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Discussion paper

Operationalising the Concept of Motility: A Qualitative Exploration

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Abstract

In modern society, spatial mobility is highly prized, since it is associated with the idea of individual freedom (freedom to travel wherever whenever, freedom to choose one's relationships, freedom of residential location, etc.). Spatial mobility is so appreciated that it has become an established ideology, putting pressure on individuals to expand their mobility and to be able to adapt to spatial changes of living and working conditions (delocalisation of jobs, closing of local public services, etc.). In this context, the capacity to be mobile – in other words, the *motility* – is a deciding factor of social integration.

How can motility be characterised? Which aspects must be taken into account in conducting a comparative analysis of individuals' motility? In what way does motility constitute a factor of social differentiation? Our article aims to render the concept of motility operational. Building on an exploratory qualitative study, we explain which factors define the potential of an individual to be mobile in geographic space in the perspective of daily life organisation. Three aspects are discussed: the portfolios of access rights each individual has set up, his or her aptitudes for mobility and his or her representations that underpin cognitive appropriation of transportation supply. The rationales explaining why and how the motility of individuals is built up (or not) are also considered. In the end, our article demonstrates that motility is indeed a form of capital – in analogy with the financial, social and cultural capital – and that it is a factor of social differentiation that modern sociology cannot disregard.

1 Introduction

In the last four or five years, a large number of studies on mobility have clearly shown that both the average number of journeys each person makes on a daily basis and the time they allot each day to this travel are on the rise in Europe[1]. This goes against the "Zahavi conjecture" that underpins much of the research and models constructed in transportation sociology and economics. It is not merely the fact that the number of kilometres travelled on a daily basis has been growing steadily, but that this growth has been supported by an increase in the amount of time people allocate to travel. What lies behind this growth trend? A newfound balance between the state of being stationary and that of being mobile? A new penchant for mobility?

Mobility is crucial to our existence; it contributes to defining the fabric of our lives and is fast becoming a formative element of our existence:

- Daily life for households has become more complicated, on one hand because family members now have many more types of activities (two-career couples, leisure and extra-curricular activities of the children), and on the other hand because everyday life spaces are located so far apart. The result is tighter schedules in terms of space and time – so much so that organising travel and aligning activities is becoming a deciding factor in standards of living.
- Flexibility has become a job requirement, and flexibility often implies mobility. A growing number of fixed-term contracts, flexi-time (in certain fields even work on demand has made a comeback), working abroad and general job-related travel make the ability to be mobile indispensable. When combined with high levels of unemployment, this creates a context in which people will accept any job – even one located very far from home.
- Moreover, technological and social innovations are constantly increasing the realm of possibilities for transportation and telecommunications. This process is inexorably leading individuals to adapt to the new options available especially by acquiring the skills required to appropriate them, in order to avoid being relegated to the fringes of society.

In general, we are witnessing a multiplication of the ways in which to ensure the simultaneous presence of beings or actors, which in turn implies a multiplication of the ways to travel in time and space. New forms of mobility are emerging from the combination of physical and virtual mobility, leading to new, mixed forms of daily, residential and travel mobility[2]. Three examples we would give here are multiple residences, very long-distance commuting and frequent excursions.

These new forms of mobility have the common trait of being based to a large extent on the use of high-speed systems of transport (TGV trains, airplanes) as well as on the efficient appropriation of new information and communication technologies (mobile phones, Internet, etc.). They require actors to have a well developed capacity to appropriate technological systems and new tariff schemes for services.

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1 This is particularly true of the year 2000 edition of the Swiss transport microsurvey (ODT/OFS, 2001).

2 The reference to the concept of mixed forms here has to do with the fact that these new forms of mobility are no longer related to specific social temporalities in the same way as the "fundamental" forms of mobility that sociology has identified and studied in the past: the day and the week for daily mobility, the month and the year for journeys, the year and the life cycle for residential mobility and life history for migration. These different forms are naturally interdependent.

Considering the importance mobility has taken on in modern society – after all, it has been socially prized to such an extent that it has become an ideology[3] – sociological analysis today can no longer do without an in-depth analysis of the role of mobility in social integration and its implications in terms of social differentiation or even exclusion. And yet, sociology research is still labouring to approach spatial mobility from a systemic point of view (i.e. taking into account all of its components as well as the interaction among them) because of the lack of an appropriate conceptual tool.

2 Motility: a new way of understanding mobility

In order to deal with the increase in the number of ways to travel in time and space that is taking place both macroscopically (greater diversity in travel behaviour among individuals in a population) and microscopically (greater variety in the behaviour of a single individual), we have proposed to develop a new conceptual tool for understanding spatial mobility, using as a starting point the extent of individuals' mobility potential and the way in which they organise and transform it into travel (Kaufmann, 2002).

Considering the importance of the techniques used to travel, analysing individuals' mobility potential means in effect looking at the way in which actors organise their travel using technological networks, and therefore focusing on the individual and group choices, constraints and appropriations on which the use of these technological systems is based.

In order to describe and analyse the mobility potential of an actor, we propose to use the concept of motility[4]. Motility can be defined as the way in which an individual or group takes possession of the realm of possibilities for mobility and builds on it to develop personal projects. This potential is not necessarily transformed into travel; it may well be deliberately left temporarily in its status of potential in order to permit, for example, the maximum use of future opportunities.

Taking inspiration from the works of Lévy (2000) and Rémy (2000) and following our own investigative reflections on forms of mobility (Schuler et al., 1997), we consider that motility is comprised of all the factors that define the potentiality to be mobile in space, whether these are physical capacities, aspirations to be sedentary or mobile, existing technical transportation and telecommunications systems and their accessibility, and acquired knowledge such as a driver's licence or universal English for travelling, etc. Motility is therefore made up of factors relating to access (the conditions under which available options broadly speaking can be used), to skills (required in order to use these options) and to cognitive appropriation (the evaluation of the available options vis-à-vis one's projects). Initially, these three groups of factors have been defined as follows:

- *Access*: Access is related to the concept of service. It includes the range of conditions regulating price, schedules, and so on, under which available options may be used.
- *Skills*: Skills refer to actors' *savoir-faire*. Two things are central to the aspect of skills: acquired knowledge and organisational capacity, such as that which is required to plan activities (researching information, ability to adapt to short term changes, etc.).

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[3] It should be understood that in spite of the problems it causes, mobility is not really being called into question. It has a kind of "mythological" status, in the words of philosopher Hans Saner (see his paper in Dietiker & Regli, 1998).

[4] The term motility is used in biology and medicine to denote the capacity for movement of an animal (such as the motility of a fish), cell, or organ (such as the eye). In sociology, the term is not entirely new, since Bauman uses it sporadically in *Liquid Modernity* (2000) to describe the capacity to be mobile.

- *Cognitive appropriation*: Cognitive appropriation is what actors do with access and skills; it therefore has to do with strategies, values, representations and habits. It is formed especially from the assimilation of standards and values.

Motility may or may not be transformed into travel, as we have already stated – in particular it can be transformed into travel in different ways – ways that combine different forms of mobility (see Figure 1). In this approach we thus consider mobility as a single phenomenon that can take on different forms.

