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## Identifying, nurturing and empowering alternative mobility narratives

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### ABSTRACT

Our mainstream mobility thinking is narrowly framed: it highlights the role of mobility in economic and urban growth, individual speed and system efficiency, but obscures its role in reproducing inequalities, and in driving unsustainable developments on a global scale. Critically, however, this narrative obscures our view on the increasingly problematic societal and environmental ‘externalities’ of mobility, such as its significant contribution to climate change, air pollution, social exclusion, deaths and injuries, public health issues and landscape degradation. With such high stakes for our common mobility futures, how can we identify seeds of emerging alternatives, nurture and amplify their potential impact and empower emerging alternative futures?

### 1. Introduction

Current mobility patterns are rapidly depleting individuals, cities, global resources and the environment – a situation requiring rapid and transformative change (McBain et al., 2021; Urry, 2008). To achieve such change, the wide-ranging negative impacts of mobility need to be fully acknowledged and swiftly addressed according to the principles of global and European policies, such as the Sustainable Development Goals, the COP26 pledges, the European Green Deal and the European Road Safety Charter. Despite the clear and urgent need to fundamentally change mobility patterns, infrastructures and technologies – as well as the institutions of policy, planning and innovation that shape them – little change is being achieved beyond cosmetic adjustments and so-called ‘smart’ techno-fixes informed by crude modernistic claims (see, for example, Ferreira et al., 2020; Qviström, 2015; Reigner & Brenac, 2019; van Oers et al., 2020).

The achievement of the much needed radical transformation of mobility systems presupposes a profound reimagining of the societal futures collectively accepted as desirable. Indeed, diverse and pluralistic imaginaries are needed so that the soaring dominance of smart futures is challenged (Bina et al., 2020; Couldry & Mejias, 2018; Ferreira et al., 2022). Breaking out of the current mobility systems requires, therefore, developing public awareness of the lock-in that confines both the phys-

ical world and human imagination inside a restricted space of possibilities. Such an awareness-building process entails recognizing the extent to which individuals became trapped in terms of the kind of future technologies they are capable of envisioning. It also entails recognizing the kind of values, worldviews and beliefs they are able to summon and adopt in their imaginings. Thus, if mobility systems are to be radically changed in the name of sustainability, we first and foremost need to challenge the way we think and talk about the world in general, and mobility in particular.

Mobility language, both technical and popular, is formed by a collection of stories, semantic rules and jargon used to describe and enact what mobility *is* and *what it is for* by individuals as professionals and or as travellers. This language is, by definition, a necessary representational simplification that allows individuals and organizations to approach complex phenomena, to share collective ideas about them, and to govern them (see Lakoff & Johnson, 1980; Morgan, 2006; Scott, 1998). Since it is a simplification, it is inherently limited, and the choices that are made in this simplification are often arbitrary. However, as we further discuss below, these choices lead to results that both mirror and perpetuate the simplifications made beforehand.

Thus, contemporary mobility language focusses our attention while limiting their imagination, which is both a wider characteristic of organizational decision-making, and a particular characteristic of mobility-

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related institutions (Bevir, 2011; Olin & Mladenović, 2022; Rindova & Martins, 2022; Ruhrt, 2022). The underlying choices that shape this language hold great power over individual thinking and organizational decision-making, that is to say, they hold power over which problems are identified and which are not, which solutions are invented and which are not. To unpack this framing process we use the concept of narratives, defined within research on socio-technical transitions as ‘simple stories that describe a problem, lay out its consequences and suggest (simple) solutions’ (Hermwille, 2016, p. 238). As we will discuss, a transition towards a mobility system that is radically different from the current one presupposes a move away from the currently dominant, strongly solidified and taken-for-granted narrative of ‘mobility as disutility’ (Ortúzar & Willumsen, 2011).

We agree with Holden et al. (2020) that mobility narratives should be ‘understandable, attractive, motivational and possible, so [people] can believe in them and subsequently support them’ (ibid., p. 1). However, we do not think that academics should aspire to develop on their own new mobility narratives and then ‘convince all agents to believe in them’ (ibid., p. 8). Transitions are societal, systemic and long-term processes; therefore, they ethically and politically require participatory and democratic processes of deliberation rather than the top-down imposed perspectives of societal elites. With this synthesis article we aim to position the importance of a collective search for new narratives, and we explore ways to do this by asking three interrelated questions:

- 1 How can the conceptual understanding of the relationship between mobility futures and narratives be enriched?
- 2 How can alternative mobility narratives be actively developed, refined and nurtured?
- 3 How can alternative mobility narratives be empowered?

Reflecting on the current practices of envisioning mobility futures and thus establishing a baseline claim, we first elaborate on why it is crucial to engage with ‘deep leverage points’ (Meadows, 1999) if fundamental changes in urban mobility systems are to be achieved (Section 2). Then, in order to answer the first research question, we elaborate on the relationships between narratives, thinking and language (section 3), as well as their powerful roles in the process of promoting fundamental changes in mobility systems (Section 4). In order to answer to research questions two and three, in Sections 5 to 7, we present a processual framework that consists of (1) identifying potential seeds for emerging narratives, (2) nurturing the promising alternatives in order to amplify their potential impact and (3) empowering a wider set of actors beyond technical experts, and especially citizens. We close the article by summarizing our argument as a whole and charting directions for future research involving collaboration across both transport planning practice and academic networks. Note that this article is not intended to provide a systematic literature review on all the relevant topics, but rather to present a well-reasoned and theoretically-informed position statement which offers entry points.

