Chapter 6

Is AI in Your Future?
AI Considerations for Scholarly Publishers

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ABSTRACT

AI was first coined by John McCarthy in 1956. Vannevar Bush penned an article, "As We Make Think," that was first published in The Atlantic, and five years later, Alan Turning wrote a paper on the notion of machines being able to simulate human beings. AI had a number of significant contributors, which this chapter chronicles along with the definitions and their achievements. This chapter will provide an introduction, history, and overview of AI. It will also provide examples of the four waves of AI and the current applications and future applications of AI.

INTRODUCTION

I thought about the title for my talk about A.I. quite a bit and felt asking the question, "Is A.I. in your future?" would help position this talk on a more strategic basis. I say strategic because implementing A.I. requires vision, leadership and significant investment.

In this chapter, we will discuss the following topics:

- Opening Hypothesis
- History of A.I. & Definitions

- The Art of the Possible
- A Few A.I. Examples
- The Path to Success
- The Art of the How
- Summary and Conclusions

My hypothesis is that A.I. should be in your plans to create new products and services to improve the scholarly research eco-system. It will provide many opportunities to improve the efficiencies of scholarly publishing and data analytic tools. Let's look at the various areas where A.I. can be of service to Scholarly Publishers.

- Peer Review
  - Analyzing submitted manuscripts
  - Selecting relevant peer reviewers
- Search and Discovery Platforms
  - Semantic Search
- Hypothesis Generation – Determining where research is going
- Selecting employees for specific positions

HISTORY OF A.I.

The term artificial intelligence was first coined by John McCarthy in 1956 when he held the first academic conference on the subject (Peart, 2020). But the journey to understand if machines can honestly think began much before that. In Vannevar Bush's seminal work "As We May Think" he proposed a system that amplifies people's own knowledge and understanding (Bush, 1945).

"As We May Think" is a 1945 essay by Vannevar Bush described as visionary and influential, anticipating many aspects of the information society. It was first published in *The Atlantic* in July 1945 and republished in an abridged version in September 1945—before and after the atomic bombings of Hiroshima and Nagasaki. Bush expresses his concern for the direction of scientific efforts toward destruction, rather than understanding, and illustrates a desire for a sort of collective memory machine with his concept of the memex that would make knowledge more accessible, believing that it would help fix these problems. Through this machine, Bush hoped to transform an information explosion into a knowledge explosion.

Five years later, Alan Turing wrote a paper on the notion of machines being able to simulate human beings and the ability to do intelligent things, such as play Chess (Stezano, 2018).

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