Theme 4: The pedestrian as a subject

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Social science approaches are still poorly developed in terms of research on walking. They need to be developed because they complement engineering approaches. This section presents the social issues linked to walking and how the pedestrian is considered as a subject of research.

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Cycling and walking: literature review – The pedestrian as a subject

Utilitarian walkability

Numerous studies aimed at promoting walking focus on the potential for walking within a territory, a concept known as walkability. It is meant to restore the quality of the pedestrian environment, by highlighting possible factors that may hinder or facilitate walking.

Numerous indexes and criteria have been developed to measure walkability. Among them, the Frank Walk Index (Frank et al. 2005) is based on residential density, intersection density, and land use diversity, while Michael Southworth identifies six criteria (Southworth 2005): connectivity, links with other modes of transport, fine grained and varied land use patterns, safety, quality of paths and path context. Walkability has also become a business model: for instance, in 2007, former Microsoft employees - who were also coders and commuters - created the Walkscore app (Walkspace 2011) to offer a digital tool to help identify pleasant places to walk.

Most walkability indexes are based exclusively on digitally accessible open-source data. Often, they ignore the diversity in how individuals perceive walking conditions, both positively and negatively. Qualitative layout elements, such as the quality of the paths and of their borders, their width, their condition, the presence of seating or the available sights, are also frequently ignored in these indexes.

These indexes and functional measures are intended to be descriptive, but given the studies in which they are used, there is a great temptation to use them as factors explaining the practice of walking: does the built environment encourage frequent walking, or, conversely, does a population already willing to practise active mobility settle in neighbourhoods with a high walkability index?

Studying the subject

However, one central actor is missing from this work: the subject, the person meant to be walking. In this respect, Lucius Burckhardt, a Swiss sociologist and economist, points out that planning is never done in isolation, but is part of a social system (Burckhardt, 1979). Austrian planner Harald Frey further points out that a functionalist approach based on the implementation of technical standards does not correspond to lifestyles and aspirations of individuals (Frey, 2014). This observation clearly shows that there is a lack of research in social sciences addressing the issue of pedestrian expectations.

Ironically, the only data on individuals that is consistently documented in many countries is on mortality rates in road accidents. Interestingly, there is a lack of discussion about how the media covers road accidents according to modes, often stigmatising cyclists and pedestrians (Fevyer 2020). Indeed, a large number of publications and data sets focus on accidents (e.g. Methorst, 2017; Schepers, 2017), allowing us to study different situations, environments and user profiles to draw lessons that are useful for designing spaces (e.g. crossroads, pedestrian crossings, etc.) and traffic regulations, with an exclusive focus on safety.

There have been other attempts to understand and measure walking using machine learning. Autonomous vehicles need to identify and predict the behaviour of pedestrians as precisely as possible to avoid collisions (e.g. Razali, 2021; Alahi, 2017). Optimising pedestrian flows in dense environments, such as train stations, has also led to research on the length and frequency of steps, the influence of the built environment and of “nudging” on pedestrians (e.g. Wernbacher, 2020; Chen, 2020). Other researchers focus on modelling crowd dynamics and pedestrian evacuation patterns (e.g., Moussaid, 2016; Helbing, 2011)

The importance of pedestrian aspirations

These highly utilitarian, quantitative, and focused views on safety concerns tend to reduce pedestrians to their physical characteristics, seeking to normalise them without considering their subjectivity. This has or will have inevitable repercussions on the future development of pedestrian infrastructure and amenities, while influencing the regulations, directives and standards that define open spaces, and the ability of future users to take ownership of them.

Several studies conducted in the fields of sport and health highlight the benefits of physical activity for the body and mind (e.g. Murtagh, 2005), warning about the consequences of physical inactivity, such as chronic diseases, heart disease, strokes, obesity, etc. (e.g. Carlson et al. 2018; Kruk 2014, Altavilla et al. 2016; Kohl et al 2012). This can be found in a number of publications on cycling, which also regularly emphasise the positive effects of active mobility.

Recently, ethnologists have taken an interest in the study of walking and pedestrians. For example, Marie Pelé and her colleagues launched a comparative study on pedestrian behaviour at road crossings in Japan and France (Pelé et al. 2017). They found great cultural and social differences, despite both countries having comparable infrastructure, legal frameworks and traffic accident rates. [1] These sociocultural differences are consistent with similar findings from comparative studies on cyclists

(see theme 1) and they reinforce the need to continue exploring this area of research for all active modes of travel. Research on cultural differences in pedestrian behaviour is also relevant with regard to the development of autonomous vehicles that need to avoid collisions in different cultural environments (e.g. Hell et al. 2021). This is a start, but what about the diversity of pedestrians?

