

# The World in 2062

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**Abstract.** This is the Foreword to the “Routledge Social Science Handbook of AI”, edited by Anthony Elliott. ISBN 9780367188252. Published July 13, 2021 by Routledge. 386 Pages

For most of the last 30 years, no one has cared much about what I do. This is because I’ve spent over three decades at universities around the world trying to build artificial intelligence (AI), writing computer programs to do a variety of tasks that humans need some intelligence to do. In the last decade AI research like this has escaped from its academic beginnings and is finding its way into our everyday lives.

We are still a long way from matching human intelligence. It is hard to know how long it may take. At present, we can only build narrow AI programs that do very limited tasks. And this narrow AI tends to be brittle and unpredictable. Unlike human intelligence, AI programs today break easily, often in very unexpected and strange ways.

Expert predictions about when AI will match, or perhaps even exceed, human intelligence vary widely. A minority of experts say it will never happen, identifying one or more characteristics that they predict we will not be able to replicate in silicon. But most AI researchers, myself included, think it might take between 50 and 100 years before machines match humans [1]. However, long before the next century, we will see many aspects of our lives transformed by narrow AI. Indeed, we are already seeing some of these changes. The impact of the COVID-19 pandemic is only likely to speed up the adoption of narrow AI.

We can perhaps learn a little from history. The first industrial revolution saw a change from hand production to machines driven by steam and water power. Manufacturing shifted into factories which became a significant component of many national economies. The prosperity generated by such mechanized production supported both a significant increase in population and in the quality of the lives of that population.

The most important changes were perhaps not technological but societal. Alongside the large transformation in the nature of work, there were major structural changes in society to support this. These changes included the introduction of universal education, affordable health care, pensions, unions, labour laws and much more.

We are going through a similar change in what is sometimes called the fourth industrial revolution. This is a revolution driven by technologies like AI that will again transform the nature of work. And, once more, the most significant changes are likely not to be technological but societal. We must think then about the structural changes necessary not just to weather this transformation but to prosper. This handbook is therefore a very welcome addition to the important conversation we must have in navigating these liminal times. While technologists like myself can inform the conversation as to

the possible capabilities and the likely limitations of the coming AI systems, the conversation needs to be much broader.

When we consider an incident like that surrounding Cambridge Analytica, there are many troubling issues to address. There is, of course, the immediate issue of privacy. Many people had personal information taken without their consent. But perhaps more troubling was the use to which this personal information was put. This personal information was used to microtarget social media adverts in what appears to have been a successful attempt to manipulate the vote. This then is a conversation for ethicists, political scientists, behavioural psychologists and anthropologists, to mention just a few areas of expertise needed to inform the conversation. It is not just a conversation for technologists.

When we consider a topic like lethal autonomous weapons, there are again many troubling issues we must address. There is, of course, the problematic issue of accountability. When someone is wrongly killed by lethal autonomous weapons who, or even what, is responsible? But perhaps more concerning are the ethics of handing over the decision as to who lives and who dies to a machine. Are we prepared to live in a world where we hand over such choices to a machine, and what sort of world does it become if we do? These are again conversations for military experts, ethicists, social scientists, and the general public as much as it is for technologists.

There are many other important conversations we need to have: about the future of work, privacy, power, diversity and inclusion, laws, norms, health, ageing, culture and the future of entertainment to name just a few of the topics covered in this handbook. These conversations need to move out of Silicon Valley and into the social sciences, and from there into broader debate. Technologies like AI can help us build a better future. But we need to choose wisely how we build that future.

## **References**

1. Walsh, T.: 2062: The World that AI Made. Black Inc (2018)