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The commented walk method as a way of highlighting precise daily mobility difficulties.

A case study focusing on cognitive or mental diseases.

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Abstract

The French Act of 11 February 2005 on equal rights and opportunities, participation and citizenship of people with disabilities highlights the need "for people with disabilities or reduced mobility" to have access to the complete mobility chain of the transport system. This law was initially planned to apply from 2015. Many efforts have been made to improve life for those with physical, visual and, to a lesser extent, hearing impairments. But there is a lot of room for improvement in situations regarding psychological, cognitive and mental impairment. This is largely due to a lack of knowledge on the difficulties experienced by the above when they travel.

A qualitative methodology called 'commented walks' (Thibaud, 2001) is employed by urbanists to investigate the quality of the urban environment using videos. This paper will show how this method is also useful to complete quantitative approaches and to point out the difficulties encountered by people with disabilities in the urban space.

The main recommendations from this research are:

- need for a coherent and foolproof continuity of informational systems (staging, numbering of buildings in the street, bus destination displays...)
- necessity to minimize the 'affordances' (Gibson, 1977) that might become highly disruptive cognitive attractors (Chevrier, Juguet, 2003) (i.e. advertising, illuminated signs that divert the focus of attention ...).
- need for a simplification and systematization of the cognitive procedures required to reach a destination.
- need for staff training : human assistance remains essential and can't be replaced by any automatons.

The videos resulting from the 'commented walk' methodology are important, firstly to explore the difficulties experienced, then to inform the necessary authorities and finally to feed into training programs designed for logistic officers or bus drivers.

The commented walk method

A qualitative methodology called 'commented walks' (Thibaud, 2001) is used by urbanists to investigate the quality of urban environment using either photos or videos. This method was popularized in France, by the Research Center on Sonic space & Urban environment (CRESSON research laboratory - School of Architecture of Grenoble). It relies on the "thinking aloud" technique devised by Alan Newell and Herbert Simon (1972) in the US. «This is a journey with a real-time storytelling» (Miaux, 2008). The "commented walks" methodology leads to a very precise analysis of mobility choices process.

We were looking for a method to give us a better understanding of mobility behaviours, especially with people with disabilities. We were also looking more precisely for a method suitable for participants with verbal or non structured verbal difficulties. So, we carried out 4 'commented walks' in the city of Amiens in order to test the methodology: Marie and Etienne have trisomy 21 ; Fabien has an intellectual disability, he is illiterate but knows how to read figures ; Marion has a dyspraxia.

As the goal is for us to study mobility in urban environments we have adapted the methodological protocol according to Chevrier and Juguet's advices. As Marie, Fabien and Marion seemed relatively autonomous on public transport, we asked them to add slight challenges.

- In the morning Marie was going to her workplace with her father by car. She was returning alone, by bus. We suggested she tried an outward journey by public transport for the first time.
- Fabien seemed really capable of dealing with public transport in his daily routine. So we asked him to go to the zoo, a place he was not familiar with.
- Marion has excellent communication skills. One day she got lost in Amiens, so we asked her to try to find the path she had taken that day.

According to Chevrier & Juguet's work (2003), such a script is an *in situ* test. It aims to ask the travelers to face realistically a set of situations which forces them to adjust their action plans. Typically, people in public transport run on autopilot. Guided by their habits, they follow some procedures without questioning their practices. These practices become automatic. Indeed our films show clearly that a fictitious situation causes a break in the routine action chain. And they show how people face more unexpected events and less known routes.

Disruptive cognitive attractors : adverts

The presence of advertisements on the road contributed to Marion's confusion. They distracted her from looking for relevant informations.



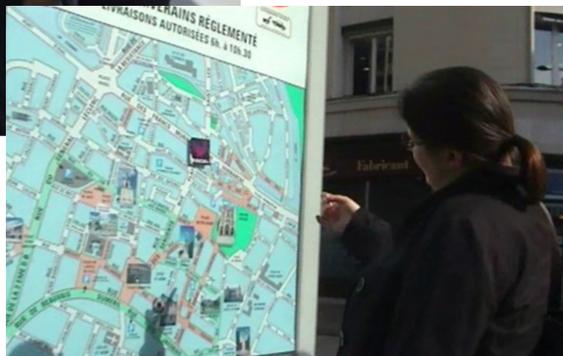
An information discontinuity : one bus line and several final destinations.

Marie couldn't know the final destination because she had arrived from the back of the bus where there was only the bus number on display.



Human assistance : some needs for trainings

In Amiens's main interchange bus station, Fabien spontaneously questioned an employee of the transport company how to get to the zoo. The employee advised Fabien to take bus No. 1. Unfortunately he didn't think of indicating either the right direction and final destination or the location of the bus stop. This employee was probably lacking training.



Too complex cognitive procedures to reach a destination

Marion doesn't bother with city maps because for her, most of the city maps require too many complex cognitive procedures to reach a destination. She tried to explain to us that the locations of city maps are badly placed. Usually located on the back of advertising hoardings, these geocentric local maps should permit a simple cognitive projection on the ground with north directly in front of the user thereby no longer requiring an additional cognitive operation such as turning in order to face north.