

# Computational Methods in Urban Studies

*Week 8 : Space – A Most Wanted Need for Speed*

*Barbara Gibson*

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# Plan

1. **Theory | Social acceleration, the theory of the accident, and urban planning**  
→ How was the physical space adapted to faster societies?
2. **Examples | Social inequalities in fastness and slowness**  
→ Expectation and (dis)ability to accelerate/decelerate.
3. **Policies | Slowdown policies and/or democratic participation?**  
→ The Gilets Jaunes movement/contentious and controversies around speed.
4. **Practice | GPS data analysis : ...**  
→ ....

# The Plot

- **A paradoxical country?**

...or...

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← *réf.: Berliner BVG*



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*réf.: HunterMoss* ↑

← *réf.: Berliner BVG*

# The Plot

- A paradoxical country?

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← *réf.: Berliner BVG*

EU POLICY | 25 July 2023 © 16:07

**Autobahn speed limit would cut carbon and bring €1bn in benefits, study says**

*réf.: CarbonBrief* ↑

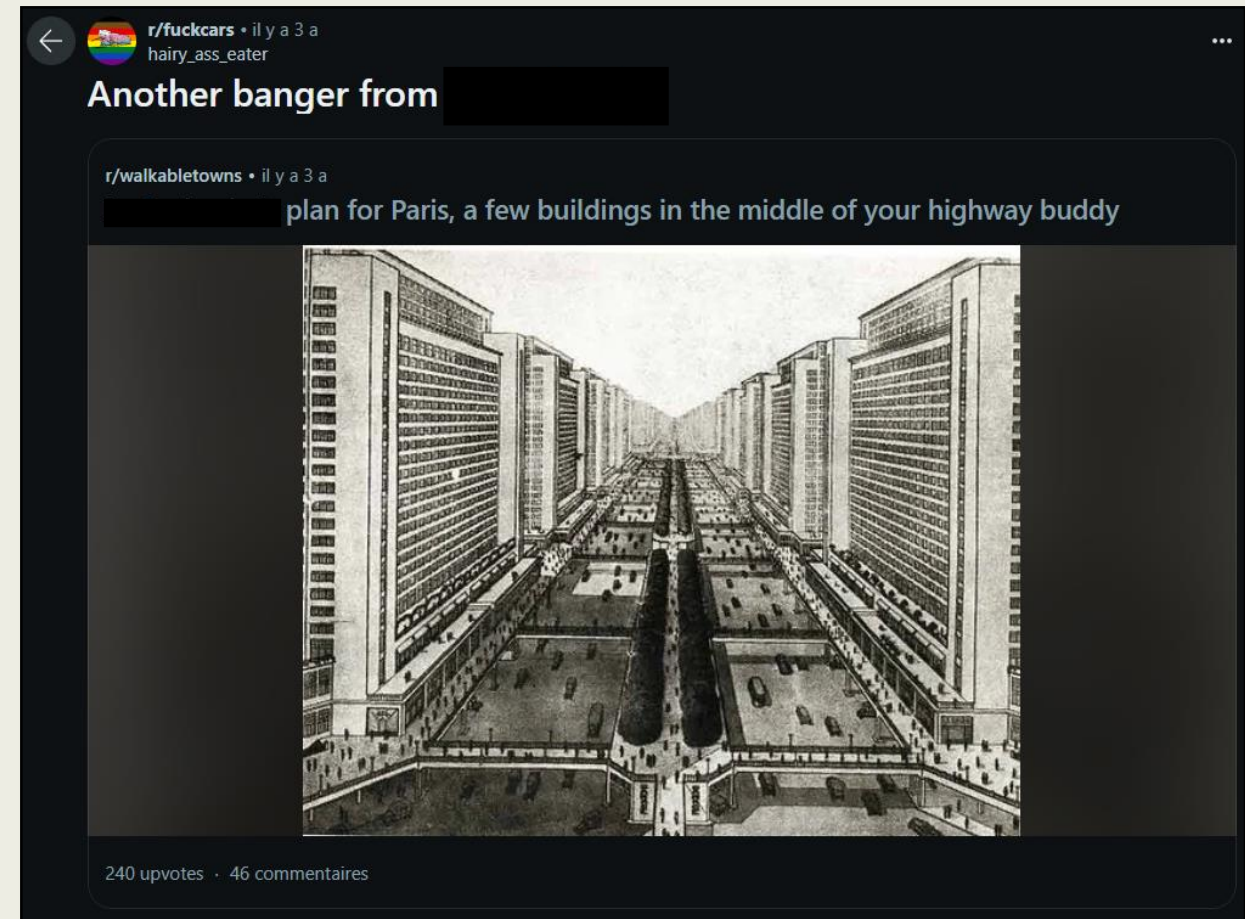
→ Why is (limiting) speed so controversial for urban policies and design?

