MOBILE HYPERPLACES

Scientific State-of-the-art

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INTRODUCTION

The arrival of the autonomous, connected, electric (ACE) vehicle and the passions it arouses – as well as the public and private investment it attracts – is an extreme catalyst for all the innovations and changes already underway in the field of mobility.

This action-research project, based on an international and multidisciplinary program of observations and exchanges, seeks to identify and study the different emerging and current practices in on-the-move activities (beyond the simple transportation of people or goods), in order to better understand the radical changes underway in mobile activities and to define the features of the new spaces formed the arrival of these hybrid and multifunctional vehicles. These places in motion or physical places remodeled and augmented by the variety of potential uses – business, leisure, education, work, health, habitat… – could be described as mobile hyperplaces, in line with the invitation formulated by François Ascher to look at the transformation of (physical) places as a result of the rise in digital technology and the societal transformations that accompany it.

The purpose of this report is to establish a scientific state-of-the-art through which to define the main methodological orientations that will form the basis of a prospective study of the disruptions to current practice that may occur with the arrival of the autonomous and connected vehicle, and their impact on the transformation and appropriation of places.

This state-of-the-art begins by identifying the different conceptual and societal changes that have led to the emergence of hyperplaces. It then goes on to discuss the current and future trends that may contribute to the formation of a new kind of place: the mobile hyperplace. Although at this stage the definitional boundaries of this notion are somewhat unstable, our investigation brings us to the view that the observation of mobile activities may be seen as an appropriate entry point to an exploration of the future potential of mobile hyperplaces.

FROM PLACE TO HYPERPLACE

THE MODERN DEFINITION OF PLACE: A SOCIAL AND SYMBOLIC OBJECT

From an elementary conception of place…

The place is the elementary spatial unit of geography. According to Béguin (1979), the place is both identifiable within a system of geographical coordinates, and dependent on relations with other places. More than a simple fixed point in space, the place is the stage on which a number of geographical events are played out.

In the traditional conception, inspired by Aristotelian physics, the place is conceived as a bounded geographical unit, marked by an immediately identifiable integrity: "*Just, in fact, as the vessel is transportable place, so place is a non-portable vessel. […] Hence we conclude that the innermost motionless boundary of what contains is place.*" (Aristotle, 1966). According to this definition, summed up by Michel Lussault (2017), place "*seems to exist independently of what it assembles and contains*".

… to the recognition of its complexity

This static and frozen conception of place was "*set in motion*" in the 1970s, first by the Anglo-Saxon School of humanistic geography. According to Yi-Fu Tuan (1974), "*Place, however, has more substance than the word location suggests: it is a unique entity […]; it has a history and a meaning. Place incarnates the experiences and aspirations of a people. Place is not only a fact to be explained in the broader frame of space, but it is also a reality to be clarified and understood from the perspectives of the people who have given it meaning.*" According to him, place can be an object of study for humanistic research, considered from a historical, literary and artistic perspective.

This definition relates to Bachelard's phenomenology (2009), according to which the human being is not only spatialized, but also – as Pierre Sansot (2004) – spatializing: it is the human being's perception of place that gives the latter reality.

Echoing this conception of place, Debarbieux (1996) established a distinction between geographical places, which localize a unit bounded in space, and symbolic places, which "*also designate a social form, often imaginary, sometimes phantasmagorical.*" According to him, not every geographical place is therefore necessarily a symbolic place: "*Geographical places, which are potentially infinite in number, are combined organically within this geographical space. But selected from this infinity of possibilities, invested with social processes, some of them are charged with meanings*". In this view, the symbolic place is the combination of a geographical location, the practices carried out in that location, and the perceptions that individuals have of it.

So place is not simply an integral, bounded, geographical unit, a rational object, but also a subjective object that individuals appropriate, like the "lived space" defined by Frémont (1976): "*the transparencies of rationality are clouded by the inertias of habit, the urges of emotion, the conditionings of culture, the fantasies of the unconscious.*

Lived space, in all its thickness and complexity, thus appears as a revelation of regional realities. […] The region, if it exists, is a lived space."

This line of thinking is summed up by Marc Augé (1992, p.69) in his definition of anthropological places, described as "*identitary, relational and historical*". Identitary, because they represent "*a culture localized in time and space*" (Ibid, p.48); relational, because they are "*a concrete and symbolic construction of space*" (Ibid, p.67-68), a construction undertaken by a social group and intelligible to any informed person; historical, because they have a certain stability over time.

Anthropological or symbolic place is therefore an inhabited geographical place, as defined by Heidegger (1958): a space created by human beings or at least controllable, bounded, imbued with meaning.

If places are the products of relations, then it becomes possible, with Marc Augé (1992), to identify "*non-places*". In his view, these are places marked by monofunctionality, and by a lack of social interactions, such as airports or stations, spaces of slippage and transit. Marc Augé also includes the virtual spaces of the new communication technologies in this category of non-places.

"*Non-places* "because they are not a medium for social interactions, these spaces can, nevertheless, become places when they are symbolically "*inhabited*" and appropriated. Today, with the mass development of social networks, the increasingly widespread use of smartphones, and the permanent connection of individuals, the concept of non-places needs to be entirely rethought, since any space can potentially accommodate social interactions (at least remotely) and be a medium for symbolic appropriation. Likewise, with the spread of information and communication technologies, every piece of territorial space, including vehicles, becomes a place where activities can occur (Adoue, 2016).

"Temporary, lasting, immobile or mobile places"

Moreover, if places are the products of social relations and of the symbolic significance attributed to those relations, then they can be nomadic: so a festival that moved every year, but continued to express the same symbolism (same name, same communication aesthetics, same prestige) and to be a medium for similar social interactions, would remain the same and keep the same identity, independently of its geographic location. Place could thus be mobile. In the same way, a place can be ephemeral: a demonstration can turn a space into a "symbolic place", a medium for particular interactions and a carrier of meaning. But once the demonstration is over, the place loses this identity, recovers its day-to-day uses, and may perhaps take on a durable but different identity.

As Ascher sees it, therefore: "*Places can be individual, communitarian or collective. They can be temporary, lasting, immobile or mobile*" (Ascher, 2009: p119).

The definition of place given by Lussault (2017) summarizes these considerations: "*For geography, the place has thus become a society's smallest complex spatial unit. Smallest, because it is the basic space constructed for and by social life, just as the house is the basic space of domestic life. Complex, because the complexity of society is fully present in it, in a special combination of human and nonhuman realities that make a local system.*"

If places are necessarily separated by a distance, mobility – physical or virtual – then provides a way of managing distance (Lévy, 2011), a method for the "*displacement-replacement*" of individuals (Ascher, 2009, p.120). Therefore, technological advances limit or even abolish the effect of that distance, in two different ways, one through physical transportation, the other through information and communication technologies.

PLACES, MOBILITY AND ACTIVITIES IN THE DIGITAL AGE

Physical mobility and virtual mobility

In its "broadest" definition, mobility can be understood in terms of the study of "*the fluidity of human embeddedness in geographical space, the environment and society*" (Orfeuil, 2000, p 10). During the 20th century, this definition developed in relative autonomy within different disciplines (Gallez and Kaufmann, 2009). Sociology considered social mobility, the study of individuals changing either status or social groups over time. Geography and the socio-economics of transportation focused more particularly on spatial mobility, usually reduced to the observation of travel practices. Since the 1990s, more systemic visions, which explore the interactions between the spatial and social dimensions of mobility, have helped to make mobility a fundamental object of social science research (Urry, 2000; Gallez and Kaufmann, 2009; Gallez, 2015). Schematically, these interactions can be understood in two ways: either, first, by the study of spatial mobility as revelatory of social changes or continuities; or, second, by considering the socially constructed aspirations and potentials for mobility of individuals, in order to gain a better understanding of mobility practices.