## 2. Why engagement with deep leverage points is needed for the achievement of fundamental change

Sustainability transitions are extraordinarily complex, future-oriented, abstract yet global processes (Geels, 2010). They are also associated with a variety of risks and ethical concerns to take into consideration (Shove & Walker, 2007). Similarly, mobility is so intertwined with fundamental human rights and the functioning of human societies that any initiative aimed at either increasing or reducing it inevitably leads to both positive and negative effects. The resulting ‘mobility dilemmas’ (Bertolini, 2017) make the promotion of sustainability transitions in the transport sector an intrinsically complex decision area for both policymakers and citizens. In terms of the multi-level perspective, a theoretical approach dominating a variety of debates on sustainability transitions, this complexity translates into dynamics on three analytical

levels: landscape, regime and niche levels (Geels, 2005; 2010). The importance of narratives in these dynamics is already acknowledged in the literature on socio-technical transitions: ‘landscape shocks will only create enduring pressure on socio-technical regimes if discursively prominent narratives become available that allow to translate the landscape shock into the socio-political environment of the respective regimes’ (Hermwille, 2016, p. 240). In addition, the availability and use of alternative narratives that can enrich, challenge or replace ‘a prominent narrative’ can be a powerful tool for niche innovators to enter and reshape the regime level. In order to co-create and propose such alternatives we turn to work that deals with systemic transformations.

Meadows (1999), a prominent late scholar known for founding, together with others, systems dynamics modelling in the 1970s, offered a useful conceptualisation with which to further understand the dynamics of transformative change in complex systems (Fig. 1). She identified twelve leverage points with which to transform systems wherein the power to induce transformative change increases from the top (shallow leverage points) to the bottom (deep leverage points). However, the difficulty in mobilising leverage points also increases from the top to the bottom. Because of this, research and policies tend to focus on the shallower leverage points (i.e. feedback loops and parameters), which often fail to achieve the expected transformative change.

Meadows’ conceptualisation offers a unique generic perspective that has four distinctive advantages for the present article concerned with inducing a transformative change in the transport sector (for further insights see Fischer & Riechers, 2019). First, the conceptualisation bridges the causal and normative dynamics of transformative change. Second, the conceptualisation explicitly acknowledges and enables the identification of leverage points with both low potency and high potency in relation to creating change. Third, it considers the dynamic interactions between leverage points with different potency levels as these points are interconnected through feedback mechanisms. And fourth, the conceptualisation acts as a methodological boundary object across different academic disciplines, and between academics and other stakeholders.

When intervening in mobility systems, policymakers often try to target its key parameters through instruments such as subsidies or taxes (level 12 in Fig. 1). Examples are subsidising electric cars in order to support a shift away from fossil-fuelled mobility (e.g. DG TREN’s Green Car Initiative in the EU) and the ongoing discussions about introducing road pricing to fill the future revenue gap of decreasing fuel taxes. Other, more ambitious, interventions try to influence the material stocks and flows (level 10), for instance, by constructing new infrastructures that would enable different mobility patterns, such as the European investments in rail networks that intend to make sustainable European trade easier (see Brömmelstroet & Nowak, 2008). A current area of focus – for instance, in the EIT Urban Mobility programme – is the focus on ‘solving the mobility challenges facing our cities’ by facilitating and accelerating technological mobility innovations, which arguably targets deeper leverage points related to design (levels 6, 5, 4).

Such relatively shallow interventions will most likely not lead to transformative changes: ‘the complex and systemic nature of mobility patterns means that linear interventions which launch single instruments for insulated problems often are either ineffective or produce problematic unintended effects’ (Berger et al., 2014, p. 303). The history of mobility planning offers multiple examples of this, such as adding road capacity to reduce congestion which instead leads, in the long run, to the same levels of congestion being experienced by a larger number of users (see, e.g. (Cervero et al., 2006)); building park-and-ride facilities to reduce car travel which instead leads to more car trips (Mingardo, 2013); or straightening roads to reduce road danger which instead leads to riskier driving behaviour (Noland, 2003).

In summary, and as Abson et al. (2017) has underlined, focusing on shallow leverage points is not the answer. They called for a focus on the deep leverage points (i.e., those that deal with the design and intent of systems), thus increasing the pace of the systemic transformations required to achieve sustainable futures. Focusing on the deep leverage