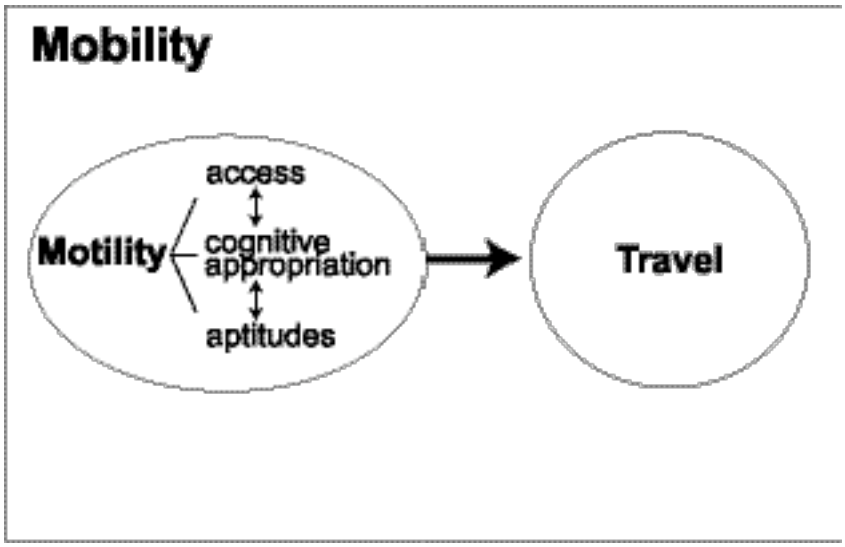

Figure 1: Schematic conceptualisation of motility

3 A qualitative exploration to render the concept of motility operational

In order to clarify which factors make up motility, and moreover, to explain the logic and rationales behind the ways in which the motility of individuals is built up (or not), we can turn to an exploratory qualitative survey aimed on the one hand at identifying the main determinants of individual travel behaviour, and on the other hand at formulating pertinent conceptual proposals for future surveys (Flamm, 2004).

This survey was conducted according to the so-called “grounded theory” method, which is especially appropriate for developing a theoretical reflection using field data (Kaufmann, 1996 ; Strauss & Corbin, 1990). The available data consists of 44 focused interviews in two successive waves. For this article, the 20 interviews comprising the second wave were mainly used, as they are much more detailed (2-4 hours in length, as opposed to a little under an hour per interview in the first wave).

The interview guide used for these 20 in-depth interviews can be broken down broadly into four parts:

- The first part was aimed at clarifying the interviewee’s life course, and particularly the circumstances of his or her residential history, motivations in the making of residential choices, as well as past organisational methods for daily mobility (former modal habits). In addition, the degree of stability of the present situation was evaluated by looking at how the person felt about his or her current housing conditions.

- The next part comprised a set of questions aimed at understanding how everyday life is organised, specifying fields of activity and their locations, customary obligations and leisure activities, division of housework, possible recourse to outside help or services (childcare centre, cleaning help, etc.), methods used to organise and plan activity schedules (use of a diary, routines, means of communication, etc.) and the person's personal preferences in this area. This part was largely inspired by the interview guide used by German sociologists researching on the conduct of everyday life (see the appendix in Behringer, 1998). An additional set of questions was used to clarify the importance of travel organisation in conducting daily activities.
- A third part deals with personal relationships to various means of transport, especially the car, motorcycle, bicycle, walking, public city transport, the train and the airplane. The interviewee gave his or her experience of each of these different means of transport – in more detail for those used frequently and more briefly for the others. Two additional sets of questions were used to identify the individual's relationship to car ownership and rental, and specifically to car sharing.
- Finally, the last part of the interview was more reflective, and the interviewee was asked to consider his or her travel mode preferences, relationship to time and money, value system and personal priorities in terms of life conduct.

The sample was selected in such a way as to collect information about a wide variety of modal practices (theoretical sampling). Interviewees were sought on a "witness roll call" basis; the people who were contacted had changed their daily travel habits in the wake of a move, for example, or a change of job, relinquishing ownership of a car, etc., and were therefore more conscious of the routine aspects of their mobility. This aspect was of critical importance, because we had decided not to ask interviewees to fill out a travel diary in order to minimize the respondent burden.

The sample is varied even though it concentrates on "middle classes" in a broad sense. Indeed, we have interviewed employees, middle managers as well as executives (including a boss of a small company). We were able to study very varied financial situations, with some people having no choice but to make heavy personal sacrifices in their life conduct (minimum wage-earners), while others had a great deal of room to manoeuvre in choosing their lifestyles (the wealthy), others who admitted having to curtail their lifestyle somewhat, and still other people who manifested considerable satisfaction with their lifestyle (so-called "normal" situation). The residential locations of our interviewees covered all the geographical situations that we considered pertinent, that is to say more or less central within an urban area (we did not interview individuals living in rural settings or in mountain areas). All those interviewed lived in the Lake Geneva region (Geneva, Lausanne).

In view of the research material available, our in-depth exploration of the concept of motility will focus on the factors that form mobility potential with a view to organising daily travel; in so doing, it will not cover all the aspects inherent in the concept of motility. Further on in this article, we will devote a chapter to each of the three groups of factors mentioned above, i.e. access, skills and cognitive appropriation. It should be noted that we have not included any quotations from our interviews, as such references would tend to draw the reader's attention to specific cases, whereas it is our intention to generate considerations of theoretical nature.

4 Acquiring access rights: the deciding factors of private motorisation

Given the key role technological means play in enabling individuals to be mobile, it seems to make sense to start our exploration by analysing how means of transportation participate in the constitution of individuals' motility.

4.1 The concept of a portfolio of access rights

In practice, technological means of mobility are available to individuals and households today either in the form of goods to be acquired, or in the form of services (often in exchange for money). In general, private vehicle ownership is the means used by individuals to obtain the right to use a vehicle at will. However, the appearance of companies providing individual and public means of transport (car sharing, rental) is considerably expanding the choice for city-dwellers; these new services allow them to use a personal vehicle with a very similar degree of freedom to that afforded by private ownership. In order to understand motility, therefore, it is indispensable to extend our scope beyond vehicle ownership. It is for this reason that we have chosen to introduce the concept of *access right*, which is a generic term for all the instrumental resources which individuals get the right to use.

A list of the range of access rights that we feel warrant consideration narrows down the general definition given above:

- Privately owned automobiles: the possession of an automobile is undoubtedly the most common form of access right. The effective availability of the vehicle depends on the number of people sharing it and the conventions that regulate the terms of sharing (is its use always negotiated, or is the vehicle in principle given to a particular member of the household?).
- Reserved parking spots: in the city, having more or less exclusive parking rights is a key element in using a private automobile: reserved parking rights close to home preserve the independence of car usage[5], while parking located close to the workplace is more of a guarantee of inelastic travel time to this destination.
- Privately owned "light" vehicles[6]: apart from the automobile, there is a large variety of individual means of motorised or non-motorised transport available for purchase, such as motorcycles, motor scooters, mopeds, bicycles, light electric vehicles, and so on. In general, the functional aspect of these vehicles is much more limited than that of the automobile, but then they are also much more affordable.
- Membership of an individual public transport company: for the last few years and in a growing number of cities, people have had the option of becoming members of companies that rent out vehicles under very flexible conditions (for very short periods of time, at any hour, etc.) and for fairly modest subscription rates and/or yearly fees.
- Public transportation passes: the purchase of travel passes allows individuals easy and inexpensive access to public transportation services. Generally speaking, two types of pass are comparable to access rights: on the one hand there are monthly or yearly passes valid for a specific geographic zone (unlimited passes[7], traffic community passes, pre-determined destination passes, etc.), and on the other there are passes providing reduced fares for a more or less wide range of services (such as the Swiss railway half-fare card and *Voie 7* ("rail 7") pass[8]).