In his manifesto book "*Sociology beyond societies: Mobilities for the twenty-first century*", Urry (2000) seeks to produce a broad definition of mobility as a new paradigm in sociology: for him, movement has become central to sociological analysis, and interpretative frameworks such as the notions of structures or societies, characterized by immobility, have become irrelevant. In response, he explores the different forms that mobility can take, in order to show its importance in our western societies. According to him, four main types can be identified:

- Corporeal mobility;
- Mobility of objects;
- Imaginative mobility;
- Virtual mobility.

Corporeal mobility refers to the physical movement of individuals in all its forms, and to the different meanings associated with these movements through space. The mobility of objects is understood in terms of the growing importance of exchanges of manufactured products and their consumption at different points in space: the author is interested here in the interactions between objects and the mobility of individuals, for example travelling with objects, bringing back objects from trips, or having objects

brought to one from elsewhere. Imaginative mobility can be connected with this final dimension: while the author's developments focus on television and radio, imaginative mobility can also be produced by any object that displays images of an elsewhere (books, newspapers, pictures, etc.). Imaginative mobility is thus a way of travelling without moving, and therefore entails the possibility of simultaneous connection to different places.

The same is true of virtual mobility, linked with the use of the Internet and methods of remote communication,[1] taking place in real time and transcending spatial distance. This conception of virtual mobility is associated with the concept of cyberspace, which he defines as "*a globally networked, computer-sustained, computer-accessed, and computer-generated, multidimensional set of overlapping ʻvirtual communities'*" (Urry, 2000). Urry thus embeds his definition of virtual mobility in an autonomization of virtual space, brought about by IT and the Internet, a virtual space in which individuals move, meet and connect. In his distinction between virtual space and real space, Urry says nothing about virtual mobility within physical space, a vision that has been much disputed.

In fact, space can be understood as both single and hybrid, allowing both physical and virtual interactions (Rallet et al., 2009), by contrast with the definition of cyberspace as separate from physical space. In this perspective, space is a meshwork of connection interfaces that allow virtual interactions (Rallet et al., 2009). These connection points are characterized by access to the telecommunications networks (telephone and Internet, landline or mobile) and possession of an ICT tool (telephone, mobile phone, computer, etc.). The development of the two components of connection contributes to what Rallet et al. describe as the growing territorial network of connection interfaces (Rallet et al., 2009). As a result, what we see today is permanent access to virtual mobility regardless of location, as the growing portability of ICT removes the need for fixed connection points (Rallet et al., 2009).

The notion of a single hybrid space also helps us to understand the role of information and communication technologies in the current mobility changes. Cohen et al. (2002), define ICT as: *"a family of electronic technologies and services used to process, store and disseminate information, facilitating the performance of information-related human activities, provided by, and serving the institutional and business sectors as well as the public-at-large"* (Cohen et al., 2002, p 35).

Information is not only transmissible, but can also be stored and processed. It is communicated electronically and the technology is exclusively digital. Another characteristic can be deduced from this definition: its scope is universal. The private sector, the public sector, and the wider public can all use ICT, so ICT is not confined to the sphere of production alone. Above all, the purpose of ICT is to "*facilitate the performance of human activities*". It is seen to play an ever-increasing role in our day-to-day lives, in what has been called the "information age" (Lyons and Urry, 2005).

So mobility encompasses all sorts of movement beyond the movement of people and objects in physical space, and is coming to be understood as a medium of social ties in increasingly globalized societies. According to Urry (2007), these mobilities, which correspond to different types of connection, are contributing to the development of a

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[1] In a more recent work, *Mobilities,* published in 2007, Urry distinguishes between "virtual travel", linked with use of the Internet, from "communicative travel", which consists in the exchange of messages via letters, telegrams, faxes, and landline or mobile phones.

"social life at a distance", marked by the dispersal of individuals and activities. This approach demonstrates the importance of exchange and movement in contemporary Western societies, where mobility has emerged as a dominant value (Orfeuil, 2000; Borja et al, 2014).

Corporeal mobility then becomes a technique of "presentation", i.e. the combined presence of individuals in a given place, whereas information and communication technologies can be understood as tools of "representation", i.e. systems that can "*represent them, in other words make them perceptible in their absence through a sign, a text, an image, a sound, and perhaps soon a smell, a tactile or taste sensation*" (Ascher, 2009 : p 121).

Indeed, ICT today enables individuals to communicate instantaneously without presentation, thanks to SMS messages, but also mobile applications such as FaceTime, WhatsApp, or Facebook. They make it possible for people to be present remotely, a situation that Christian Licoppe (2004) calls "*connected presence*". In this respect, the technologies, and the virtual mobility they permit, fully belong to the sphere of mobility (Kaufmann, 2005; Urry, 2000; Rallet et al, 2009; Kellerman, 2011).

These two forms of mobility contribute to the fulfilment of what Kaufmann (2005) identifies as a (quasi-)universal desire for reversibility: the movement from one place to another is less and less synonymous with a definitive separation, since the effect of this separation can be entirely or partially eradicated (respectively by corporeal or virtual movement). This "*reversibilization*" now appears characteristic of the evolution of our contemporary societies.

Individuals have benefited greatly from the greater potential for fast physical movement brought by technological progress in the transportation sector (Ollivro, 2000) and from the capacity for ubiquitous virtual movement brought by the development of ICT. These technological changes have liberated individuals from the traditional connection with place (Ascher, 2009). They can draw on different kinds of mobility in different contexts: by juggling modes of travel (car, airplane, walking…) and forms of travel (physical, virtual, telephone, text message…), they are able to evade the spatiotemporal incompatibilities that they experience (Kaufmann, 2005: p 129). Those contexts are therefore marked by the spatiotemporal constraints that govern human activities, by the conditions of access to the different methods of communication (physical or virtual), and by individual capacities to use these communication networks (Kaufmann, 2005).

Digitization of activities and weakening of spatiotemporal constraints

In *Time-Geography* (Hägerstrand, 1970), the analysis of activity schedules is central to the study of the mobility of individuals, starting with the assumption that all activity must take place at a given place and time. Individuals are therefore bound by a system of spatiotemporal constraints that restricts the activities that can be performed (e.g. shop and office opening times).

While this way of looking at activities through the prism of spatiotemporal constraints has often been applied to the analysis of "physical" activities, i.e. those carried out in a given place within immediate reach – by touch, voice, sight – of the individual, this

in no way precludes its application to activities that require virtual mobility. Indeed, already in 1970, Hägerstrand's analysis included remote activities in the form of the fixed line telephone. In this example, making or receiving a phone call requires both parties to move simultaneously to a telephone set, wherever they are otherwise located in space. The place where the activity is carried out, for an individual communicating remotely with another, is no longer necessarily the same as that of the other party, but instead in the location of the technical apparatus used. Since then, Schwanen and Kwan (2008) have demonstrated the relative spatial rigidity entailed in accessing the Internet via desktop computers, mainly used at home or in the workplace. These days, individuals carry mobile phones and smartphones almost everywhere they go, further reducing the spatial constraint on remote communication. As a result, for remote communication and information exchange activities, absolute position in space tends to be less important than position relative to an ICT device connected to the telecommunications networks. For Couclelis, this trend is gradually changing the geography of activities, which are less and less tied to place, and increasingly tied to people (Couclelis, 2004).

