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Immotility as resilience? A key consideration for transport policy and research

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ABSTRACT

Contemporary transport systems lack resilience. They are prone to congestion, vulnerable to multiple threats, constitute a great financial burden and are environmentally unsustainable. Research and policies have been developed aimed at solving these problems by means of improving transport technologies and governance; however, success has been limited. This paper asks whether resilience can be increased also by means of promoting localism, slowness and stillness, or what we synthetically term “immutility”. This is a valuable enterprise because in the recent past the focus has been on the highly mobile and the global. The highlighted knowledge gap is problematic because it reduces the perceived value of development models which are not based on high-speed, long distance and high-frequency mobility.

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1. Introduction

If you let yourself be blown to and fro, you lose touch with the root.

If you let restlessness move you, you lose touch with who you are.

Lao Tzu

Contemporary developed societies are highly dependent on mobility (Bertolini 2012). Mobility has become a form of capital difficult to live without (Kaufmann 2002, 2011; Kaufmann, Bergman, and Joye 2004). Even though mobility has a variety of benefits, it also represents a resilience problem because current transport systems are prone to congestion, vulnerable to multiple threats (e.g. terrorist attacks, natural catastrophes, extreme weather events), constitute a great financial burden and are not environmentally sustainable. In attempts to solve this problem, research and policy have focused on decreasing the vulnerability (Berdica 2002; Dalziell and Nicholson 2001; Du and Nicholson 1997), improving the cost-efficiency (a theme around which there are intricate debates) (Bristow and Nellthorp 2000; de Jong and Geerlings 2003; Ferreira, Beukers, and te Brömmelstroet 2012; Næss 2006b) and increasing the sustainability (Banister 2008; Banister and Button 1993; Greene and

Wegener 1997) of transport. Achievements so far and in the foreseeable future suggest that this might not be enough to tackle the resilience problem imposed by mobility dependence. So perhaps it is time to try to enlarge the range of possibilities by critically reflecting on the extent to which analytical approaches and solutions based on localism (or at least more aware of it) (Handy and Clifton 2001; Hines 2000), stillness (Bissell 2011; Bissell and Fuller 2013; Cresswell 2012) and slowness (Alfonzo 2005; Bergmann and Sager 2008; Hubbard and Lilley 2004; Pink 2008) might also help to solve the resilience problems we are being faced with. It might be worthwhile, stated otherwise, to also start exploring ways of achieving transport resilience which are not significantly dependent on “high mobility” – a term borrowed from Viry and Kaufmann (2015), which we will define here as long-distance, high-frequency and high-speed travelling mobility. This paper is a first attempt at this, and we hope it will trigger debate and become a source of inspiration among academics, policy-makers, stakeholders as well as the public. Many of the arguments presented have ramifications for freight but, for the purpose of maintaining focus, these will not be explored in depth.

The paper is structured as follows. The next section discusses resilience and its three key forms (resistance, adaptability and transformability). It then exposes the problem that contemporary mobility raises in terms of resilience: contemporary transport systems are vulnerable to disruptions, heavy financially, and environmentally unsustainable. Different strategies to increase resilience are then explored. Increasing localism, slowness and less frequent travel – “low mobility” – is the strategy that we propose here as the least studied and yet promising. This strategy is presented without activism: caution and critical analysis is needed. In order to understand better what localism has to offer but also what are the risks associated with it, we create a theoretical framework to distinguish it from *globalism*, *liquidity*, and *stagnancy*. In our view, localism would correspond to a transformation in society and in policy trends, and therefore we place it under the category of resilience as transformability. We finish the paper reinforcing the idea that, even though we believe in the relevance of localism as a concept, we do not favour academic activism supporting it at this stage. Before that, more research is needed to better understand its strengths and weaknesses and how to ethically move towards it.

2. Forms of resilience

The concept of resilience holds strong roots in ecology studies in general and in Holling’s (1973) paper in particular. The attraction it exerts on policy-makers is clear (Evans 2011). There are many definitions of resilience (MacKinnon and Derickson 2013) and this creates some confusion (Walker et al. 2004). There is, however, some agreement regarding accepting the concepts of “resistance”, “adaptability” and “transformability” as central in resilience thinking (Dovers and Handmer 1992).