# 1 : Speed and the city

réf.: [Reddit](#) ↓

- Cities, speed, and modernity

*“I tell you straight: a city made for speed is made for success.”*



# 1 : Speed and the city

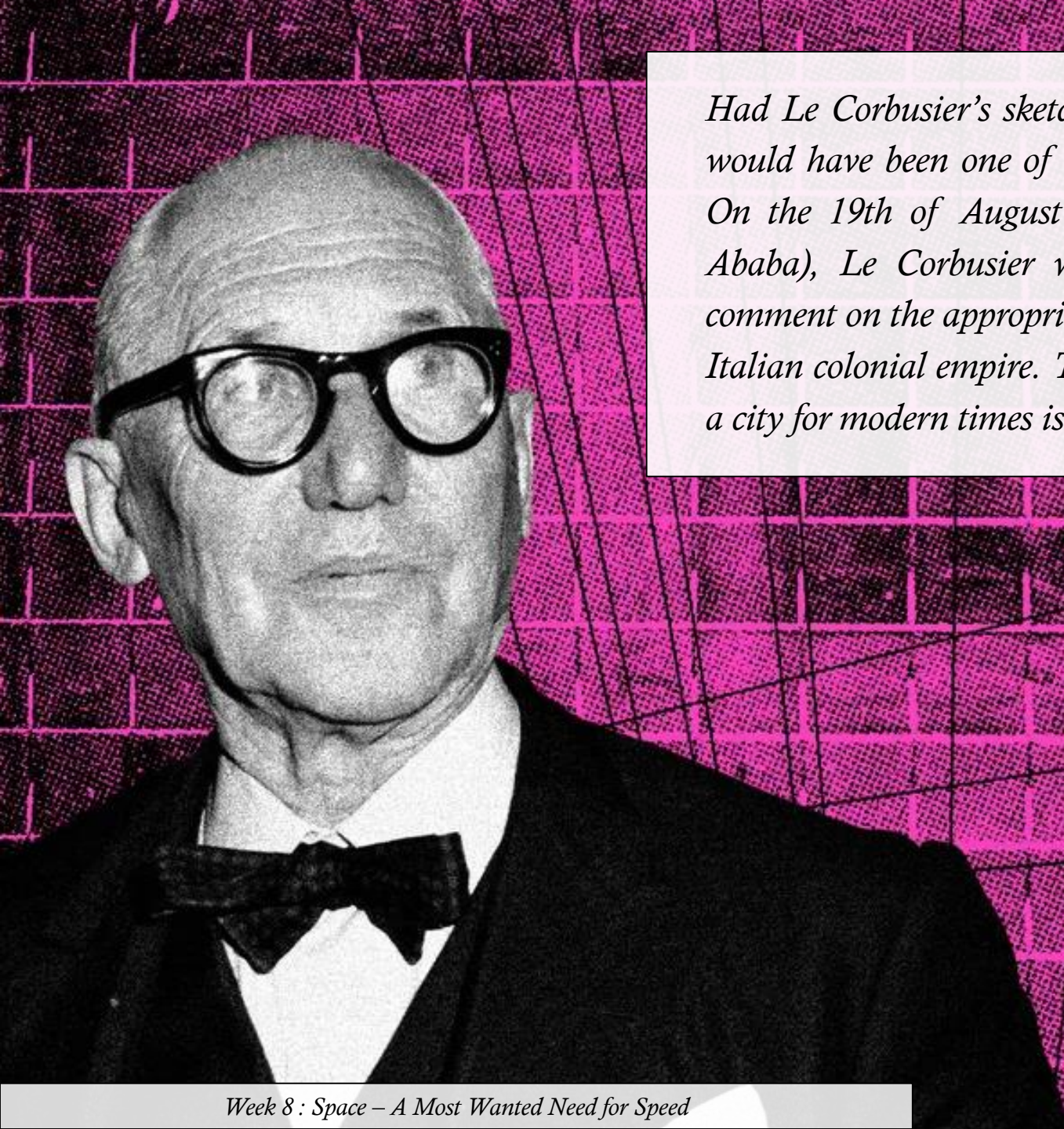
réf.: [Reddit](#) ↓

- **Cities, speed, and modernity**

*“I tell you straight: a city made for speed is made for success.”*

- We need solutions to meet the speed challenge of the “machine age”.
- Functional urbanism/architecture (instrumental rationality) to deliver quality of life.





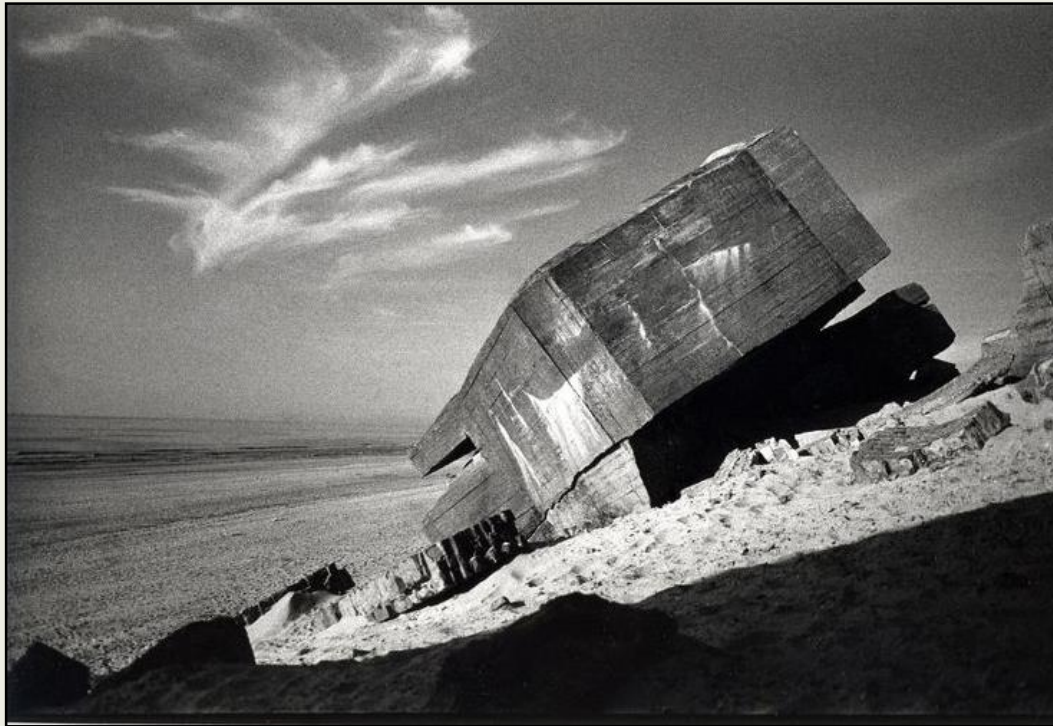
*Had Le Corbusier's sketch for the colonial capital of Addis Ababa been realized, it would have been one of the most ruthlessly planned cities of the twentieth century. On the 19th of August 1936 (a mere three months after the conquest of Addis Ababa), Le Corbusier wrote to Mussolini to offer his technical services and to comment on the appropriate design for the new cities of Africa Orientale Italiana, the Italian colonial empire. The design, which accompanied the letter, would show "how a city for modern times is born", as the famous architect put it. (Woudstra, 2014)*