ICT enables activities to be carried out in places whose primary function is not to accommodate activities of that kind – e.g. teleworking – with the result that any place with a connection to the network becomes multifunctional. What is happening here is a form of substitution whereby corporeal mobility (travelling to work) is replaced by virtual mobility (not travelling, but interacting remotely to perform the activity).

For many activities, however, there is no sharp division between perfect substitutability and non-substitutability. However, there can be a gradient in the quality of substitution since digitized activities can "*fulfil many needs, but not all the virtualities that are embodied in their data*" (Beaude, 2014). It is precisely in the graduated nature of the substitutability of activities that the complexity of the relations between virtual mobility and corporeal mobility resides.

So with reference to ICT activities can be divided into different segments. Physical activity then becomes partially replaceable by connected digital activity, in a phenomenon known as fragmentation (Couclelis, 2004). This phenomenon has been examined, in particular, in relation to online shopping, where the different stages of a shopping transaction (search for information on products, ordering, payment, delivery, aftersales service, etc.) can be carried out online or in-store (Rallet, 2001; Couclelis, 2004). This partial substitutability can be seen as a form of hybridization (Rallet, 2001), in this case between the physical components and virtual components of the activity. The forms of mobility associated with these hybrid activities then remain relatively autonomous: there is a succession of physical and virtual movements undertaken to perform an activity. Through the concept of fragmentation, Couclelis deduces that increasing freedom from spatiotemporal constraints on the performance of activities will lead to an increase in corporeal mobility – with individuals able to enhance their activity schedule by visiting more places that provide access to new activities, while maintaining their usual activities via ICT, though so far this hypothesis has not been verified (Lenz and Nobis, 2007).

While the digitization of certain human activities may bring freedom in relation to the places and temporalities of those activities, by relaxing certain spatiotemporal constraints, these activities or multi-activities nevertheless always take shape in specific places. This phenomenon reflects an individualization in the relation to places, since the places where activities are carried out are more often a matter of individual choice than van imposition (Ascher, 2009).

It is thus through the dual impetus of connectivity via the "*growing portability*" (Rallet et al, 2009) of ICT and of individualization of the relation to place, that places become transformed.

The hyperplace as a marker of societal changes

"For a partly new society, partly new urban places. A society where individuals move in all directions, at every hour of the day and night, a hypertext society where people shift rapidly from one social milieu to another, where sequences of activities overlap and intertwine, where social ties are chosen, are formed, are made more freely, but also more freely unmade. This hyper-modern society produces new places: hyperplaces."

François Ascher, *Le Mouvement dans les sociétés hypermodernes*, 2006.

A hypertext and hyperspatial society

With the development of communication technologies, individuals have become able to move within a multiplicity of real or virtual social spheres: with connected technological objects, they can shift rapidly from one to another, without the need for physical displacement. For François Ascher (2009), these connected individuals form a "hypertext". Like a hyperlink in a computer text, present in and connecting several documents, individual exist in *n* distinct social fields, between they move either physically, or in virtual space. "*In recent years, ICT has exploded into public spaces, giving new concrete forms to the hypertext society. From a single cafe terrace, a consumer – to the irritation of his neighbors – can shift from a face-to-face social interaction to a work-related interaction with a colleague a long way away*" (Ascher, 2005, p.197).

So ICT is not a replacement for transportation and individual journeys from one place to another; in other words, ICT does not eradicate place: "*Rather, it contributes actively to new combinations of presentation and representation, to different blends of places and moments, to the dissolution of certain places and to the production of new places elsewhere*" (Ascher, 2009, p.126). These new types of places are hyperplaces. Vehicles of the hypertext society, hyperplaces are n-dimensional places (Ascher, 2009, p.69) where both representation (telecommunications) and presentation (presence and copresence) can take place. The hyperplace is, in this sense, the place where the individual's hypertextuality is the greatest and the most evident.

While Paul Virilio (1990) accurately describe the impact of ICT on individual relations to immediacy and to distance – since ICT enables individuals to control their environment remotely – his belief that this would lead to a reduction in the need for physical travel has been largely contradicted by the facts. These giant strides in connectivity do not eliminate the relations of individuals to space, do not challenge the intrinsic value of place and therefore the need for mobility. Individuals continue – though in different ways – to be grounded in places. The potential for encounter remains, according to Ascher (2010, p.76), "*one of the primary benefits of urban places*". For Ascher (ibid), the spread of telecommunications "*imparts economic and symbolic value to what cannot (yet?) be telecommunicated: the 'live', the sensations of touch, of smell, of taste, events, parties.*" We only have to think of the example of the showrooms opened by online brands when they have achieved a certain success and their customers want to try the products and enjoy the tactile experience. For

Ascher (2009, p.158), *"the separation and recombination of places and moments automatically produces multiple new places, distinctive to different degrees, changeable, ephemeral."*

Within a hypertext society, the demand for real places, which provide the framework for a rich social life, hybridized by the impact of the new technologies, is in this view even more important.

Globalized places

In his theory of globalization, Friedman (2006) proposed the idea that the world is becoming flatter, as globalization creates connections between distant places and shared systems of representation.

For Lussault (2017), while for individuals the scale of the world was previously infra-terrestrial, it is now truly global, and it is this scale that is increasingly becoming the reference for human practices and activities, and for social and cultural phenomena. In relation to this new reference that is both distant and virtually accessible to everyone, places constitute "*essential affordances of globalization"* (Lussault, 2017, p.40), a term that Lussault uses in Gibson's sense: "*The affordances of the environment are what it offers the animal, what it provides or furnishes, either for good or ill.*" (Lussault, 2017, p.133). For Lussault, places can be considered to offer "affordances" for globalization, "*because it is increasingly around them and with them that many social processes and individual activities, introduced and permitted by globalization, are arranged, even structured, localized, made livable and appropriable for their inhabitants"* (Lussault, 2017, p.40).

This is the idea conveyed by the concept of "glocalization": according to Friedman (2006) or Appiah (2007), local cultures are hybridized by the global, by this appeal to a shared and globalized reference. In parallel, and paradoxically, they argue that the "local" is diversifying in reaction to globalization, as is suggested by the emergence of "neolocalist" movements, which are spreading throughout the world and interacting through social media, all the while preaching a return to proximity and to the local. As a result, the place is becoming multiscale: its reality can be interpreted at different geographical scales, and at the same time be associated with a virtual reality.

In the same way, Silver and Clark (2016) have referred to the emergence of a global scale symbolic culture of consumption, which is creating a "global lifestyle" and establishing demand for similar cultural products in cities all over the world. Such products are the coffee shops with Scandinavian or vintage design that are springing up all over the world's big cities, from New York, to Mexico to Seoul. Or else the "street food markets" which appear on social media in springtime and then in all the capitals, with their food trucks and colorful fairy lights. It can therefore be assumed that places of consumption are also becoming global and multiscale, while remaining in step with a local demand that is increasingly infused with a global culture.

Michel Lussault (2017) pursues François Ascher's ideas about the connected and multiscale hyperplace, to construct a definition of the globalized hyperplace. Taking the example of Times Square, Lussault defines the hyperplace in five points, the first two of which corresponds to Ascher's definition:

(1) According to Lussault, the hyperplace is characterized by the multiplicity of its functions and uses.