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5 Several of our interviewees who lived in the city centre but who did not have reserved parking told us that they sometimes did not use their cars because they feared it would be difficult to find a spot on their return. In such cases, one can hardly speak of travel independence.

6 The adjective "light" applies to weight, ease of parking and reduced cost.

7 The "general abonnement" or unlimited travel pass sold by the Swiss Federal Railways gives bearers free access to the entire Swiss railway network (with the exception of a few tourist lines) and also to almost all the city transport networks in Switzerland.

8 As its name suggests, the half-fare card gives the bearer a 50% discount off all individual railway fares; the *Voie 7* pass allows young people under age 25 to travel for free every day from 7 p.m. to midnight.

This list demonstrates the specific relevance of the concept of access rights. We consider that each individual, choosing from a wide range of instrumental travel resources, constitutes a *personal portfolio of access rights*[9], that is to say, a more or less large and more or less varied assortment of rights to have access to such resources[10]. Needless to say, the composition of this portfolio significantly influences motility, and in order to understand motility for our purposes, descriptions of all the types of access right mentioned above are needed.

4.2 Private motorisation: at the centre of three conflicting social values

Subsequent to the above, the question naturally arises as to the reasons underlying the individual choices of the personal portfolio of access rights. In this respect, our survey suggests that from the point of view of individuals and households, the crux of the matter is the degree of motorisation, that is to say the number of automobiles owned as against the number of people in the household, as well as the parking facilities for each of the vehicles. Decisions to purchase other types of access right depend to a large extent on the choices made (whether freely or restrictively) in terms of motorisation and parking facilities. Thus, in order to understand individual rationale, we must look at the deep-seated reasons that motivate individuals to acquire individual motorised means of transport.

We have to admit that this question is difficult to address in the field: when conducting a survey, there is little doubt that questioning people on their innermost reasons for the choices they have made in this regard would in most cases be perceived as very strange: after all, nowadays it is considered only normal for each household to have one or more vehicles[11]. During our interviews, we therefore concentrated on understanding which criteria had governed our interviewees' choice of vehicles and, if applicable, which reasons had led them to give up owning an automobile. Based on the answers, we feel we are able to identify the main factors in the rationales underlying the choices made by individuals and households. It turns out that the individuals' choices are in many respects socially conditioned.

There is no denying that having an automobile today is the norm in society. To a certain degree, according to the most commonly held representations, not having a private vehicle is equivalent to being confined in the status of an "inferior" being (Burkart, 1994, p. 224). Two distinct aspects contribute to this social representation: first, for a long time automobiles were social markers that signalled a certain level of wealth, and this form of social distinction is still partly valid today (especially in certain social groups like young adults and low-income households); secondly and most importantly, possessing individual means of transport is considered a guarantee of independence and freedom of movement – an absolute must in a

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[9] We consider that the analogy with a portfolio of financial assets is valid for several reasons: first of all, although the composition of this assortment is the result of sporadic choices to acquire, renew or give up certain access rights, it nevertheless seems reasonable to us to think that these sporadic choices are generally part of a strategy of optimisation of an individual's capacity for movement, or perhaps a strategy of optimisation of individual capacities for movement of different members of a single household; secondly, it seems to us that individual strategy increasingly often includes the idea of controlling uncertainty and that certain access rights are purchased less because of a wish to use them and more because of a desire to "guarantee" that one is able to deal with exceptional situations by acquiring "excess motility" (as well as true freedom of modal choice); and finally, as with financial asset management, any change within a portfolio of access rights implies in principle significant transaction costs (an aspect which Markus Petersen has widely explored in his writings - see for example Petersen, 1993; 2003).

[10] The term "entrance fees" to systems of transport could also be used, since in our approach the costs of access rights correspond to the fixed fees one has to pay even before being able to use a means of transport. However, we prefer the more general term "access rights", because today transportation systems are accessible in very varied modes (different degrees of flexibility, comfort, etc.).

[11] Certain authors have even suggested that there exists a "collective habitus" with regard to possessing at least one automobile per household (Burkart, 1994; Orfeuil, 2000, p. 52).

modern and individualistic society (this norm is closely linked to the fact that the automobile tends to be elevated to the status of the very symbol of mobility and independence).

Does this mean that financial restrictions are the only limiting factors in households' choice of equipment? This is not so, since over the last three decades the awareness of environmental issues has led to the formation of another dominant representation in society[12], which in effect is at the opposite end of the scale to unrestricted multiple motorisation of households. Faced with the fact that means of transportation contribute to a large extent to current environmental problems, a certain number of individuals who consider themselves to be inclined to respect the environment voluntarily restrict the number of individual motorised vehicles they own. The resultant travel constraints then tend to be perceived as "psychological props" for the implementation of an environmentally friendly lifestyle.

It is true that according to national statistics, the number of households that possess neither a car, a motorcycle nor a motor scooter seem relatively few, and one could be tempted to challenge the existence of this aspiration to limit one's capacity for movement. In fact, our survey seems to indicate that people who are aware of environmental issues are often faced with a feeling of guilt regarding the ownership and use of individual motorised vehicles. These pricks of conscience are nothing more than a conflict of values – wherein awareness of the environment is clashing with central values of society, i.e. individuation and mobility – a conflict which, considering how deep-seated these cultural values are, is usually resolved in favour of the automobile (Heine et al., 2001). We nevertheless feel it would be overly hasty to conclude that the motorisation of households is inevitable.

While, as we have just shown, it is true that dominant social representations easily lead to the purchase of motorised means of transport, there nonetheless remains an area in which the ownership of automobiles is increasingly being challenged: in city centres, the number of households without a car is on the rise. Several factors explain this: on the one hand, the search for independence in travel is pushing people to use alternative means[13] and, for situations in which the automobile remains the best suited mode of transport, the existence of increasingly flexible car rental services offers a more than satisfactory substitute for private automobiles. On the other hand, this mobility based on a combination of different means of travel lessens the feelings of guilt caused by car ownership among those who are sensitive to environmental issues; and finally, combined mobility often proves to be a financially attractive solution, since the structure of rental costs is more favourable than the cost structure of private property in the case of moderate car use[14].

In any case, our analysis shows that in order to truly comprehend the rationales behind the extent of motorisation in households, people must be interviewed on their views of the three social values that determine this question; the fact of whether a person places more value on the social status conferred by vehicle ownership, or on personal travel independence, or

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[12] Philosopher Hans Saner considers that the birth of this new value that is central to the value system of Western society can be traced back to the publication of the first report of the "Club of Rome", in 1972. Initially this publication popularized a new form of environmental asceticism, by means of lobbying on the part of environmental groups among others. Subsequently, the search for a global synthesis between the environment and the right to development in the countries of the South led to the evolution of this value towards the concept of sustainability, which is the dominant aspect in debates today (see Saner's essay in Dietiker & Regli, 1998).

