SiP 2017 Panel: Speculations and Concerns on Robots' Status in Society

Erik Stengler
University of the West of England, Bristol, UK
Jimena Escudero Pérez
University of Oviedo, Spain

ABSTRACT: Studying fictional depictions of robots and artificial intelligence in cinematographic science fiction narratives acquires a new level of relevance as legislators' approaches to the subject seem to be strongly influenced by popular culture. This panel of Science in Public 2017 presented various on-going investigations of this kind, showing that the critical mass in this area of research is growing.

Keywords: Participation and science governance; Public engagement with science and technology; Science and policy-making.

The strand at SIP 2017 of panels on robotics, A.I. and society could not have been better timed to coincide with the debate that followed the publication of the draft motion by the European parliament's committee on legal affairs [European Parliament- Committee on Legal Affairs, 2017], on the possibility of giving certain robots the status of "electronic persons" with specific rights and obligations. The European Commission has taken the matter seriously and although the Parliament rejected the controversial "robot tax" in February it did call for a specific law that can regulate, for instance, robots' liability with regards to their performance – self-driving cars have accelerated this discussion recently-. We are, in this sense, ahead of the United States, but still much later than the robotics superpower, Japan, which already in early 2015 launched its own Robot Strategy [The Headquarters for Japan's Economic Revitalization, 2015].

The sessions that directly addressed the ethical, historical and legal implications of this strand included a critique that pointed out the strong influence that fictions on artificial beings have had in the approach to the subject. Such narratives, dating back to Mary Shelley's *Frankenstein* from 1818 [Shelley, 1998] and beyond, are mostly about what it is and means to be human, and use the construct of the artificial being –in its various incarnations—to explore these questions and not necessarily issues related to the presence in society of real robots and artificial intelligence. However, we may be witnessing a time of change in this regard. Recent films with robots/AI characters seem to be gradually including more and more allusions to such issues (Gabe Ibáñez's *Automata* [Ibañez, 2014] for example, poses an attempt to scam a robot's insurance). It is therefore more relevant than ever to study potential conflicts, at a time when stories may be ahead of their time and even influence legislation regarding real societal

issues related to the presence among humans of robots, artificial intelligence and “electronic persons”. The approaches, risks, paradoxes, benefits and dangers proposed in these fictions constitute a good exercise of thought beyond the speculative and the artistic. Governmental and corporate decisions that will have a drastic impact in the society to come, where these entities will play a vital role in personal, work, medical and even warfare relationships, are to a great extent, shaped by and mirrored in popular culture manifestations.

On the other hand, it has already been reported elsewhere [Stengler, 2016] how research on social robotics is using cinema as a means to explore interactions between humans and robots in an attempt to escape the so-called “autonomy paradox” [Compagna, 2016]. The paradox observes that robots cannot be properly tested because the safety of such evaluations cannot be ascertained due to the lack of previous tests in real conditions. While the paradox is gradually being resolved, filmmakers, through their research into the issues with which they try to imbue the maximum possible realism to their films, are deemed valid representatives of society regarding typical reactions to the growing presence of robots in everyday situations. The panel “Speculations and Concerns on Robots’ Status in Society” presented various ongoing projects that are working in this direction.

Key human life spheres to be reshaped by these companions include an area where robotics has already proven pivotal for the progress and wellbeing of people: surgery. This is the field of research by Neil Stephens, who is looking at the depiction of this type of machinery in fictional settings from popular films and comparing it with the way advances in robotic surgery are being reported at professional medical conferences. Themes analysed include the technology formats, the modes of subjecthood and relationality of the players/characters, spatial and temporal forms and political contexts. Stephens finds various instances of mutual influence, co-production and common areas of reflection on the ethics and politics of robotic surgery.