(2) The hyperplace reveals the hyperspatiality of our urban societies: it combines physical accessibility, copresence and connection. According to Lussault (2017, p.56), "in a hyperplace, the old irreducible opposition between here and elsewhere is absorbed in the tension between the space-time of concrete experience and the "beyond-space-time" of the digital network". This description connects with Ascher's idea of n-dimensional places.

(3) The hyperplace is also "hyperscale": it functions at all scales simultaneously, it is both local and global, but also constitutes a node in a communicational beyond-space-time (ibid, p.57).

(4) The hyperplace is experienced as a hyperplace by its visitors: "In the Times Square hyperplace, people experience the intensity of the place and live it personally and collectively, though this collectiveness is not the most powerful component of the enthusiasm felt. For everyone, this experience becomes inseparable from the identity of the place" (ibid, p.58).

(5) The individuals who gather in the hyperplace share a spatial affinity: in this way, they are temporarily brought together by the hyperplace, without coalescing into a community, a process that Lussault calls "*communization*".

The hyperplace theorized by Lussault is therefore a bounded geographical unit, a place that originally symbolized if not an identity, at least an elective sense of belonging among the individuals who visit it. It is connected to the world by communication networks, and is characterized by intensity and multiplicity of activities. This definition of the hyperplace applies to a finite number of places in the world: places like Times Square or, for example, Shibuya Station. Nonetheless, it represents an exceptional instantiation of the hyperplace, applicable to a few "mega-places" in the globalized world, whereas the hyperplace as theorized by Ascher refers to the evolution and hybridization of day-to-day spaces. Indeed, it is the city as a whole that plays host to the hybridization of the physical and digital, producing hybrid environments (Sheller, 2016).

The analysis of day-to-day hyperplaces therefore requires a different definition. The concepts of hyperspatiality (a state that combines physical accessibility, possibility of copresence and connection) and hyperscalarity, reflecting the idea of "n-dimensional places" but including the dimension of *glocalization,* nevertheless seem useful to this exercise.

BENCHMARK DEFINITION OF THE HYPERPLACE

At this stage in our study, the definition of the notion of hyperplace that we will apply is set out below:

- The hyperplace is a bounded geographical place which has been hybridized with new technologies, and is therefore connected.
- The hyperplace is both a place of presentation, i.e. where individuals are physically present together, and of representation, i.e. where individuals are in virtual connection with each other. This means that it is not purely a medium for virtual interactions, but attracts individuals for what it can offer them. Allowing a variety of different types of contact, at different scales, it is a multiscale, n-dimensional place.
- The hyperplace is the expression of the hypertext society, so it is not only multiscale, but also multifunctional: indeed, multifunctionality "*spreads to all places and all activities, since it is a spatiotemporal expression of the hypertext society*" (Ascher, 2005, p.188).
- The hyperplace is the product of the uses that individuals make of it as they exercise their capacity for displacement and replacement (space), for desynchronization and resynchronization (time) (Ascher, 2009, p.119). It thus does not exist in itself, but as a product of the uses made of it. The hyperplace can therefore be ephemeral, even mobile; it is "*a potential space, with multiple physical and social dimensions, which provides individuals with possibilities for practical and relational choices*" (ibid).

François Ascher sums up his conception of the hyperplace with the example of a cafe terrace: "*it is a single place that affords all sorts of mobilities, of exchanges, of relations and social activities. […] True, it is not exactly a very new place: but it is a very urban place; in a way, it is a modern form of the agora, which over time has been enriched with new elements to accommodate new practices*" (Ascher, 2009, p.119). There is thus nothing exceptional about the hyperplace, simply the reinvention of the everyday in a connected world.

Note that the hyperplace can, like the ordinary place, be temporary. It can be part of a temporary urban planning initiative, a short-term use of an urban brownfield site pending the start of conversion work, intended to minimize the cost of land management (Adisson, 2017). The survey conducted in Île-de-France by the IAU (spatial and urban planning institute) shows the great variety of uses on these temporary sites.[2] They can host a diversity of functions, like the emblematic Grands Voisins (Paris, 14th arrondissement), variously home to artists' workshops, business and voluntary sector offices, restaurants, events (festivals, markets), campsites, and social housing (Adisson, 2017). With a high social media profile, these places have all the features of a hyperplace. Hyperplace and place have in common the fact that they are not necessarily permanent. Similarly, it is easy to imagine that they may not necessarily be static, but could be mobile.

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[2] - Temporary urbanism: planning differently, Short note 741 by the institut d'aménagement et d'urbanisme - Île-de-France, February 2017.

TOWARDS THE EMERGENCE OF MOBILE HYPERPLACES?

HYPERCONNECTIVITY AND HYPERMOBILITY

The introduction of the concept of the hyperplace shows how the hyperconnectivity of individuals has redefined the way in which they inhabit places. If the ways of inhabiting places change, then places can be entirely rethought. This is the view expressed by Stock (2006), who argues that the symbolic value of a place in a mobile world is different from its value in a sedentary world. First, individuals have become "*geographically plural*": they are "*temporary inhabitants*" of several places, and construct their identities around several geographical references. Nonetheless, they have also acquired the capacity to "*unground*" themselves from local conditions, to inhabit a place at "*several scales*". They have abandoned a "*territorial logic*" for a "*reticular logic*": they pursue a succession of activities by connecting nearby or distant places, whether virtually or physically.

In this view, individuals have moved from a "mono-topian" to a "poly-topian*"* (Stock, 2006) style of inhabiting: poly-topian living is characterized "*by the quest for a match between places and practices. […] This geographical matching takes the form of the replacement – for a set of given practices – of a single place by several places.*" According to Stock, instead of making a single place the base for multiple practices, individuals today inhabit multiple places in order to carry out multiple activities, within multiple social spheres. This view thus runs counter to the idea of practices becoming concentrated within hyperplaces, and instead suggests that of hypermobile individuals moving from one locale to another as their needs dictate.

At the end of his book, Lussault argues for a radically different kind of hyperplace: the growing power of individual connectivity and the increasing use of smartphone devices places individuals at the heart of their own hyperspatiality: independently of their presence in a specific place and their ability to move from one place to another, individuals are in control of their own virtual geography, and permanently linked to their chosen spheres. In this account, the individual herself could be seen as an embodied hyperplace (Lussault, 2017, p.297): her existence is defined at both the local and global scale, she is permanently connected, she is a hypertext, able to move instantaneously from one social milieu to another (Ascher, 2005); the individual has become the place in which these social interactions occur.

Nonetheless, this conception perhaps proposes an over-elastic concept of place: place remains the basic geographical unit for the study of social phenomena, it is a shared symbol and reference; such a conception of place cannot be located in the individual. While individuals may be a medium of social interactions, they are also stakeholders in those interactions. By contrast with the hyperplace as defined by Lussault, the individual cannot act as an object of elective spatial affinity, since he or she is an actor and not a third-party channel. Nonetheless, this argument is a reminder that an individual in possession of a smartphone turns the places that he or she visits into a connected space. This being the case, what form could the hyperplace take?

Dominique Boullier (2011) coined the term *habitele*, defined as an ecosystem of "*technical material objects which permit and index relations and connections to the different social worlds to which our practices provide access*". Drawing on the work of the anthropologist Jean-Jacques Gagnepain, he places the *habitele* within the context of a series of envelopes that protect human beings and form interfaces between the place and the outside world: habitat, habitation, *habitele*. The *habitele* is

thus made up of connected and communicating objects, which constitute a new and fundamental interface between humans and their environment, and move with the individual. According to this conception, the hyperplace could therefore be created by the links and connections rendered possible by portable and mobile technological objects.

