The automobile city

By
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As early as the 1920s, traffic congestion and road safety in cities led to the emergence of a new expertise that became progressively institutionalized as a scientific discipline called "traffic engineering." By systematically banking on the growth of automobility, the models that guide it have become self-fulfilling. Cars have gone hand in hand with urban extension, shaping even housing policies that favor the emergence of peri-urban spaces organized around road infrastructure. However, congestion and insecurity have not disappeared, and are now joined by an environmental emergency that calls into question the viability of the whole system. Is the auto city living its final days?

In the 1920s, large American cities faced problems that would only emerge much later in Europe: traffic congestion on the one hand and issues with road safety on the other. It was in the face of these problems that public authorities, supported by economic players, began calling upon experts to help solve them. In the 1930s, the challenge was to adapt the urban configuration and scale of the road infrastructure to growing amounts of traffic. Then gradually, throughout the 1940s and 1950s, the goal shifted to building new infrastructure.

Traffic engineering focused on developing methods to forecast future needs regarding travel demand and transport infrastructure. Surveys were conducted among households to ascertain their travel needs, methods were developed to predict traffic - what we call "traffic models" - all to help forecast the needs in terms of new road infrastructure investment. What's interesting is that because they were the first to face these issues, the United States actually started attracting European engineers. They would go to the United States to learn these traffic prediction methods then return to Europe where they introduced them. It's worth noting that France also pioneered this field of transport engineers and economists: it's a domain of expertise that developed as early as the 19th century with civil engineers like Jules Dupuit who created the idea of "utility," a concept that would later be extensively used in road infrastructure assessment and traffic forecasting methods. This field of economists and engineers incorporated these traffic forecasting methods and models, using them to adapt methods of predicting political needs which are also geared towards supporting the development of the automobile.

The economy is central to these approaches, because ultimately, as early as the 19th century, the main issues have been how infrastructure would be financed, and huge public investments. But they have relatively little connection to land-use planning. You could even say that the underlying paradigm of these models was really to allow road infrastructure to be economically efficient, thus to build infrastructures that will be the most used and therefore the most profitable.

These traffic forecasting models have been called self-predictive models in the sense that they incorporate assumptions that they themselves produce. Here's an example: there are several steps in these traffic forecasting models, and one of them is to predict how travel needs can be distributed among different modes of transport. Yet, in the forecasting models of the time, they included hypotheses

about rates of motorization – i.e. the number of households that had a vehicle – and these rates of motorization were increasing. So when you do that, when you integrate this increasing motorization rate, it's no surprise that as a result, when you distribute the flows between different modes of transport, a large part of them is going to be allocated to road traffic. Consequently, these models generated ever-increasing needs in infrastructure construction. What a lot of research has shown is that the more roads you build, ultimately, the more you're going to induce additional traffic, and the more you're going to give people the opportunity to leverage new ways of reaching different geographical points.

The paradox of transport is that by trying to make roads or transport infrastructure as fast as possible, you offer people more speed, but this speed doesn't give you more time, it gives you more space. This is a phenomenon we call induced traffic. In response to this, a number of researchers in the 1990s questioned this logic of supplying roads on the grounds that, in the end, it doesn't solve the problems related to traffic congestion, on the contrary, it only serves to increase them even more.

These traffic models are instruments that serve an ideology, if by ideology we mean a system of representations, of ideas, of organized doctrines. These models are quantified models; so we put numbers behind these models, we run forecasts, it's all very quantified and very powerful in terms of representations. These models are fairly impenetrable for non-experts, which makes them relatively sheltered from open criticism, especially from civil society.

At the same time, these models are very complex. But while they want to reflect a kind of urban complexity, they hide all the political issues at play behind this idea of always developing more and more road infrastructure. In the end it's like, in service of this complexity, we put in place a science that offered solutions that aren't debatable.

These models' approach, which is a network and traffic approach, is relatively unrelated to questions of land-use planning. One might think, for instance, that when you make a choice of infrastructure, what matters is who that infrastructure is open to and to whom it will offer accessibility opportunities. Obviously, an infrastructure allows those who use it to enjoy increased accessibility, but it can also lessen accessibility for those who experience urban separation, or create other problems such as air pollution or noise pollution... Another kind of problem worth mentioning is, the heavier and larger an infrastructure is, the more traffic it will generate, and therefore the more noise, pollution, etc. So ultimately, the infrastructure choices made in terms of travel speed and traffic volume will have significant impacts on urban environments.

Traffic models were fairly consistent with urban planning doctrines like the one written in the Athens Charter in 1933. Most notably, this charter states a principle of four key functions of urban planning that are "dwelling," "work," "recreation" and "transportation." And what traffic models do is precisely to give the most importance to the transportation function. The idea is to separate flows very strictly according to speed in order to give priority to the fastest flows and protect pedestrians from traffic - pedestrians who are totally set aside. These principles are completely in line with the approach of traffic forecasting models.

These models, and especially the public policies they generated that prioritized the automobile in the 1950s and 1960s, caused a profound transformation of urban organization. On the one hand, we saw old, historic city centers being adapted to allow for cars, and on the other, we saw the evolution and construction of urban fast lanes that gave access to peripheral areas and spaces that could then gain value, with land becoming serviceable and buildable. And indeed, throughout the 1970s and 1980s, the so-called process of periurbanization happened across all European cities. And this periurbanization is not at all a deterministic phenomenon: the speed allowed by transport networks enables this periurbanization, but in France and other countries, it is also part of a system of urban policies, including housing policies.

When you try to take a more nuanced view of what happened, you see how cars allowed for more space to be gained and ultimately contributed to the evolution of urban landscapes. But it's worth remembering that in reality, this movement of urbanization that spread around main centers existed

long before the automobile, which only served to accelerate it. For example, railways contributed to the development of peripheral towns. For instance, Los Angeles, arguably the most emblematic American city of automobile domination, is a city that was first built around rail networks, with an ideal that was to promote access both to individual homes and to nature.

For the time being, we are seeing more continuity than a paradigm shift. We have gone from the domination of an automobile mode to something that is more like an ideology of mobility that covers all modes. To me there is continuity in the sense that today we're not really able to think of changing the paradigm of the link between city and transport, to think of a city that could be more economical in terms of travel, less dependent on mobility in general – of course, I'm talking here in particular of people's lifestyles. Indeed I have a feeling that if we really want to change the way we think about the relationship between city and transport, we have to question, collectively, what mobility is and in particular start thinking more in terms of "equal access to the city" than "equal rights to mobility" for all. This will allow us to reflect on the real definition of mobility needs in relation to urban planning and lifestyles.

Travel Speed

Speed of travel is the relationship between the traveled distance and the time it takes for an individual to travel it.

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Movement

Movement is the crossing of space by people, objects, capital, ideas and other information. It is either oriented, and therefore occurs between an origin and one or more destinations, or it is more akin to the idea of simply wandering, with no real origin or destination.

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Mobility

For the Mobile Lives Forum, mobility is understood as the process of how individuals travel across distances in order to deploy through time and space the activities that make up their lifestyles. These travel practices are embedded in socio-technical systems, produced by transport and communication industries and techniques, and by normative discourses on these practices, with considerable social, environmental and spatial impacts.

En savoir plus x

Associated Thematics :

Lifestyles

- Cars / motorcycles
- Living environments

Policies

- Cars

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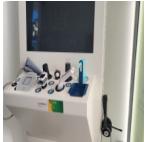
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