Resilience as resistance refers to the capacity a system has to remain unaltered when faced by a threat. *Resilience as adaptability* refers to the capacity to deal with a threat by means of performing just small changes at the margins. This is the “capacity of a system to absorb disturbance and reorganise while undergoing change so as to still retain essentially the same function, structure, identity, and feedbacks” (2004, 5). These two definitions of resilience are conservative and prone to raise a number of issues regarding whose interests are being served by the maintenance of the status quo (MacKinnon and Derickson 2013; Wilkinson 2012). This is partially solved by the third formulation: *resilience as transformability*. Walker

and associates define this as “the capacity to create a fundamentally new system when ecological, economic, or social (including political) conditions make the existing system untenable” (2004, 5).

3. Mobility versus resilience

This paper proposes that more reflection should be dedicated to understand whether localism and low mobility can increase resilience. Our argument is that arrangements that allow people to move less and slower if they wish or need it should be considered because excessive dependence on high mobility cannot only be constraining and onerous (Bauman 2007; Honoré 2004; Kesselring 2008; Rosa 2015), but also difficult to maintain in a less resource-ample future or in special circumstances, such as in areas of economic recession (Vendemmia 2015; Viry, Ravalet, and Kaufmann 2015). This, however, might require considerable modifications in how places, organisations and economies are structured. Our understanding of resilience therefore falls under the category of resilience as transformability. For convenience, we shall use henceforth the term “localism” to denote the general idea of social and economic arrangements where people mainly travel at low speed (as when travelling by foot or when cycling) and across small distances (as when commuting just from one neighbourhood or village to another, or when consuming local produce and disposing of their waste locally).

The importance of the intersections between high mobility and low resilience levels must not be underestimated. Indeed, the challenges imposed by the *mobile risk society* (Kesselring 2008) are very meaningful as today individuals experience daily conditions where uncertainty is the norm. The airspace closure caused by the Eyjafjallajökull volcano ash cloud (Birtchnell and Büscher 2011; Guiver and Jain 2011), the crisis produced by the 2000 fuel protests in the UK (Lyons and Chatterjee 2002), and the global terrorist threat upon transport systems (Tahmisoglu and Özen 2009) are just a few among many examples of disruptive forces which support two alarming conclusions. First, mobility systems are vulnerable to a vast number of threats. Second, many of us are dependent on high mobility to conduct our lives, as perhaps most vividly shown in mobility disruptions such as the above (Marsden and Docherty 2013). The capability of being mobile has become a form of capital difficult to live without in many parts of the developed world: that idea has been captured by the concept of “motility” proposed by Kaufmann, Bergman, and Joye (2004) – to be explored later. This creates a paradoxical effect because today mobility has great potential to introduce friction in people’s lives, both when it must be *and* when it cannot be performed.

Aggravating the abovementioned problems is the fact that contemporary transport systems are environmentally unsustainable. In 2010, the transport sector was responsible for 22% of the global carbon emissions and almost 75% of these were produced by road transport (IEA 2012). These emissions are likely to increase the frequency and destructive power of extreme weather events (IPCC 2007). This has a spiralling effect because it leads to increased transport vulnerability. This provides an additional reason to agree with Banister et al., who argue that greenhouse gas emissions are “the most pressing environmental concern” related to transport (2011, 248). Yet another striking vulnerability dimension stems from transport dependency on fossil fuels and non-renewable energy. For example, North American suburbs have turned out to be quite vulnerable when in the last decade were confronted with unexpected increases in fuel prices (Bertolini 2012). The turnover of hypermarkets plummeted and the real estate value of remote houses dropped (see also Dodson

and Sipe 2008). Similar, or even worse, increases in the price of fuel cannot be excluded in the future. In summary, our mobility-dependent economies are facing a major challenge. Transport has a vast range of social impacts and interdependencies and some of these are undesirable and particularly complex (for a critical review see Jones and Lucas 2012).

