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# Driverless Cars and Disability: Alternative Worlds in Media Presentation

## **Comments**

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The author

# Driverless Cars and Disability: Alternative Worlds in Media Presentation

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How liberating? For whom? At what costs (economic and social)? This paper is an exploratory examination of images that people have expressed about driverless cars, particularly as seen through particular media outlets. I am also concerned with the question of where disabled people fit. As I argue, many answers are narrow and superficial. Neither policy-makers nor media outlets should reduce disabled people to consumers of a product, while paying insufficient attention to related environmental and social issues. Although it would be easy to identify problematic media images of disabled people, there are also examples of nuanced, detailed analysis.

The author teaches Peace Studies and Political Science at Chapman University, south of Los Angeles. This paper is part of an ongoing project exploring connections between Disability Studies and Peace Studies. I argue that one connection is the prominence of autonomous vehicles, the driverless car in Disability Studies and the drone weapon in Peace Studies. In both cases, detailed analysis by researchers is fruitful.

In the first section, I examine conceptions, sometimes definitions of the three essential terms of this paper: driverless cars, disability, and media. In the second section, I report quantitative results from a search of five major media outlets. In the third section, I identify five frames that characterize media

coverage of driverless cars: technological breakthrough, entrepreneurship, futures, disability, and public policy. In the fourth and final section, I draw implications for future exploration by scholarly researchers and by the media.

## **Background**

Three subjects are central to this inquiry: the topic of driverless cars, conceptualizing of disability, and media coverage. Although definitional debates are beyond the scope of this paper, I will discuss all three as background.

### **The Topic: Driverless Cars**

“Autonomous vehicles” and “robotic vehicles” are two of the phrases that potentially capture broader activity than “driverless cars.” However, through a search of major news media and popular discussion, almost always authors begin with “driverless cars” and then extend their discussion to buses, trucks, trains, and other vehicles. The U.S. “National Highway and Traffic Safety Administration” (NHTSA) identifies five levels of autonomy, with level 0 for “no automation”, 1 for “function-specific automation to 4 for “full self-driving automation (National Council on Disability, 2015, p. 14).

Some companies, countries, and regions are extensively involved in driverless car technology. China, South Korea, India and Japan, Google-Waymo (now both parts of Alphabet), Uber (also producing Otto, the autonomous truck),

Ford, Tesla and many smaller enterprises are leaders in autonomous vehicle technology. The European Union and European national governments have promoted, but also limited, driverless car technology. Within the United States, the geographic areas of greatest interest have been California, Nevada, and Washington D.C.

## **Disability**

Definitions of “disability” change with context, different in different places and times. This was recognized by the drafters of the United Nations Convention on the Rights of Persons with Disabilities who inserted in the Preamble: “Recognizing that disability is an evolving concept and that disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others” (Paragraph e). Many of the reports examined here were written assuming a traditional medical/deficit conception of disability with breakdowns by impairment: particularly blindness but also mobility impairments, intellectual disability, and others.

Activists, policy-makers, and scholars (and increasingly journalists) mention universality since more and more people are acquiring disabilities (World Health Organization & World Bank, 2011; O’Brien, 2005). Temporary or permanent

disability is a frequent consequence of living longer and such common human activities as war and sports.

## **Media**

Information about driverless cars is spread through many different sources: television, radio, magazines, newspapers, and others. I focus on major newspapers partly because information is easily available. From an initial cursory look, information from other sources is basically similar. I provide the most detail on information from five outlets with high circulation: the *Los Angeles Times*, *SFGATE*, *USA Today*, the *Washington Post*, and *The Guardian*. I take a more cursory examination of other sources including trade publications, the BBC, National Public Radio, and the disability press.

### **Quantity of Coverage: April 1, 2014 to April 1, 2017**

Serious media attention to the driverless car has been recent. One reflection of this is the results in Table 1 which represent the vast bulk of the coverage in the five outlets. For four of the outlets, the *Los Angeles Times*, *USA Today*, *Washington Post*, and *The Guardian* (London), results are from the LexisNexis database. No San Francisco outlet is included in Lexis, so *SFGATE* (an online source that includes stories from the *San Francisco Chronicle*) was searched at its own site. The first results are “hits” (news stories) for the search term

“driverless cars,” followed by the number of stories in which “blind,” “disabled,” “disability,” or “disabilities” appears.

