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Co-design Times and Mobilities

Luc Gwiazdzinski (*)

*Complexity is a problem word
and not a solution word*
Edgar Morin

Abstract:

The observation, analysis and construction of cities and forms of mobility are not always in step with the complexity of urban systems and changes in contemporary societies. It is possible to use time as a key to reading the functioning and dysfunctions of cities and as a springboard for new mobilitiesand sustainable urban development policies. This “*chronotopic*” perspective makes it possible to approach the complexity of urban systems and reflect on ways of “indwelling” *times and mobilities*. The researcher, the urban planner, the builder and the citizen are invited to change their outlooks, to think, design and manage the city by simultaneously taking into account urban physicality, flows and timetables in order to imagine, together a “malleable city”, a more human, accessible and hospitable one.

“Describing, understanding, explaining and regulating mobility requires new cross-cutting approaches” (Kaufmann, 2002). Mobility specialists, researchers, operators and citizens are forced to change their perspectives, methods and tools to address the complexity of a “*liquid*” society (Bauman, 2000), of “*worlds*” (Descola, 2014) in a state of constant flux and to design inclusive and intelligent organisation and regulation systems. The “*mobility turn*” (Sheller and Urry, 2006) is also a “*time turn*” in social sciences. The integration of the temporal dimension in the observation, analysis and regulation of mobility (Urry, 2000; Rabin and Gwiazdzinski, 2007), the adoption of a “*chronotopic*” approach (Bonfiglioli, 1990, Drevonet *al.*, 2017) – where the “*chronotope*” is the “*place where the spatial and the temporal dimensions meet*” – are interesting ways to approach the figure of the “*nimble, malleable, flexible and adaptable city*” (Gwiazdzinski, 2007). These are also exciting ways of reflecting on “*indwelling*” the city and to imagine the contours of an “*intelligence of possible forms of mobility*”.

Opening this chapter on time within a broader reflection on urban mobility requires defining the central terms of the proposal by referring to a number of contributors. For the definition of the city as a “*place for the maximization of interactions*” (Claval, 1982). Time, “*a progressive synthesis of a high level of complexity*” (Elias, 1996), can be approached from a social perspective as “*the meaning that human communities have given to change*” (Tabonni, 2006). “*Mobility*” – this “*new frontier of sociology*” (Urry, 2000) – generally refers to changing places (Brunet *et al.*, 1992) – in geography –, and also to a way of experiencing space and time, permits us to overcome these difficulties by articulating them.

A too long forgotten time dimension

In urban research, much work has been devoted to space and very little to time, the space-time relationship and its representation, although in the specific field of mobility, theories such as the “*Zahavi conjecture*” – to the effect that daily life journeys are made with constant transport time-budgets and that their spatial scope is a function of travel speed – remain stimulating indeed (Crozet *et al.*, 2006). For a long time, researchers have favoured the analysis of the modalities presiding over formalizing urban change, the long-time nature of the city’s future, “*to the detriment of an approach that would have aimed at providing the elements of a typology likely to order the diversities of urban social times and their combination*” (Lepetit and Pumain, 1993). Time has long been the orphan child of reflections on the functioning, planning or development of cities and territories, to the advantage of infrastructures. The material aspect has often taken over from the human dimension. *Hardware* has been preferred to *software*. The temporal dimension has been neglected by city councillors and planners alike, although it is an essential aspect of urban dynamics. Up to now, the main reason for this has been to arrange the land so as to “*save*” more time. In terms of urban planning, the construction of the French *TGV* (high-speed railway) has shrunk maps in France, Europe and elsewhere, allowing those who can afford it to get from point A to point B more quickly. The opposite approach, which consists in arranging time in order to have an effect on the use of space, is less common. Time is nevertheless an essential key to understanding and managing societies and much is at stake collectively for people, organizations and territories. This concept of time, a convention and the “*abstract measurement of concrete things*” (Sue, 1994) is the product of social activities. The “*time system*” (Sorokin, 1964), which results from the combination of these activities, is difficult to break down but is essential to explore.