According to Ascher, however, the hyperplace is not only a place where virtual connections can be made through ICT. It is also a geographical space characterized by the copresence of a multiplicity of individuals and by easy accessibility. It therefore not just be a connected object, it must be an object that is habitable and inhabited (to still be a place), connected (to allow virtual proximity) and accessible (to allow copresence). If a vehicle can be a place in this sense, then the next step is to look at the interdependencies between societal changes and changes in the role and functions of the vehicle.

THE AUTONOMOUS AND CONNECTED VEHICLE: A MOBILE PLACE REINVENTED BY THE DEVELOPMENT OF NEW USES?

"*Any time an interaction has temporal and spatial extension, it is because it has been shared with non-humans.*" Bruno Latour, 1994, "On interobjectivity", *Sociologie du travail*, pp.587-607, 1994.

As invited by Bruno Latour, we can consider the vehicle as an object that is central to the analysis of mobility. While for the purposes of many mobility-related analyses, the vehicle – bicycle, private car, bus, or subway car – is reduced to its simple utilitarian function as a transportation method, it can nevertheless be approached as a mobile place where, in particular, social interactions take place (Pradel et al., 2013). The study of mobile places inevitably prompts us to focus particularly on the type of vehicle used, in particular its degree of habitability – hence its capacity to "become a place" (from bicycle to fully equipped bus) – and of openness (individual, community, public). Mobility is about more than interactions between individuals: it is also about the interaction between individuals and vehicles, a process highly instructive for the analysis of mobility systems. It casts light on the notion of human-machine hybrids (human/car, human/bike, etc.; Sheller, 2016) and on the adoption of specific innovations, such as the electric car, where the interactions between individual and object differ from those associated with the internal combustion vehicle (Jarrigeon et al, 2015). Observing the processes (formal and informal) whereby vehicles are adapted to accommodate mobile activities would seem to be a particularly useful exercise in the effort to understand the role of mobility in society.

Indeed, these transformations tell us much about the economic and social contexts in which they occur. For example, observation of the *jugaad* in India, cobbled together trucks that may be a mix of motorbike and diesel components, tells us about the resilience of poor populations facing a crucial lack of infrastructures (Birtchnell, 2013). With these vehicles, the formal circuits of vehicle manufacture and repair are

carefully avoided, in preference for informal circuits, and a study of these hacks sheds light on Indian society, its social inequalities and its strategies of innovation.

There is nothing new about the adaptation of vehicles to accommodate mobile activities. It may be done by carmakers (e.g. a mobile home or ambulance) or be undertaken subsequently (change of use), often a highly creative process, in some cases culminating in a unique mix of high-tech and low-tech re-engineering.

Two major changes to vehicles – connectivity and autonomy – can encourage vehicle conversions and a proliferation in the on-board activities that can be pursued on the move, thereby contributing to the emergence of mobile hyperplaces.

Technological developments have turned vehicles into connected mobile objects. As Ascher pointed out back in the year 2000, "*The design of trains, airplanes, but also automobiles, takes into account the fact that they are also places for individual and collective work, for the purchase and consumption of goods and services, for leisure activities*" (Ascher, 2005, p.188). Moreover, the combination of connectivity and mobility on transportation networks, including vehicles, is redefining places of transportation (Adoue, 2016). These are becoming less and less space-times that are impermeable to activities that elsewhere structure the day-to-day life of individuals, and increasingly places that can accommodate a diversity of activities and social interactions. If every human activity – including telecommunication activities – is necessarily undertaken at a given place and time (Hägerstrand, 1970), mobility would seem to be one of those space-times in which activities take place. The possibility of combining different types of virtual mobility with a physical journey is a form of hybridization that suggests that we should think of mobility as a connected process (Adoue, 2016).

With this connectivity, mobility – understood as a space-time – acquires the characteristics of hyperscalarity and hyperspatiality. The vehicle is therefore – potentially – a hyperplace, characterized by the fact of being mobile.

On top of this, the development of mobile communication tools, especially the smartphone, gives the mobile individual the possibility of combining corporeal and virtual mobilities, while on-the-move activity also acquires the property of multitasking inherent to the smartphone (Kenyon and Lyons, 2007). As a result, the smartphone becomes an additional tool for on-the-move activities (Vincent-Geslin et al., 2014), whether recreational, informational or sociable. Here, what we see is a transfer to the dimension of mobility of the ICT user's tendency to "permanent connection" (Beaudouin, 2009; p 26). Communication channels remain permanently open, and virtual mobility is superimposed on or hybridized with corporeal mobility (Adoue, 2016).

While today's vehicles already allow a diversity of uses, which is one of the characteristics of "hyperplaces", automated vehicles promise an even greater diversification of functions and practices. With the autonomous vehicle, which releases its user from driving tasks, the activities undertaken on the move can become more diverse (Cyganski et al., 2015). In addition to this, such vehicles include remote communication and information functions, so that the combination of individual and vehicle forms a hyperplace where meetings can be planned in real time, perhaps alongside additional commercial service functions.

Nonetheless, current research on the issue shows that the main appeal for potential users of autonomous vehicles is not the possibility of better use of time: a major

attraction is the elimination of the need to find a parking space, since the user is dropped off near their destination and the car continues on its way to park itself (Cyganski et al., 2016). Similarly, the elimination of the expense of parking – at a time when streetside parking costs are on the rise – is also a major argument in favor of shared autonomous vehicles (Haboucha et al., 2017). Apart from extensive investigation of the technology of the autonomous vehicle, academic research has essentially approached the possible uses of autonomous vehicles in terms of modal choice, since the connected and autonomous vehicle is often perceived primarily as a new mode of individual transportation (Pawlak et al., 2014).

However, these analyses are usually conducted all other things being equal, and fail to consider new uses of the autonomous and connected vehicle. It is precisely the aim of this research to look more broadly at its future uses, through the study of mobile activities, and to that end to anticipate the emergence of mobile hyperplaces.

Towards a renewal of mobile activities in the era of hypermobility and hyperconnectivity

Mobile activities have been around for a long time, both in cities (street traders, on-board train services, etc.) and in the countryside (grocery vans, etc.). Three recent changes seem to be contributing to the emergence of new mobile activities. The phenomenon of metropolization, associated in part with the densification of urban flows, creates demand for these mobile sales services among pedestrians and travelers. Moreover, the transformation in consumption patterns, marked by the development of the service economy, is reflected in the emergence of mobile service activities. Finally, the progress in digital technology enables providers and customers of these services to interact remotely, and to adapt their activity schedules flexibly in real time on a principle of improvisation.

By mobile activities, we mean activities of any kind (with the exception of the transportation of people or goods) carried out while on the move or in different territorial areas (i.e. after a journey, whether by prior arrangement or not). They can be nomadic in nature and simply developed by an individual (or a community of individuals), or can be the outcome of a transaction (commercial or otherwise) between a "supplier" and a "demander". These are the two main distinctions that form the basis of the typology we will employ for our subsequent analysis of mobile activities.