[13] In city centres, two-wheeled vehicles, whether motorised or not, are the natural "champions" of independence and have thus been chosen by many city-dwellers (of course, as long as they consider the risks of using such means of transport acceptable – we will come back to this point later). In comparison with the automobile, even walking or using public transport can provide a "competitive" degree of independence (through the possession of a pass that allows free access to a wide range of transportation services).

[14] The cost structure for automobile ownership is mainly comprised of fixed costs, while the same structure for renting comprises predominantly variable costs. This difference is favourable for private ownership if the car is used frequently, and favourable for hiring if it is used rarely or moderately.

again on adapting his or her behaviour to a certain environmental ideal will condition his or her tendency towards (multiple) motorisation or by contrast towards giving up ownership of a private vehicle[15]. Indications in this regard would allow us to understand especially households that may have fewer vehicles than members. In other words, is this lack of vehicles the result of a desire to restrict travel capacity for environmental reasons, or is it mainly brought about by financial constraints?

At this point, we should emphasize the fact that it is impossible not to refer to territorial context when analysing individual portfolios of access rights and the reasons underlying their composition. Indeed it is essential to take account of the characteristics of the built environment and the predominant infrastructure of the habitual living space of the individual, because the independence afforded by means of transport depends directly on spatial context, and travel mode preferences in terms of the acquisition of access rights could therefore not be understood without this reference to territory. We will come back to this point at the end of the article, and explain in a little more detail the interdependence that exists between the acquisition of access rights and a household's location strategy[16].

5 Personal aptitudes for mobility: a significant form of individual capital

Today, mobility is such a commonplace social occurrence that we tend to forget that it requires people to have specific skills and aptitudes. Of course, within the context of analysing individuals' motility, it is easy to grasp the importance of having a driver's licence[17] and that one of the possible presence of physiological handicaps which restrain one's ability for movement. At the same time, it appears evident that such factors of discrimination apply to rather small groups of people:

- today, almost everyone passes the driving test, which means that the population without a licence is increasingly limited to underage youth, (very) elderly people (often women, because having a driver's licence was more or less restricted to men during the first decades of automobile democratisation), and those individuals who have had their licences suspended either temporarily or permanently;
- as for the percentage of the population suffering from a physiological handicap, it seems rather small in terms of numbers (the category of people with reduced mobility), and moreover, technology is providing an increasing number of ways in which physiological disabilities can either be healed or compensated for[18].

At first glance, then, the question of personal aptitude for mobility seems to be significant only for very specific categories of the population. Nevertheless, our survey shows that this aspect of aptitude comprises a much more widespread potential for differentiation. We shall

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[15] Bear in mind that the latter case is undoubtedly supported by the existence of transport services that allow for considerable travel independence (especially public transport with frequent service, or even car sharing).

[16] In our view, the concept of location strategy refers to the fact that individuals and households are obliged to set priorities and accept compromises in the choices of location that define their normal living spaces (residential location, workplace, favourite shops, etc.). In other words, they must plan to use the available resources so as to attain specific goals in a system of location constraints (Bonvalet & Fribourg, 1990).
This latter observation deserves credit for defining the limits of application of the concept of "strategy". Apparently, this concept is invalid for both the most wealthy and the poorest segments of the population: the former have enough available resources to be able to satisfy practically every wish and thus do not have to make choices, while the latter have almost no room to manoeuvre in their location choices (Bonvalet & Dureau, 2000).

[17] Driver's licences represent the only socially instituted form of a "certificate of aptitude" in mobility. These certificates of aptitude are defined in national regulations that define a certain number of vehicle categories, minimum ages and procedures governing the learning process and the examinations.

[18] We nonetheless point out that if we take into account the physiological deficiencies that have a less decisive effect on the capacity for movement – such as obesity, heart problems or asthma – this aspect becomes akin to a motility criterion that applies to large sections of the population. We will return to this point later.

therefore take the trouble to continue our analysis of the skills that play a role in daily mobility.

5.1 The skills to use means of transport: the importance of past experience

In practice, the act of travelling involves cognitive and psychomotor activity that is quite complex: not only does one have to master the elementary processes of the movement (walking, pedalling, steering, accelerating, braking, etc.), but one must also identify obstacles, anticipate the movements of other people or vehicles, judge one's position in space, decide which route to take, respect a certain number of rules (road code, socially accepted standards of "good conduct", purchase of tickets, etc.), ensure timeliness with respect to a journey timetable, and so on. All of these tasks require aptitudes that are more or less specific to each means of travel, and can even be specific to certain special models of vehicle (automatic or manual transmission, conventional or reclining bicycles, etc.) or to certain transportation services (differences in operating modes such as between regular service and on-request service, differences in the types of fare on public transport from one city to another, etc.).

After analysing these aptitudes, we feel that five general areas of skills for each mode of travel should be distinguished[19]:

- In the first place, for drivers (of cars, motorbikes, bicycles, etc.), it is essential to acquire a wide experience of concrete driving situations, because it is past experience and conceptualisation of these situations that build driving know-how. Studies show that novice drivers need at least 3,000 kilometres to acquire minimal experience of driving an automobile[20] (Pervanchon, 1999, p. 22-24, resp. p. 83).
- Next, one needs to have sound knowledge of the area being covered and especially be capable of finding one's way around the transport networks used (if taking a route for the first time, one must be able to use the information support provided in the transport networks). The degree of spatial mastery depends essentially on the scope and precision of the *cognitive map* that the individual has drawn with respect to his or her environment using his or her "hands-on" experience of space and by consulting "secondary sources" (maps, verbal or written directions, etc.) (Kitchin & Blades, 2002).
- The individual must also possess skills in timing his or her travel, such as the capacity to correctly estimate travel time or to plan an appropriate timetable for a schedule comprised of activities and travel. It is true that using planning instruments and/or the skills of other people is relatively easy[21], but realistically forecasting the outcome of travel involves having practical knowledge of the types of disturbances that are possible in transportation networks, which is a true expertise.

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[19] Let us first of all say here that we take it for granted that the individual possesses general knowledge skills that comprise an essential foundation for his or her capacity for movement (good knowledge of the local language or otherwise of a "universal" language such as English, knowledge of the customs of the country in question, etc.). Nonetheless, even if we restrict our analysis to travel that can be qualified as daily and we disregard exceptional mobility (business trips or leisure trips abroad), this hypothesis does not prove valid in all cases: for example, Eric Le Breton (2002) showed that this aspect can contribute to the immobility of poor and immigrant populations.

[20] In reality, although such experience usually allows the driver to feel at ease behind the wheel of his or her vehicle, it proves to be insufficient in a context of true risk control: experience does not necessarily lead to expertise, especially with respect to all the aspects of driving for which feedback is quite rare; indeed, as accident (or a close call) is a rather infrequent experience, drivers may easily overestimate their own driving abilities (Duncan et al., 1991).

