davis (Ed.), *The Disability Studies Reader* (2nd ed., pp. 197–204). Routledge.
- Shakespeare, T. (2014). *Disability rights and wrongs revisited* (2nd ed.). Routledge.
- Soja, E. W. (1996). *Thirdspace: Journeys to Los Angeles and other real-and-imagined places*. Blackwell.
- Tannert, B., & Schöning, J. (2018). Disabled, but at what cost? An examination of wheelchair routing algorithms. *Proceedings of the 20th International Conference on Human-Computer Interaction with Mobile Devices and Services* (p. 46).
- Trevisan, F. (2017). *Disability rights advocacy online: Voice, empowerment and global connectivity*. Routledge.
- Wheelchair Foundation. (2021). *Wheelchair Needs In The World*. <https://www.wheelchairfoundation.org/fth/analysis-of-wheelchair-need/>
- World Health Organization. (2008, May 13). *Guidelines on the provision of manual wheelchairs in less resourced settings*. <https://www.who.int/publications/i/item/9789241547482>
- Yanco, H. A. (1998). Wheellesley: A robotic wheelchair system: Indoor navigation and user interface. In V. O. Mittal, H. A. Yanco, J. Aronis, & R. Simpson (Eds.), *Assistive Technology and Artificial Intelligence. Applications in Robotics, User Interfaces and Natural Language Processing* (pp. 256–268). Springer Verlag.