We define resilience as a characteristic that makes both practices and objects sustainable (environmentally, socially, and/or economically) *and* trustworthy as they have the capacity to resist, to adapt, or to transform themselves in an appropriate and timely fashion when and where needed. They are not prone to “collapse” (Tainter 1988), which we will define here as a fast and radical decline in their social and technological order. Following these ideas, Tainter’s work (1988) is very useful to explain why localism might be a highly promising idea when thinking about resilience. Fundamentally, he warned against the perils associated with development pathways that continuously rely on increasing complexity to solve socio-technical problems. He argues that when complexity increases beyond a certain threshold, investing in more complex social, technical and governance devices leads to smaller marginal returns and to higher levels of vulnerability. Collapse of societies that develop by never-ending complexification becomes then, according to Tainter, a “mathematical likelihood, requiring little more than sufficient passage of time to make probable an insurmountable calamity” (Tainter 1988, 195). From this perspective, developing societal arrangements where people can rely more on simple transport means such as walking and cycling, instead of relying on complex transport means such as the car, high-speed trains and the plane, seems a very sensible measure to explore when thinking about resilience. However, our development pathways do not follow the simplification trend. Contrariwise, our transport systems are becoming increasingly more complex and based on more intricate socio-technical developments while we are becoming more dependent of them. As alerted by Morozov, “solutionism” is becoming a well-accepted logic in many fields (2014). It consists of, under the guise of “innovation”, implementing fast-paced technological advancements without a sound understanding of the nature of the problems or the full range of their consequences. There are reasons to believe that the solutionist logic is deeply installed in many branches of the transport sector professional community. The enthusiasm with driverless cars in policy-making, in entrepreneurial, and in academic circles is an example: the will to implement this “solution” appears much stronger than the will to thoroughly analyse its merits and drawbacks.

Solutionism generally, and solutionism in the transport sector in particular, are reasons for concern: in a worst-case scenario, mobility practices that are now commonplace might collapse due to excessive complexity and become impossible or at least very difficult to perform in the medium to the long term. We can imagine a hypothetical future where dependency on high mobility and increasingly more complex and therefore vulnerable mobility systems will lead to a gradual weakening of resilience levels and eventually to collapse.

This is, of course, just one possible future among others. However, it should also be accounted for. As argued by Goodwin and Van Dender (2013), in the face of uncertain futures, policy making needs to take into account a wide number of scenarios, (see also Næss and Strand 2012). This contrasts with a tendency in transport studies and policy to think about the future in very narrow terms (or to conceptualise it in terms of “specified resilience” as defined by Folke et al. 2010), for example, by means of determining what levels of carbon emissions the transport sector should be producing in a given time-horizon without

considering the wider environmental, social and economic characteristics of this future (Timms, Tight, and Watling 2014). The dominance of solutionism, technological optimism and positivist approaches is clear. Important epistemological contributions on why this might be the case were articulated by Schwanen, Banister, and Anable (2011) and Banister et al. (2011). This line of research suggests that future scenarios without mobility dependence cannot be ignored anymore. They also need to be “holistically” (Cresswell 2008) envisioned in their techno-social complexities. This is why, in the face of the challenges to transport- and mobility-related resilience, research on localism and low mobility is so relevant today alongside research on globalism and high mobility.

4. Some possible strategies to boost resilience levels

In terms of transport and mobility issues, several strategies can be and have been considered to increase the resilience of our societies. These strategies are not mutually exclusive, but should instead be seen as complementary. One strategy is to develop transport systems in a way that enables mobility to be maintained regardless of circumstances. This fits the concept of resilience as resistance. Examples of how to achieve this can be found in the Heathrow Airport Winter Resilience Enquiry (Begg et al. 2011) and in the Resilience of England’s Transport Systems in Winter (DfT 2010) (see as well Berdica 2002; Dalziel and Nicholson 2001; Du and Nicholson 1997). Efforts to develop “sustainable transport” constitute another major route embraced by research and policy up to the present (Banister 2006, 2008; Banister, Pucher, and Lee-Gosselin 2007; Greene and Wegener 1997; Hull 2008; Nijkamp 1994). It is characterised by the pursuit of technological solutions (as in the shift from fossil fuel powered to electricity powered vehicles) and alternative transportation modes (as in the shift from car travel towards public transport travel, walking and cycling). The issue is whether solutions along these lines can be implemented at a magnitude and speed capable of matching the problems at hand. The evidence on the ground is discouraging (Banister et al. 2011; Schwanen, Banister, and Anable 2011).

