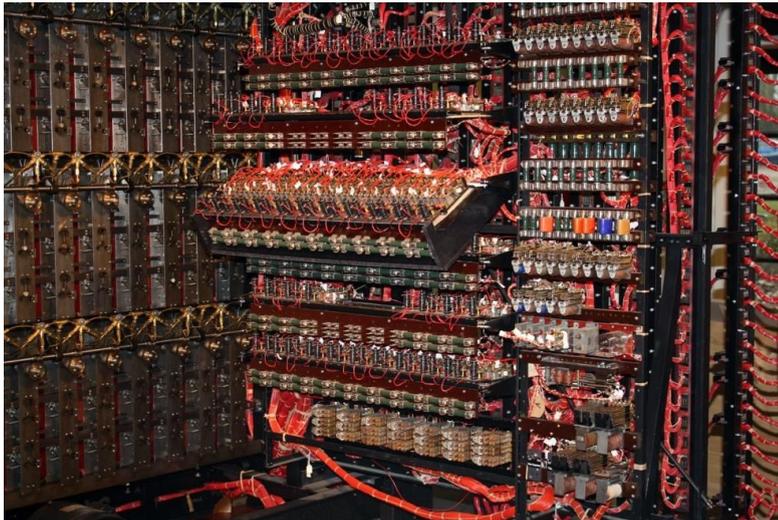


Artificial Intelligence: The Reality of our Imagined Future

By Emma-Jayne Reekie

Artificial intelligence still seems a term reserved for the future; upon its utterance one tends to think of sci-fi landscapes of gleaming silver surfaces and household robots á la Rosie from *The Jetsons*. The space we currently occupy, however, is perhaps halfway between where we think we are and the stainless steel, car hovering future we envision as humanity's final destination. Artificial intelligence is not marching armies of robots here to take over the world, rather it is subtly and comfortably domesticating itself in the form of Siri on our iPhones or Amazon's Alexa. Of course, this is not to suggest that we're being lured into a false sense of security, merely that artificial intelligence is perhaps not quite so daunting or life altering as science fiction might have us think.

It is unsurprising that artificial intelligence is misunderstood when its very definition is fluid and interchangeable. Artificial intelligence litters popular culture, it has been a regular feature in science fiction novels (Asimov's *I, Robot* collection), films (*The Terminator* series) and television shows (HBO's *Westworld*) for decades appearing as sentient friend, foe and something in between.



Arguably, the moments when artificial intelligence is at its least recognisable is perhaps when it is at its realest. It was not until 2014's Oscar nominated *The Imitation Game* that Bletchley Park, and Alan Turing in particular, were introduced to the wider public consciousness as the creator of the Bombe machine (left) which broke the German Enigma Code in World War Two effectively shortening the length of the war and

consequently saving countless human lives. The work of Turing and his colleagues was naturally classified information and demonstrates not only the very human origins of artificial intelligence but also its real life application.

It is natural for governments to be secretive of the artificial intelligence studies they commission and for citizens to be anxious about the way that governments will wield artificial intelligence. Indeed, Kate Crawford, of Microsoft Research, has recently spoken about the danger of artificial intelligence

aiding authoritarian regimes calling it “a fascists’ dream”¹. There is plenty of potential for artificial intelligence to be used for nefarious means, it’s the epitome of the Spiderman comic adage of “with great power, comes great responsibility”, and in response to warnings from Stephen Hawking and Elon Musk that humans cannot compete with AI and that it could spell the greatest threat to humanity, governing bodies should be taking steps to hold AI, both those who create it and those who use it, accountable and ensure that it is shrouded with transparency rather than secrecy.

Bill Gates has suggested that robots who take human jobs should be taxed and that the money raised should go towards financing jobs that only humans are capable of, such as carers², but it is questionable how this could actually be enforced and for how long jobs deemed human will stay that



way. Professor Hiroshi Ishiguro, among others, has developed extremely life-like “humanoids” (left) that imitate human characteristics, which brings into question how long will it be before it is not beyond the realm of possibility that robots could start to take over more human jobs too. It has been predicted that in the next two decades 47% of jobs in the US will be replaced with robots³, but it is important to consider that since

the dawn of the industrial revolution and consequent advances of technology humans have found their jobs threatened by machines that can carry out tasks more efficiently yet have continued to create and fill alternate employment options. Conversely, as resilient as the human race is, there has always been disparity between those who hold wealth, and power, and those at their whim.

It was reported earlier this year that the world’s 8 richest people, incidentally all white men, had the same amount of wealth between them as 50%, equivalent to 3.6 billion people, who make up the world’s bottom half of the economy⁴. It is feared that this incomprehensible gulf will merely widen once artificial intelligence becomes more widespread and that it will be the rich who prosper and the poor who disproportionately suffer.