Travelling activities and social innovations

Travelling activities are often based on the adaptation of a personal vehicle to accommodate practices, usually fixed and generally of a domestic and/or productive nature, which entail spatial displacement (i.e. outside the home and/or workplace). For example, *tailgating*, a popular practice in the US, involves individuals coming together for a social gathering, usually around some public event (sports, music). The tailgate of the vehicle – sometimes specifically adapted for this purpose – is used to mount a barbecue. In the industrial sphere, the maritime world provides an example

of a long-standing practice of productive activities on the move: the factory ship, defined as a ship that is equipped to process fishing catches at sea. The factory ship functions as a mobile agri-food processing plant (an activity usually carried out in land-based factories).

Outside the productive sphere, the most complete example of the transfer of domestic activities from one territorial space to another is found among (neo-)nomads, for whom the entire home becomes mobile (Pedrazzini, 2013). While for nomads, nomadism is an inherited way of life, for neo-nomads it represents a breakaway (Abbas, 2011), and often a blend of old world know-how, modern vehicles and new communication technologies (Pedrazzini, 2013). Travel for these groups is characterized by slowness, detour and improvisation, in contrast with the figure of the hyper-mobile individual (Frétigny, 2015). Nevertheless, these life choices can be interpreted in the light of socio-economic changes, which can influence the relationship to the home and generate non-standard forms of inhabiting (Le Marchand, 2014).

While travelling takes many forms, it adjusts to the available mobility tools, including digital tools, which can be used to reaffirm an ancient way of life like that of the Traveler community (Loiseau, 2015), or to produce new ones, like WWOOFing, a system that connects volunteer workers with organic farms around the world, prompting some of them to adopt this lifestyle completely rather than as a temporary tourist experience.[3]

The way in which nomads and neo-nomads inhabit mobility can be seen as a laboratory of practices that can lead to innovations of much wider import (Van der Stigghel and Le Marchand, 2013). Nomads and neo-nomads can also be mobile workers, offering their services wherever they move, a practice that contributes to their visibility in the territories they cross.

While nomadic activities essentially reflect individual or community initiatives, they can constitute real social innovations, sufficiently inspiring to be adopted and disseminated by public actors and businesses. It is in these circumstances that they can become mobile activities within a system of interaction between a "supplier" and a "demander" for the distribution of a good or the provision of a service.

Travelling and on-demand activities conducted on the move

Mobile activities, whether nomadic or the outcome of an interaction, can take place in the course of a journey or – following a series of journeys – in different places within a territory.

Activities carried out on the move

One approach to the case of on-the-move activities is through the notion of the exploitation of travel time, whereby mobile activities are seen as a way of making profitable use of time spent in transit (Flamm, 2005; Jain and Lyons, 2008; Vincent-Geslin and Joly, 2012; Adoue, 2016). In this case, the activities are carried out within a moving vehicle. The link between the activity performed on the move and the

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[3] *Habiter le campement*, press file for the Exhibition at Cité de l'Architecture, 2016.

journey is variable. For example, the journey may be the primary purpose, and the activity simply incidental, pursued in order to fill the travel time. In this case, the individual first decides to travel, then what to do while on the move (Adoue, 2016).

Conversely, the decision on the mobile activity and the journey may be combined, for example when one mode of transportation is preferred to another because it enables a particular activity to be pursued (Vincent-Geslin and Joly, 2012). In this case, there is a hybridization of mobile activities and travel. At the other end of the scale, the hierarchy between travel and activity may be reversed, so that the journey becomes secondary to the activity carried out while on the move.

The material conditions for the performance of activities while on the move – quality of connection, power sockets, seat and tray, to cite the most common – are therefore crucial, since they define the traveler's range of possibilities (Adoue, 2016). It is the correspondence between these material conditions and individual aspirations that governs the degree to which travel time can be "profitably" employed for mobile activities (Lyons and Urry, 2005). If the degree of correspondence is low, it will have no influence on the travel choices, since mobile activities will then be confined to the function of making the journey time pass pleasantly. If it is higher, it may influence these choices, whether in terms of a more comfortable itinerary (avoiding a busy metro line in order to obtain a seat where activities can be carried out) or modal choice (choosing the train over the plane for a business trip, because the slower journey allows time to work on a laptop). When the limits of these material conditions for the exploitation of travel time are pushed back – in particular by substantial adaptations to vehicles – the logic is inverted. Mobile activity no longer serves to make profitable use of the time necessarily spent in travel, but travel serves to make profitable use of the time allocated to the performance of an activity that has become mobile.

For activities conducted on the move, therefore, the vehicle becomes a genuine mobile place, insofar as it can accommodate a diversity of activities and interactions, whether in copresence (between passengers) or remotely (via communication tools). Connectivity and adaptations to vehicles made in order to facilitate activities can therefore ultimately turn this mobile place into a mobile hyperplace.

These activities can be undertaken on the sole initiative of the mobile individual, in which case they resemble nomadism. In this case, individuals are free to "*equip*" their mobility (Fernandez and Marrauld, 2012). However, these on-the-move activities can also be the consequence of a transaction, notably between the provider of the transportation service and the traveler. Conversely, itinerant on-demand activities are necessarily the outcome of an interaction.

Itinerant and on-demand activities

Mobile activities can also be carried out while at rest, after a series of journeys. In this case, they can still be described as mobile, since they occur in different places. Apart from nomadic activities (e.g. nomadic work in different places using a laptop), they also fall within the category of goods distribution and service provision (commercial or otherwise).

It is mobile commercial activities that have tended to attract scholarly attention.

Such activities have been analyzed through the study of *ambulantage*,[4] i.e. the "*distribution of mass consumption products or services and goods, supplied to commuters during their journeys*" (Monnet, 2006a). The notion of *ambulantage* developed by Monnet is nevertheless broader than street vending activities, since – alongside transactions conducted using a mobile system (such as an ice-cream van) – it includes transactions carried out in public space by means of a temporary system (such as pavement extensions to streetside stores). Consisting in the encounter of flows of individuals with mobile or temporary sales outlets in public space, *ambulantage* places the movement of the consumer at the heart of its definition.

There are undoubted links between the phenomenon of metropolization and the development of *ambulantage* (Monnet, 2006b). Since metropolization is associated with the densification of flows in urban public space, this brings more potential customers who can encourage the development of these kinds of mobile activities, especially if these users of public space find it advantageous to save time while on the move by buying goods and services without having to make a detour.

Ambulantage can be primarily formal or informal, depending on national contexts. Informal street trading, the tolerance of its presence in public space, and its social role, depend greatly on political and legal conditions, which can range from marginalization to everyday acceptance (Reginensi, 2005). Whether formal or informal, the development of mobile activities, based on increasing flexibility among workers who are themselves mobile, seems to lead inexorably to insecurity of employment (Monnet, 2006c). The type of vehicle – motorized or nonmotorized, to begin with – used by these itinerant traders, and the degree to which their presence in public space is tolerated, tell us something about the different levels of insecurity (Meissonnier, 2006).

The proximity to flows, or more precisely to the places where flows gather, is often crucial for itinerant traders. They usually try to set up in public spaces with high traffic flows, in order to increase their chances of finding customers. Nevertheless, different strategies can be identified, reflecting different degrees of mobility and legitimacy. For example, exploring the organization of street vendors in Istanbul, Meissonnier identifies four ideal-type profiles among street traders, with different consequences for the social ties formed during the transaction (Meissonnier, 2006):

- "Pillar": a trader who always sets up in the same spot in public spaces with heavy traffic flows, and does not move during the working day. While the conduct of his business in public space is not necessarily legal, it primarily acquires legitimacy through permanence. The social bond with his customers is strong and maintained over time.
- "Wait-and-see": a trader who sets up more informally in locations not initially designed as a place of business (transit zone, interchange hub), which can change every day. The social bond formed during the transaction is weak, characterized by anonymity.