Another possible strategy to increase resilience is to invest in and rely upon virtual mobility. This strategy fits the logics of resilience as adaptation or as transformation. Provided that the technological means to maintain digital contact are maintained and are themselves resilient, this would be an attractive option for some. This would, however, require a de-coupling between the growth of virtual and physical mobility which, up to now, has not materialised. Schwanen and associates alert for the drawbacks of the conceptual dualism of physical versus electronic worlds (and therefore of considering mobility in one as a possible replacement for mobility in the other) when these two worlds are actually becoming more intertwined (2008). See as well the notion of *motile hybrids* proposed by Kesselring (2008): highly complex mobile assemblages of human beings, digital- and transport-technologies, skills, and social networks. Furthermore, when thinking about this option, the issue of cyber-insecurity should not be forgotten (see, for example, Choo 2011). In fact, excessive reliance on virtual means of communication constitutes a potential problem because it couples the need for resilience in both virtual *and* travel mobility.

Yet another strategy is to prepare our societies for scenarios where high mobility would no longer be so essential. This fully relates to resilience as transformation. In this strategy, the need for high mobility would be dissociated from access to critical events, places, formal and informal institutions, and personal contacts. The logic of globalism and high mobility

would be replaced by the logic of localism and low mobility, or proximity-based accessibility (Banister 1999; Handy 2002; Bertolini and le Clercq 2003; Ferreira and Batey 2007; Næss 2005, 2006a). This future would stand in opposition to other futures in which mobility plays a structuring societal role. In relation to this strategic orientation, some have analysed whether we could “plan more to travel less” (Banister 1999). This strategy, while at least (even though often skeptically) considered in a number of scientific enquiries, is all but missing in the policy domain and in the priorities of funding agencies. See, for example, the formulation of the societal challenge of achieving “smart, green and integrated transport” proposed by the European Commission.¹ The three calls for proposals within this societal challenge are on (a) mobility for growth; (b) green vehicles; and (c) small business and fast track innovation for transport. On the other hand, in some countries such as Sweden and particularly Norway, urban containment policies in order to reduce the need for motorised transport through denser urban development have been pursued during the last decades. For example, in Greater Oslo, the population density within the continuous urban area increased by 37% over the period 1985–2016 (Xue et al. 2017). However, at the same time, transport infrastructure construction aiming at “region enlargement” continue to be planned. In other European countries, including Finland, Denmark and others from Eastern Europe, urban densification has not replaced sprawl but rather takes place alongside outward urban expansion.

Perhaps this lack of attention to localism and low mobility is taking place because policies aimed at promoting them and decreasing mobility are not very well aligned with general trends, and therefore are not perceived as a priority. They might even be perceived as a menace to some established powers. However, it is possible that people’s capacity and willingness to change their mobility is being underestimated both in academic and policy-making circles (Forum Vies Mobiles 2016; Marsden and Docherty 2012).

5. The need for a strategic reorientation

Our proposal here is to follow the last strategic line of reasoning mentioned above: academics and policy-makers should reflect more on localism and on pathways leading to it. This line is at odds with the general acceptance that people need to be mobile, and that well-being requires mobility, particularly in the case of those living in cities (a growing majority). Mobility was accepted as an element of urbanity (Bertolini 2006; Rémy and Voyé 1992) and as something deeply shaping the urbanite’s mind (Simmel 1971). It has even become difficult to envision futures without mobility, as alerted by Hanson (2006). This status quo should be challenged so that the range of possibilities being explored by academics and policy-makers can be increased. Challenging this status quo is also needed because the potential advantages of localism for resilience might be substantial – this is our key contention. Finally, this is needed because individuals’ preferences, worldviews and attitudes related to transport are not always captured by the mobility patterns they perform (Anable 2005; Forum Vies Mobiles 2016). Therefore, facilitating mobility-oriented lifestyles might not be as popular and benign as it seems.

