



Who Is Responsible When Robots Kill?

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Technological revolutions — like cryptocurrencies and robots — tend to outpace the law. Cryptocurrencies are being hacked and stolen. But, robots can kill.

Increasingly, we are trusting robots with our lives. Sometimes the results are disastrous:

- Surgery robots routinely kill and maim.
- The first reported factory robot killing occurred in 1979 at a Ford Motor Company plant. More recently, an industrial robot killed a German factory employee in 2015 and another killed a Michigan worker in 2017.
- In May 2016, a Tesla car operating on a semi-autonomous driving system collided with a tractor-trailer in Florida, killing the Tesla driver.
- In March 2018, an Uber self-driving car hit and killed a pedestrian in Arizona.

Nobody's Roomba Is Going To Prison

It doesn't make sense to blame machines. Present day robots are not intelligent beings trapped in metal and plastic. They're just gadgets with increasingly fancy cruise control. They don't think, feel or make independent decisions. They're just programmed to follow flow charts and run algorithms. Artificial intelligence is heavy on the artificial, light on the intelligence.

So, who's responsible when the worst happens? It's not the robots.

Operator Error

It's us. We're in charge...for now. It's the people behind the machines who face real, but quite uncertain, exposure. Yet, we haven't updated our laws. It would be nice to say we have clear "robot rules" and the law says what everyone needs to do and the consequences if they don't. But, I would be lying. We The People have a lot of catching up to do.

We've Caught Up Before

A century ago, cars raced onto American streets and into the once relatively placid domain of pedestrians and horse-drawn carriages. Chaos ensued. Collisions and fatalities skyrocketed. Courts began writing new rules. In a seminal 1916 decision, a New York court ruled that a car manufacturer was liable for defects in its tires, despite the fact that the automaker merely bought the tires from another company. The result ushered in the new theory of product liability law. As a result, manufacturers had more incentive to produce safer machines. Still, author Peter D. Norton determined that more than 200,000 Americans were likely killed in traffic accidents during the 1920s, three-to-four times the number of traffic-related deaths in the prior decade. So, state and local legislatures joined in the rule-writing effort. They banned pedestrians from walking in the street. The term “jaywalking” was coined and legislators campaigned against and penalized this reckless behavior. Ultimately, society tackled the challenge. Now, people stroll on the sidewalks, not in the street — except near my office where “pedtextrians” regularly wander into traffic while looking down at their smartphones.

The Current Chaos

Today, robot makers — and their occasional victims — operate under a variety of ill-fitting legal theories. Under product liability law, manufacturers are liable when their “thinking” machines cause harm — even if the company has the best of intentions and the harm is unforeseen. In other situations, robot makers are only liable when they are negligent. Another theory assigns liability where the perpetrator is reckless. Still another theory imposes criminal liability where the culprit intends to harm another — like the hacker who disables a pacemaker (a possible concern, but mostly a new Netflix genre).

The theories become a thicket when one considers new state laws. Alabama, California, Connecticut and North Dakota now allow pilot programs for autonomous vehicles. Colorado, Florida, Michigan, Nevada, North Carolina, Tennessee and Texas let people actually “drive” in autonomous vehicles, subject to safety and other requirements. A number of states permit “vehicle platooning.” This eliminates the safe-distance requirements and allows autonomously operated vehicles to closely follow each other in “electronic trains” to reduce congestion, improve fuel economy and reduce the need for new highways.

Federal law is sparse. Congress enacted the Surface Transportation Reauthorization and Reform Act of 2015, encouraging autonomous vehicle research, assessment and facilitation. The National Highway Traffic Safety Administration (NHTSA) has issued voluntary guidelines. But there is no national framework regulating robots or punishing their misuse.

Overall, the only clear thing is that we lack clarity. When it comes to robots, we mostly don't know what obligations and consequences apply.

You can drive your “dumb” car negligently, get in an accident and be convicted of manslaughter. But, can a software programmer who negligently or recklessly codes a “smart” car be guilty of manslaughter? We don't know. Instead, investigators, prosecutors and courts apply old rules

and decide who goes to prison — on a somewhat haphazard, unpredictable, case-by-case basis. Today, obeying “the rules” is like going cross-country and changing your currency and language at every state line — and most intersections.

The business world is just winging it. Some companies take matters into their own hands with their terms of service. Typically, these rules are strikingly one-sided and incomprehensible. There are crumbling ancient Egyptian scrolls that are easier to follow. This is not exactly the “solution” to keep us all safe. It’s like letting pedestrians wander back onto the highway if they click, “ACCEPT.”

Furthermore, inventors and investors, suppliers, users and countless others — even the insurance companies that set premiums — need guardrails that don’t exist yet.

If all of this sounds terribly complicated and filled with massive gaps, I have done my job.

What We Have Here Is A Failure To Legislate

Certainly, some argue that the absence of rules fosters creativity, even if it allows uncertainty. Soon, drones may be delivering your prescriptions. Arguably, the relative lack of regulation of drones in the U.S. incubates this innovation.

Or, not. Robot makers are not operating in a “no rules” zone. There are plenty of laws on the books, but they are ill-fitting. Who knows what innovation and investment remains on the drawing board because murky rules prevent people from weighing the risks versus rewards?

Further, responsible companies will do the right thing. But they should not be at a disadvantage to unscrupulous competitors — who act recklessly in the absence of rules (a la the current privacy debate).

Indeed, we may spur progress by adopting simple but sound rules — like limiting or eliminating liability when robot makers provide certain warnings, mitigate certain risks and use the best available safety measures.

Presently, and I hope for the rest of my life, robots can’t and won’t do anything that software engineers didn’t program them to do. But, before your Roomba transforms into The Terminator, we need new rules of the road.

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