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[4] Jérôme Monnet adopts the neologism "*ambulantage*", based on the Mexican Spanish word "ambulantaje", to describe all itinerant activities (commercial or otherwise) and to encompass all the actors involved in the performance of these activities (service providers and end-users), regardless of the types of mobility associated with them (door-to-door, movement around public space, etc.).

- "Deliverer": highly mobile, he develops regular rounds by taking advantage of the poorer accessibility of the spaces he frequents (dead end streets, alleyways) to create commercial opportunities. His actual or potential customers can identify him because of the regularity of his rounds, which lends legitimacy to his activity. The strength of the ties with customers is variable.
- "Weathervane": also highly mobile during the working day, his rounds are much more improvised and follow no clear patterns, except the desire to find a free location, the hope that it will be good enough to spend a certain time there, and the readiness to move if not. Customers are necessarily occasional, and customer attitudes may be tainted with condescension or pity at the fragility of the trade.

Even in the case of the pillar type, who sets up every day at the same spot, the activity may have to move over longer time periods (the week, the seasons) or exceptionally (special events).

An itinerant activity can therefore settle in defined places in ways that are regular and planned, or irregular and improvised. It can also entail numerous moves in the course of the day, or conversely few or none.

Finally it should be noted that the movement of the supplier of mobile goods or services can be customer-defined: in this case, we speak of on-demand mobile activities, in which the individual orders the mobile activity to come to her by means of a remote interaction (phone or Internet). The spatiotemporal presence of on-demand mobile activity in the territory can therefore be marked by a very high degree of mobility and a very high degree of flexibility. On-demand mobile activities are necessarily activities carried out within the framework of an interaction between a supplier and a demander.

It should therefore be specified that the distinction between goods delivery and on-demand mobile sale of goods resides in the timeframe of the purchase decision. In the case of delivery, purchase precedes the movement of the merchandise. Nonetheless, since short delivery times – to the point of "instantaneous" delivery (i.e. in less than two hours; Dablanc, 2017) – are increasingly used as a selling point, there is a tendency towards hybridization between these two activities (at least from the consumer's point of view).

It is therefore legitimate for research into mobile activities to consider what impact digitization will have on these on-demand itinerant activities, i.e. goods distribution and service provision. The aim is to understand how this increasing connectivity is changing or will change their spatial and temporal grounding. Indeed, according to some authors, the rise of e-commerce, by modifying the spatial organization of goods distribution (click-and-drive, warehouses, deliveries, etc.), is contributing to an attenuation in people's relation to space in their shopping practices, i.e. to an "a-spatial" form of commerce (Guillemot, 2016). However, these mobile activities are primarily carried out while at rest and in different kinds of places, so their digitization may lead to different kinds of development in the relation to space.

The activities carried out in different territorial locations transform space – private space, but above all public space – by increasing the potential for interactions in a given place. Today, they already often rely on the adaptation of vehicles to

accommodate activities. Some of these have the power to transform space to such an extent that the vehicles used for them can be considered as mobile places. They can then, through the process of increasing connectivity, become n-dimensional mobile places, i.e. mobile hyperplaces.

METHODOLOGICAL ORIENTATIONS FOR THE FORWARD STUDY OF MOBILE HYPERPLACES

BENCHMARK DEFINITION OF THE MOBILE HYPERPLACE

We have now reached a point in this state-of-the-art where we can put forward an initial definition of the mobile hyperplaces that could arise from the autonomization and enhanced connectivity of vehicles. This definition is likely to evolve throughout the action-research project.

So the mobile hyperplace would possess the features of the hyperplace as previously defined, plus some new characteristics. Like the hyperplace, it is grounded in the everyday world and not confined simply to globalized places. It can also address – and therefore be used by – different populations, from the elite to the poorest, through every possible social combination.

The mobile hyperplace is therefore above all a hyperplace: it is multifunctional, multiscale (an n-dimensional place), a locus of multiple interactions, both real and virtual, face-to-face and remote. It therefore possesses the characteristic of hyperspatiality, a state that combines physical accessibility, the possibility of copresence, and connectivity.

Nevertheless, it exists as a hyperplace, and therefore a place, even when in motion – if only by its digital existence and the remote interactions that this potentiates. Both mobile and habitable, it could be a locus of hypertext interactions even when on the move, by contrast with the ephemeral hyperplace, which is made and unmade in both space and time.

It is a place that would form around a mobile object, i.e. a vehicle that allows the practice of physical activities (through adaptation of the vehicle) and digital activities (through the connectivity of the vehicle or its occupants) at different spatial locations. Finally, the multiple activities that it accommodates can themselves be described as mobile.

A mobile hyperplace is thus simultaneously a mobile place and a hyperplace.

One can identify a close relation between vehicle (autonomous, connected, and possibly adapted) and the hyperplace, and this relation can be analyzed as a "mobile hyperplace". By observing the mobile activities practiced – among other things – by means of a vehicle, we can begin to explore what a mobile hyperplace might look like in the future.

VEHICLES (RE)DESIGNED TO HOUSE MULTIPLE ACTIVITIES

The particularity of a vehicle as a place, when its user is released from the obligation of driving, is that it imposes no particular type of activity on the individual. The traveler (currently in public transport, in the future in autonomous vehicles) is free to decide what to do during the journey. Nevertheless, mobility vehicles and services can be designed to permit specific uses: for example, drivers of taxis and private-hire vehicles these days are encouraged to provide their customers with phone

recharging facilities, and sometimes a Wi-Fi connection, and transportation operators have introduced initiatives to make digital content (e-books, etc.) available to their passengers.

Vehicles are also a working tool for mobile professionals. While such travelling workers currently remain responsible for driving the vehicle, they can nevertheless use it as a workplace when not on the move. They – or their employers – are free to adapt such vehicles to allow professional activities to be conducted inside or around it.

The design of the mobile places – i.e. the vehicles – that provide accommodation for mobile activities is therefore a relevant angle from which to approach the analysis of mobile hyperplaces. It explores how vehicles can be adapted to act as a locus for the performance of activities – digital or physical – other than just movement through space.