6. Localism without activism

An important point to be made here is that there are circumstances in which the principle of localism as resilience cannot be applied and we should be mindful of them. During natural

catastrophes, the ability to swiftly move is critical (Cresswell 2008). Mobility is also of primary importance for people searching for jobs in recessive economic areas (Vendemmia 2015; Viry and Kaufmann 2015). The images of refugees fleeing away from war zones necessarily come to mind when thinking about these matters. Even under favourable circumstances, some degree of mobility might still be essential for a fulfilling and enjoyable life. This is why a resilience strategy based on low mobility levels should be seen as complementary to other strategies based on sustainable transport and virtual mobility.

To conceptualise stillness as a form of capital is not common in transport planning and policy. These fields have a natural bias towards evaluating mobility as an intrinsically good thing. They dismiss, among other, the wisdom of Ehn and Löfgren (2010) and Diken (2011), who have explored the embodied and theoretical richness of low mobility. Bauman provides insights on the drawbacks of mobility in a sociological perspective (1995, 2005, 2007). Rosa argues that never-ending technological, social change and life-pace acceleration is contributing to the alienation of individuals from their surroundings, other people and themselves (2015). Honoré's work is a manifesto supporting slowness as a solution for many problems we are being faced with today (2004). Also crucial is the line of research that simultaneously explores high mobility *and* low mobility (e.g. Adey 2006; Andreotti, le Gales, and Fuentes 2012; Hannam, Sheller, and Urry 2006; Hubbard and Lilley 2004; Jensen 2009).

This body of literature supports the view that lacking knowledge about low mobility and localism is problematic. Such knowledge gap fails to provide policy-makers with ideas on how to design development models which are not oriented towards high mobility. Additionally to that, such knowledge gap creates a distorted view of what are the consequences and drivers of mobile societies. We, therefore, support a shift towards the study of localism and low mobility. This shift might represent a key difference on future policy-making trends. However, this does not mean that we support localism as a panacea. Instead, we propose a more balanced and holistic view on these matters where localism is given more attention.

7. Building a theoretical framework – preliminary comments

Key concepts within our theoretical framework are globalism, fluidity and stagnancy. These concepts will provide clarity regarding what localism as we understand it *is*, and what it *is not*. Precision is important as it will help explaining the strengths and benefits of localism, but also why we do not see it as a recipe. In order to do this, in the following sections, we will blend theoretical lineages that are dissimilar in ontological terms. This seems to us a useful and theoretically sound approach as our understanding is that these lineages are not antagonistic, but complementary. We therefore propose that both individuals (as proposed by Kaufmann and associates, 2004) and social practices (as proposed by Shove and associates, 2012) should be considered as equally valid units of analysis to be used in future studies on this topic. We consider this promising and valid in ontological terms because transport and mobility studies and geography are *interstitial* fields of research, that is, fields that have maximum benefit in blending multiple theoretical contributions (Abbott 2001; Ferreira, Marsden, and Te Brömmelstroet 2013). On this see also Næss (2015), Bhaskar (1998) and Sheller and Urry (2016).

A brief note on terminology is needed here. In this paper, we use the term “society” in a loose manner. The purpose of this is to make it a flexible concept so that the readers can

adapt it better to what matters to them (e.g. society at large, or perhaps just a given neighbourhood). Even though this might reduce methodological rigour, it will hopefully increase the relevance and scope of the proposed ideas. Therefore, when we use the term “society type”, we refer to a localist or a global, a liquid or a stagnant society without considering a specific geographical scale. The proposed definitions of mobility and immobility derive from this understanding and are also loosely defined. An individual is considered mobile when the borders of the adopted unit of analysis (e.g. the neighbourhood, the country) are crossed within the time-framing of the study being undertaken, whatever these borders or time-frames might be.