Table 1  
Frequencies

<i>Newspaper</i>	<i>Number of Articles 2014-2017</i>	<i># with Blind, Disab*</i>
<i>Los Angeles Times</i>	22	1
<i>SFGATE</i>	630 (est.)	25 (est.)
<i>USA Today</i>	68	2
<i>Washington Post</i>	475	80
<i>The Guardian (London)</i>	332	33

*Source: SFGATE Website; others at Lexis site for Chapman University, “Hits” for April 1, 2014 to April 1, 2017 accessed April 2, 2017*

They depict general patterns, although not as pronounced as may first appear from the cell entries, for several reasons:

- For the *Washington Post* many of the “hits” were duplicates or triplicates from a story also being published in regional editions, or stories that appeared in the online blog but not the newspaper. Exclusion of duplicates would alter the results, but not dramatically.
- SFGATE results came from the website since it is not included in Lexis. The classification rules were different from Lexis’ although not



dramatically. The essential findings that there is a lot of coverage of “driverless cars” in SFGATE is borne out by the data.

- Equivalent search terms such as “autonomous vehicles” or “robotic vehicles” were not used. However, conducting searches using equivalent search terms yielded similar results to the “driverless car” search. Disab\* which denotes uses of “disabled,” “disability,” and “disabilities” might skip a few stories that only referenced a “wheelchair-user” or someone with a specific impairment, such as being hearing impaired.

### **Prominent Media Themes**

The quantity as well as quality of media coverage is striking. The concept of “news frames” drawing on writings of Goffman, Snow, Graber, and many others, is useful in analyzing media coverage on driverless cars. I suggest that five “frames” are especially important: technological breakthrough, entrepreneurship, futures, disability, and public policy. They overlap and might be used in the same story as depicted in Figure 1. Ultimately a table may represent results from thematic content analysis, but here I will just describe the themes from examples of coverage.

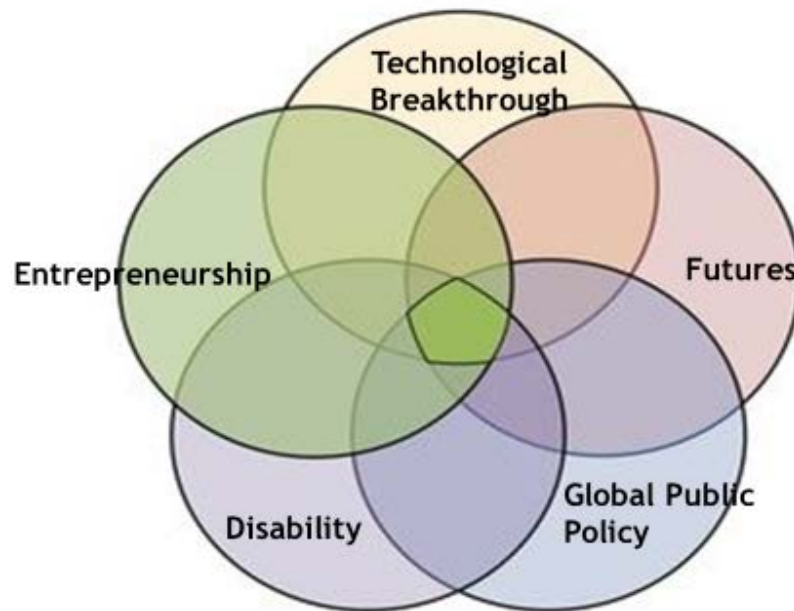


Figure 1

Frames in coverage of driverless cars

### **Technological Breakthrough**

In all five sources, a common frame is rapid technological breakthrough. Within the three year period examined by far the most coverage in all three year was for 2016-2017. An “Ngram” search of *Google Books* does show some interest in 1911, but then a steep and steady climb in the 21<sup>st</sup> Century.

In March, 2017 *The Guardian* published an article that epitomizes this frame. “Revolution,” “game changer,” and “life changing” were terms used in an article that also reported on constraints and interviewed skeptics (Levin & Harris,

2017). At its best, as was the case here, press coverage balances reports on technological breakthrough with reports on skepticism and constraints.

### **Entrepreneurship**

Developers' growing attention to driverless car technology is generated significantly by hope of financial reward. This has included both major corporations and individual entrepreneurs. One of the entrepreneurial leaders, Chris Urmson's leaving Google in 2016 generated interest in several media sources. Urmson has since started his own company, "Aurora Innovation." Google's parent company, "Alphabet," has now created a subsidiary, "Waymo," which focuses on self-driving cars.