A necessary shift in perspective

To meet the current economic, social, cultural and environmental challenges, it is necessary to change our perspective and “imaginary”, “*this substrate of mental life and the constitutive dimension of humanity*” (Souty, 2006), regarding the city, the territory and forms of mobility. Following the example of architects, we must learn how to consider the city as a three-dimensional entity rather than as a simple plan, if only because our “*tridiastatic*” agglomerations (Reymond, 1998) are rising, sprawling or burying themselves. Last but not least, a fourth dimension must be added, namely time. Urban materiality evolves over time. The urban offering, populating and occupying spaces also vary on a year-round basis, across seasons, weeks, days and hours. However, cities and territories are not fixed structures. Perpetual changes modify urban materiality, affect the economic and social spaces, as well as the legal or political-administrative spaces. On different scales, social life takes place in multiple times, always divergent and often contradictory, and their relative unification, linked to an often precarious hierarchy, poses a problem to any society (Gurvitch, 1963). The entire city is an ephemeral, fragile and fleeting universe that is difficult to grasp, a labyrinth that evolves through time and space according to daily, weekly, monthly, seasonal rhythms, or together with events. In other words, we are no longer content to work on an “average city”, which actually does not exist; instead, we must adapt our observations, analyses and interventions to a city that is not the same by day and by night; on Sundays and during the week; in summer and in winter. Metropolises, “those cities beyond the city” (Depardon and Virilio, 2010), are not entities with strict borders, but rather throbbing pulsations. They attract and reject populations in the distance according to circadian, weekly, seasonal and event rhythms. The city is not only inhabited by permanent dwellers but also welcomes temporary residents who will come to work, stay for a few days or simply visit it without being involved in governance.

This change of perspective on territorial systems also concerns mobility, and it seems useful to think in terms of “*chains*” and “*mobility systems*”, rather than in terms of isolated modes of transport. It is naturally necessary to adopt a systemic and multi-scalar approach to mobility, from the street to the whole world and conversely. The same is true of users who reason in their daily lives in terms of their journeys. It is possible to conceptualize the linkages rather than the conflicting relations between public transport and the private car – which by the way is changing, consumes less and less energy and will soon be “autonomous” and integrated into a global mobility system. This change of paradigm and imagination can also involve a change in vocabulary: “*transport*” becomes a “*journey*”, networks turn into the “*mobility intelligence*” and the user proves to be “*mobilian*” (Gwiazdzinski and Rabin, 2007), while the urban transport company evolves into a “travel agency”. This conceptualisation is also integrated into a more general discussion on the permanent changes in society, organisations, territories as well as at individual behaviour level.

Major changes

“*On almost all roads, the tempo of cities unfolds in the same way, a natural rhythm regulated by the march of men, horses and cars*” (Reclus, 2005). Such a description has long since ceased to be relevant, and we are not always aware of the upheavals that are affecting our societies and shaping the future of our cities as well as our lifestyles.

The spreading and fragmentation of spaces and times combine with the urgency to recompose new practices, constraints and opportunities: despite the urbanization control discourse, the city sprawls out into space beyond its administrative borders. In France, the equivalent of a

department (county) disappears every five or six years¹, as a result of urbanization. Activities also extend over time and, on our action calendars, they eat away at traditional time-offs. Night work increased from 3.3 million (15.0% of the working population) in 1990 to 4.3 million (16.3%) in 2013 (Cordina-Duverger et al., 2019). The weekend is a moment in time that is consumed by work: 35 % of wage earners work on Saturdays, 19% on Sundays³. Sleep time has decreased, for the first time ever, falling below the usually recommended minimum of 7 hours a day to recover properly (Leger *et al.*, 2019). Lunch time is still shorter: 22 minutes on average today, compared to 1:38 20 years ago⁴.

Activities are also spreading over time, and the schedules of our lives and cities are getting ever more crowded. The living space is increasingly fragmented, partitioned between places where people sleep, work and get supplies, and the figure generally defined to illustrate it is that of the “archipelago” (Veltz, 1996; Viard, 1994). Fragmentation also means time is breaking down. The great social rhythms that used to mark community life are fading away. In the West, the society that used to live by sunlight, framed with the sound of bells, then of the factory siren, is now in the grips of the a new dictator: the smartphone, which we consult on average twenty-three times a day², for a daily 1 hour and 42 minute-period. We store time in there, we permanently resynchronize ourselves with individuals who live elsewhere, more or less far away. The third mutation we deem central is urgency or rather, our being egged on into urgency. Sociologists (Aubert, 2003, Rosa, 2005) have highlighted this phenomenon of acceleration and synchronization on a global scale, with a consumer who wants everything, everywhere and at any time. No one can bear queuing and waiting anymore.

These developments have consequences on mobility and vice versa, on individuals, organisations and territories. The average distances and times spent in transport have been increasing for a long time.

