

# **“AI CAN BE ANALOGOUS TO STEAM POWER” or From the “Post-Industrial Society” To the “Fourth Industrial Revolution”: An Intellectual History of Artificial Intelligence**

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*This article provides an intellectual history of artificial intelligence in the electronic era of computing, that is, from the postwar decades to the present. We argue for the existence of two periods; a first period, defined by the discourse of a post-industrial society and an information age, and a second one, characterised by the discourse of a fourth industrial revolution. Discourses of a post-industrial society and a fourth industrial revolution are constitutively related to discourses of computer automation, which, in turn, are defined by artificial intelligence. This paper provides a canvas of an intellectual history of artificial intelligence in the electronic era through the examination of discourses of this period on computer automation.*

## **Introduction**

This article provides an intellectual history of artificial intelligence in the electronic era of computing, that is, from the postwar decades to the present. We argue for the existence of two periods; a first period, defined by the discourse of a post-industrial society—and associated notions, like, most notably, “information society”—and a second one, defined by the discourse of another, new, fourth industrial revolution.<sup>1</sup> The presence of these two periods has not yet received proper scholarly attention—let alone been explained—and our paper addresses this gap. As we argue, the differences between the two periods are related to a change in discourses on

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<sup>1</sup> For introductions to the history of the concepts “post-industrial” and “information”: Howard Brick, “Optimism of the Mind: Imagining Postindustrial Society in the 1960s and 1970s,” *American Quarterly* 44, no. 3 (September 1992): 348–80; “Optimism of the Mind”; Kline, “Cybernetics.” For one of the first uses of the notion of the fourth industrial revolution: Klaus Schwab, “The Fourth Industrial Revolution: What It Means and How to Respond,” *Foreign Affairs*, December 2015.