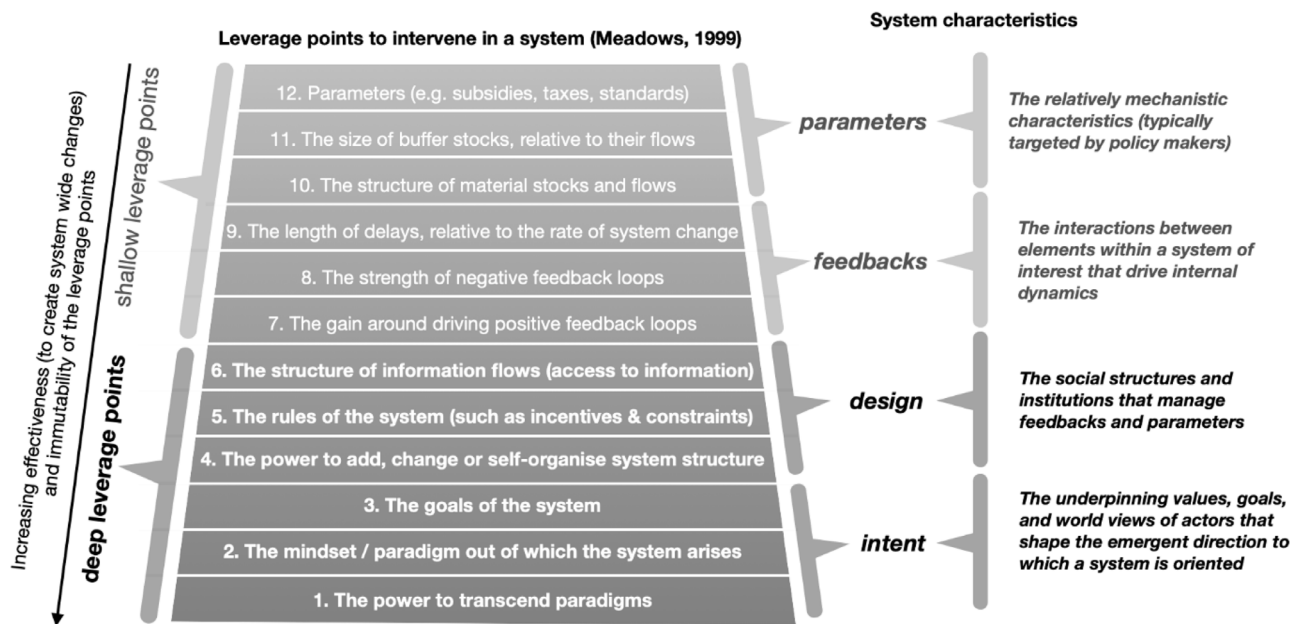


Fig. 1. Deep leverage points which can be used to intervene in a system (schematic adapted from that of Abson et al., 2017, p. 33).

points is required to create new metaphors and mental models, and to enable fundamental transformations in systems that are not achievable through a sole focus on shallow leverage points (Davelaar, 2021). Only through interventions at the deep leverage points can societies achieve transformational changes such as those called for in the mobility system (Mangnus et al., 2021; Miller, 2007).

In order to further operationalise the approach in order to influence deep leverage points, we turn to the concept of narrative, which helps connect language and thinking with the power to act.

### 3. How a narrative can help towards transformational change

In terms of everyday mobility practices, narratives relate to shifting experiences and identities, and are central to individuals' capacity to symbolise experience to themselves and others (Roberts and Roberts, 2019). Due to the everydayness of narratives, at first thought, the concept of narrative might be taken lightly. In fact, the narrative form is one of the most frequently occurring and ubiquitous forms of discourse (as argued, for instance, by Cortazzi, 1994). Similarly, in her seminal work on narrative analysis, Riessman (1993) observed that the popularity of the concept of narrative amongst politicians, marketers and news anchors has resulted in it now being used in ambiguous and unspecific ways.

Here, we define a narrative as a story that provides consequential links between events or ideas and imposes meaningful patterns on what would otherwise be random and disconnected (based on the work of Riessman, 1993, p. 5). Narratives often intertwine a web of human and other-than-human actants, situated in particular places, involving various actions and affects over time. As such, they require a sophisticated understanding of the dynamics of events and the ideas within them while acknowledging their layered complexity (Inayatullah, 1998).

The power of collective narratives lies in the fact that they usually have a 'robust life beyond the individual [and are constructed by] groups, communities, nations, governments and organizations' (Riessman, 1993, pp. 5–6). We can turn to the events of the twentieth century to understand how narratives about mobility build path-dependence over time. It is in fact in the early twentieth century that the currently dominant mobility narrative emerged together with the mass introduction of car traffic in urban areas (Norton, 2011; Prytherch, 2018). Similar to lessons from the social construction of tech-

nology (see, e.g. Klein & Kleinman, 2002), historical analysis describes how the resulting pressure on the streets in the 1920s created a period of 'rhetorical flexibility' in which both the mobility desires of citizens and supply by industry and government played intricate roles.

While the wide social understanding of *the street* was relatively stable for millennia (as a space in which to play, trade, meet and travel), the new technology of the automobile was incompatible with it. This resulted in strong competition between two narratives: that of streets as places and that of streets as channels for vehicular throughput (Norton, 2011, p. 2). Following the period of rhetorical flexibility, in many places taking around a decade, a coalition of powerful politicians, industries and engineers achieved 'rhetorical closure'. Thus, the rhetorical flexibility collapsed due to the perception that the problem was solved or satisfactorily redefined. During the relatively short period of rhetorical flexibility, mobility was heavily debated throughout society from a variety of 'first-principle' perspectives: Is mobility a matter of justice? Order? Efficiency? Individual freedom? Closure was reached when the above-mentioned coalition managed to impose a dominant mainstream mobility narrative where concepts such as freedom and efficiency became utterly central (Te Brömmelstroet, 2020; Norton, 2011; Prytherch, 2018).

The power of narratives lies in the fact that they do not simply serve to describe entities or events. Narratives also shape perception and the nature of actions undertaken by individuals and organizations (Fischer & Forester, 1993). After the period of rhetorical flexibility and closure in the 1930s, the mainstream narrative solidified into traffic laws and rules, into design guidelines and handbooks, into institutions and models, and into asphalt, concrete and steel (Prytherch, 2018). Finally, all these development served to solidify the mainstream understanding and imaginaries of future mobilities (Mladenović, 2019; Mladenović et al., 2020; Te Brömmelstroet, 2020; Nikolaeva et al., 2019b; Pangbourne et al., 2020). These material and rhetorical solidifications form a reinforcing feedback loop that results in strong path-dependency.