Their pattern has also changed. They are spreading out, being ripped apart and less and less regular, more and more peripheral, events – and leisure-driven. Home-to-work commuting mobility, on which many models are built, now accounts for only a quarter of all trips. For managers, mobility becomes less and less manageable when our activities are being decided on at the last minute. The model for the establishment of attractors induces zigzagging mobility (Bonfiglioli, 1997) over vast territories, with complicated schedules and timetables. In a strange reversal, it should also be pointed out that mobility has taken root as a new value and as a right. People who never move out of their neighbourhoods or profession are stigmatized. In the schoolyard and later at the company canteen, mobility is often used as a means for self-promotion.

In this system, characterized by spreading, fragmentation and urgency, “hypermodern” individuals (Lipovetsky, 2004) are increasingly mobile, connected, polytopic (Stock, 2006), even “polyactive”, fitting in several “trades” at the same time. They are also increasingly unstable, in their families, their jobs, their locations, prove unpredictable and they long for the gift of ubiquity. These mutations, characterized by the temporary, the fragile, the flexible, the mobile and the unstable, are important.

¹Rapport de la FN-SAFER 2016.

³Dares Analyses, Publication de la direction de l’animation de la recherche, des études et des statistiques, n°030, juin 2018

⁴Étude sur les repas au travail, 2016, Edenred

² <https://lareclame.fr/omd-infographie-baromobile-193803>

Increased complexity and pressures

Social life flows in multiple, often divergent and contradictory time-frames whose relative unification is precarious. There is an increase in complexity, difficulties, increased consumption of space, as well as desynchronizing and difficulties in reconciling work and family life, as well as in controlling time (30% of Europeans say they have no control over their time) and on meeting each other. The acceleration, the emergence of a world time and the fragmentation of social times, as well as desynchronisation, urge people, organizations and territories to compete with each other, and thereby generate tensions, conflicts and difficulties. The generalized flexibility of social times combined with the diversification of practices within each social time result in new “*time maps*” (Asher and Godard, 2003), new temporal regimes that are highly differentiated according to social situations, genders generations and territories.

While unified by information, people have never experienced such dislocated temporalities. Faced with such de-synchronisation, our schedules are breaking down. Everyone juggles with time, torn between their professional, family and social lives, their work and their daily obligations. Information and communication technologies give us the illusion of ubiquity. Faced with increased responsibility and arbitration difficulties, the most vulnerable among us are ambushed by the “*fatigue of being oneself*” (Ehrenberg, 1998) and the notorious “*burnout*”. At another level, conflicts are multiplying between individuals, groups, territories and neighbourhoods in the “*polychronic city*”, since they no longer live at the same pace, especially at night. More worrying, new inequalities are emerging between populations, organizations and neighbourhoods, as they are unequally equipped to cope with the acceleration and complexity of social times.

Individual and collective adaptations

Faced with these changes and their consequences in terms of tensions, conflicts or inequalities, individuals, groups and territories are getting organised. These are all interesting “*signals*” for the present and the future of our cities and societies.

Some have decided to take a break from this hustle and bustle and opted for slower leisure activities such as walking, yoga, gardening or a stroll at the flea market. Elsewhere, researchers and essayists praise slowness while networks such as *Slow Food* and *Cittaslow* are flourishing. Besides, in the absence of common meals or work times, items such as the freezer, video recorder, microwave and mobile phone enable each one of us to organize our lives *à la carte* (as they please). The trend is towards the hybridization of practices, times and spaces and new arrangements, alliances and collaborations: co-construction, co-development, co-housing, carpooling or co-design. The boundaries between times and spaces for work and leisure are getting blurred, and “*third places*” (Oldenburg, 1989) are emerging: library-café, café-laundries, entrepreneur-artists incubators, nurseries installed in stations, but also roof gardens or ecomuseums-dwellings. On a different scale, our “*urban seasons*” schedules are brimming with events, festivals or celebrations. These new rites, which celebrate memory, identity and renewed belonging to the city, make it possible to “do family or territory together”, to exist in a context of territorial competition and to maintain an illusion of social cohesion in the face of a diluted daily life. The regime of the “*intermittent metropolis*”, a temporal counterpart of the spatial figure of the archipelago, is essential. The event city, ephemeral and festive, triumphs and unfolds.