8. Theoretical framework

Kaufmann, Bergman, and Joye (2004) argued that the study of mobility as capital, or what they call “motility”, requires three elements: *access*, *competence* and *appropriation*. In our view, these elements can be considered as well when characterising either a local or global, a liquid or stagnant society. In other words, they are useful descriptors for all these four societal types and not just properties of one or some of them. We will explain these elements using the definitions proposed by Kaufmann, Bergman, and Joye (2004) after adapting them to the context of this paper. *Access* refers to the extent to which individuals can reach resources, social contacts, activities, and formal and informal institutions. This is a function of the individuals’ personal attributes and the options and restrictions set up by the context and structures within which they operate. *Access* also refers to the extent to which individuals have to travel or can find in their close proximity what they value or need. *Competence* is about individuals’ capacity to perform activities which require some form of know-how. Competence includes a variety of possible abilities, e.g. physical, technical, financial, interpersonal and organizational. Individuals’ competences are largely determined by, but also determine, their access and appropriation possibilities. As an example, in a very mobile society, individuals typically demonstrate good skills in making travelling arrangements and navigating in unfamiliar environments. *Appropriation* refers to how individuals interpret and act upon what they have access to and the competences they can apply or develop. This is rooted on individuals’ values and beliefs and linked to the extent to which people feel a part of the structures and places within which they operate. It helps to explain the willingness that some individuals have to change the structures in place and try to forge new ones, or to move to a different geographical area.

The analytical elements provided by Kaufmann and associates are partially overlapped by those provided by Shove, Pantzar, and Watson (2012): *materials*, *competences* and *meanings*. Meanings match quite well appropriation, competences perfectly match. *Access* is a key aspect for Shove, Pantzar, and Watson (2012), even though they do not present it as an “analytical element”. *Materials* constitute the analytical element that is less shared among these authors. Nevertheless, we are supportive of its inclusion in our framework. Shove, Pantzar, and Watson (2012) define it as “things, technologies, tangible physical entities, and the stuff of which objects are made”. They refer to three critical aspects in the present framework. First, they can be objects that might incorporate more or less transport in their production, delivery and consumption (as in far-away versus locally produced and consumed appliances or food). Second, they can be means of access (as are cars and planes). In this context, it is important to stretch this analytical category and include in it spatial and

morphological urban structures (e.g. buildings, streets) and facilities (e.g. airports, supermarkets, backyard allotments). To do this is necessary for an in-depth understanding of the conditions conducive to, or counteracting, low mobility lifestyles (see, for example, Köhler et al. 2009; Moriarty and Honnery 2008; Næss 2016).

9. Globalism and localism, liquidity and stagnancy

Considering the four analytical elements presented (access, competences, appropriation-meanings and materials), we are now prepared to characterise the four societal types. A *global* society would be characterised by vast numbers of transport-maintained arrangements among people and institutions. This would illustrate the notion of access. Competences would be easy to transfer and apply in a variety of places and environments; the sense of appropriation and meaning would be vast in geographical scope. Individuals would experience a perception of belonging to a large number of places and therefore high mobility would dominate. *Localism* is the direct opposite of the above. In a local society, access would be provided by proximity-maintained in opposition to transport-maintained arrangements – see Ferreira and Batey (2007); competences would be oriented towards engagement with local practices and economic activities; and the sense of appropriation-meaning would be related to a small territory. High mobility would play a marginal role. Conversely, low mobility would be central. In a well-functioning local society, people would experience a positive sense of belonging to their surroundings and would enjoy the experience of stillness within a relatively small geographical area. Strong social linkages between neighbouring people are to be expected as well. Materials would to a much larger extent be produced, used and disposed of at a local level, and in the case of means of access, be geared at enabling contact by proximity rather than far-away transport. For further insights see Hines (2000).