[21] … and therefore often occurs, such as in the use of travel timetable calculators; the consultation of public transport schedules; advice from family, friends or colleagues; the task of planning delegated to a personal assistant or travel agency, etc.

- We must also mention another series of practical skills which, when considered individually, may seem trivial, but which together contribute largely to making a means of travel more or less pleasant. For example, when travelling by public transport, it is useful to know which other types of services are available in stations or on board vehicles, to be familiar with the customs in transport spaces, to know how to choose the least expensive fare options, and so on. For individual means of transport, useful practical knowledge includes for example the mechanical functioning of a vehicle, the services available in gas stations, the location of the least expensive parking lots, and so on.
- Finally, we must consider the self-control that an individual develops with experience of modes of travel, for example learning not to panic in potentially frightening situations, knowing how to manage the stress generated by travelling on a schedule, controlling one's anger when confronted with unpleasant behaviour from other users of the road, when using public transport being able to shut out the other passengers in order to concentrate on a personal occupation, and so on. Analogically, we must also consider physical aptitudes required for non-motorised means of transport that are acquired with practice (endurance, ability to accelerate swiftly).

This list of the aptitudes required in order to easily use means of transport shows that learning to master a mode of transport is first and foremost a question of accumulating experience and that it is therefore a medium to long-term process[22] (of course, in principle there is nothing to stop someone from appropriating a means of travel with basic-level aptitudes, but its use then often implies frustrating experiences). In other words, it is only repeated use in a wide variety of situations and assimilation of these experiences that can allow someone to say that they truly master a given means of transport.

As a result, learning to master a mode of travel implies personal preparedness on two levels: on the one hand, an individual has to be prepared to experience the means of transport in question, and on the other hand, he or she must be willing to learn from past experience through a process of conceptualisation and memorisation. If someone has a rather positive opinion of the mode of transport in question, both these processes can take place and personal aptitudes can be improved. However, when someone dislikes a means of transport, they easily get caught in a vicious circle: because of a lack of desire for further experimenting and because of processes of cognitive dissonance reduction – people easily focus on experiences confirming their negative opinion and disregard those that contradict it – the willingness to improve personal aptitudes is not a given. And yet, since using a means of transport remains awkward as long as these aptitudes have not been improved, it is difficult for the person to call into question his or her negative opinion. In other words, the more one masters a means of travel, the more one is able to appreciate it, and the more a means of transport is appreciated, the more one is likely to perfect one's personal aptitudes to use it.

5.2 The crucial importance of socialisation

Considering the above, it is easy to see the importance of the experiences an individual accumulates in the first stages of his or her life course: they will probably determine to which extent the use and representation of a specific means of transport become established within a dynamic of a virtuous or of a vicious circle. In this context, certain German authors such as

[22] The importance of past experience is emphasised if we consider how specific acquired aptitudes can be: insomuch as control over a given space and the skills used to time a journey are linked to a specific geographical context, a person must repeat all the stages of learning each time he or she changes environments, and the more radical the lifestyle change, the more effort the re-learning process will require (for example, after having moved to a foreign country in which traffic practices are very different – driving on the left or on the right hand, the extent to which signalling is practiced, etc.). It goes without saying that the aptitudes acquired for one mode of travel are only very partially "transferable" to other modes.

Kalwitzki (1994) suggest that the socialisation to mobility[23] in childhood plays a fundamental role, and they argue that the omnipresence of the car in the lives of children makes it an object of value in their eyes, and at the same time, undermines their opinions of other means of travel, thereby perpetuating the reign of the automobile in society.

Without challenging the validity of this analysis – after all, it is in childhood that individuals have their first experiences of different means of travel and form their first representations of these – we feel that their authors are overestimating the importance of representations and underestimating the pertinence of the aptitudes acquired during this period. In several of our interviews, we noted indeed that people had "re-discovered" means of travel of which they had unpleasant childhood or young adulthood memories (whereas other people had entirely stopped using a means of transport of which they had good memories). On the other hand, it seems that the failure to acquire certain aptitudes because of a lack of experience of a given travel mode in one's youth had a much greater impact on their behaviour in adulthood.

This observation highlights the existence of a crucial form of individual motility capital: depending on whether a person has been accustomed to regularly walking or riding a bicycle[24], used a motor scooter or moped in his or her youth, or learned to use public transport in a wide variety of situations, he or she accumulated a specific "stock of experiences" during youth, which is equivalent to a more or less varied range of personal aptitudes for mobility. As we have already said, this capital of knowledge and skills is almost always accompanied by experience of driving a car, usually acquired in the first years after reaching the legal driving age. Yet, if we acknowledge that people have far less time to improve their aptitudes to use means of transport other than the automobile once they have begun working and especially once they have started a family[25], we must come to the conclusion that this stock of experiences is well and truly a factor that determines individual behaviour in mobility (at least from a certain age on, which remains to be determined by more detailed quantitative surveys).

Considering that our qualitative exploration does not allow us to gauge the importance of this factor, we feel it would be to the advantage of research to take a more systematic interest in people's "mobility biographies" through longitudinal surveys or alternatively through surveys involving people's life stories (retrospective descriptions of their personal experiences). With respect to our thinking as to rendering the concept of motility operational for future empirical research, our discussion instead suggests that we should look at whether or not people feel they master different means of transport. In fact, the interdependence that exists between the representation an individual has formed of a means of transport and the stock of experiences he or she has accumulated in using it is more influenced by the subjective feeling of control than by an "objective" expansion of his or her personal knowledge and skills capital.

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[23] We are referring here to all the learning processes involved in the development of people's mobility behaviour: individuals acquire representations, attitudes and habits that determine their mobility behaviour as well as their relationships to different means of transport from very early in childhood through their interaction with others (upbringing, influence of siblings and peers, etc.) and through their own experience of their environment (Limbourg et al., 2000).

[24] We are taking it for granted that nowadays, practically all children learn to ride a bike, since it is a very commonplace leisure activity. However, the number of children who learn to truly use the bicycle independently as a means of transport (to go to school, for example, or to a friend's or extracurricular activities) is probably much smaller, especially in city areas where routes have not been made secure.

[25] Several factors could explain why people as they get older abandon the idea of expanding their capacity for movement by learning to use new means of transport: stabilisation of modal habits (which means that acquiring new durable experiences is improbable), a desire to devote their time and energy to other everyday issues, set ideas about different means of transport, exaggerated representations of the risks involved (especially in the case of two-wheeled transport), and so on. Of course, in case of an absolute necessity people are usually prepared to learn how to use a new form of travel until late in their life course (for example in response to handicaps which arise with age).

In order to fully understand an individual's motility, we naturally also need information on whether or not he or she has a driver's licence, or any physiological handicaps that would hamper travel. With respect to this last point, we feel it is probably preferable to ask people about their subjective impressions of being hampered (ideally by requesting specific indications for each of the modes of travel being studied) rather than to collect descriptive information about their physiological disabilities, considering how complicated it is to evaluate the impact of a handicap on a person's capacity for movement[26]. What is more, this approach incorporates certain increasingly common personal handicaps that are not considered by individuals to be true "physical handicaps" – especially obesity, asthma, etc. In this respect, the national "Transport and Communications" survey conducted in France in 1993-1994 is one pioneer that supports our approach: it demonstrates that this issue deserves to be integrated more systematically into transport surveys, as the proportion of those concerned turns out be quite significant among the elderly (Madre, 1997).