*"As it is the motor-car that has completely overturned all our old ideas of town planning, I thought of interesting the manufacturers of cars. I saw the heads of the Peugeot, Citroën, and Voisin companies and said to them: The motor has killed the great city. The motor must save the great city. (Le Corbusier, 2007)*

# 1 : Speed and the city

*réf.: Architectural Review ↓*

- Cities, speed, against modernity



*réf.: ??? (1975) →*



# 1 : Speed and the city

- **Cities, speed, against modernity**
  - Paul Virilio (1932 – 2018), French master glassmaker, architect, urbanist, philosopher, photograph (and whistleblower?).
  - One of the most prominent (French) theorist of the relationship between space, speed and modernity.
  - Radical critic of social acceleration (“*if time is money, then speed is power*”).

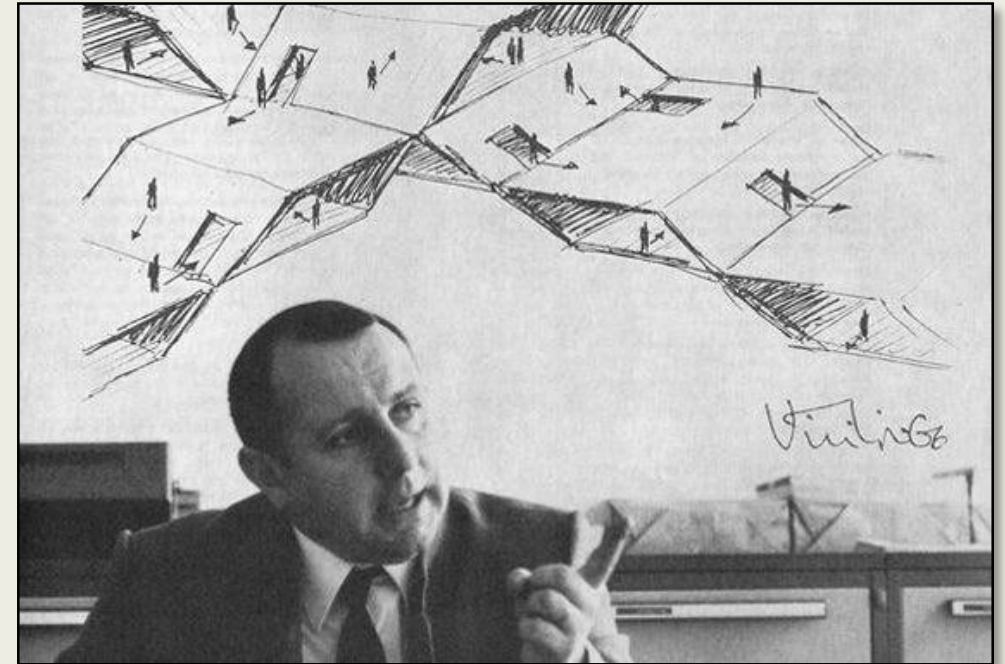


*réf.:* Verso Books ↑

# 1 : Speed and the city

- **Cities, speed, against modernity**

*“Speed has always been the **advantage** and the **privilege** of the hunter and the warrior. Racing and pursuit are the heart of all combat. There is thus a **hierarchy** of speeds to be found in the history of societies, for to possess the earth, to hold terrain, is also to possess the best means to scan it in order to protect and defend it. Real-estate property is linked, directly or indirectly, to the faculty of its penetration and [...] a place changes in **quality** according to the faculty with which it can be crossed. [...] the arrival of a new infrastructural-vehicular system always revolutionizes a society in overthrowing both its sense of material and its sense of social relationships – thus the sense of the entire **social space**.” (Virilio, 1975, p.19)*



*réf.:* Verso Books ↑

# 1 : Speed and the city

- **Cities, speed, against modernity**

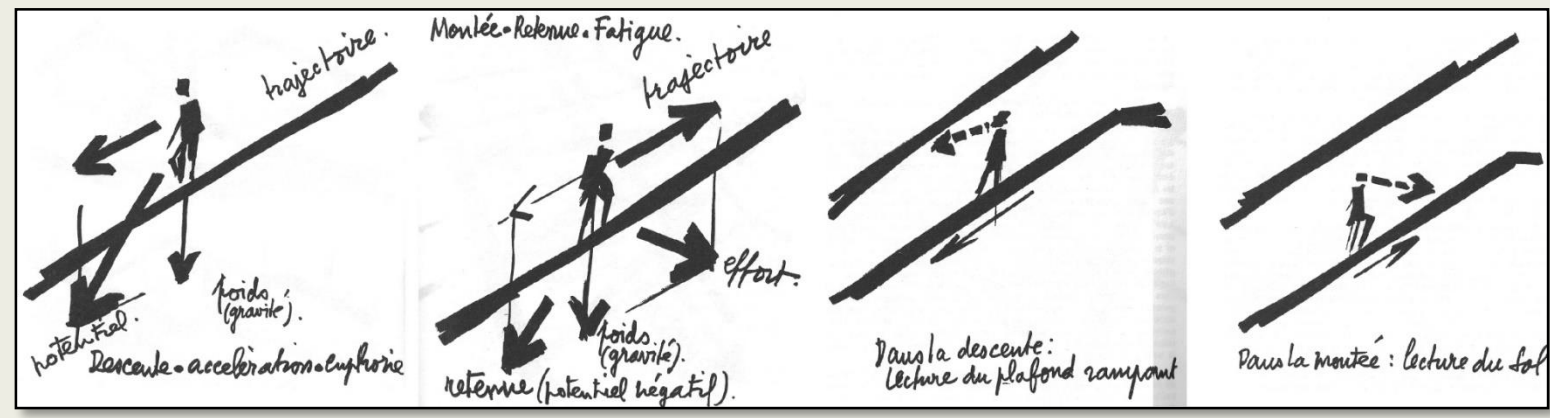
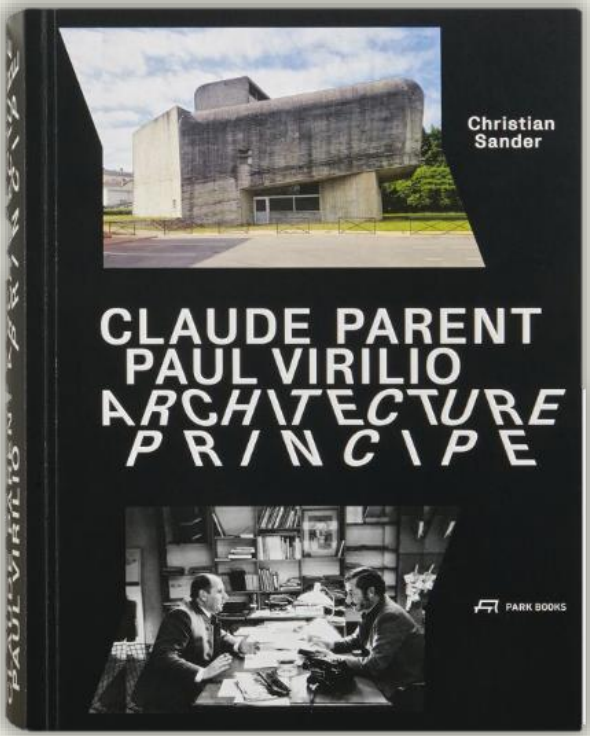
- Three dimensions of his critique of speed:
  - **Feelings** : we are losing the social and political qualities from our bodies.
  - **Technology** : new ICT act the divorce between space and time.
  - **Instantaneity** : places around the world are increasingly looking alike (no more heterotopia).
- Dromology = Virilio's conceptualization of speed = theory of the accident.
- Architecture and urbanism as solution (similar to Le Corbusier).

