The Economy of Autonomy: How Will Self-driving Shape Society?

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Artwork by Sydney Bernal

Y ou have had a bit too much to drink at a friend's house, so when you get in the car you decide to plug your address into the GPS and close your eyes. The car knows how to get you home. You are fast asleep on the highway when a deer jumps onto the road. Another driver swerves to avoid it and your car slams into theirs at 60 miles per hour. Who is at fault for the accident?

In a recent incident in Mountain View, California, a Google car in autonomous mode changed lanes to avoid an obstruction in the road and ended up striking the side of a bus. No one was hurt, but it was the first known case of an autonomous vehicle-involved collision where the vehicle itself may have been at fault, rather than its test driver or another driver on the road. Google released a statement admitting that the company bears responsibility and would make changes to the car's programming to prevent similar incidents in the future: "From now on, our cars will more deeply understand that buses (and other large vehicles) are less likely to yield to us than other types of vehicles." The idea that a car can "deeply understand" anything may seem like a sinister anthropomorphism, but it is simply an example of how language, much like the law, struggles to keep up with, understand, and define such technology.

The collision may become a significant obstacle for companies manufacturing self-driving cars, which are already struggling to convince the public and the government that the technology is safe. Before this collision, the only accidents involving autonomous vehicles had occurred when a test driver took control of the wheel or when another driver on the road was at fault. But even those accidents were suspect: autonomous cars actually have a higher collision rate than normal cars, perhaps because human drivers don't expect other vehicles to adhere so precisely to driving laws.

Mistrust of autonomous vehicles is widespread. Many states have already passed legislature to preemptively regulate their usage and to define whether the operator or manufacturer is liable in the case of an accident. Florida, Nevada, and Washington D.C. each require a capable human driver behind the wheel at all times, ready to take control of the vehicle when necessary. Nevada even passed a law - which Google lobbied heavily against - prohibiting the driver of an autonomous vehicle from texting while driving.

But what of the social revolution that was promised? Proponents of autonomous vehicles have highlighted their potential as a transportation system for the elderly, the disabled, and the drunk.

Around 70% of seniors currently live in rural areas or suburbs where it can be impossible to get to a doctor without access to a car. Currently, there are many volunteer programs for driving senior citizens to medical appointments, and ride-sharing programs like Uber have lowered the cost of taxi services. However, in low-density areas where volunteers and Uber drivers are scarce, driverless cars could be a radical solution in terms of safety and medical care for those who cannot drive themselves. But the new laws being passed suggest that "autonomous" and "driverless" are not equivalent. These public health issues will not be addressed by cars that require a "capable driver" behind the wheel.

A key component of working toward large scale solutions is engaging a greater portion of the population, extending the dialogue on climate change to a more diverse audience.

Proponents of autonomous cars also claim that more benefits will arise when autonomous cars become the majority on the roads. Cars programmed to travel in tightly knit flocks will theoretically be able to reduce congestion and, therefore, energy emissions. Additionally, collision rates could decline as people grow accustomed to driving alongside robots. However, critics argue that once people are free to multitask while driving, they will be more inclined to live far away from their workplaces and commute times may rise, increasing overall traffic and emissions. This problem could be offset if autonomous vehicles were a public resource similar to a taxi service rather than privately owned commodities, but given their market appeal that situation is unlikely.

Will autonomous vehicles empower those who are currently disadvantaged by our transportation infrastructure, or will they become another Silicon Valley product that addresses only the needs of the privileged few? They have been promoted with promises of greater widespread health and safety, but many of these promises seem to have been derived as justification—rather than used as motivation—for their development. While the legal battles rage over our right to text behind the wheel, it remains to be seen whether or not this technology has anything more to offer society. 🔴

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