Looking at a very different use of robots –sexual— as a guiding example, Genevieve Liveley discussed how the debate around this application of robotics is highly polarized and how this polarisation can be traced back to an equally dichotomized treatment of robotics in fictional contexts. According to her analysis of the topic from the point of view of studies on classic literature, artificial beings have historically been depicted as part of either utopian or dystopian scenarios, with little room for a more nuanced and realistic representation of the potential benefits and problems that can arise from the interaction with real-world robots and artificial intelligence. In her search for such alternative approaches, Liveley reported that finding films from the 1970s or earlier that show robots in comical situations is proving virtually impossible.

Turning the argument around, it may be significant that robots have begun to appear in such contexts at a time where their presence in real-world situations has come into the horizon of a foreseeable future: while artificial beings were highly hypothetical constructs that did not pose any practical challenges, the focus in fiction was instrumental, only to theorise on philosophical and even theological questions about humanity, which frequently extrapolated from either utopias or dystopias. More day-to-day practical issues related to specific situations

with robots in society may lend themselves better to be addressed by means of comical or satirical approaches and this might explain the emergence of this approach in films produced after the 1970s. Such a shift may be detectable by direct analyses of films over various decades. An exploratory study in this regard was presented by MSc student Hannah Bestwick. This study is framed by the idea that in the context of science communication the representation of science and technology in films is not only important in terms of the influence it can have on public perceptions, but also as a way in which society expresses its conceptualizations and concerns. In this particular case, Bestwick is looking at the attribute of likeability that filmmakers give their robotic or AI characters in a sample of movies picked to represent the most popular ones since the 1970s, distributed evenly in time.

In a day and age when social media are a strong competition for the influencing power of films and TV it is almost compulsory to complement this study with an analysis on public perceptions as reflected by reader comments to online news outlets. This is the approach by Marie Boran, who presented an on-going analysis of reader comments to news stories published in *The Guardian* between January and October 2016. Previous studies and preliminary results all indicate that the concerns and fears expressed as online reader comments, as well as the positive views towards robots and AI, are very similar to the themes that are addressed in TV and films, such as job losses, legal and ethical issues, loss of control, better healthcare or the technologizing of education.

Lastly, as session convenors, we (Jimena Escudero and Erik Stengler) took the opportunity of such appropriate space and audience to present our collaborative project on the theme. The main purpose of this is to generate a consistent database of artificially created characters, which can provide us with more precise statistics on a number of issues. The features the study considers include their role in the films and their relationship with their creators and with humans, their gender and sexualisation, their degree of anthropomorphism and level of self-awareness, their position regarding the Uncanny Valley or the presence of a Turing-type test in the film. in order to build up gradually a large database of information on the main features of the artificial characters. This is done by analysing a sample of films (a corpus of 71 titles from 2011 to 2015, for the first stage of the project) whose IMdB plot field includes the words “robot”, “cyborg”, “artificial intelligence”, “android” and/or “humanoid”, and that have been rated with five or more stars in the same database. A questionnaire evaluating the aforementioned issues is filled in for each artificial being character and the resulting data is then cross-referenced. The completion of this task would never be possible without the altruistic participation of a number of volunteers, some of them recruited in the SIP17 panel itself.

Although the assessment of the films is still in process, from the scarce data collected, some tendencies already stand out. So far, the -still limited- results do hint at a number of quite established features in these type of characters, confirming J. Escudero's previous research (2010) on the subject: that creators are male humans and that when the character is constructed as female, she is hypersexualised. Initial statistics also suggest a wider range of duties in the original purpose for which the artificial being is created: to the canonical military and sexual, the professional performance includes now more specific profiles such as doctor

or chauffeur. This shows an update in the depiction of the artificial human, in correspondence to the increasing use of AI systems and machinery we are witnessing at present, and proves again the relevance of the analysis.

Undoubtedly, this is a fast growing area of study that runs in parallel with the shift of robotics and AI from beyond the historical horizon to within reach of the current generation. Research, projects and collaborations like the ones alluded to here prove the consolidation of a critical mass of scholarly work devoted to this field, which will soon produce interesting and far-reaching insights. Such multidisciplinary and daring attention is absolutely essential to face an era where society, work and even personal relationships will be profoundly transformed by these new agents; our own species and the world we have ruled for so long are at stake.

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