To restore the diversity of the pedestrian, Jérôme Monnet calls for "demystifying the single term of "walking" that masks very different socio-spatial realities" (Monnet, 2015/2016): "walking" seems to be associated by default with "leisure-walking," as a chosen activity that is carried out for itself. It can be described in more nuanced terms: strolling, visiting, sauntering, hiking, wandering, rambling, etc. Yet, "transport-walking," which is ever-present in daily life, remains an exo-justified activity, because the reasons for engaging in it are external to it – here walking is a consequence, not the goal. According to Monnet, "leisure-walking" appeared in the 17th century, when cities were being reorganised and optimised with the physical separation of roads to prioritise vehicles, which were the tools and symbols of the elites. Intellectuals from Rousseau to 21st century writers and scientists have glorified leisure walking as a noble activity—reducing the collective representation of walking to something purely recreational. Transport walking, which is seen as a trivial and "forced" activity, has for its part been poorly documented. It is "relegated to an inferior status, unworthy of philosophical reflection, artistic representation or urban intervention" (Monnet, 2016). While there is increasing investment in amenities for leisure walking, hiking and strolling, the places meant for transport walking — which is utilitarian and essential — remain unsuited to its practice, unsafe, fragmented, cluttered and congested.

While in recent years, walking has tended to be analysed either from the standpoint of leisure or of transport, some recent research challenges this dichotomy, arguing that it does not necessarily correspond to pedestrians' real experiences, in particular women: for them, daily trips do not only serve a utilitarian purpose, they are often combined with recreational and social functions. It is therefore all the more important that daily trips offer opportunities to stop, discover, and thrive socially, culturally, and intellectually (Albrecher et al. 2022). The same applies to children, for whom the walk to school takes on a much richer value than a simple trip between two important places in their lives. This journey becomes a place of learning, that offers many opportunities to develop social, spatial and motor skills, all while gaining independence, according to the analogy provided by architect Hertzberger of a city functioning like a macro-school (Hertzberger 2008).

Obstacles to walking

Another unexplored facet of research on pedestrians concerns the great diversity of walking situations, and in particular the discomfort encountered when walking. There are different types of obstacles: they can relate to road conditions (congested sidewalks, roadworks, etc.), but also to the metrics of the built environment (nothing is within 5-10 minutes walking distance). They can relate to people themselves, whether temporarily (a broken leg) or permanently (an elderly person with reduced mobility), individually (shopping cart, suitcase) or collectively (accompanying a child). The diversity of pedestrian needs, expectations and constraints is not systematically considered, as most research and road standards are based on a stereotypical representation of pedestrians as being alone, healthy, without responsibilities (care activities) and walking recreationally; yet, this profile actually represents a minority of urban pedestrians. The notion of a pedestrian, as a normalised individual, should be challenged by social sciences to uncover its true diversity and to measure it, in order to inform other areas of research as well as urban planning and norms.

Data and measurable criteria allow us to engage with planners and influence them. Counting pedestrians is expensive because it takes time. But importantly, a simple tally-style count will not suffice. There is still a lack of data reflecting the complexity of pedestrians' real-world experience. While counting cars is easy because they are standardised in their shape and "possible behaviours" (stops, trips, speed, interaction with the environment, etc.), pedestrians are hard to understand and describe (Albrecher et al. 2022a). Pedestrians that are excluded from one type of urban environment are by definition unidentifiable without these comparative data and contextual indexes. Counts that consider the three types of hindrances listed above would also allow us to understand which amenities facilitate,

encourage or prevent walking and for what types of users, as has been the case for other kinds of practices in the public space (Curnier 2016, Curnier, 2022).

Tabe of contents of the literature review

Notes

1 5.5 per 100,000 inhabitants per year in France, 4.7 in Japan, 30% of which are pedestrians. The modal share of walking on a daily basis in urban areas in Japan (71%) is similar to other European countries, as shown by another comparative study with Germany (80%). (Inoue et al. 2010).

Mobility

For the Mobile Lives Forum, mobility is understood as the process of how individuals travel across distances in order to deploy through time and space the activities that make up their lifestyles. These travel practices are embedded in socio-technical systems, produced by transport and communication industries and techniques, and by normative discourses on these practices, with considerable social, environmental and spatial impacts.

En savoir plus x

Active Mobility

Active mobility refers to all forms of travel that require human energy (i.e. non-motor) and the physical effort of the person moving. Active mobility occurs via modes themselves referred to as “active,” namely walking and cycling.

En savoir plus x

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1 https://forumviesmobiles.org/en/project/15816/theme-1-lifestyles-and-bike-use
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