# 1 : Speed and the city

- Cities, speed, against modernity

→ Some spatial principles to mitigate speed/social acceleration:

- Architecture Principe (with Claude Parent).
- “Oblique” architecture: make use of the grade.
- Architectonic resistance: restore fundamental units (true time).
- Urbanism = architected place rather than architectural project.



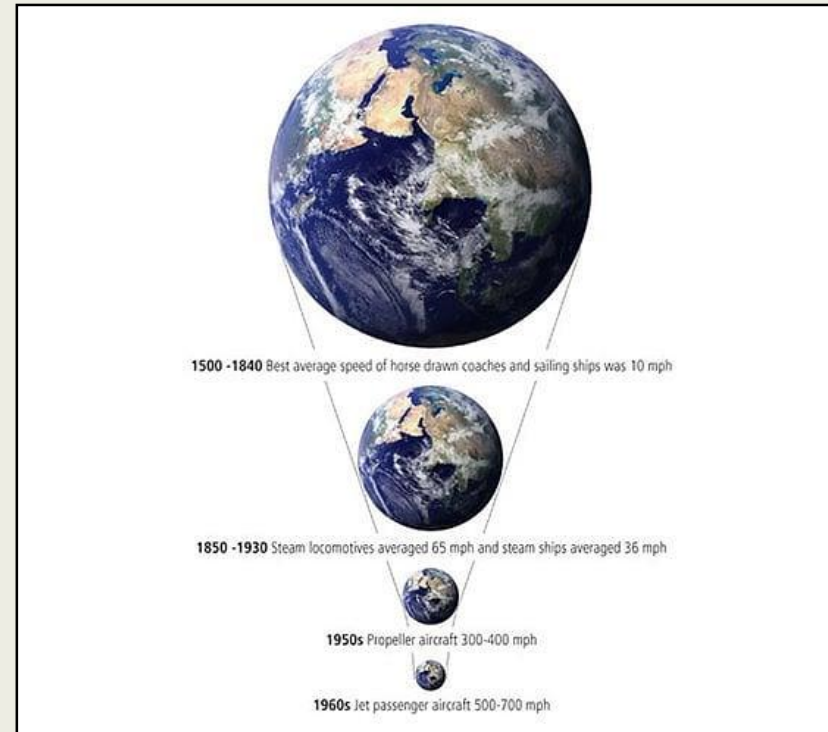
← réf.: Parent (2024)

↑ réf.: Sander (2022)

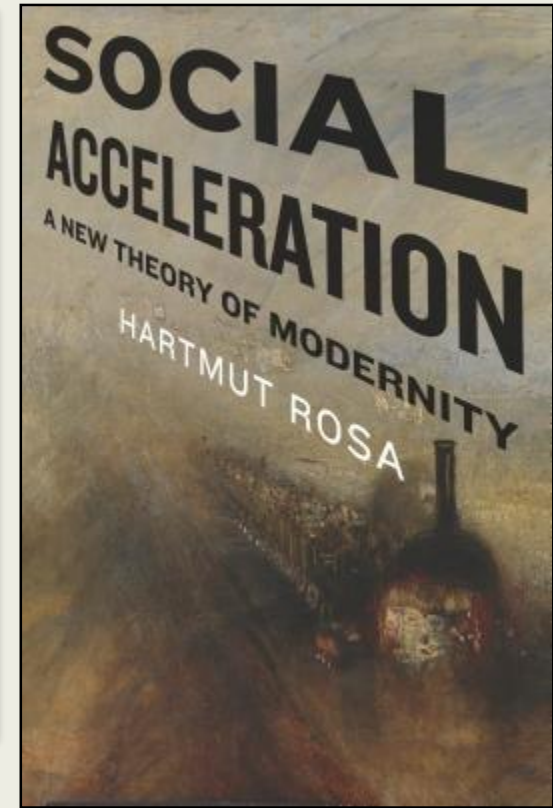


# 1 : Speed and the city

- **The theory of social acceleration**
  - Many more social/cultural theories and histories of speed and/or acceleration (Deleuze & Guattari, Rosa, Latour, Glezos, Tomlinson).
  - Rosa : social acceleration is the founding principle of “late” modernity.