According to Gössling and Cohen (2014), this path-dependency of thinking and acting is a prime reason for the lack of transformative change in mobility: 'belief systems comprising elements of technological innovation, (limited) market-based measures, and (voluntary) behavioural change, ultimately result in "path dependency" and social lock-in, i.e. a situation where (in)actions of the past condition future outcomes' (p. 198). Illich (1974) already warned about how this process of

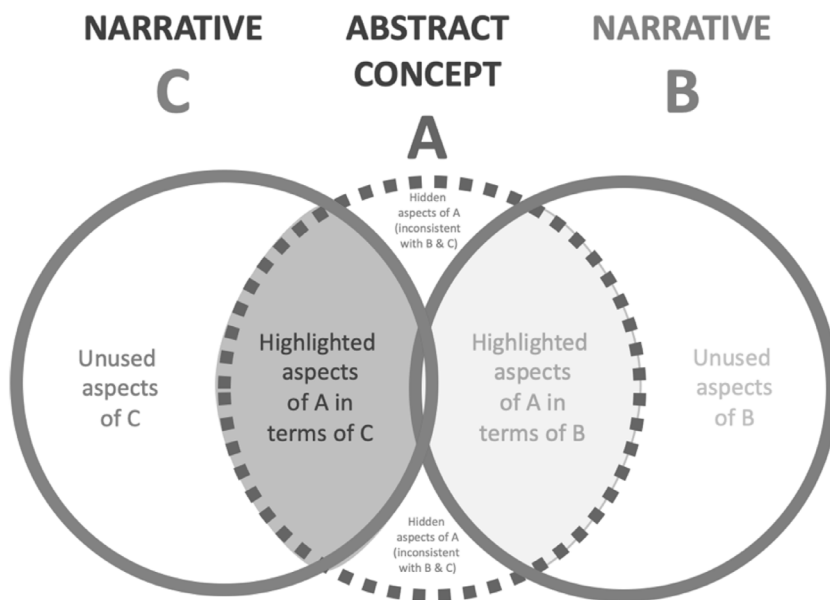


Fig. 2. How narratives create distortions by highlighting and obscuring (based on the work of Te Brömmelstroet, 2020; Morgan, 2006).

solidification around car-based mobility leads to a ‘radical monopoly’: a system state that is so locked-in that ‘it has frozen not only the shape of the physical world but also the range of behaviour and of imagination’ (p. 66).

#### 4. A Framework for developing alternative narratives

##### 4.1. What could alternative narratives do?

Paraphrasing Morgan (2006, p. 5), the question becomes how policy-makers, technical experts, academics and communities can become *skilled in the art of developing and using alternative narratives, finding fresh ways of seeing, understanding and shaping the issues to be organised and managed*. This must not be done as a one-off exercise but as a continuous and iterative process. Here, we have to face the paradox of narratives; it is hard to reflect on them because they are simultaneously essential, ubiquitous and unnoticeable. A narrative is a *necessary* simplification of reality: individuals and organizations need such simplification to be able exchange thoughts and communicate with each other. In this process of simplification, choices have to be made (see examples of how this works in relation to metaphors in the work of Lakoff & Johnson, 1980; Morgan, 2006). The inherently arbitrary choices that are made in the development of a narrative become highly performative; especially once the narrative is no longer questioned and becomes taken-for-granted.

Narratives shape human thinking because they necessarily highlight certain characteristics of a complex phenomenon that fit with the narrative while obscuring others (see Fig. 3). For instance, the phrase ‘time is money’ helps individuals to see the construct of time as a tradeable commodity. However, it obscures the fact that time cannot be accumulated, as happens to money (Goodin, 2010). Crucially, here, the choices that underlie a narrative guide human actions: narratives do not only describe, but also create realities (Lakoff & Johnson, 1980). As Meadows (2008, p. 174) stated: ‘The language of an organization is not an objective means to describe the reality – it determines what her members observe and which actions they take.’ An important notion that can be observed in Fig. 2 is that each narrative – by definition – only offers a *partial* understanding of an abstract concept. Although some can be better in terms of how much they can describe, the key to developing a better understanding is the ability to use *different* narratives, a craft that Miller (2007) called ‘futures literacy’.

As such, a dominant mobility narrative becomes a guide for the actions of all relevant agents – which can differ substantially based on the

context, ranging from public administration, industry, civil sector and academia. These actions, in turn, reinforce the power of the narrative to make experiences coherent: the narrative becomes then a self-fulfilling prophecy. If in the efficiency narrative, *mobility* is described in terms of *disutility* (the aggregate cost of going from A to B, expressed through a measure that compounds the monetary expenses, time and discomfort required to perform the trip), transportation models and standardised cost–benefit analyses will solidify this notion by indicating that *reducing travel time* is a positive outcome (Ferreira et al., 2012). In practice, this means that plans and projects that intend to speed up traffic by default tend to trump plans for slower and safer streets. Congestion, or travel time loss, becomes the taken-for-granted key problem to be solved for agents in mobility planning (Marohn, 2021).

An alternative narrative can then help us to make visible what is obscured in the prominent one. To identify its potential to do so, Van Twist (2018, pp. 194–195) defined the power of an alternative narrative through its ability to:

- 1 Linger
- 2 Automatically invoke agreement
- 3 Start chains of thought
- 4 Seduce the opponent to step into the alternative narrative
- 5 Link to an undercurrent that has been pushed into silence
- 6 Rescue decision-makers from dilemmas (i.e. it covers more of the abstract concept in Fig. 2)
- 7 Create free air-time; due to the ability to inspire conversations or discussions, the frame gets ingrained and is harder to dismiss
- 8 Activate underlying values
- 9 Lead to a reversal of the burden of proof
- 10 Resist deconstruction
- 11 Force those who disagree with it to engage in offensive practices against the narrative.

