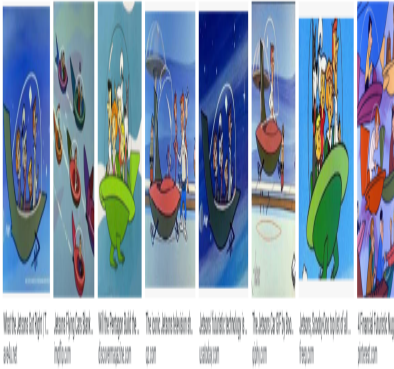




Flightless cars

Description

Who wants a car that drives itself? The Tesla car epitomises the ambition for electric-powered self-drive cars. The [tesla.com website](https://www.tesla.com) explains that the hardware (i.e. sensors, controls, etc) is in place. It will soon be safe enough for a driver to recline in her seat and fall asleep while the car does the rest.

• All you will need to do is get in and tell your car where to go. If you don't say anything, the car will look at your calendar and take you there as the assumed destination or just home if nothing is on the calendar. Your Tesla will figure out the optimal route, navigate urban streets (even without lane markings), manage complex intersections with traffic lights, stop signs and roundabouts. •

Drivers are used to automated navigation, but self-drive cars must also negotiate other objects moving along their own trajectories, navigating • densely packed freeways with cars moving at high speed. •

- The vehicle can even move about without anyone inside.

• When you arrive at your destination, simply step out at the entrance and your car will enter park seek mode, automatically search for a spot and park itself. A tap on your phone summons it back to you. •



How cars affect the way we think

Cars have affected people's conceptions of space. The architect Alison Smithson published a short book in 1972 in which she described, sketched and photographed the landscape on journeys from London to Wiltshire from a Citroën DS. The book was reproduced by the University of Delft in 1983 with additions, and it's available online, as least through my university library.

I was alerted to Smithson's book via Fiona McDermott's interesting chapter on autonomous vehicles (AVs) in the recent book *Architecture and the Smart City*. Smithson's book reminded me of several works around the same time, such as *The View from the Road* by Donald Appleyard, Kevin Lynch and John R. Myer, and *The Landscape of Power* by Sylvia Crowe. They emphasised how the world looks through the windows of a car, and moving at speed.

Driving influences the way a designer might think. For example, Smithson described driving through the banks of windbreaks that bounded the fields, "layer crossing behind layer when viewed from an open-tray on wheels" a jeep at speed" (12) and "the notion of layers, of the mysterious occlusions [sic] that occur in layers passed, entered the form-language of our architecture in the late "sixties" (12).



The impact of AVs

The editors of the 1983 edition of Smithson's book observed that we are embarking on "new notions about the role of the car in architecture and town-planning, seen from the motorway, the road, the street, and from the parking-lot, up to the entrance of the house" (6).

Considering the automobile's influence in shaping the city, McDermott raises questions about the impact of autonomous vehicles:

"how they might reorder spaces and produce new kinds of epistemologies and urban cultures remains an open one. Will the AV alter the built environment as radically as the manually driven car did over the last century?" (251).

She then asks if the self-drive car is something we really want or need. The well publicised crash of a Tesla car on autopilot on a highway in 2016 led to a number of speculative solutions to make the cars safer.

Redesign the world

For digital media critic Florian Cramer, the solution is not to try and design even better and more reliable AI into the vehicles, which may not be possible anyway, but redesign the world to accommodate these supposedly smart vehicles. The AVs need only *adequate* AI. Partly by way of parody he suggests that

“all cars and highways could be redesigned and rebuilt in such a way as to make them failure-proof for computer vision and autopilots. For example, by painting all cars in the same specific colors, and with computer-readable barcode identifiers on all four sides, designing their bodies within tightly predefined shape parameters to eliminate the risk of confusion with other objects.”

Help AI systems along by changing the environment. Redesign and adapt the world to the inadequacies of supposedly smart systems. Change our human practices so that the machines fit in better. I do this already as I adapt (simplify) my language to be sure Siri can respond appropriately to my voice commands. Supermarket checkouts are not getting smarter. I am getting better at making them seem smarter “by putting my purchases in the right place after running them past the scanner.

Places for cars

Under Cramer’s scenario, planners would need to change the signage and sensory cues in the environment: redesigned to be machine readable, with QR codes and multiple cues, and there would be redundant signage so that if the autopilot sensors missed one sign or cue they could pick up another. He also suggests “straightening motorways to make them perfectly linear and moving cities to fit them.”

Such redesign occurred as roads and infrastructures suitable for horse-drawn and bullock-drawn vehicles gave way to petrol cars, busses and trucks. Roads were straightened to accommodate speed, surfaces changed, cities expanded their boundaries, and reorganised themselves, as did social life and cultural norms.

Vehicles evolved and developed, and so did spaces, places, infrastructures, cities and people’s patterns of behaviour according to the usual circular or symbiotic relationships: people articulate needs and wants and propose technological solutions, which in turn require further innovations, and technologies further influence behaviour, and influences what people say they need and want.

Gripping the wheel

Even in prospect and fantasy, technologies reveal something about who we are. I think there’s enough evidence that people are attracted to personalised transportation because they are able to (or think they can) control it. Think of all those depictions of the crazed enthusiast on horseback tugging at the reins, the charioteer tearing around the arena (I’m thinking of *Ben-Hur* [1959]), or even *Those Daring Young Men in Their Jaunty Jalopies* (a 1969 film set in the Edwardian era).

Some drivers for some of the time want speed, and the feeling that itâ??s under their control, and that they can travel where they want. Passengers might also enjoy vicariously the agency of the chauffeur or taxi driver. If Iâ??m disconnected from the apparatus of control then I may as well be travelling on rails. Driverlessness might diminish what makes car travel so appealing, and result in fewer cars. That would be good for society and the environment.

Why wonâ??t it fly?

Even in scifi transportation the driver grips the wheel, while automation is offered in the form of navigational assistance. In any case, we would rather our cars fly than control themselves, which is where the concept of the auto pilot came from. As attested by countless science fiction scenarios, we really want cars that fly (e.g. *Blade Runner* [1982]) â?? the ultimate expression of speed, control and freedom.



Recently, I journeyed in my first on-road driverless vehicle (navya.tech) in Luxembourg, illustrated below in the video. There was no steering wheel or dashboard. There was a human operator on board who sat or stood with the passengers and used a game console to turn the vehicle around and park it to collect passengers. It really is a fair distance from the Tesla ideal, thereâ??s no one gripping the wheel, and it doesnâ??t yet fly!

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Another flightless vehicle, Lake District National Park. Picture supplied by a friend 5 March 2020.



Category

1. Architecture

Tags

1. autonomous vehicles
2. cars

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