Toward 'mobile hyperplaces'?
Mobile activities enhanced
by the potential of connected and driverless vehicles

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Abstract:
The traveling salesman or circus is a traditional, universal figure, but contemporary owing to recent variations on it. Everywhere in the world, new (homemade or state-of-the-art) activities "on wheels" are springing up in response to poverty or isolation, or as an addition to traffic services in dense (attractive and chic) urban zones. They are helping, to make "a territory, a city, an environment". Though overlooked in studies on mobility, these "mobile hyperplaces" are the forerunners of a revolution in practices related to mobility. These practices have as much to do with "hyperconnectivity" (social media, geolocation, the Internet of things, real-time information systems) as with the advent of connected, autonomous vehicles, which make it possible to radically rethink our relations to transportation time and space (vehicles with multiple functions and used for various purposes). How far to go in imagining these mobile hyperplaces? What are the benefits? For whom?

Moving about, being agile, surfing, rebounding, "speeding" (ROSA 2010) and remaining "connected" are imperatives imposed on individuals in a hypermodern society (ASCHER 2005).[1] Given the fight against pollution and climate change, the use of automobiles is to be dissuaded, even though 80% of French "mobility" relies on them. Automobiles are usually the fastest and most comfortable mode of transportation. These contradictory admonitions place individuals in a double bind. Areas outside cities face the same dilemma: the economy requires making jobs as accessible as possible to persons in the labor force, whence many trips. There is a social demand for intense city life but with calmer traffic, while less densely inhabited areas are growing but want to benefit from services comparable to those found in the city.

How can the development of digital technology be positioned in relation to these issues? Should its promoters not better understand cities and current problems? Can we imagine that driverless, connected vehicles will answer these questions?

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[1] This article, including quotations from French sources, has been translated from French by Noal Mellott (Omaha Beach, France). The translation into English has, with the editor's approval, completed a few bibliographical references. All websites have been consulted in October 2019.

Digital technology and mobility

Controlling the use of automobiles initially led to policies based on higher prices and taxes, an increase of the time needed to make a trip, and a decrease in the space allowed for circulation and parking. This was coupled with the priority given to public transit and bicycles. The potential of information and communications technology (ICT) in the form of "telecommuting" was very little tapped before 2000. Since the upsurge of digital technology, all parties are trying to tap its potential.

Promoters of the "smart city" advocate a top-down approach: the city is a machine stuffed with sensors to be used to optimize systems. This approach encounters limitations. Why optimize traffic when the goal is to reduce it? Smart road junctions are still in limbo, and automated motorways vanished before existing. In general, entrusting a city's keys to a high tech giant is a risk and cause of concern (HAËNTJENS 2018). Besides, according to a public opinion survey (OBSOCO 2017), the "connected city" ranks at the bottom of the six ideal-types of future cities (the city as being: connected, diffuse, nature, collaborative, short distances or self-sufficient).

Other parties have adopted a more individual, bottom-up approach, for example for sharing vehicles (self-service bicycles, carpooling, cars for hire), rides, connected work spaces…. What these innovations have in common is that they articulate virtual and physical mobility. Individuals retain control, the choice is left to them. Unlike the smart city, these innovations do not arouse mistrust. The practices related to them are often occasional, a break from routines. They mostly fit in with existing practices: neighbors are used to carpooling; cars for hire are enhanced taxis. However digital technology makes these practices easier (for reservations, information, payments) and allows for "liking", a confidence-building procedure.

Still other stakeholders have turned away from the classical postulate of mobility, namely that an individual is riding to a place where he will accomplish an activity. Service-providers are customer-oriented: home assistance to the agèd, the democratization of upper-class home services (hair-dressing, manicures, tailors, etc.), home delivery of merchandise and meals, etc. Digital technology give a boost to services and business activities that respond to the transportation problems of individuals or that help users avoid losing time.

Underlying these activities is an instrumental rationality focused on individuals' needs. They create new problems in urban areas: doubts about whether the use of automobiles is actually diminishing (SCHALLER 2017) and complaints about encumbered sidewalks, double parking, the lack of modes of transit in less dense areas where people depend the most on automobiles, etc. After all, cities have other expectations. For Carlos Moreno, a specialist on smart cities, such a city's true priorities are "*the social bonds to be remade, the public space to be reinvented and the commons to be built*" (HUTEAU 2015).