##### 4.2. How can alternative narratives be developed?

Critical futures epistemology (Ahlqvist & Rhisiart, 2015) offers a useful processual framework for activating and acting upon the deep leverage points explained above, although we recognize that similar ideas exist across urban studies and planning theory literature too. This framework consists of three horizontal and three vertical components with which narratives take on a processual meaning as *re-narrating futures*. The horizontal aspects include (1) providing seeds for alternative nar-

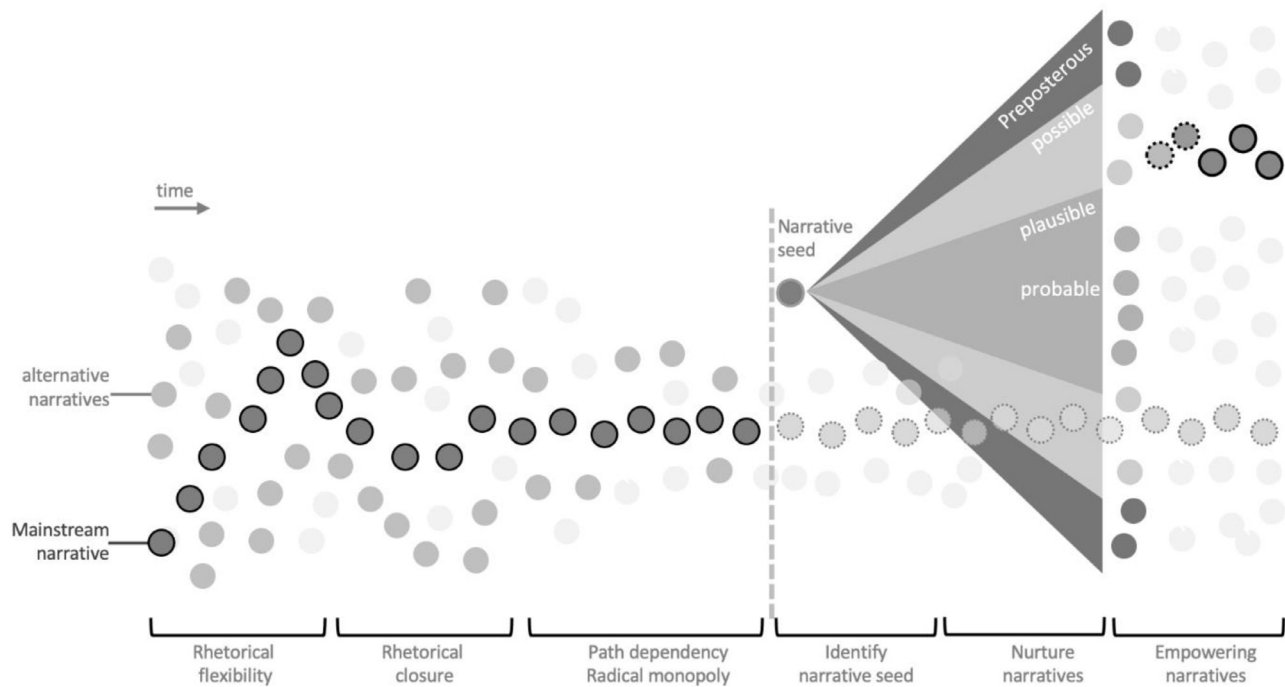


Fig. 3. The process of identifying, nurturing and empowering alternative-mobility narratives (based on the work of Sustar et al., 2020).

ratives by problematising the assumptions underlying the images of futures collectively held in the present; (2) scrutinising the concept of a desirable future through nurturing the promising alternatives; and (3) redefining roles and power across a wider set of actors in society. From a process perspective, the practice of re-narrating is dynamic, exists in a particular moment and place, is both distributed and collective, and is also mediated and contested (Davoudi, 2015).

In contrast, the first vertical aspect refers to *expanding the system boundary*. As Meadows (2008) stated: ‘There is no single, legitimate boundary to draw around a system. We have to invent boundaries for clarity and sanity; and boundaries can produce problems when we forget that we’ve artificially created them’ (p. 97). Therefore, we cannot solely focus on technological systems and not acknowledge interdependence on the wider environmental system, institutions, behaviour, norms, meanings and values. Moreover, the second vertical aspect refers to a *higher focus on imagination*. Here, our premise is that the exercise of imagination is a mental state, different from the belief that it is associated with a certain probability of events happening in the future (Kind, 2016; Oomen et al., 2021). This helps to think about futures that are probable, plausible, possible and preposterous (see the futures cone presented by Dunne & Raby, 2013). Similar to belief, imagination is a representational state that has intentionality (i.e. it is both about and directed at some object or state of affairs). Thus, imaginings have intentional content, but do not have to be true as one can intentionally imagine what could commonly be assumed as false. Without the constitutive connection to truth, imagining becomes a speculative, and often liberating, mental state (Pelzer and Versteeg, 2019; Hajer & Versteeg, 2019). As an essentially constructive but also speculative exercise, the act of using imagination involves a capacity to combine ideas in an unexpected and unconventional manner (Van Leeuwen, 2013). Finally, it is relevant to acknowledge that knowing and feeling are closely interrelated (Westin, 2016). Thus, the last vertical component relates to having higher empathy for participants in a planning process, for example in terms of developing genuine willingness to understand others’ long-term struggles and experiences, both in the past and in the future.

Based on the above, the re-narration process has three distinct phases: identify narrative seeds, nurture them into full narratives and

empower them as alternatives (see Fig. 3). Below we will go into each of those steps in detail, in separate sections.