In the 1990s, first in Italy, then in France and Germany, public authorities set up structures, platforms for observation, awareness-raising, dialogue, exchange and experimentation, which tried to bring these temporal approaches to the city and territories and to respond to the

challenges at hand. Without many resources, they have sought to impose this temporal view of society, proposing new maps, experimenting with new opening hours for services and transport, participating in the debate on issues such as opening nights and Sundays for business, allegedly in order to improve the quality of life, gender equality or the “Right to the City”. However, these local initiatives, which concern some thirty local authorities (Mallet, 2011), have not made it possible to implement real public time and mobility policies, though these are essential stakes.

Central temporal issues for mobility

The temporal stakes of mobility in cities – i.e. “*what can be gained or lost*”³ – are multifaceted. There is no dismissing the challenge of optimizing flows and traffic in real time, in the logic of *monitoring* mobility and in the context of developing the “*Smart city*”, which usually refers to a city implementing information and communication technologies to improve the quality of urban services or cut costs. But the real spatiotemporal challenges are undoubtedly elsewhere.

The first issue is undoubtedly that of imaginability (Lynch, 1969) and intelligibility of complex spatiotemporal systems for designers, managers and users. This challenge requires observation and representation tools that go beyond the usual static maps and the early contributions of *Time Geography* (Hägerstrand, 1975 ; Carlstein T., Parkes D. and Thrift N., 1978) to read and write about the changing society by thinking and mapping space and time together – and in real time as well. The development of ICT, the trivialization of location technologies, *data mining*, the development of dynamic representation tools have led to significant advances (Drevon, Gwiazdzinski and Klein, 2016). In parallel to this visual approach, it is also important to develop more sensitive exploration approaches in the form of immersions and journeys that make it possible to discover specific temporalities – such as night-time – by summoning body and senses throughout the experience.

Another related issue concerning architectural public space is that of a “*distributed intelligence*” (Joseph, 1999), combining network connectivity, readability of spaces and services as well as machines interactivity. Naturally, transport operators and citizens need to address the challenge of organizing and synchronizing each other in real-time. When the heart of the city used to beat from 8am to midday and from 2pm to 6pm, it was easy for the transport company to organize regular bus traffic. Less so when everyone works at different paces and makes decisions at the last minute, just in time. Taxis and on-demand transports are then better suited to the demand.

The notion of “long time”, dear to the historian Fernand Braudel can be applied to the issue. When we forget the long-time nature of spatial planning, and fail to develop a vision on this scale, mobility policies only approximate policies of adaptation and adjustment on an *ad hoc* basis, and space consumption can continue around the figure of the “*Cittadiffusa*” (Indovina, 1990).

The issue of participation is essential. The temporal approach is an interesting as well as a tested and proven tool for building and exchanging in a cross-cutting and inclusive way. As it is both everyone’s and no one’s expertise, time is one of the only themes that really makes it possible to engage in a debate with all public and private stakeholders, without tensing or withdrawing behind institutional boundaries. It is in line with people’s current expectations in terms of proximity, participation and “concrete” practices when dealing with everyday issues.

³ <http://www.cnrtl.fr/definition/enjeu>

This requires organizing partnerships from the observation phase through to the experimentation and evaluation phases.

Time is a sensitive dimension, and it naturally places people at the heart of the debate and makes it possible to start thinking in the logic of “*innovation through uses*” in the sense developed by Hippel (2005), a process that values users’ place and power in their partnership with research-centres designers and players in the territorial fabric.

The development of a spatiotemporal approach and the implementation of an innovation platform somewhat blurs the boundaries between research and experimentation; between decision-makers and citizen-users, thanks to dialogue interfaces; between public transport and the private car; between different urban operators: transporters, street furniture manufacturers, urban planners, etc. The temporal approach can sometimes act as a *laboratory of illusions* by facilitating work on sensitive questions and suggesting solutions without addressing them head-on. It is part of a design thinking approach, growing analytical thinking and intuitive thinking with feedback towards the end user.

There is also the issue of continuity and enjoying the “Right to the City” 24 hours a day, 7 days a week: spatial continuity with the development of complementary solutions even in low-density locations (transport on demand, car-sharing, etc.); temporal continuity between day and night, week and weekend, school terms and holidays; price continuity with the multi-scalar integration of mobility systems, besides the possibility of paying only one ticket; informational continuity through continuous information for the user – before, during and after mobility; political continuity through overstepping administrative borders; the coherence of policies for the different modes and strategic coherence at different spatial and temporal scales. Another temporal – even rhythmic – challenge of mobility is taking space and stopping-times into account. During individuals’ journeys, immobility is part and parcel of mobility, just as are tools such as the chair and the bench.