From urban intelligence to "hyperplaces"

An instrumental intelligence is at the origin of cities. It is the set of arrangements that enable people to maximize interactions. This density has, over time, produced "urbanity", a mutual understanding such that different people are able to live together: "*The advantages of density are also immaterial, a city is a public space where improvised interactions can give rise to a feeling of belonging to a community*" (WIEL 2007).

Haentgens (2018), who shares this focus on immaterial aspects, sees four forms of intelligence developing in cities: technical, systemic, political (mutual understanding and decision-making) and cultural (inhabitants' ability to live together in mutual understanding). In this mosaic of areas of variable density that makes up a contemporary city, "places" differ very much from each other.

Those that accumulate the aforementioned forms of intelligence are the "intense places" of urban planners: Ascher's (2003) "*hyperspaces [where] the individual is here and elsewhere at the same time, in a space providing access to an infinity of experiences and contacts*", or Lussault's (2017) "*hyperplaces*", conducive to shared experiences, where a person feels familiar with others, with the teleconnections that underlie ubiquity. In contrast with these urban "concentrates", other places (in suburbs, on the periphery or in rural areas) have difficulty accessing resources and networks, lack shared experiences, and feel "forgotten".

These remarks about the functional, experiential and symbolic dimensions, and the opportunities offered by vehicles in the coming years were the starting point for research on "mobile hyperplaces".[2]

The "Mobile hyperplaces" research program

Motor vehicles are becoming connected devices that will soon be autonomous under certain conditions. They benefit from the rollout of innovations: real-time geolocation, big data, social networks, etc. By making tools smaller (3D-printers, diagnostic devices in medicine, etc.), the conditions are taking shape for equipping vehicles to become a "mobile service space" in line with the four previously mentioned forms of intelligence. Vehicles will become the vector of activities far beyond those we now imagine: a private automobile where a person will be able to work and have fun, a convenience store on wheels with highly standardized industrial products....

Thus has arisen the concept of "mobile hyperplaces". It takes to the extreme the ideal-type of a space "enhanced" with mobile services that enable people to exchange and meet each other, to make a place for the time of their presence, like the sporting, religious, political and cultural events, which "*form the grid on which the big urban narratives are now being built*" (PICON 2013). To avoid technological determinism, since "*technologies are embedded in social uses*" (PASQUIER 2019), already existing "mobile activities" were the starting point of this research program. The purpose is to compare them to the potential of a connected vehicle equipped with "tools" for performing services and to explore how these vehicles of the future will be put to use.

Even though the Lemoine Report (2014) has recommended "*cultivating what has grown wild and its autonomy*",[3] we designed a strict protocol for conducting observations and studying these moving, temporary practices and their interactions with urban situations, before analyzing their capacity for undergoing development in association with the new tools.

ALL SORTS OF PARTIES: By excluding practices related to a nomadic habitat and focusing exclusively on itinerant practices occurring in a single movement and based on interactions with customers or the public, we identified no fewer than six hundred cases, ranging from the familiar (*e.g.* food trucks) to the most unexpected ("gym busses", bicycles equipped with solar panels, and batteries for reloading portable devices in zones without access to the electricity grid, mobile maintenance workshops for bicycles that move from station to station, etc.). In general, we found all types of private commercial activities and public services, all types of individuals behind the activities (associations, NGOs, firms, local authorities) and all types of "territories" (from downtown to outlying areas, in developing or developed countries).

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[2] International research action program of the Institut pour la Ville en Mouvement-VEDECOM in partnership with TRANSDEV, La Poste, Michelin, Telecom Paris, PSA, ETSAV-UPC Barcelona, Ifsttar, 6-T. *Cf.*: www.mobilehyperplaces.com/.

[3] A recommendation that can be accepted by the IVM, which has specialized in exploring the overlooked aspects of mobility: "Mobilité pour l'insertion", 2001; "Acheter ou louer?", 2006; "La ville à domicile", 2009; "Passages", 2013.