## 5. Identify promising narrative seeds

In order to provide an example of some promising narrative seeds, this section briefly describes and reflects upon four possible candidates. They are all developed in relation to the current prominent mobility narrative. The non-inclusive, autocratic, technocentric and uncritical characteristics of the mainstream mobility narrative highlight the role of mobility in economic and urban growth, individual speed and system efficiency, but obscures its role in reproducing inequalities and driving unsustainable developments on a global scale (for more critical analysis of the dominant narrative and its underlying assumptions, see, e.g. Bonham, 2006; Harvey, 2012; Merriman, 2009; Metz, 2008; von Schönfeld & Ferreira, 2022). According to this narrative, individuals should be given the freedom to use their preferred mode of transport (e.g. the private car, which was presented as a technology of personal empowerment) in the most efficient transport network possible. On a collective level, mobility is presented as a derived demand – a mere means that allows people to do activities that are scattered across space (Banister, 2008). In economic terms, mobility is conceptualised as a *disutility*, a negative variable in the individualistic mind of the rational, egoistic, and utility-maximising Homo economicus (Ortúzar & Willumsen, 2011). These features lead to the understanding that reducing travel time is the ultimate policy goal, resulting in a focus on *ever-faster mobility* (‘travel time savings’) and an efficiently functioning infrastructure to *avoid delays* (which are seen as ‘travel time losses’).

The collective identification of relevant new narrative seeds is a crucial skill that should be performed with and by all relevant agents involved, as we discussed above. Therefore, the four narrative seeds that we describe below should be seen as illustrations that all have the potential to meet the three above-mentioned vertical aspects, namely, expanding the system boundary, a greater focus on imagination, and greater empathy. They represent starting points, inspirations, based on alternative lines of thinking about mobility (Mladenović, Geurs, Willberg & Toivonen, 2021). They should not be considered as exhaustive exam-

ples as we are aware of other narrative seeds that start from questions around health, global social inequalities or the meaning of a *good life* that have their own peculiarities across the world.

First, the narrative seed based on **mobility as individual play** is strongly linked to the concept of ‘Homo ludens’ (Huizinga, 1938). Streets become places for interaction, discovery and play. This makes mobility ‘a valuable social and sensory experience in its own right’ (Nikolaeva & Nello-Deakin, 2020, p. 313). Relatedly, being on the move can be seen as a way for individual intellectual development (Ferreira et al., 2012) and for experiencing positive mental states that may increase well-being and breed personal growth and transformation (Te Brömmelstroet et al., 2020).

Second, **mobility as social interaction** is a narrative seed that emphasises the street as the quintessential public place where people encounter others (Mehta, 2013). Being on the move provides exposure to societal diversity that has been associated with the growth of social capital, ‘a sense of belonging’ to a place and a community, and bridging social differences (Adey, 2010; Bissell, 2010; Sennett, 2012; Te Brömmelstroet et al., 2017). This seed is focused on the ‘Homo urbanus’ model for understanding human behaviour (Oberzaucher, 2017): people search for altruism, finding meaning in supporting each other, and are influenced by social norms.

The third narrative seed offers the possibility of understanding **mobility as a commons** rather than an individual right, as ‘a collective good, paving the way for fairer mobility transitions’ (Nikolaeva et al., 2019a, p. 346). It highlights the active and collective engagement that is required to give meaning to mobility as something humans make together: ‘Commoning mobility can therefore be understood as a process that encompasses governance shifts to more communal and democratic forms while also seeking to move beyond small-scale, niche interventions and projects.’ (Nikolaeva et al., 2019a, p. 346). Importantly, the ‘mobility as social interaction’ and ‘mobility as a commons’ approaches offer potential for a constructive critique and recalibration of smart innovations and business models that present themselves as opportunities for ‘sharing’, even though they are structured in the ways most likely to further commodify mobility while increasing social inequalities, social exclusion and the fragmentation of communities.

The fourth and last narrative seed to be mentioned here, one becoming increasingly relevant in the view of the current developments with the COVID-19 pandemic and the energy crisis induced by the war in Ukraine, is focused on notions such as low mobility, proximity and stillness (Ferreira et al., 2017). This seed offers a conceptualisation of mobility whereby the radical reduction of mobility patterns is not experienced as a detrimental or even traumatic experience, but as a form of social capital to be cultivated upon. During the COVID pandemic, individuals, communities and companies have had to experiment with continuing their activities while relying much less on physical mobility. While a privileged minority had the conditions to prosper in this initially unwelcomed state-of-affairs, many endured terrible experiences (Kokkola et al., 2022; Nikolaeva et al., 2022). In line with this, **mobility as unnecessary** is a narrative seed that highlights the need to promote conditions where stillness, low speed, and proximity-based social contacts and resources become (again) the object of positive attention and investment. Acknowledging that both the beneficial and the detrimental effects of immobility are unevenly distributed, this approach calls for further exploration and development in an inclusive manner.

## 6. Nurture narratives through inclusive futuring

How can policymakers, innovators and especially citizens be involved in holistic co-creation exercises that develop alternative narrative seeds towards alternative mobility paradigms? As noted by feminist scholars such as Monk and Hanson (1982), individuals structure both research and policy problems according to their values, concerns and goals, all of which mirror their personal experiences and subjective realities. The transport sector has been a field largely dominated by middle-

class men, working in hierarchical organisations with a strong inclination towards positivist, technocratic and top-down decision-making approaches. As a result, mobility has to a great extent been shaped by such institutional settings and exclusionary worldviews (Ferreira, 2018). Although there are notable exceptions with some public engagement in transportation planning (Mladenović et al., 2021), the diversity of mobility experiences and needs related to, for example, gender and age have not been sufficiently addressed in transportation planning (Scholten & Joelsson, 2019). Perceptions of safety and comfort, the frequency and types of journeys, needs in terms of service provisions and so forth have all been proven to be highly varied among people.

Furthermore, transportation planning has systematically prioritised the needs of certain groups above others, with the experiences of women, children, people with disabilities, older adults and those with special mobility needs being rendered unaccounted for and invisible. While many scholars have been pleading for a more equitable distribution of accessibility (e.g. Martens, 2016; Pereira et al., 2017), we align with the mobility justice scholarship (e.g. Sheller, 2018) in shifting emphasis from the outcomes of transportation planning to the very politics of decision-making, including issues such as race or poverty. In other words, developing mobility narratives does not revolve around the needs of a non-existent average individual (which, in the minds of urban designers and traffic engineers, has been an able-bodied male by default) but around accommodating various needs, and it must start from nurturing narratives with a diversity of groups.