6 Cognitive appropriation of transportation supply

We can now move on to the third facet of motility, which is undoubtedly the most difficult to grasp: the cognitive appropriation of transportation supply. Considering the vast range of possibilities offered by transportation infrastructure and the built environment, people are more or less forced to base their mobility behaviour on a simplified vision of their world[27]. They especially form representations of different means of transport, evaluating to which extent they each represent a useful resource for the conduct of their daily lives. In doing so, each individual defines more or less consciously the types of situation in which he or she would be likely to use a given means of transport (it should be borne in mind nonetheless that he or she may also exclude a certain means of travel as a matter of "principle"). It then becomes clear that this cognitive process is very subjective and as such participates in the establishment of an individual's mobility potential, or in other words, of his or her motility.

6.1 The functional and symbolic suitability of a means of transport

Generally speaking, means of transport can be considered instrumental resources that people take possession of to journey to places in order to either satisfy desires or fulfil obligations. This definition gives rise to an essential question: which criteria are people likely to apply when evaluating whether or not a particular means of transport fits in satisfactorily with their way of organising daily life and with their lifestyle in general? We will try here to answer this question by examining the most decisive criteria we have identified in the discourse of the people we have interviewed.

The question requires the performance of an in-depth analysis of the functions that means of transportation are carrying out in daily life. By definition, the basic purpose of any means of transport is naturally to carry people and objects with the objective of moving them from one

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[26] According to a survey devoted specifically to the mobility of handicapped people (Poulenat-Aballea & Tarrius, 1979), the consequences of certain types of handicap cannot be ascertained "mechanically" – for example, by identifying the degree to which the function of walking alone has been damaged (paraplegics, etc.), the degree of damage to the functions of walking and grasping (hemiplegics, tetraplegics, etc.) or even the damage to the sensory organs (the blind, deaf, etc.), since the resultant capacity for movement depends on many other factors such as when the handicap occurred (both in terms of the person's life cycle – a 10-year old and a 50-year old cannot derive the same benefits from physical therapy – and in absolute terms – physical therapy techniques used today did not always exist 50 years ago), the person's attitude towards his or her handicap, their financial situation (ability to buy technical accessories such as a specially adapted car), or the surroundings in which they live (it would seem that accessibility is better in town than in the country because handicaps have been taken into account more broadly in terms of roads and infrastructure).

[27] We are referring here to the fact that an individual cannot cognitively grasp the entirety of his or her world without endangering his or her sanity.

place to another in space. In this respect, two functions that we shall label "primary" can be identified: that of "self-transportation" – in this instance the function of *means of travel* can be referred to – and that of the transportation of other people, domestic animals and/or things (baggage, merchandise, etc.) – in which case we feel it is judicious to refer to the function of *means of conveyance*[28]. However, our survey showed that two other functional categories should be taken into account[29]:

- so-called "secondary" functions: in this category, we have grouped together four functions that are generally complementary to the functions of travelling and conveying. First, it should be recalled that some means of transport also represent a cell[30] of protection from harsh weather conditions (rain, snow, excessive heat, etc.). Secondly, the cabin of a vehicle often performs the duty of protecting its passengers' physical integrity (in the case of an accident, or even of an attack). Thirdly, a vehicle can sometimes serve as a space that guarantees intimacy and confidentiality (for example, for a couple, a family or for someone making a private telephone call). Finally, a car can be used as temporary storage for personal belongings, such as a change of clothing, umbrella, folding bicycle, sports gear, professional materials, tools, etc.). It is important to note that the automobile alone can fulfil all these functions.
- individualised appropriations: this category comprises a series of functions that are only very indirectly linked to the question of transport. The use of a means of transport sometimes is triggered by a more or less conscious will to portray a certain image of oneself to others – to affirm or hide one's identity. In this case, the means of transport fulfils a function of "social marker". Some people have a real passion for their cars, and spend considerable time and vast amounts of money on their maintenance; in this case, the automobile becomes an object of passion or a collector's item that is more or less independent of its use as a means of transport. Sometimes, the use of a means of transport is an integral part of an occupation (taxi driver, professional cyclists, etc.), in which case the means of transport is appropriated as a professional tool. This incomplete list shows again that the concept of functional suitability must be studied in the broad sense.

Not all the functions we have mentioned are of equal importance, of course. It goes without saying that in general, people appreciate the functional suitability of a means of transport first and foremost for its capacity to fulfil the primary role of a means of travel and, to a lesser extent, of a means of conveyance. Simultaneously, on a case by case basis the other functions may also play primordial roles depending on the intended environment (for example, "hostile" weather conditions *de facto* call for a means of transport that provides protection), on the members of the household (if there are children), on the person's social position (officials at risk of threats of violence, etc.), or simply on one's own personal preferences. It therefore seems to us that none of these functions can be ruled out if we are to understand the value judgments that people have of various means of transport.

If we look specifically at the function of a means of travel, we are forced to admit that there are many criteria to qualify the mobility afforded by various means of transport.

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[28] This distinction allows us to continue using the term "means of transport" unambiguously to designate any vehicle capable of serving as a means of travel. Let us note here that we consider walking as a means of transport, even if it does not involve a proper vehicle (feet or shoes can be considered the "instruments" that form the basis of walking).

[29] In order to establish our list, we applied a simple criteria: are there situations in which the reason for using vehicles is only loosely related to the primary functions, and if so, which function does the vehicle then perform?

[30] The reference to the notion of cell implicitly conveys that vehicles alone constitute a cabin capable of playing this role.

Characteristics such as rapidity, accessibility, independence, cost, safety, reliability, comfort, quality of service and environmental impact (energy efficiency, toxic emissions, noise, etc.) typically come to mind in this respect. Considering how diverse these factors are, it is obviously not easy to "globally" qualify means of transport and it is an even harder task to compare them pertinently, given that certain criteria are difficult to transpose from one means of transport to another. Moreover, the respective importance conferred on these different characteristics varies from one person to another.

Because of the exploratory nature of our survey, we are unable to propose here a system of classification that can be generally applied to gauge the pertinence of each of these evaluation criteria. In our view, we must start from principle that each of them can play a defining role in the constitution of individual representations of means of transport, and therefore also in the cognitive appropriation of the available transportation alternatives. However, our interviews revealed the predominance of two aspects: reliability and safety.

Our opinion is that the reliability of a means of transport must be envisaged in the broad sense[31] that is akin to the commonly accepted definition: the term reliable is reserved for any means of travel that *functions well and that we can trust to take us "to the right destination" and "in a timely manner" through all the day's activities*. Taken in this broader sense, the reliability of a means of transport implies that the journey itself is predictable[32], that aids for finding one's direction along the way are sufficient (for first-time journeys) and, finally, that the travel can be organised to suit one's activities. Indeed, the qualities required of a means of transport in order for it to be considered reliable depend, among other things, on how daily activities are organised: in the case of routine travel, regularity and temporal flexibility are the major factors of importance; for planned journey on routes that are still unfamiliar, punctuality is the determining factor; while for improvised trips, it is mostly temporal flexibility and spatial accessibility that are responsible for a means of transport being suited to a person's personal organisation of daily activities. In sum, individual representations of means of transport are closely linked to how daily activities are carried out (and vice versa).