↑ *réf.*: Rosa (2003) →

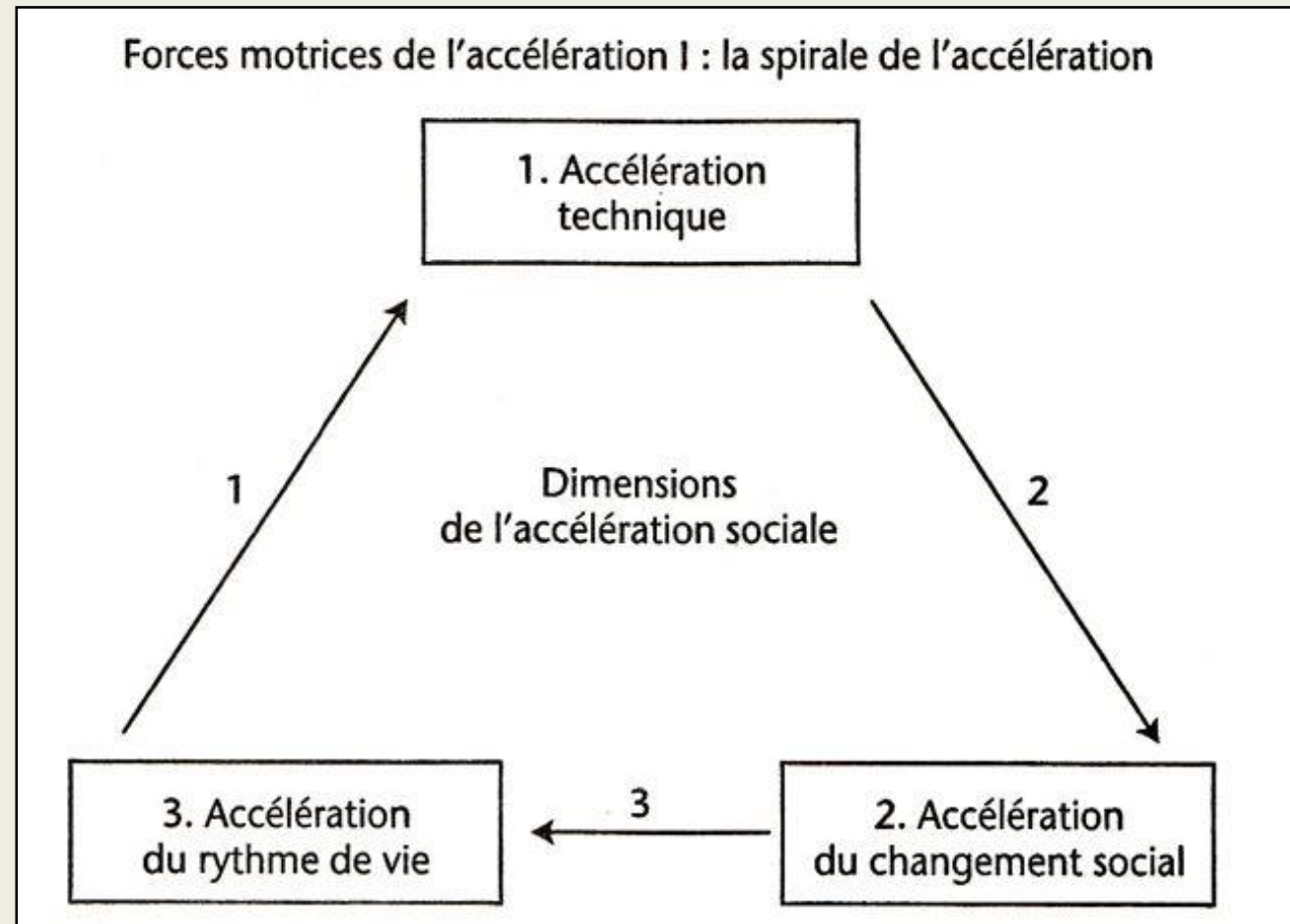


# 1 : Speed and the city

réf.: Rosa (2005) ↓

- **The theory of social acceleration**

- Why are we lacking (free) time despite increased speed potentials?
- The *spiral* of social acceleration:
  - Technological acceleration (e.g., ICT, transportation modes, etc.).
  - Acceleration of social change (e.g., pace of innovations, revolutions, etc.).
  - Acceleration of the pace of life (e.g., multitasking, burnouts, etc.).