In addition to the above injustices, the approaches that use existing mobility narratives to either predict or assess the future of mobility (as done by Holden et al., 2020) are, therefore, necessarily problematic as they propose yet another way of shaping mobility futures in a top-down fashion instead of co-creating those futures through inclusive futuring processes.

Challenging this pattern requires engaging citizens in the process of co-creating future mobility narratives (Sustar et al., 2020). Similarly, sustainability transitions research maintains that citizens should be involved in the co-creation of knowledge for sustainability transitions through innovative participatory approaches and methods (Chilvers & Kearnes, 2015). Futuring – defined as the development of normative scenarios of alternative, desirable and sustainable futures as anchors to guide present-time decision-making – is common practice in sustainability transitions projects (Elzen et al., 2004). However, traditionally, these scenarios have been developed by and deliberated within expert groups. The public is left to bear the long-term consequences of policy decisions without being able to influence them. Thus, it has been argued that sustainability transitions need to be addressed by approaches in which not only different scientific disciplines are involved, but also other types of knowledge cultures, such as practice-based, tacit, lay and indigenous (Miller et al., 2008; Robinson, 2008; Sandercock, 2022). The inclusion of the general public in the development and deliberation of possible futures transition scenarios is not only a requirement for democratic policymaking but also crucial for the successful implementation of significant lifestyle and behavioural changes, particularly in the mobility domain (Banister, 2008). Considering how powerful the coalitions behind certain narratives of change, such as ‘green growth’, are, the more important it is to offer alternative versions of mobility transitions (Ruhrt 2022) and to critically analyse those that are currently promoted (Henderson & Gulrud 2019).

In addition, the nurturing of alternative narratives is especially needed and even more feasible when, due to the mobility disruptions such as induced by the COVID-19 pandemic, opportunities for new meanings to mobility emerge. As mobility is slowed down, interrupted or prohibited at multiple levels, from global airspace to streets, we observe that new insights about the role of mobility in individual and community lives and in the functioning of economies are emerging, as well as new insights about unexpected possibilities for changing mobility practices (as alerted by Marsden et al., 2020). Some restrictions are more bearable or even benevolent than others for various people.

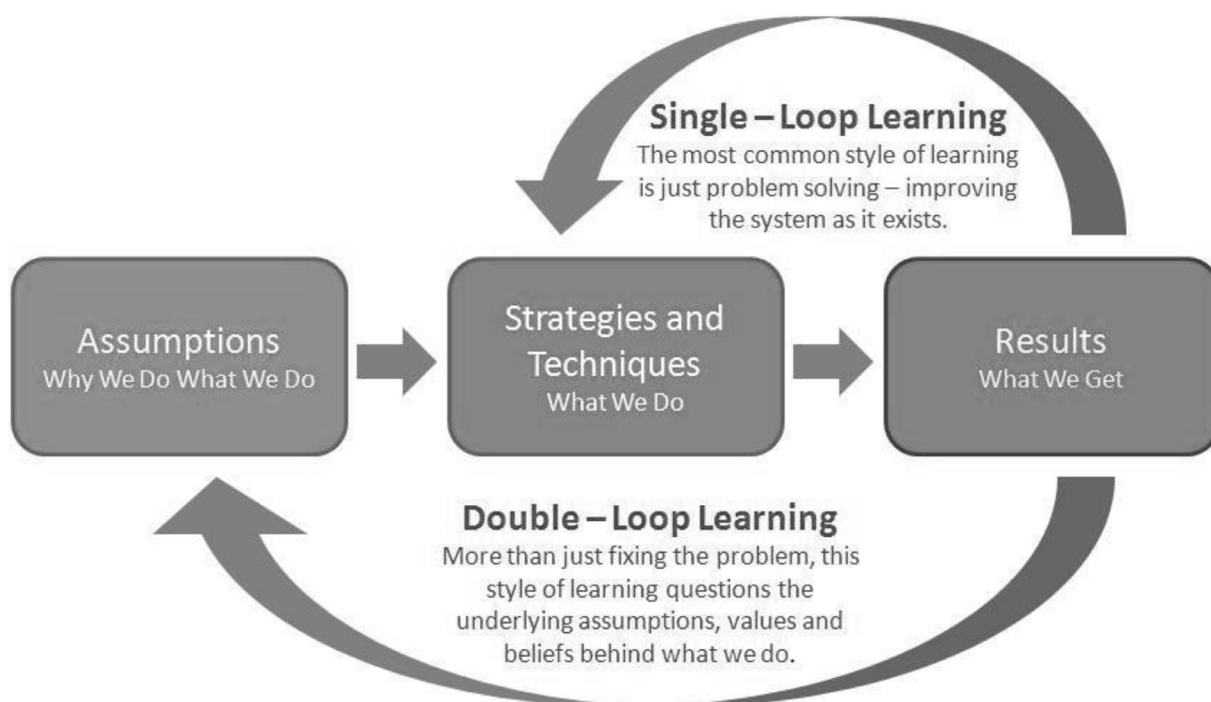


Fig. 4. Empowering double-loop learning (based on the work of (Argyris and Schon, 1978).

New inequalities emerge, but also new opportunities for re-imagining the mobility system around greener and fairer solutions.