TYPOLOGY OF MOBILE ACTIVITIES USEFUL TO THE FORWARD STUDY OF MOBILE HYPERPLACES

We propose to distinguish, initially, between two types of activity: private initiative activities, and activities entailing the distribution of goods or the supply of services.
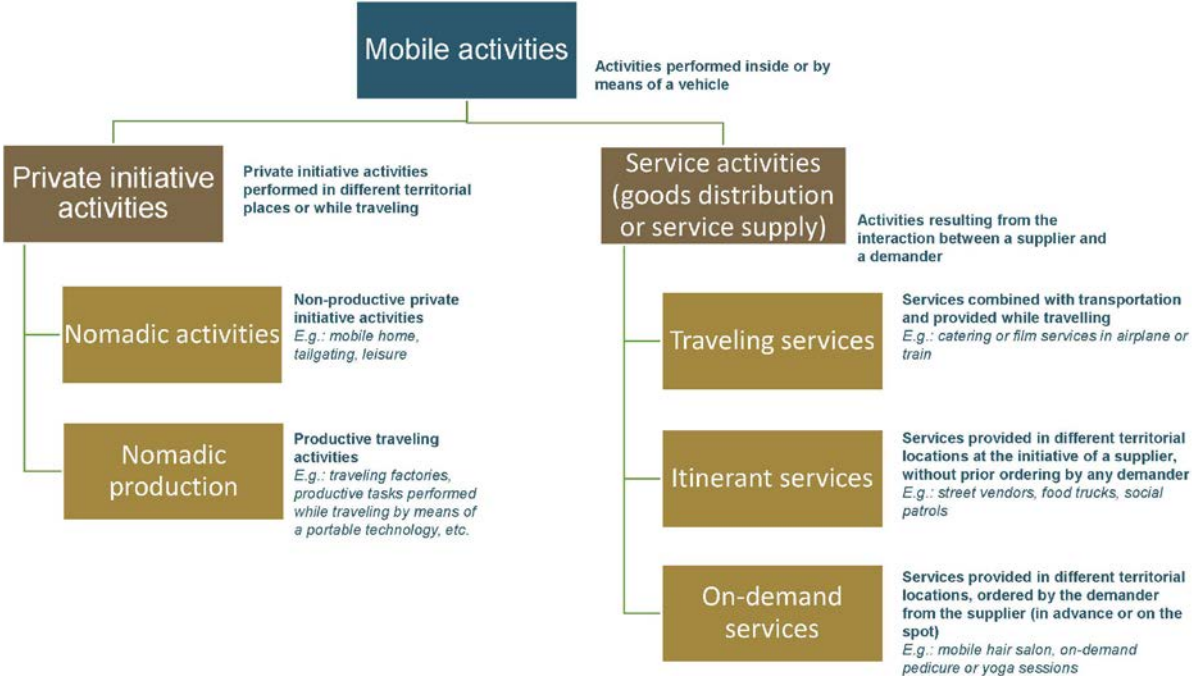
Typology of mobile activities selected for the exploration of future mobile hyperplaces

Private initiative activities are not, at the time of their performance, the outcome of an interaction (commercial or otherwise) between a supplier and a demander. They arise from personal or community choices. They therefore belong to the nomadic sphere, since private initiative activities **take place in different territorial locations or in transit**, and the person/vehicle pairing carries with it the material conditions needed for the performance of an activity in any location, including the vehicle itself. Among these nomadic activities, we can distinguish between productive activities (mobile workshops and more broadly all productive tasks carried out while on the move) and other nomadic activities (mobile home, tailgating, recreation).

Improved vehicle connectivity can prompt the spread of nomadic practices, since the vehicle can facilitate access to numerous digital activities. Vehicle autonomy too can encourage the spread of nomadic practices insofar as vehicle design will no longer need to take account of the constraints associated with driving (driver's seat facing the road, steering wheel, gear stick, etc.), with the result that carmakers and/or end users will be able to alter the ergonomics of vehicles profoundly in order to accommodate mobile activities. Moreover, with regard to nomadic production, the robotization of productive tasks that can be performed on the move may lead to the development of factories that are mobile and autonomous.

Goods distribution and service supply activities are mobile activities that are based on an interaction between suppliers and demanders. These are activities that can be carried out while on the move, whether through an itinerant mode or on-demand.

Travel services encompass all activities offered to individuals on the move. Buying a coffee or a film on a high-speed train, perfume on the plane... The operation of vehicles (or places of movement, such as airports or stations) includes passenger services that are ancillary to transportation. These services are part of the total transportation service, insofar as their existence does not require prior ordering or reservation.

They are therefore **routine services (i.e. services that do not necessarily require prior reservation) that form part of the transportation process, provided in a vehicle or a place of movement**. The consumer can be certain or almost certain that the service will be available.

Advances in connectivity with regard to digital services, and in vehicle autonomization with respect to the elimination of the need to drive, lead us to think that these types of mobile activities will become widespread. The different services associated with travel could therefore play a dominant role in future mobility choices and practices.

Itinerant services encompass all activities provided in different territorial locations. The supplier crisscrosses streets and territories in search of customers, either randomly or following a planned itinerary. An adapted vehicle can become a production tool that enables the professional to be entirely mobile and eliminates the need for the fixed locations usually required for these activities. In this way, the activity gains in visibility with potential users. On the user side, the interaction is thus spontaneity of decision-making. It is therefore **a service provided in different territorial locations at the initiative of a supplier, without prior reservation on the part of an eventual demander**.

These different itinerant services can benefit greatly from connectivity, notably in the establishment of itineraries. Large volumes of individual location data can, for example, contribute to the flexibility and rationalization of itineraries, with the possibility for the service provider of making real-time adjustments in order to travel to places most likely to offer opportunities for meeting with users. Moreover, with autonomous vehicles, such mobile professionals can use the travel time in order to prepare their service offering.

In the case of **on-demand services,** users summon the mobile activity to them. The user therefore has great influence on the spatial distribution of the mobile service. On-demand services are already experiencing strong momentum, which can be observed in particular through the revolution in the logistics sector in response to the spread of e-commerce, food tech, or on-demand mobility services. This is therefore a **service provided in different places at the initiative of the customer through prior reservation.**

Improvements in real-time connectivity may encourage the creation of new mobile activities through the "mobilization" of activities that are currently static. Autonomous vehicles may then trigger a spread of this process by providing on-demand services without the need for human interactions: indeed, the trend towards automation in many commercial sectors (starting with supermarkets) may perhaps, in the future, combine with vehicle autonomization to turn currently fixed places into mobile places.

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Some mobile activities can reduce the vehicle to its simple, utilitarian function of carrying people and objects: many small trades can be considered mobile activities as defined here. However, in our exploration of the future mobile hyperplace, we envisage strong integration between the vehicle/activity pairing, which will have a disruptive impact arising from the spread of the autonomous, connected vehicle, since even now, a vehicle that can accommodate a mobile activity can already contribute the redefinition of everyday places.

THE REORGANIZATION OF PLACES

Apart from seeking to understand the potential impact of the spread of the autonomous connected vehicle on the future of mobile activities, this prospective study also seeks to consider what will happen to places as a result of the possible development of mobile places. Here again, the observation of mobile activities currently conducted by means of a vehicle can help us to think about possible future developments.

Here, the aim is to understand the nature of the interactions between individuals, mobile activities, and territories, starting with the hypothesis that through their mobility and the interactions that they generate, these activities contribute to the reorganization of the places they pass through, or even to the production of new places. So what forms of territorial grounding can be found in vehicles adapted for the purpose of performing mobile activities? What are their underlying patterns?

The reorganization of places through the impact of a mobile activity can be approached first of all from the perspective of the user's experience: in what circumstances might the use of these mobile activities be perceived as everyday or

out of the ordinary? What comparisons can be made between activities carried out in fixed locations and mobile activities? What is the advantage of summoning a mobile activity, encountering such an activity on ones route, or during a journey? What motivates the adoption of a nomadic practice?

From the point of view of travelling workers, to what extent and under what conditions is this high level of mobility (sometimes day-to-day) experienced as a form of freedom or of insecurity? What is the motivation for making these activities mobile (capturing demand, enlarging the business catchment area, etc.)? What are the poles of attraction or repulsion of these mobile activities?

Finally, how do the public authorities perceive the revival of mobile activities? Between limiting negative externalities and encouraging mobile activities that are seen as publicly desirable, how do they assess the regulatory issues? What vision of tomorrow's city is then adopted?

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By studying the interactions between individuals – mobile users and mobile workers – and the places that accommodate mobile activities, from the perspective of lived experience, and by analyzing how the authorities assess these questions, we can envisage future developments regarding the role of mobility in our urban systems.

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