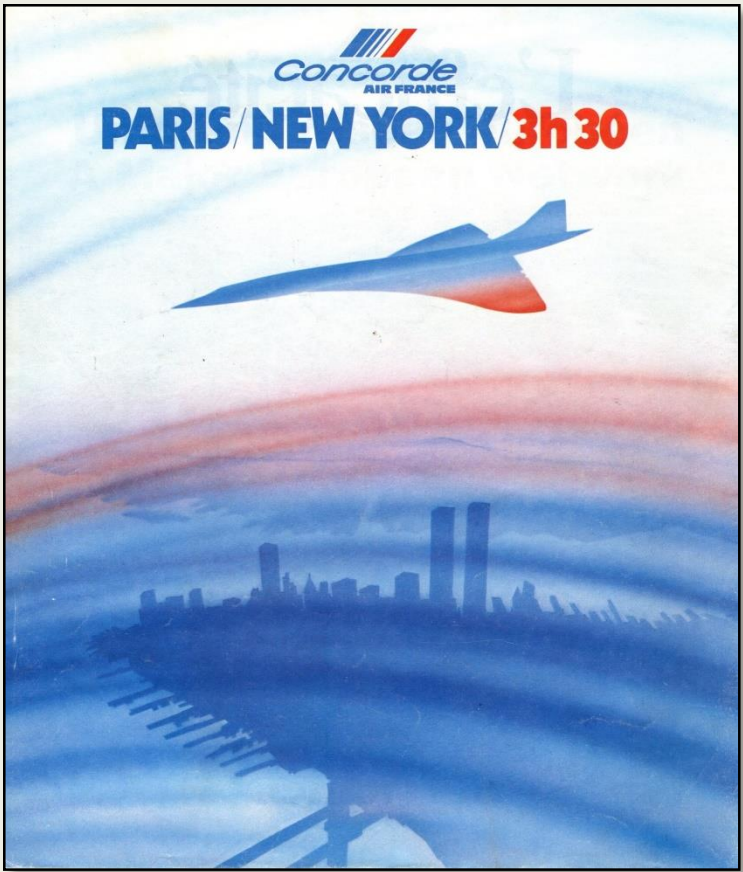


# 1 : Speed and the city

- **We are facing a social injunction to speed**
  - The production/consumption of space is reflecting a massive change in norms about speed.
  - Vagabond = pathology.
  - Nomad = quality/privilege.
  - (Neo)liberalism is about the celebration of (some) mobility.
  - Speed has become a value for itself but...
  - Main characteristic of (late) modernity : speed or uneven speeds?
  - Not everyone is able to move fast or to slow down...

# 2 : Fast and tedious

↓ réf.: Aeroseven



↑ réf.: TheGuardian ↓

## Si demain vous deviez piloter le Concorde,

## vous porteriez une Rolex

A l'intérieur du cockpit des Concorde PAN AM, il y aura au bras des pilotes une pièce essentielle. Elle pèse 85 grammes. Cela peut sembler un peu lourd pour une montre. Mais son boîtier Oyster est taillé dans un bloc d'acier suédois. Au cœur de ce blindage s'abrite un chronomètre automatique, officiellement contrôlé. Il indique l'heure de deux fuseaux horaires, à la fois. Et la date. Presque tout ce travail étant fait à la main, il faut plus d'un an pour bâtir une Rolex.

Les pilotes de PAN AM qui tiendront les commandes du Concorde tiennent aussi aux performances de cette montre. Alors... si elle n'était pas si lourde, la Rolex GMT Master ne volerait pas !

Rolex, chronomètre officiel de "Pan American", la compagnie aérienne la plus expérimentée du monde.

En vente dans le monde entier - Documentation sur demande à S.A.F. des montres Rolex, 15 rue Monnaie, Paris 2.

ROLEX GENEVE  
Hprints.com

City slickers Life after the Mirror (and how not to make a million in 12 months). In G2  
45p  
Wednesday  
July 28 2000  
Published in London and Manchester  
www.guardian.co.uk

# The Guardian

## Concorde ablaze and just seconds from disaster

The last moments of the Air France Concorde captured on film by a holidaying Hungarian plane spotter, Andras Klapovics, before it crashed at Gonesse in the northern suburbs of Paris.

118 die as supersonic jet hits the ground 'like an atomic bomb'

most 30 years of service that the supersonic Concorde had suffered a catastrophic failure of its British-built engines. An extraordinary photograph shows that the aircraft was being used as a target for a missile test. At the moment the aircraft was being hit by a missile, it had a large fireball on its left side and there were people running on the ground. The plane was rolling from left to right and there were people running on the ground. The plane was rolling from left to right and there were people running on the ground.

At least 17 other people in the town were injured, some critically. The victims were mainly German on their way to New York to board a cruise liner, said Klapovics. There were also two British, an Australian and an American on board. A British woman was among the people injured on the ground. She was slightly hurt and later discharged from hospital.

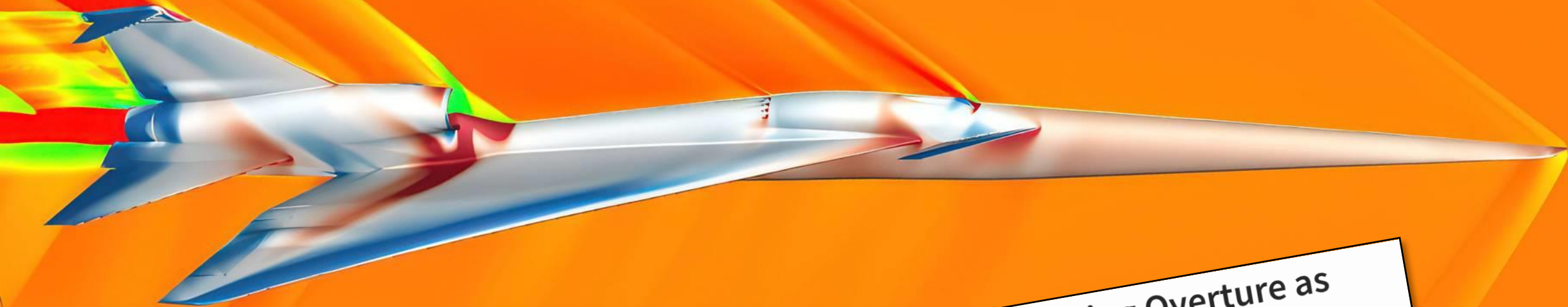
The German authorities were examining the identity of the passengers last night. Gerhard Schröder, German Chancellor, said he was "shocked and deeply saddened" by the disaster. "The victims were mostly German on their way to New York to board a cruise liner, said Klapovics. There were also two British, an Australian and an American on board. A British woman was among the people injured on the ground. She was slightly hurt and later discharged from hospital.

The plane was 20 years old and had flown 12,600 hours. Last night it completed a big refit. Four days ago, Jean-Claude Spitznagel, director of Air France, said: "There was a problem with the engines. It was not a complete refit." "Concorde, a veteran of the skies, was built to fly at twice the speed of sound. But it was always highly unconventional and only 20 were built. A total of 23 are in service, seven with

↑ réf.: Rolex

# NASA's Quiet Supersonic Jet Takes Flight

The X-59 successfully completed its inaugural flight—a step toward developing quieter supersonic jets that could one day fly customers more than twice as fast as commercial airliners.



