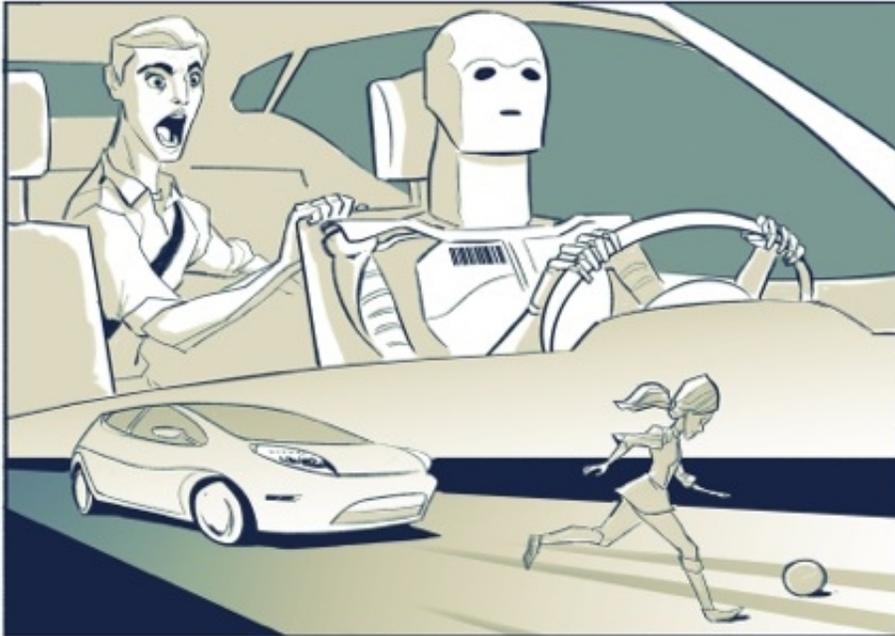


# The ethics of driverless cars

August 21 2014, by Andrew Stokes

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Credit: Craig Berry

Jason Millar, a PhD Candidate in the Department of Philosophy, spends a lot of time thinking about driverless cars. Though you aren't likely to be able to buy them for 10 years, he says there are a number of ethical problems that need to be tackled before they go mainstream.

"This isn't an issue for the next generation, it's happening right now. Driverless cars are on the road in certain jurisdictions as they're being prepared for a [mass market](#)," says Millar, whose dissertation focuses on robot ethics and the implications of increasingly autonomous machinery.

"These cars promise safety benefits, but I'm interested in what happens to the cars in a difficult situation, one where lives are on the line."

To explore this problem he created a [thought experiment](#), called the Tunnel Problem, which attracted hundreds of thousands of readers and commenters online. The Tunnel Problem reworks ethical philosophy's [Trolley Problem](#).

The setup is this: You are driving in an [autonomous car](#) along a narrow road, headed towards a one-lane tunnel when a child errantly runs on to the road and trips. The car cannot brake fast enough to avoid hitting the child and so it must decide whether to swerve off the road, effectively harming you, or remain driving straight, harming the child.

"This is a problem with only bad outcomes that even a human driver cannot easily solve," says Mr. Millar. "What's particularly useful about this situation is that it focuses our attention on a design question, as the car will be programmed to respond a certain way—I want to ask who should make the decision about the car's response."

After initially posting his article on Robohub.org, the site ran a poll to gauge readers' responses and rationales as to who should render the judgement.

"A near majority responded that the passenger in the car should have the right to make the decision about whether to swerve or not, and only about 12 per cent suggested it should be up to the car's designers," he says. A full third of respondents said it should be left up to lawmakers and legislators to make the call.

"That so many people were willing to trust a life and death situation to politicians and lawmakers really surprised me," Mr. Millar says. "Many of them said they wanted a standard behaviour so that people would

know what to expect in that situation, while others simply wanted someone else to make the decision and take it off their hands."

The Tunnel Problem is one of just a series of problems that Millar foresees being an issue with driverless cars. "There's also the problem of who's culpable when a car crashes. If we maintain current standards of product liability, then the fault will tend to lie with the manufacturer, but we may also shift to a system where we consider the robot at fault," he says.

It's a possibility, but Millar says the future of [driverless cars](#) is far from certain. "Holding the robot responsible may be less satisfying for those with a mind for punitive justice."

Provided by Queen's University

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