## 7. How can experimentation empower narratives

To empower new narratives that come out of such a nurturing process, policymakers, innovation stakeholders and citizens need to go beyond single-loop learning, that is, acquiring knowledge, skills and data so that one can perform better within the existing frame of reference (Argyris, 1977). To create optimal conditions for transformative change (as discussed by Meadows, 1999; 2008), the frames themselves need to be questioned. In empowering **double-loop learning** (or *transformative learning*; shown in Fig. 4) and in recognising the importance of storytelling in innovation processes (Sergeeva & Trifilova, 2018), new narratives can be used to support actors in questioning their underlying assumptions, values and beliefs (Borup et al., 2006).

Even though both types of learning are critical for effective leadership, it is transformative learning which facilitates an individual or organisation to deal with new, highly challenging and unsettling circumstances as they emerge – particularly when these circumstances represent a threat to the status quo. However, transformative learning is also time expansive, meaning that individuals and organizations need to learn new knowledge as they generate it, as opposed to simply transferring it (Engeström, 2015). Expansive learning, together with power shifts, often implies a highly emotional state for all the actors in the affected networks. Thus, inter- and intra-organisational learning cannot lead to powerful changes if the need to cater for complex emotional states in these relational networks of people is neglected (Eräranta & Mladenović, 2021).

Using the European context as an example, the European international partnerships and organisations that bring together researchers, governments and businesses (e.g. the European Union and the United Nations) are particularly well-positioned to promote experiments with alternative mobility narratives. These experiments could contribute to steering societies away from the old normal by means of empowering alternative narratives through the way in which new technologies are

developed, policies are promoted and streets are designed. On a local level, the urban innovation ecosystems – for instance, transition arenas – would be well positioned to become the co-creation ‘nests’ for the new narratives as they already bring together citizens, researchers, local policymakers and innovators (Dell’Era and Landoni, 2014). Many of the urban mobility-focused transition arenas and innovation hubs currently focus on creating smoother traffic or helping companies pilot new technologies. If that focus could be shifted towards the active exploration and exploitation of alternative mobility narratives, perhaps innovations that are now unthinkable and unimaginable would start emerging.

## 8. Conclusion

The dominant mobility narrative, which is deeply shaped by concepts such as utility, efficiency, speed, and cost-effectiveness, is limiting our individual and collective understanding of mobility phenomena. Ultimately, it is limiting the effectiveness of the vast majority of transport policy interventions and technological innovations in creating new urban mobility futures. This narrative dates back to historical facts from the eighteenth century and to policy choices made in the 1920s, and have since then solidified into common guidelines, models, laws and institutions; into concrete, steel and technologies; and into the limits of our imagination. Indeed, the domination of this timeworn narrative is most unlikely to contribute to the resolution of the following problems that were unthinkable when its seed was forcefully planted: the climate and energy crisis, biodiversity loss, and the emergence of zoonotic diseases such as COVID-19.

Unless we are able to collectively reimagine, challenge and add multiple alternatives to this narrative, we are unlikely to achieve the radical transformations that are called for. With high stakes for our common mobility futures, how can all agents identify the seeds of emerging narratives, inclusively nurture them and consequently empower emerging alternative futures?

Taking into account that a plethora of tools and methods for policy, planning, design and innovation are already available, we have outlined an overarching framework for holistic and future-oriented think-

ing about the process of narrative and system change – adaptable to particular contexts. To this end, we have distinguished four seeds for identifying, nurturing and empowering alternative narratives. These four potential candidates are: mobility as play, mobility as social interaction, mobility as commons and mobility as an unnecessary. They have been carefully selected as potentially among the most radical ‘challengers’ to the dominant mobility narrative, those which could serve as springboards for opening up new possibilities. Of course, we recognize that since these narratives draw from transport and mobility literature which is still dominated by Global North and Western focus, different potential radical narratives have to be looked for across the globe. Similarly, four narrative seeds are not an exhaustive number, as following the conceptualizations in futures studies, the number of possible futures is closer to infinity. In addition, we have argued that nurturing narratives, as a process, requires including all mobility-system agents and all types of knowledge cultures if new relevant meanings and aspirations for more justice in future mobility systems are to be created. Finally, we have argued that nurturing has to go hand in hand with empowering through a wider network of actors across institutions, which has to rely on both organisational learning and mutual empathy.

In line with Holden et al. (2020), this framework is intended to enable a process with which to achieve understandable, attractive, motivational and possible narratives. However, by deepening the conceptualisation of narrative in relation to deep leverage points, as well as the features of path-dependence, we have argued that we need a more comprehensive approach to understanding our mobility systems, more speculative imagination and empathy for all the actors involved. As such, we have aimed to move the discussion beyond the state of the art by providing reasons and means for the wider nurturing and empowering of alternative narratives that emerge outside of academic circles. Ultimately, although our description of the framework is mainly focused on *how* questions, we expect that its use in practice would also lead to more difficult *why* questions, which would further unlock potentials for transformative change (Bertolini et al., 2020). Such questions will need to go hand in hand with a further critical analysis of both the mainstream narrative and each alternative narrative.

The four seeds of alternative narratives that we presented are already much more informed by the focus on embodied and social nature of mobility emphasized by mobility scholars (Cresswell, 2006; Nikolaeva et al., 2019a) than the mainstream narrative. It would be valuable to further connect mobility practices as embodied and socially meaningful to the generation of alternative narratives, and the other way around, as well as to research the connections between the two. Studying experiments where mobility conditions are changed in real life can especially offer valuable platforms for such connections (Bertolini, 2020). Ultimately, the process of looking for new narratives, or ‘dancing with narratives’ (paraphrasing Meadows, 1999) would relate not only to built environments but also to organisational and governance cultures across mobility-related cross-institutional networks. We emphasize the point made by Gorman (2010) that these and other future activities ask for developing new kinds of interactional expertise attitudes across practices and academia.

## Declaration of Competing Interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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