Boom CEO hints at using Overture as supersonic Air Force One as Trump poses with “Son of Concorde” model

## 2 : Fast and tedious

Pour les médicaments,  
la vitesse c'est la vie.

Quand il y a urgence, il y a le SERNAM, et son service Express. Le Service National des Messageries de la SNCF supprime le temps perdu dans les embouteillages: il va droit au cœur de la ville, là où vous l'attendez.

Grâce à une sélection des 100 meilleurs trains, TGV inclus, le SERNAM propose la plus grande rapidité d'acheminement à destination de 600 localités.

Un flacon de sérum, une pièce de rechange, une cassette... de quelques grammes à plus de cent kilos: le SERNAM calme l'impatience. (766.52.74).

Merci Sernam  
SNCF

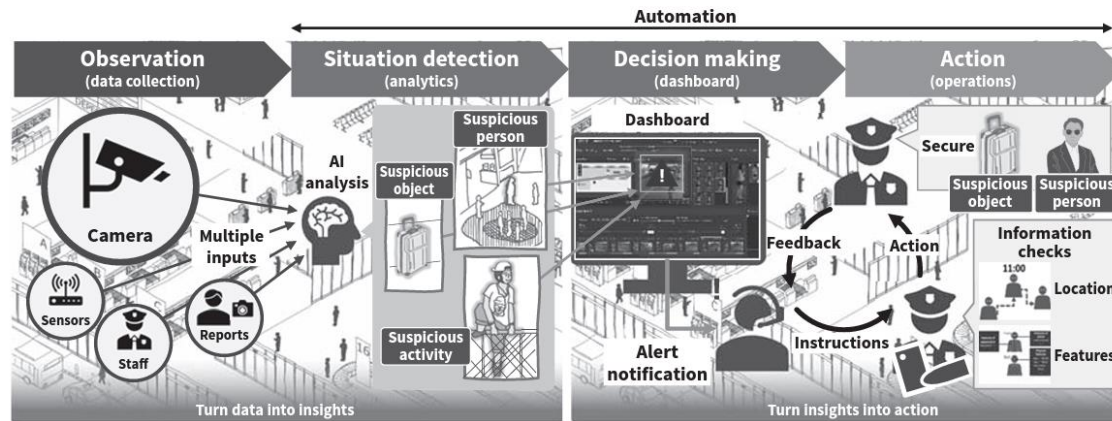
Robert S. James

*When it comes to medicine, speed is life. In urgent situations, SERNAM's Express service is available. The National Courier Service from SNCF eliminates time loss in traffic: it goes right to where you are, in the middle of the city. With a sample of 100 trains, including HSR, SERNAM offers the fastest delivery to 600 cities. Whether it's a bottle of serum, a spare part, or a cassette, from a few grams to hundreds of kilograms: **SERAM** calms impatience.*

## 2 : Fast and tedious

Figure 1 – Automation of Sequence of Steps from Security Incident Detection to Security Staff Response

Automating the sequence of steps from situation detection to decision making and action reduces the frequency of lockdowns caused by unattended baggage at airport terminals, also shortening the duration of lockdowns when they do occur.



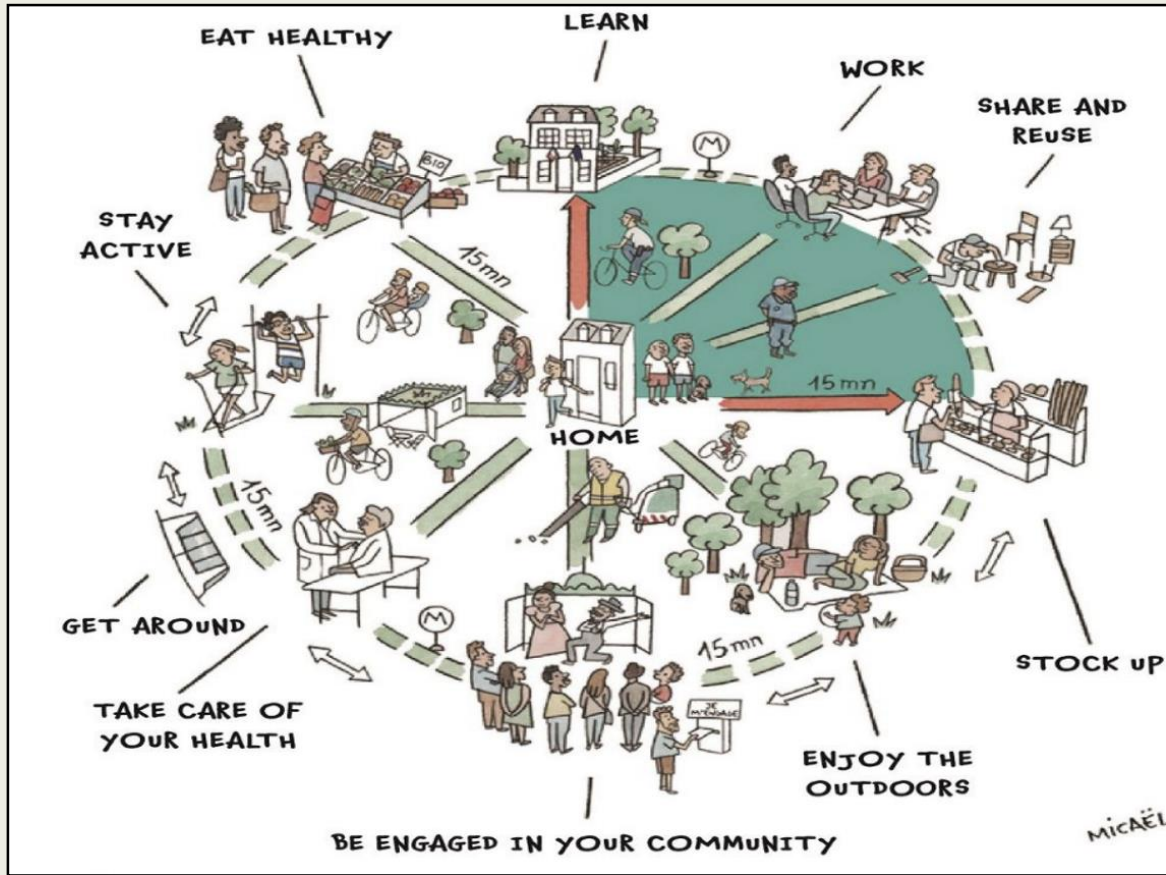
AI: artificial intelligence

réf.: Okita et al. (2020) ↓

↑ réf.: Milbredt & Rudolph (2020)