Note again that we are not aiming at selling localism as a panacea for a variety of social and environmental problems; this paper is not a manifesto. There are risks associated with localism and we want to expose them. A useful way to capture this is to observe that a localist society can degenerate into a *stagnant* society. A stagnant society is one where mobility is a rare, but highly needed and desired, form of capital. In a stagnant society, not enjoying mobility translates into an impoverished, claustrophobic, abusive and insecure life. A stressful or even dangerous life might be experienced because one cannot escape from spaces where personal tensions, war, deprivation, disease and catastrophes have surfaced – Aleppo is a dramatic contemporary example of this; “mobility as stress regulation” (Sager 2008) is a lost option. A stagnant society might be one where individuals coming from other geographical areas are not welcomed. Discrimination based on geographical origins, xenophobia and other forms of social exclusion might be present. Parochialism, nationalism and insularity might constitute additional problems to be faced by the inhabitants of (and more visibly by the visitors, refugees and immigrants entering) stagnant societies. Much of the burgeoning literature on transport and social exclusion (e.g. Jones and Lucas 2012) focuses on instances that can be characterised as stagnant: forced immobility in a society where mobility is a requirement for full-fledged participation. There is then a natural tension between localism and stagnancy and perhaps a constant effort is needed to prevent the former from degenerating towards the latter.

Stagnancy is not the single trap associated with development models concerned with mobility and stillness. The iconic ideas formulated by Bauman (1995, 2005, 2007) inevitably

lead one to consider as well the symmetric concept: *liquidity*. Under its rule, mobility is necessary; however, this is not valued positively by the individual having to maintain constant movement to survive. In a liquid society, stability is a rare privilege. Permanent movement and never-ending change constitute unwelcomed impositions upon the person living in constant concern of failing to be fast enough and fall behind. Sennett (1998), Crawford (2011), and Rosa (2015) provided accounts supporting Bauman's viewpoints.

Table 1 summarises the differences between the four types of society in terms of access, competence, appropriation-meaning and materials. The text provided should be seen as merely indicative of the nature of the debates that can be addressed in relation to each type. For further clarification, these four types of society described in Table 1 are visually represented in Figure 1 according to the preferred value given to high and low mobility; and to the extent to which high and low mobility dominate or not.

Before moving to the next section, a last clarification is needed. Even though both Figure 1 and Table 1 represent the four concepts in a compartmentalised fashion, there are many intermediate possibilities. For example, Andreotti, le Gales, and Fuentes (2012) show that individuals can in some circumstances manage to simultaneously use the benefits of high mobility *and* of stillness. To adopt the compartmentalised approach is useful though to better distinguish concepts.

Table 1. Possible characterisations of localism and globalism, liquidity and stagnancy.

Analytical element	Type of society			
	GLOBAL Mobility as available capital	LIQUID Proximity as unavailable capital	LOCAL Proximity as available capital	STAGNANT Mobility as unavailable capital
Access	Access to valued people and resources is mainly achieved by means of travelling	The value of local people and resources decreases because of travelling, as it is easy to replace nearby contacts and resources by distant ones	Individuals have in their close proximity a sufficient number of valued people and resources to meet their needs and aspirations up to high levels of satisfaction	Individuals operate within imposed and confined geographical areas without proper access to critical resources, social contacts, and institutions
Competence	Place-specific skills lose competitive edge over geographically transferrable skills	Place-specific skills are lost while transferrable skills become ordinary and poorly valued	Individuals master the best skills to thrive in the environment where they are and it is easy to develop new skills there	The skills which individuals have are not useful in the environment where they operate; learning new skills is difficult
Appropriation and meaning	Individuals feel connected to a variety of contacts, resources and places covering a wide, and largely place-independent network	The performance of individuals is associated with their adaptability and to their capacity to access novel and more distant resources and people	Individuals feel rooted to their area and geographical landscape; they are deeply connected to local people, social practices, and institutions	Individuals feel that they belong "elsewhere" and that this place is not reachable. Local practices and symbols are perceived negatively or convey no meaning
Materials	Transport systems are important for the use and disposal of many materials; cars, lorries, planes, high-speed trains and container ships are the preferred means of transportation	Transport systems are absolutely needed for the use and disposal of critical materials; cars, lorries, planes, high-speed trains and container ships are indispensable means of transportation	Use and disposal of materials is primarily based on local supplies and arrangements; bikes, cargo-bikes and pedestrian pathways are highly valued, as is public space. Local environment and resources are well managed	Needed materials become scarce because they are not available locally and the necessary transport means are unavailable

Figure 1. Graphical representation of localism and globalism, liquidity and stagnancy.