In sum, our survey however suggests that the most decisive evaluation criterion in terms of cognitive appropriation is that of safety. Numerous interviewees justified their total lack of interest in certain means of transport (especially two-wheeled vehicles, whether motorised or not) by almost exclusively referring to them as "too dangerous". An in-depth analysis of these criteria shows that the individual's perception of being safe during travel depends not so much on the statistically established probability of an accident, but rather on the importance he or she attributes to taking a risk according to his or her personal system of values. Thus, it is only when faced with striking contradictions within this value system that danger is elevated to the level of a determining factor[33], because people are quite capable of

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31 That is to say, going beyond a purely technical approach to this concept, which refers only to the absence of breakdowns and malfunctions.

32 We should recall here that predictability implies personal skills and knowledge based on accumulated experience of the "field" (for individual means of transport: capacity to estimate the duration of the journey, knowledge of available parking near the destination, spatial control, etc.; for public transport: capacity to interpret a schedule, capacity for orientation in the transportation network, "intuitive" knowledge of delays, etc.). This goes a little further towards explaining the interdependence between skills and cognitive appropriation (see the preceding chapter).

33 For example, in people who learned how to ride a motorised two-wheeled vehicle when they were young, the fact of starting a family and having children usually sharpens their personal sense of responsibility to such an extent that this value often conflicts openly with the risk that riding a motorcycle represents. It is therefore not rare for the motorcycle to be given up – especially when it was used for functional reasons (independence, rapidity in town) and a little less frequently in cases of a veritable passion for motorcycle riding (however, the passion is then "tempered" as far as risk-taking is concerned).

overcoming any temporary apprehension – such as the feeling of fear that follows an accident or a close call – by reasoning away the risks or denying they exist.

6.2 The processes underlying the cognitive appropriation of transportation supply

This last observation highlights that in order to understand how an individual appropriates the transportation supply cognitively, it is not sufficient to carry out an in-depth analysis of the individual representations of means of transport; the cognitive processes behind the constitution of such representations must also be studied. In other words, how do modal preferences become established? Even if here we are approaching the limits of what our research method will allow us to infer from our survey data, we still wish to try to identify a few elements of response to this question.

In general, individual representations of means of transport are the result of both the conceptualisation of personal experiences and the assimilation of collective representations. With respect to judgements of mobility potential (rapidity, independence, spatial accessibility, general reliability, etc.), it is remarkable that the representations of those we interviewed are that much more detailed and distinct from one another depending on whether they have a rich and varied experience of a particular means of transport. We conclude that personal experience contributes over-proportionally to representations. This observation furthermore confirms to a large extent the findings of the analysis previously carried out on the importance of the context of socialisation in the process of acquiring skills and subsequently in that of cognitive appropriation of transportation supply[34].

The assimilation of collective representations also plays a role, since they validate the different means of transport to a greater or lesser degree. These representations can contribute to forming biases that individuals are likely to adopt if they lack sufficient personal experience[35] (Mannoni, 1998). Moreover, certain specific aspects of individual representations are socially shaped, mainly in the area of environmental impact[36] and to a lesser extent concerning the dangerousness of particular means of transport. Last but not least collective representations also play a major role in the political decision processes regarding transport infrastructure investments and thus influence indirectly individual representations.

Considering the significance of habit in travel behaviour, we must begin with the principle that individual representations of means of transport become set quite quickly and that only important changes in the organisation of one's daily life (a move, change of workplace, birth of a child, etc.) and/or the significant worsening of an available form of transport (for example: difficulties in finding a parking following the implementation of a restrictive parking policy) are likely to call them into question. Conversely, the improvement of a form of

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[34] In concrete terms, young children form their initial representations of means of transportation under the behavioural influence of their parents. In the adolescent years, the influence of siblings and peers is probably greater (to such an extent that young people may develop representations that oppose those of their parents, for example with respect to motor scooters or public transport). Finally, in adulthood, the greatest influence undoubtedly comes from partners (boy/girlfriends, spouses, one's own children becoming independent and affirming their preferences, and so on).

[35] As an example, it is undeniable that social representations of the automobile and of public transport – which are radically opposed as far as independence in travel is concerned (according to the equation "automobile = freedom" and "public transport = constraint") – influence individual representations of means of transport. In this respect, personal experience alone will allow an individual to develop a sense of criticism and, in the case of contradictory experiences, to counter the preconceived ideas that are conveyed by collective representations.

[36] The consideration of a means of transport as "environmentally friendly" is essentially the result of a social process. While it is true that this label is supported by knowledge gathered by scientific experts, in reality it is only at the end of a complex political game in which numerous actors take part (elected leaders, scientific experts, environmental organisations, the media, international institutions, etc.) that the importance of specific environmental pollution is socially validated (Littig, 1995).

transport is probably not sufficient to change the cognitive appropriation of an individual. Indeed, several of the people we interviewed affirmed unashamedly that they never pay attention to advertisements concerning new transport systems or services (new bus lines, changed timetables, innovative car hire systems, etc.) as they consider that the organisation of their daily mobility is good enough for it not to be worth the effort of looking into possible alternatives. This appears to be especially true in the case of very negative representations, which lead to certain means of transport being rejected "as a matter of principle", because they are seen as being too dangerous, for example, or too expensive, or not reliable enough. In this case, the person obviously does not have any desire to use the means of transport, but it is also true that he or she has no interest in seeking information to confirm whether or not the individual representation is accurate.

The inertia of individual representations of means of transport is exacerbated by the phenomenon of cognitive dissonance reduction[37]. By this we mean that people tend to ignore elements of social representations or to downplay negative personal experiences to avoid having inconsistencies between their cognitive appropriation of available transport alternatives and their mobility behaviour. We made reference to this occurrence earlier concerning the fear of the risks involved in using a means of transport; it is even more striking with respect to the judgment many drivers make of the environmental impact of their behaviour: even if they have assimilated the idea that it is important to behave in an environmentally friendly manner and that the use of the automobile does not correspond to this ideal, they still manage without great difficulty to avoid any feeling of guilt (for example, by telling themselves that they already do enough for the environment in other areas of daily life, or by convincing themselves that other people do much less than they do).

In view of these observations, it seems to us that a comprehensive approach to motility must imperatively be based on an in-depth study of the representations that people have of different means of transport that they have (or could have) at their disposal. It is only in questioning individuals on their representations of means of transport that one can understand how their use takes on meaning in the conduct of their daily lives, to which extent their use must be interpreted as a constraint rather than as a deliberate choice, and finally, why certain resources/means of transport are simply ignored (because they are considered too dangerous, expensive or restrictive, for example). In undertaking the above, the methodological precautions imposed by social science when studying representations must naturally be taken into account. In this respect it is particularly important to question individuals in such a way as to minimise the processes of cognitive dissonance reduction[38]. As Peretti-Watel (2000, p. 200) recalls, "representation both shapes the course of action ex ante and justifies it ex post". In a survey situation, forms of questioning that place the individual in a position of having to justify his or her practices should thus be avoided, and as comprehensive an approach as possible should be adopted[39].