This work focuses on the movement behaviour. Yakkali et al. (2018) consider the movement of objects in video surveillance data. Suspicious movement is assumed to occur if a detected object does not move for a number of frames w.r.t. a reference frame. The approach is applied to the identification of unattended baggage or a theft of objects. Arroyo et al. (2015) consider suspicious behaviour in shopping malls such as loitering. Humans are tracked to raise an alarm in the case of an unattended desk with customers. In Aitfares et al. (2016), a method for detecting suspicious movement of humans is presented. In each frame of the camera data, moving objects are identified and the displacement vector with respect to the preceding frame is computed. The mean of this displacement vector is used to judge whether a human moves suspiciously. If the absolute value of the angle exceeds  $90^\circ$ , the individual is marked.

# 2 : Fast and tedious



réf.: Rethinking the Future ↓



← réf.: Creative Commons



## 2 : Fast and tedious

- **The ambivalence of speed**

- Speed emerges as a renewed topic of social controversy and political debate with important implication for urban planning.
- To overcome dichotomist understandings of speed, we need to address its cultural dimension.
  - When (and for whom) fastness equates *progress* or *unsustainability*?
  - When (and for whom) slowness equates *quality of life* or *conservatism*?
  - What about a freedom of pace?
- One social movement (contentious politics) was exactly about that...

# 3 : Gilets Jaunes case study



← *réf.: RTS*



# 3 : Gilets Jaunes case study

- **Some key moments to understand the social movement**

- 14.11.2018 – the French government maintains the increase of the domestic consumption tax on energy products (TICPE).
- 17.11.2018 – Act 1 of the movement (300'000 people).
- 04.12.2018 – the TICPE increase is suspended.
- 15.01.2019 – introduction of the “great national debate”.

# 3 : Gilets Jaunes case study

- **Some key moments to understand the social movement**

- 09.01.2018 – 80km/h reform on department roads in France.
- 29.05.2018 – petition on change.org (12'000 signatures in October, >1M in November).
- 18.10.2018 – J. Mouraud's video on YouTube (>6M views).
- 24.10.2018 – G. Coutard's video on YouTube (the yellow jacket symbol).
- 14.11.2018 – the French government maintains the increase of the domestic consumption tax on energy products (TICPE).
- 17.11.2018 – Act 1 of the movement (300'000 people).
- 04.12.2018 – the TICPE increase is suspended.
- 15.01.2019 – introduction of the “great national debate”.

# 3 : Gilets Jaunes case study

- **The two faces of the movement**  
→ *Video.*

# 3 : Gilets Jaunes case study

- The two faces of the movement



# 3 : Gilets Jaunes case study

- **The two faces of the movement**

- Describing the movement from the outside...

- “Pro-car” : recall what we have seen about the system of automobility.

- “Against the climate” : what about “popular” ecology?

- Describing the movement from the inside...

- Aggregation : professional milieus against “the Macrony”.

- Restructuring : a move to the left of the political spectrum after a few months.

# 3 : Gilets Jaunes case study

- **The relationship between the movement and speed (limits)**
  - Why mobilizing against a reduction of 10km/h ?
  - What does speed (and its limitation) represents this population?
  - How does the discourse and practices of the Gilets Jaunes contributes to the politicization of speed?



← réf.: Damien Meyer ↓



# 3 : Gilets Jaunes case study

- **The relationship between the movement and speed (limits)**
  - Speed is a condition of several dimensions of “autonomy” (freedom)...
  - *Mobility* : car dependence in rural places implies multiple and long trips.
  - *Financial* : “ethnoaccounting” and the uncertain cost of automobility for (low income) households.
  - *Lifestyle* : one’s right to make use of the territory without elite-driven and/or neoliberal rules.
  - A social movement for the survival of living conditions asking for spatiotemporal autonomy.
  - Requesting more direct democracy.

# 3 : Gilets Jaunes case study

- **The government's response to the movement**
  - Include the population through the great national debate.
    - Collect written or online complaints from citizens.
    - Make them public.
    - Translate them into ambitious political reforms.
  - Four themes were defined prior to the debate.
    - Green transition.
    - Taxation.
    - Democracy and citizenship.
    - State and public services.

Le grand  
débat national



← *réf.: granddebat.fr*

# 3 : Gilets Jaunes case study

- **The government's response to the movement**
  - Some flaws of the procedure.
    - CNDP opt out of the debate (*independence/ neutrality*).
    - Contributors were not allowed to start from scratch, but required to answer predefined questions about the current president's program (*democracy*).
    - Complaints were not organized based on their relevance/support (*objectiveness*).
    - Sociological composition of (IRL) participants was skewed (*representativeness*).
  - A tactical use of public participation & deliberative democracy.
    - Changing the focus in the mainstream media.
    - Dividing (individualizing) the base of the social movement.
    - Avoiding the agonistic dimension of (deliberative) politics.
    - Accelerating (legitimizing) political decisions.

# Conclusion

- **Imposing speed (limits) for more sustainable urban policies...**
  - Speed is controversial in urban policies for its cultural and moral dimensions while also producing or reinforcing social inequalities.
  - Adopting a dichotomist (fast vs. slow) perspective on speed is unsuccessful ; one needs to understand who is expected to go fast or slow and who is promoting fastness or slowness.
  - Failing to do so could lead to unexpected – but legitimate – social resentment from the population and to an increased gap between the social and environmental dimensions of sustainable planning.