ALL SORTS OF ACTIVITIES: Practices combine the resourcefulness of traditional petty business activities with using contemporary tools of communication. Activities might be performed while moving, such as preparing delivery rounds by scooter. They might be offered on a regular basis (even in this case, communications upstream in the transaction improves customer relations) or on demand (trying on a suit in a "taylor truck" equipped to make adjustments), or they might even be "plugged" into events. They often necessitate a "rear base" (in the case of mobile x-ray centers) but not always. They might be at the service of anyone or of specific communities (kosher or halal food services, distribution of ethnic products in the parking lots of supermarkets). They might reach out to poor areas (mobile dentists in the countryside or mobile homes to bring public services closer to the isolated or vulnerable), or they might compete with established businesses (chic shops or beauticians in business areas). When not proposed by local authorities, they might be authorized, tolerated, or regulated through negotiations about occupying public areas; or they might be forbidden or even repressed, as happens frequently to the street mechanics who make cars last longer for customers who cannot pay for repairs in a normal garage (NDYAIE *et al*. 2019). Such activities might be performed inside a vehicle or flow over into a public area (as happens in the case of food trucks, ambulant cinemas or educational workshops) and thus create an ephemeral density. In the latter case, exchanges with service-providers and among customers make the place more and dense. By the way, such activities could be used to conduct inexpensive experiments with autonomous vehicles, since the persons performing them could, if suitably trained, play the role of emergency drivers.

THE DRIVING FORCE OF SUPPLY AND DEMAND: These mobile activities structurally fit into the already underway digital transformation of business processes (from big retailers to neighborhood restaurants)[4] with, in particular, the explosion of orders (placed through communication channels) and of deliveries. In addition they signal a return to neighborhood businesses. When it is hard to make a trip (in metropolitan areas) or expensive (in rural zones), sellers move toward buyers; and manufacturers might even come to make things locally. These activities will find fresh opportunities thanks to new forms of technology (3D-printers, 5G, etc.).

Mobile activities are an opportunity for persons who do not find steady wage-earning jobs, who want to work in a different environment, or for whom a brick-and-mortar installation would cost too much. We should not, however, underestimate the importance of mastering multiple forms of know-how: the activity to be performed, the maintenance and upkeep of materials and devices, negotiations with third parties, the safety and security of the "microspaces" created by the activity, etc.

Local authorities might welcome mobile activities. Such businesses tend to change the rhythm in the places where they are performed. They might intensify an already intense place. They might represent a sober economic alternative (when a vehicle replaces underused buildings). They might help create places of temporary intensity in intensity-deficient areas by offering an original response to demands for fairness and visibility in less dense zones, for example: the development of an ambulatory medicine in rural areas connected with "services of excellence" (THOMAZEAU 2019) and, too, in agglomerations.

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[4] "*The digital transformation is above all synonymous with a new culture and new way of working*" according to BPIFRANCE's web page, https://www.bpifrance.fr/A-la-une/Actualites/La-transformation-numerique-une-necessite-31598.

According to plans for the city of Saint-Nazaire, "*The downtown area, like a village, needs intense and, too, calm places. To each of these polarities correspond an ambiance, a rhythm and different uses […]. In 2030, this intensity will have to be expressed on all scales: in neighborhoods, villages, the agglomeration, the metropolitan area of Nantes-Saint-Nazaire. Intensities, like ambiances, will be ephemeral and variable […]. To adjust to these variations, the territory will become reversible and modulatory. It must become a territory with resources and resourcefulness.*"[5]

Conclusion

Based on digital technology, this return to itinerant services via vehicles is often both possible and desirable. It can be an opportunity for local areas and for reducing "imposed" mobility. Like any innovation, this one also carries risks: the risks of exclusion owing to "digital illiteracy", the risk of a widespread "uberization" of society, the risk of overtaxing our "available brain time", the risk of business developing that do not fully abide by the law, the risk of conflicts due to distorted competition with locally established stakeholders, the risks of overoccupying a public space coveted by many other operators.

The challenge for local authorities is to cultivate these activities that have sprung up (since they can be used as a catalyst for urban metabolism and for reducing the inequality between local areas) while seeing to it that what has grown wild does not become an invasive species.

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