

FOCUS ON AI

Is artificial intelligence putting the world on steroids?

Andrew Simms, author of SGR's briefing on AI, argues that it is likely to pile up as many problems as solve them

The debate on the impact of artificial intelligence (AI) and machines capable of learning and acting autonomously tends to lurch between technological optimism and catastrophic warnings of humans losing control.

Often overlooked, however, is the way that AI will simply have the effect of putting the world on steroids – a general intensification of business as usual – including the environmental impact of overconsumption and the human cost of inequality.

Alarm bells are already ringing. There are fears about the development and deployment of autonomous weapons, that decide for themselves who to kill – so called 'killer robots' (see articles on p.8 and p.10) – and about how AI will lead to a kind of 'supercharged surveillance society' by combining big data with, 'smart' domestic devices, facial recognition technology and CCTV.

One emergent consequence of AI being used in a seemingly prosaic office situation was bias being accelerated in an Amazon recruitment programme which taught itself to prefer male job candidates by learning from past trends, and scoring applications lower that contained keywords like 'woman' or 'women's'. "The biggest danger is that we use these tools to entrench our existing biases and compound the injustice that we already see in the world around us," Mustafa Suleyman, Co-founder and Head of Applied AI at DeepMind, told the BBC recently.

Similarly, an AI generated persona called TAY developed by Microsoft, and used on the social media site Twitter, evolved from having an innocent, millennial character to being a crude racist in less than a day. AI-driven digital assistants are interacting with our online identities, big data and sophisticated marketing techniques, and compiling huge amounts of information about us, with the objective of maximising what we buy and consume.

In that context, a new survey of concerned scientists drawn from the membership of Scientists for Global Responsibility – around half of whom are from the natural sciences such as physics, chemistry and biology, with the next largest group being from engineering and information technology – asked if AI would tend more toward a future that was utopian, dystopian or unchanged. Over eight out of ten chose dystopian, and over nine out of ten also thought that AI would deliver more power and economic benefit to corporations rather than citizens. The great majority also thought that the chances of things going badly wrong, in everything from autonomous weapons to driverless cars and digital assistants, was high or very high. Crucially over 90

percent thought there was an urgent need for more regulation.

Mark Carney, Governor of the Bank of England, says it's all part of a fourth industrial revolution which will not only tilt the balance of power further away from low paid workers to the owners of finance, but 'substantially boost productivity and supply', or, in other words, make a lot more stuff using fewer people. Predictions of job losses due to the interaction between artificial intelligence and automation range from the Bank of England's own warning, that around half of current jobs in the UK total are at risk, to an Oxford University study estimating that 35 percent of current types of jobs in the UK will become obsolete.

From the environmental perspective, the recent special UN report on meeting the 1.5 degree climate target, concluded that 'rapid, far-reaching

and unprecedented transitions' were needed across the whole of society, with priorities for immediate action being, 'low energy demand, [and] low material consumption'. But, global demand for coal, oil and gas are all growing, as is the total amount of resources we take from the biosphere, and fossil fuel consumption is set to rise for decades, according to the International Energy Agency.

Into this crisis comes AI which is already being seen as an opportunity to intensify environmentally damaging resource extraction. An embattled oil and gas industry sees AI as a 'potent' tool and a 'godsend'. As one leading industry journal says, 'As resources become increasingly scarce and the oil price squeeze has forced exploration and production levels to 70-year lows, AI can come to the rescue in finding new sources.' Of course these things will only happen if we let them. To ensure a better future, a new briefing by Scientists for Global Responsibility, *AI: how little has to go wrong?* recommends that 20 percent of all AI research and development funding should go on assessing potential benefits and harm, which seems better than merely crossing our fingers and hoping things will be okay.

Technology is not destiny, and we do not have to do something just because we can. It is about choices that will make the world better, but to make those choices we need information and a sense of what constitutes responsible science.

More detail and references can be found in SGR's new report on AI, which can be downloaded from: <http://www.sgr.org.uk/publications/artificial-intelligence-how-little-has-go-wrong>

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