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What comes to mind when people are asked questions about robots?

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Abstract. Scientists and practitioners often seek to understand people's attitudes towards new technologies, such as robots. Attitude Representation Theory suggests that what people think and feel about a category is likely to depend on the specific representation that comes to mind when asked questions about that category. The aim of this research was therefore to explore what members of the general public think about when asked questions about robots. A short survey was conducted with 33 members of the general public in Sheffield. It was found that participants most frequently associated the word *robot* with descriptive words such as "metallic" and "artificial". Approximately half of the participants mentioned fictional robots, suggesting that people's attitudes toward robots may not be grounded in reality. Research into people's attitudes toward robots therefore needs to (i) consider what representations people are likely to base their attitudes on and (ii) find ways to help them to ground these representations in the reality of the technologies.

Keywords: Robots, Attitudes, Attitude Representation Theory.

1 Introduction

Fictional representations of robots (e.g., those portrayed in films or other media) may affect people's attitudes and behaviour toward real robots [1]. This could be problematic as portrayals of robots in fiction rarely reflect the reality of current technology [1]. Attitude Representation Theory [2] could help to explain variability in attitudes toward robots [3] as it suggests that people's broader evaluations of a category (e.g., robots) is likely to be affected by their subjective representation of that category. In other words, how people think and feel about robots is likely to be shaped by the specific representation that comes to mind when the question is posed. The aim of the present research was, therefore, to investigate what members of the general public associate with the word *robot* and whether fictional or non-fictional robots are more salient representations of the robot category.

2 Method

A short survey with 33 members of the general public was conducted in Sheffield. Participants were approached as they were walking through a public space and asked four questions: "*What comes to mind when you hear the word robot?*", "*Can you list the first three robots that come to mind?*", "*Do you work in an area related to robotics?*", and "*Have you ever visited Sheffield Robotics?*".

3 Results

The data was analysed using an approach based on manifest content analysis [4]. The majority of responses (36%) reflected participants' associations between robots and words reflecting the artificial or non-organic features of robots, such as "metallic", "mechanical", and "artificial". In general, participants mentioned more fictional (50%) than non-fictional (37%) robots, although this difference was not statistically significant. Further exploration of the data revealed that participants most frequently mentioned robots from Star Wars (13% of mentions) and industrial robots (10% of mentions).

4 Discussion

The findings suggest that fictional representations of robots are frequently brought to mind when people are asked to think about robots. While this study cannot speak to the relationship between people's representations of robots and their attitudes, it does provide some incentive to consider the effect that fictional representations of robots may have on people's beliefs about robots. Attitude Representation Theory [2] may be a useful way to explain the variability in people's attitudes toward robots [3] and future research will attempt to measure the extent to which exposing people to different fictional and non-fictional representations of robots can influence their attitudes toward robots in general.

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