Having the key to times makes it possible to engage in a reflection on the adaptable “malleable city” and on reversibility. The versatility and modularity of public spaces, buildings, networks or means of transport are central to limiting space consumption. A tramway could be used during the day as a means of passenger transport and at night to transport freight, as is done with some aircraft.

The challenge is also qualitative. Mobility time can no longer only be envisioned as time wasted between departure and arrival but more as a quality time, a moment to be valued, and even an experience in its own right. A sign of the times: when a manufacturer used to try to sell a car, he would stress the speed of the automobile. Today, to sell the same vehicle, some automotive groups are emphasizing the quality of the time⁴ spent inside the cabin.

Travel time is no longer necessarily a moment of mono-activity but it “hybridizes” (Gwiazdzinski, 2016), thanks to ICTs that make it possible to work, watch a film, play, telephone or listen to music during one’s journey in “mobiquity” logic (Greenfield, 2006).

The chronotopic approach involved raises the issue of public space and public time, the very rare one when we find ourselves sharing the city with the others. The street and the tramway embody these places and moments. The time spent in mobility as well as users’ needs turn the hospitality, comfort and ergonomics of these spaces and mobility times into major challenges. The temporal approach also makes it possible to uncover and raise many other issues in terms of temporary governance, of reticular territories but also regarding the co-construction of mobility solutions and creative explorations. Finally, one last challenge is in the form of a counterfoil: granting the possibility of doing nothing else than just being on the move, of leaving opportunities for improvisation, distraction and letting go. It is also a matter of

⁴ An advert for PSA Peugeot Citroën car-manufacturers “*Quality time*”

seeking rhythm and tempo and of relieving the guilt felt by those who fail to resist such mobilizing injunctions.

More generally, it is about learning to “*indwell time and mobility*” in Dardel’s sense “*a way of knowing the world and a type of emotional relationships far removed from an abstract or technocratic approach to space*” (Dardel, 1990). It is the meaning of this *intelligence of mobility* that we long for and that we must mobilize to describe, understand, explain and then regulate mobility.

Towards an understanding of forms of time and mobility

The reflection intersects with “rhythm analysis” at the frontier of science and poetry, which Santos (1931) and later Bachelard (1950) had intuited, which Lefebvre (Lefebvre, 1993) tried to impose and which Lynch (1972) tried to use for the planning process. In sustainable development logic, the spatiotemporal approach makes it possible to integrate mobility into an “*urban planning of times*” – defined as “*all the plans, organization of schedules, and coherent actions on space and time that allow the optimal organization of the technical, social and aesthetic functions of the city for a more humane, accessible and hospitable metropolis*” (Gwiazdzinski, 2009).

This softcity building and management, which rests on what is light, dismountable, ephemeral, intelligent and experimental, also raises a series of exciting questions: the more we move towards reflection that integrates space, time and mobility, the more human capital and “*collective intelligence*” – such as “*the cognitive capacity of a community resulting from the multiple interactions between members*” (Rogalski, 2005), prove essential. I propose to use the concepts of “*mobility intelligence*” to describe this “*cognitive capacity*”; and “*times and mobilities design*” to describe the collective process of building a shared reflection, describing, understanding, explaining and regulating mobility, in which spatiotemporal aspects are central. The “co-design” we are talking about here with reference to (space), time and mobility is not just a mere matter of the appearance or optimization of technical transport networks. It is an attitude and a complex task that refers to the essence of products and institutions and to human experience. “Design is thinking in terms of relationships” (Moholy-Nagy, 1993) and of “rhythm”, in the sense of “how to flow” (Benveniste, 1974).

Beyond the technical aspects, it is based on a higher level of integration by the actors and users of a complex and inter-scalar mobility system in which everyone finds it beneficial to collaborate and where their own performance within the group is better than if they were by themselves. It is a paradigm shift from a single mode approach in terms of managing and resorting to a traditional transport network used by mere user-agents.

The approach adopted here opens up such stimulating concepts as “*temporary and mobile living*” or “*ephemeral and situational citizenship*”. The design of social times and mobilities, the choice of our temporalities and spaces are great ways of expressing ourselves on the meaning of our cities and lives. The behaviours we adopt at different times and the attention we pay to them are indicative of the changes that are taking place in our societies and of our ability to define a particular “culture of time”. It is up to each of us to take part in the definition of the “*dance of life*” (Hall, 1985) and what we mean by “the city”.

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