Julia Tscherpel

Between Heightened Confidence and Anxious Reservations

Communicated Expectations of Artificial Intelligence in National AI Strategies

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Freie Universität Berlin
Department of Political and Social Sciences
Institute of Sociology

Between Heightened Confidence and Anxious Reservations – Communicated Expectations of Artificial Intelligence in National AI Strategies

A Thesis Submitted for the Degree Master of Arts

Julia Tscherpel

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Abstract. *The thesis draws on the field of the sociology of expectations to highlight the role of shared societal expectations of AI in the diffusion of new technological innovation. It adds to the list of globally shared societal expectations of AI that are described in past research and publications, and analyses the communication of these expectations in twelve National AI Strategies. Lending from communication studies, lexical units that indicate positive or negative expectations regarding this disruptive technology are sought out to arrange countries according to their country-specific vision of AI. They are grouped according to whether they distribute a confident, reserved, or impartial vision of AI.*

Table of Contents

1. Introduction

Feared by many and charged with exaggerated ideas by others, Artificial Intelligence (AI) as we know it today is an increasingly often debated technology. Although already imagined by humans centuries ago in the form of the Homunculus, AI in the 21st century is still discussed as a relatively new technology with persisting disagreement among the public about what this disruptive technology actually embodies. Most people today have an idea in mind when faced with the term Artificial Intelligence. Few are, however, familiar enough with the technology as to not blend realistic technological possibilities with misconceptions derived from popular culture. Especially with the recent improvements in computing capabilities and what is known as Machine Learning (ML), the public discussion has picked up since 2009, and what can be described as an AI arms race between nations has emerged globally (Fast and Horvitz 2017). With countries striving to gain the upper hand in research and development in AI, it has increasingly become important to assure the public on the benefits of further developing this promising technology; the diffusion of innovation and therewith the success of this technology depends on its social acceptance, after all. Society does not only affect the marketability of new technologies but at the same time is the driver and creative mind behind newfound ideas since innovation is steered by public sentiment and vision, and technology is socially shaped and negotiated (Surry and Baker III 2016; Mosemghvdlishvili and Jansz 2013).

Despite public disagreements about the real possibilities of AI, this technology can roughly and very generally be defined as the "activity devoted to making machines intelligent, and intelligence is that quality that enables an entity to function appropriately and with foresight in its environment" (Nilsson 2013, xiii). As AI is still in its advent in terms of what can still be achieved, this definition is formulated generically enough to keep its relevance despite unpredictable developments. It includes so-called weak AI technologies that show intelligence in only one area of specialization, such as by supporting the every-day writing of short messages on the phone by recommending words based on the habits of the user, while at the same time not excluding strong AI whose future goal will be to embody machines with human-like intelligence that are able to self-sufficiently apply learned rules to new situations. To eliminate a first misconception here, technological singularity with strong AI containing ego consciousness is still a dream of a faraway future and the oppression of humans by