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[37] Cognitive dissonance refers to the state of tension in which an individual finds himself or herself after having perceived an inconsistency between his or her attitude and his or her behaviour with respect to an object or situation. As soon as the number of inconsistent cognitive elements outweighs the number of consistent elements, cognitive dissonance triggers the use of strategies destined to eliminate tension (the search for new information on the object in question, modification of the person's attitude with respect to it, a change in the evaluation of a situation, etc.) (Fröhlich, 1997).

[38] Cognitive dissonance in a survey situation can lead to respondents biasing their answers, for example justifying their travel mode preferences by giving reasons that support the option chosen or criticise the options not chosen, even if these reasons did not really influence their choices (Kaufmann, 2000, p. 84).

[39] For large-scale surveys, we therefore suggest using open questions that allow interviewees to qualify the means of transport using three adjectives (Kaufmann, 2000 ; Kaufmann et al., 2001).

7 Prospects opened up by our qualitative exploration

In conclusion, our qualitative exploration did allow us to identify and render operational the concept of motility with respect to daily life, in order to facilitate future surveys on the mobility potential of individuals. We naturally do not claim to have grasped this potential in its entirety here, since our research material dealt essentially with the factors and rationales behind travel mode practices. As Table 2 suggests the concept of motility comprises many additional aspects that should be analysed and made operational subsequent to research efforts such as those we have just undertaken.

In view of gaining a better understanding of the motility of individuals with respect to the organisation of their daily mobility, two additional aspects of analysis appear absolutely essential to us: on one hand, the appropriation of the built environment through shaping one's personal activity space, and on the other hand, the appropriation of the new information and communication technologies (NICTs) to create "virtual contiguities", or in other words to access forms of ubiquity (thanks to mobile telephones, technologies for working at home, etc.).

The importance of the spatial context in which an individual's daily mobility takes place came up on several occasions during our article. It seems quite obvious that the geographical scope of personal activity space on one hand and the "degree of attachment" of this space with respect to the different transport networks on the other hand together determine the ran ge of possible resources for daily travel behaviour. Indeed, they are largely responsible for determining which means of transport people consider conceivable and which they do not. Moreover, the skills acquired using means of transport undeniably have a territorial component, which can also influence a person's daily mobility (for example through a preference for shops located in relatively well known places, even if this means travelling farther).

Realms of possibility	**Latent potential (= individual capital)**	**Revealed practices**
Transport supply	"Daily" motility: portfolio of access rights, personal aptitudes, cognitive appropriation of transport supply	Travel mode practices
Built environment	System of opportunities and accessibilities determined by the location strategy of the household	Activity space (network of usual places)
Supply of NICTs	"Virtual" motility, capacity for ubiquity	Use of NICTs
World	?	Holiday Trips
World	?	Sedentarity / Migrations

Table 2: The multiple dimensions of the concept of motility

Another necessary point is to investigate the way in which the activity space of an individual is established in the built environment and, more specifically, to understand the motivations and/or the constraints responsible for the choices of location of the home and of recurring activities.

With respect to this point, our exploratory survey provides some interesting indications: it appears that the shaping of personal networks of usual places[40] is first and foremost the result of individual projects whose goal is personal fulfilment, the starting of a family, realisation of a professional career, or gaining access to real estate; yet, with respect to these goals – which by the way are often difficult to reconcile in their spatial dimension– the question of daily mobility context is probably often a minor consideration. It thus seems that we have to admit that the location strategies of individuals and households are based only to a small extent on decisive travel mode preferences and that the daily mobility context is instead mainly the result of land use planning and of the hazards of the real estate market and/or job market. Nevertheless, in the interest of a comprehensive approach to the constitution of individuals' motility, this observation suggests precisely trying to identify those people who have arranged their network of usual places, or at least have chosen their residential location by wilfully giving preference to certain means of transport[41].

Nowadays, the question of appropriating NICTs is probably as crucial for understanding how the daily mobility of individuals and households is organised. A growing number of surveys demonstrate the changes that the increased use of NICTs causes in an individual's relationship with time and space (see for example: Jauréguiberry, 2003). On the one hand, these technologies are often used to plan personal contact (face to face) in given places – that is to say, they provide assistance in planning daily mobility; on the other hand, they also allow for access to forms of ubiquity that enable to preserve social integration across distances. Obviously, in the modern and globalised society, this capacity is essential if mobility is to represent a mode of social integration rather than a factor of alienation.

In general, our article suggests that motility does indeed represent a form of capital similar to financial, social and cultural capital. The portfolios of access rights, the skills and the representations that underpin the cognitive appropriation of transportation supply differ from one person to another. It is true that the acquisition of access rights is conditioned by one's financial resources, and that the portfolio of access rights is thus dependent of financial capital. However, we have shown that the composition of this portfolio is also (and especially?) the result of the person's adherence to the social values of travel independence, social status afforded by the possession of vehicles, or awareness of environmental problems. The desire to be very travel-independent can lead an individual to accumulate access rights beyond what is financially reasonable in terms of their effective use, simply because the person wants to feel he or she can easily react in unusual situations. Finally, our qualitative exploration clearly showed the essential role played by personal aptitudes for mobility and more specifically the knowledge and skills accumulated from concrete experience of the various means of transport; without these acquisitions, motility in terms of

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[40] By *network of usual places*, we mean all the places an individual visits on a recurring basis, as well as the routes he or she usually takes between these fixed geographical points (thus forming a *system*). The pertinence of this concept lies in both its descriptive value and its contribution to a reflection on the genesis of individuals' travel practices (Flamm, 2004, p. 178-202).

[41] To do this, in our opinion one should question people on their will to develop a lifestyle based on the contiguity of places of residence and activities, on the importance they attribute to the accessibility of public transport services, and finally, on the disdain (or other attitude) they manifest with regard to traffic and parking difficulties in town; these three subjects of discussion will provide indications as to the existence of a decisive travel mode preference for respectively proximity means of transport (e.g. walking, cycling, etc.), public transport or the automobile.

capacity to adapt one's travel habits to new contexts (such as job relocation) or to new restrictions (such as the implementation of a restrictive parking policy) may well turn out to be limited, especially when personal representations of alternative solutions are rather negative. In sum, motility is at the service of actors' aspirations and projects, and it constitutes a form of capital that can be mobilised in order to realise them and link them together.

All these observations taken together lead us to believe that motility represents a form of capital that is independent of other forms of capital that are traditionally taken into account when analysing social position and other indicators of social integration. Yet, considering that society places the greatest value on mobility and that it has even become an ideology, it is easy to understand that motility today represents an unavoidable factor of social distinction that simply cannot be ignored in sociological analysis. This point having been established, our article opens the way to a whole series of questions aimed at clarifying its role, such as which types of motility should be identified; the extent to which people can compensate for deficient financial, social or cultural capital with increased motility, and finally, whether motility is a factor that tends to accentuate or to compensate for the social inequalities induced by the other forms of capital.

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