The theft of industrial secrets receives great media attention, although corporate granting of great advantages and denial of open access is seldom covered. In an article exemplifying this frame BBC's Dave Lee reported: "Uber: We did not steal Google's self-driving tech" (2017). The relegation of such stories to the technology or business pages is one reason why coverage is minimal.

### **Futures**

Both the technological breakthrough and entrepreneurship frames are commonly accompanied by a "futures" frame. In the best cases, elements of transition between the present and the future are made explicit. But too often,

they are not. One problem is that what has seemed to analysts to be the distant future has become steadily closer. As Alex Hern wrote in *The Guardian*:

The future has come a lot sooner than anyone really thought. Even if Google takes far longer to start selling cars than it thinks it will (and senior figures in X tell me that they're confident something will hit the market before 2020), this technology is going to hit the real world somewhere soon, and it's going to change everything (2016).

There are examples of media coverage where readers are encouraged to take a critical, nuanced view of alternative futures. For instance, the Union of Concerned Scientists publicizes "seven principles to guide the self-driving future": safer transportation, cleaner vehicles, integrated transit, improved access (explicitly mentioning disability), just transition, secure sharing, and livable cities (2017). Even where disability is not explicitly mentioned its relevance is implicit.

## **Disability**

A scan of coverage of driverless cars reveals a lot of hype, but also sophisticated and detailed studies. Chief among these are a 2015 report from the National Council on Disability, and a 2017 Ruderman Family Foundation report (Claypool, 2017).

These reports conclude with series of recommendations where advancement of self-driving technology would be consistent with advancement of disability rights. The availability of driverless cars could conceivably enhance (or

have a negligible effect on) disability access issues such as employment and medical care.

### **[Global] Public Policy**

Whether development of driverless car technology will have a measurable effect depends on the implementation of overlapping policy concerns (among them access to information, employment, urban planning) at many levels.

Malaysian journalist and economist Martin Khor recently wrote that “the driverless vehicle is just one example of the technological revolution that is going to drastically transform the world of work and living” in an article entitled, “The Robots are Coming, your Job is at Risk,” (2017). Although Khor doesn’t mention disability, his article describes major challenges that will confront policy-makers.

Coverage of driverless cars implicitly suggests that the issues (but not policy-making) are “Glocal”- a combination of global factors with local application. Nation-states such as the United States, China, and Germany have been left behind. (In some ways, this is by choice; in the United States, for instance, the Trump administration is more supportive of older technologies than of new technologies like the driverless car.

**Prescription: “How Should Driverless Cars be Presented?”**

Even the cursory examination of media coverage undertaken here suggests the importance of disability-focus in coverage on driverless cars. Disability-focus can induce writers and readers to think more critically also in two related areas: public policy and futures. There is also some overlap with the technological breakthrough and entrepreneurship frames.

### **Disability**

The first recommendation in the Ruderman Family Foundation report was: “The disability community should begin engaging immediately in the debate around autonomous vehicles, establishing a coalition of aligned interests” (Claypool, Bin-Nun, & Gerlach, p. 29). Best provision would be “of” rather than “for”; thus, participation of the disability community would extend to all phases of the debate (not just as consumers, but also in the planning and marketing process).

This would illuminate policy concerns. As Bradshaw-Martin and Easton noted: “The truly emancipatory aspects of self-driving cars can only be achieved with a full and frank debate about the technology’s ability to support disabled people’s ability to live the independent life of which they are capable,” (2014).

### **Global, Comparative Public Policy**

The “Glocal” nature of issues raised by the driverless car needs to be made explicit by media, policy-makers, and advocates. Increasingly, many of them will not represent states, but regions, cities, or enterprises. Thus, a difficult task in media coverage will be to take consumers beyond the territorial map.

How the driverless car becomes available will have major economic, environmental, and cultural consequences. Inevitably not only government bureaucracies, but also corporate enterprises will face organizational constraints.

### **Alternative Futures**

Coverage of driverless car technologies will be most beneficial to policy-makers and the public if it distinguishes between short and long range futures, and gives a range of scenarios with alternative transition plans. Rather than simply choosing between utopia and dystopia, activists, policy-makers, scholars, and journalists should focus on relevant alternatives, successful practices, and failing practices.

Although driverless car technology changes some ways of thinking, it doesn't do so automatically. How all of us think and act about the driverless car will either move disability to the center of public and policy-makers' “radar screens” (with attention to alternative futures and policy consequences) or allow

them to ignore it. My hope in further developing the analysis described in this paper is to encourage deeper thinking.



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