10. Introducing new concepts: immotility and reversible immobility

This paper is aimed at qualifying localism and low mobility as fundamental concepts for resilience thinking, and gives them equal analytical status to globalism and high mobility. Key to our reasoning is that we should stop – as we often explicitly or implicitly do – conceptualising low mobility as a negative condition and high mobility as a positive one. We should rather espouse Freudendal-Pedersen and associate’s (2016) balanced view on mobilities, where both their positive *and* problematic aspects and consequences are acknowledged.

In order to allow this more comprehensive and open framing, we would like to propose a new term: *immotility*. Drawing a parallel to Kaufmann’s term “motility” (mobility as social capital), we propose “immotility” to mean stillness as social capital. The presence of immotility is what distinguishes localism from stagnancy: when immotility is lost, localism becomes stagnancy. It is important to reinforce the importance of this distinction as too often localism is equated to stagnancy, which one can understand as the negative side of stillness. This equation is not necessarily valid as it dismisses the possibility of localism, which one can understand as the positive side of stillness.

In relation to this debate, it is important to mention yet another concept proposed by Kaufmann (2002): that of *reversible mobility*. Even though the ramifications of this complex term are still being debated (Vendemmia 2015), it can be defined as mobility that allows the individual to be on the move without being forced to perform identity changes. *Irreversible mobility* happens when one is forced to change residence and leave behind important ties in search for a new job or a better life, as happens to labour migrants. This is a changing moment likely to have permanent consequences in one’s life, therefore its irreversibility. Analogously, *reversible immobility* would allow an individual to stay put while being true to her identity, and *irreversible immobility* where one is impeded to move, at the expense of quality of life. With reference to our characterisation in Table 1 and Figure 1, reversible mobility characterises global societies, irreversible mobility liquid societies, reversible immobility local societies, and irreversible immobility stagnant societies. Moving from this framework, context-specific explorations may help us to understand the implications of both different

“motility typologies” (e.g. daily long-distance commuters versus migrants) (Viry and Kaufmann 2015; Viry and Vincent-Geslin 2015; Witter 2012) and immotility typologies (yet to map). Indeed, different territories, economic and cultural characteristics will favour some typologies over others and a clearer understanding of their resilience levels to given threats will be most needed if this policy agenda is to succeed.

11. Conclusion and future research directions

In a critical but constructive tone, we have claimed in this paper that transport researchers are too exclusively focusing their attention on mobility and on making transport systems resistant to threats and disruptions. This, we argue, is quite limiting as it restricts progress to beaten tracks, while it perpetuates existing problems related to transport unsustainability and excessive costs. It weakens the complementary authority of low mobility and localism to inspire policy-makers attempting to envision resilient development models, and it reduces people’s opportunities to live and work close-by. As a result, efforts end up being concentrated in making highly complex mobility systems become resistant to disruptions. This is often done by means of increasing their complexity even further. This is not only costly, but can also be environmentally harmful and problematic in resilience terms. Such approach might eventually lead transport systems beyond an excessive complexity threshold, the point in which the intricacy of these systems becomes a threat to their own resilience and collapse occurs. It is therefore crucial to seriously think about alternatives without mobility-dependence so that we have them ready to increase the resilience of our societies to uncertain and challenging futures.

However, localism can easily become stagnancy in the same way that globalism can become liquidity. Caution is then needed. Following Shove and Walker’s (2007) wise advice, we should be careful about engaging with an activist approach towards localism. There are important issues here related with legitimacy and authority to do so. In order to enable an open policy and research agenda, we proposed to consider next to the notion of mobility as capital, or “motility”, the notion of immobility as capital, or “immotility”, and to parallel the study of “motility typologies” with that of “immotility typologies”. As for the latter, key questions for future research are: What immotile typologies exist or can be envisioned for both individuals and societies (societies being loosely understood as neighbourhoods, cities or even groups of countries)? How do different immotile typologies perform when confronted with given resilience threats? What legitimacy is there to promote some over others? How should this be performed? Which ethical issues do these processes raise?

Note

1. Follow link: <http://ec.europa.eu/programmes/horizon2020/en/h2020-section/smart-green-and-integrated-transport>

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