
Computers and obedience: defining machine autonomy in the 1940s

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Abstract

The automatic computers of the 1940s were often described in anthropomorphic terms, as robots or as 'giant brains'. This paper uses the concept of obedience as a tool to analyze salient aspects of this discourse. Drawing on material from logic, philosophy, and popular fiction as well as the history of computing, it traces the ways in which the idea of obedience came to be associated with that of machinic agency, and how these ideas helped shape responses to the emergence of the automatically sequenced computer.

The paper begins by examining two contemporary analyses of machinic obedience, the early robot stories of Isaac Asimov, which examined the consequences of the famous three rules of robotics, and Alan Turing's analysis of the universal machine as one whose principal task was to obey instructions. It then examines the way in which the concept of obedience played out in the analysis of machine autonomy, leading to characterizations of the social position of computers, the extent to which they could display initiative or accept responsibility, and their capacity to surprise.

The paper concludes by examining the reciprocal effect of automatic computers on human practices, and the significance to considerations of autonomy of the debate around the question 'can machines think'.

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