1

<https://www.theguardian.com/technology/2017/mar/13/artificial-intelligence-ai-abuses-fascism-donald-trump>

2

<http://www.independent.co.uk/news/science/could-bill-gates-plan-to-tax-robots-really-lead-to-a-brighter-future-for-all-a7626806.html>

³ <https://www.wired.com/brandlab/2015/04/rise-machines-future-lots-robots-jobs-humans/>

⁴ <https://www.nytimes.com/2017/01/16/world/eight-richest-wealth-oxfam.html>

As with most technologies, artificial intelligence has multi-disciplinary use and potential. Equally, it also has different monikers such as cognitive computing which differs from artificial intelligence in that it seeks to provide information rather than autonomously deciding appropriate courses of action. Cognitive computing can be seen in systems such as IBM's Watson which was originally developed to answer questions on American television show Jeopardy in 2011. Since then, Watson has expanded into the worlds of art, fashion, music and architecture by interacting with various artists and practitioners. Fashion house Marchesa worked with Watson to create a gown for the Manus x Machina themed Met Gala in 2016, with designer Keren Craig saying, "Watson enabled us to do our job better"⁵. Grammy Award winning producer Alex Da Kid has collaborated with Watson to create a song that was created by listening to its audience. This was achieved by Watson reading the lyrics of 26,000 songs that had been on the Billboard 100 charts, analysing front pages of publications like the New York Times and Supreme Court rulings and looking at patterns of songs through their keys, chords and genres in an attempt to better understand human emotion resulting in the final song 'Not Easy' being based on heartbreak which had been a prevalent theme across the data that Watson had supplied to Alex Da Kid. Watson's work across the different artistic disciplines is indicative of the innovation and progression that is possible through the technological developments advancing alongside artificial intelligence and cognitive computing.

Of course, there is an ever-evolving web surrounding the ethical issues facing the creators and users of artificial intelligence. AI, regardless of its end point, is a human creation and therefore inherits features of the human condition and whilst that can be used to analyse and attempt to understand the human condition better, as Alex Da Kid has done through music, it can also be used in a detrimental way. In America, AI has been used to predict the likelihood of convicts committing future crimes, but the computer algorithms discriminate against those with darker skin tones suggesting that white people are less likely to commit crimes⁶. Though we think of AI as scientific and rational, its creators are victim to their own prejudices which must not be forgotten. Furthermore, as technology develops and AI becomes more intelligent and ever closer to sentience we must seriously consider what that means from an ethical viewpoint; who and how will rights for AI be determined and how will they be enforced? Naturally there is fear around the unintentional outcomes of artificial intelligence and what this could potentially lead to, particularly concerning sentience, but some of the greatest scientific discoveries have been accidental. Artificial intelligence, as it matures and develops, needs to be governed and scrutinised from a moral viewpoint that can also act as a check for potential wrongdoing leaving scientific accidents to happen naturally but be contained before they prove problematic.

Artificial intelligence has already started to seep into our lives and thus far it has contributed positively. It has started to develop ways in which we care and learn about the environment, such as Cornell University's development of the app *eBird* which allows birds to be tracked in their habitats which can then be used in appeals to local and national governments to preserve those areas. It aids our daily lives by finding restaurants and petrol stations via Siri and keeps us safe in ways we are not privy to. There will continue to be debates around the ethical dilemmas circling artificial intelligence and a continued tension between how it should be used and how it is being used. It has great potential to change the way we live our lives and view society, but with our recent longing for nostalgia, physical sales of books and vinyl outselling their digital counterparts and the Nokia 3310

⁵ https://www.youtube.com/watch?time_continue=87&v=kW9DSYxMR_E

⁶ <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing>

being brought back into commission, it seems unlikely that humans, a breed much set in their ways, will ever be fully dictated to by technology.

Additional reading/viewing:

- Benefits and Risks of Artificial Intelligence
<https://futureoflife.org/background/benefits-risks-of-artificial-intelligence/>
- Artificial Intelligence: “We’re Like Children Playing with a Bomb”
<https://www.theguardian.com/technology/2016/jun/12/nick-bostrom-artificial-intelligence-machine>
- 10 Powerful Examples of Artificial Intelligence in Use Today
<https://www.forbes.com/sites/robertadams/2017/01/10/10-powerful-examples-of-artificial-intelligence-in-use-today/#44fb6397420d>
- What Happens when our Computers get Smarter than We Are?
<https://www.youtube.com/watch?v=MnT1xgZgkpk>
- IBM Watson CEO: Artificial Intelligence (AI) for All or AI for the Top?
<https://www.youtube.com/watch?v=iGMlllgSUPk>
- The Future of Artificial Intelligence: 6 Ways it will Impact Everyday Life
<http://bigdata-madesimple.com/the-future-of-artificial-intelligence-6-ways-it-will-impact-everyday-life/>
- Why the Biggest Challenge Facing AI is an Ethical One
<http://www.bbc.com/future/story/20170307-the-ethical-challenge-facing-artificial-intelligence>
- Robots Will Destroy our Jobs – and We’re Not Ready For It
<https://www.theguardian.com/technology/2017/jan/11/robots-jobs-employees-artificial-intelligence>
- Art by Artificial Intelligence: AI Expands into Artistic Realm
<http://www.wsj.com/video/art-by-artificial-intelligence-ai-expands-into-artistic-realm/86071B86-FE19-4BC4-9288-24B95503B197.html>
- Machine Creativity: The Role of AI in the Arts
<https://theculturetrip.com/north-america/usa/articles/machine-creativity-the-role-of-ai-in-the-arts/>