

Imaginative thinking about intelligent machines is ancient, reaching back at least to Homer’s *Iliad* (c.800 BCE). As the technologies themselves have developed, from automata to robots, and from cybernetics to today’s machine learning, so have the hopes and fears associated with them. Prevalent AI narratives share dominant characteristics: a focus on embodiment; a tendency towards utopian or dystopian extremes; and a lack of diversity in creators, protagonists, and types of AI.

Narratives are essential to the development of science and people’s engagement with new knowledge and new applications. Both fictional and non-fictional narratives have real world effects. [...]AI narratives can be very helpful; for example, in inspiring those who work in the relevant disciplines and civil, public and private sectors; and in surfacing alternative futures and enabling debates about them.

But they can also create false expectations and perceptions that are hard to overturn. For those not engaged closely with the science or technology, narratives can affect perceptions of, and degrees of confidence in, potential applications and those who are developing, promoting or opposing them.

Exaggerated expectations and fears about AI, together with an over-emphasis on humanoid representations, can affect public confidence and perceptions. They may contribute to misinformed debate, with potentially significant consequences for AI research, funding, regulation and reception.

[...]Public knowledge about the specifics of the science and technology is limited. Their perceptions and expectations are therefore usually informed by their personal experiences of existing applications and by the prevalent narratives about the future.

Both fictional and many non-fictional narratives focus on issues that form either a very small subset of contemporary AI research, or that are decades if not centuries away from becoming a technological reality.

This disconnect between the narratives and the reality of the technology can have several major negative consequences. The prevalence of narratives focused on utopian extremes can create expectations that the technology is not (yet) able to fulfill. This in turn can contribute to a hype bubble, with developers and communicators potentially feeding into the bubble through over-promising. If such a bubble bursts because the technology was unable to live up to the unrealistic expectations, public confidence in the technology and its advocates could be damaged.

By contrast, false fears may misdirect public debate. For instance, an over-emphasis on implausible AI and humanoid robotics could overshadow issues that are already creating challenges today. These issues are often harder to describe through compelling narratives. [...] False fears may also lead to lost opportunities through failure to adopt potentially highly beneficial technology. [...]

Adapted from “Portrayals and Perceptions of AI and Why They Matter,”  
*The Royal Society, 2018*

In the first paragraph, identify the words and expressions matching the following definitions:

- \* robots or mechanical devices: .....
- \* a method that enables a computer to learn to perform tasks by analyzing data without being programmed: .....
- \* the science of communications and automatic control systems: .....