Algorithmic Accountability

In 2018, a tragic incident occurred involving a testing-phase Uber self-driving SUV, and a pedestrian. This pedestrian, Elaine Herzberg, was killed by the SUV that not only was in a self-driving mode, but also was being backup driven by an individual who was allegedly distracted from the road. This incident was the first time in history that a person was killed by a fully autonomous car. Thus, this incident has sparked controversial debates and has been used as a case study in numerous scholarly articles and media. This memo will highlight the position that the backup driver, Rafaela Vasquez, was at fault for the death both morally and ethically.

Firstly, what is the role of autonomous vehicles in society? The need of autonomous vehicles comes from a rapidly developing social and technology cycle. There are a range of benefits of using such technology, including improved safety, efficiency in traffic reduction, and increased mobility for those that are unable to drive. According to *Automated Driving and Product Liability* by Bryant Walker Smith there are also some possible long-term benefits, such as reductions in the need for parking spaces, changes in car ownership models, improved land use, and integration with government initiatives and infrastructure. However, there are many social factors that come into play when dealing with autonomous vehicles. Autonomous vehicles are a fairly new technology and the way this technology affects these facets of life is constantly changing. Economically, more and more people are adopting expensive automation software in their daily lives. Culturally, there's a fascination with automation and cutting-edge technology that further motivates the development of such technologies. Legally, regulating autonomous vehicles and their related incidents is a large topic in politics and public policy, one that Vasquez specifically was directly affected by.

One significant concern of this case was highlighted by Wired journalist Lauren Smiley: Pretrial filings showed that Uber's practices and the vehicle's technological limitations played a large role in the incident. The National Transportation Safety Board (NTSB) declared that Uber had an "inadequate safety culture," particularly in trying to lower the occurrences of "automation complacency." This term describes the tendency of backup drivers to pay less attention to the road while under the use of automated driving, or driving with tools that require minimal input.

Additionally, Uber reduced the number of test pilots in each car from two to one prior to the crash. This decision likely contributed to a decrease in overall vigilance by the backup drivers. When two operators are present, they can keep each other alert and adhere more strictly to company policies, such as the no cellphone rule. The shift to solo operators, who were tasked with monotonous and long routes, increased the chances of distraction and reliance on automation. Clearly, having two backup drivers from Uber’s standpoint is much less appealing than having one normal driver, both cost and efficiency-wise. However, additional testing of the software for a longer period with two backup drivers may be preferable to avoid incidents like these.

Going back to Uber’s cell phone policy, operators were forbidden from using any mobile phone while driving. However, they were expected to keep their phones accessible to receive company communications through a platform called Slack. This contradictory policy created an environment where operators were more likely to be distracted. Previous backup drivers had been fired for violating the phone policy before this crash incident occurred, showing that this was a known issue within the company with nothing being done about it. According to the legal proceedings following the incident, Vasquez’s defense argued that she was not distracted by any forbidden usage on her phone, as initially believed, and instead was monitoring Slack and duly following Uber's instructions. This claim shifts some of the responsibility from the individual operator to Uber's policies. It suggests that the company's expectations could have contributed to the distraction, leading to the accident.

Ultimately, Vasquez took the entire legal front of the case. Per Jacques Billeaud and Anita Snow of AP News, Rafaela Vasquez was charged with an undesignated felony of endangerment and sentenced in 2023 to three years of supervised probation with no time in prison. This endangerment is defined as “recklessly endangering another person with a substantial risk of imminent death or physical injury”. Even though legally the backup driver was at fault, ethically, is Uber partially to blame?

Sacasa's discussion on affordances, the idea that technology both enables and dissuades certain motives, is particularly relevant when analyzing autonomous vehicle technology. In this incident, the affordances of self-driving technology enabled it to navigate autonomously but constrained it from properly detecting a pedestrian crossing outside of a designated crosswalk. This limitation highlights the need for a deeper consideration of how technologies are developed and integrated, and the potential actions they enable. It raises critical concerns about how autonomous vehicles can be designed to be more inclusive of different land scenarios (urban, suburban, rural) and atypical pedestrian decisions.

When considering Vasquez’s role as a backup driver regarding these affordances, the moral responsibility in the crash becomes layered. Vasquez, as the operator, held a duty to monitor and intervene in the vehicle's operation. However, the incident's context, influenced by Uber’s policies and the car's technological limitations, complicates the assignment of moral responsibility. The failure of the car’s system to detect Herzberg represents a technological shortcoming, a limitation in its affordances that Vasquez was expected to compensate for. Yet, the environment created by Uber – requiring operators to monitor communications and possibly leading to automation complacency – arguably reduced her capacity to fulfill this role effectively.

In conclusion, the Herzberg incident is a complex case surrounding autonomous technologies and artificial intelligence. Taking ideas from Autonomous Cars and Tort Liability by Kyle Colonna, it is also apparent that technology manufacturers’ liability will increase as such technology progresses (Colonna 35) and there is a long road ahead for legislation changes regarding these topics. Ultimately, this case demonstrates that a change in the way automation is developed and deployed is needed, one that better considers the ethics and morality of technology.

Works Cited

1. [https://www.wired.com/story/ubers-fatal-self-driving-car-crash-saga-over-operator-avoids-prison](https://www.wired.com/story/ubers-fatal-self-driving-car-crash-saga-over-operator-avoids-prison/)
2. <https://apnews.com/article/autonomous-vehicle-death-uber-charge-backup-driver-1c711426a9cf020d3662c47c0dd64e35>
3. <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2325879>
4. <https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2923240>