# In Our Own Image

Richard Watson enjoys George Zarkadakis's vivid and engaging exploration of whether artificial intelligence is likely to save or destroy us.

Every good story needs a good villain. Having grown tired with casting China as the world's bogyman, we have moved on to create a new fear-based narrative about the rise of the machines. In particular, will autonomous machines and expert systems steal our jobs or will steely-eyed robots kill our children while they are silently sleeping in their beds?

I am halfway through writing a book on a similar subject, so it was both timely and serendipitous to be asked to review *In Our Own Image* (Rider, March 2015) the new book from the computer systems engineer, novelist and playwright George Zarkadakis.
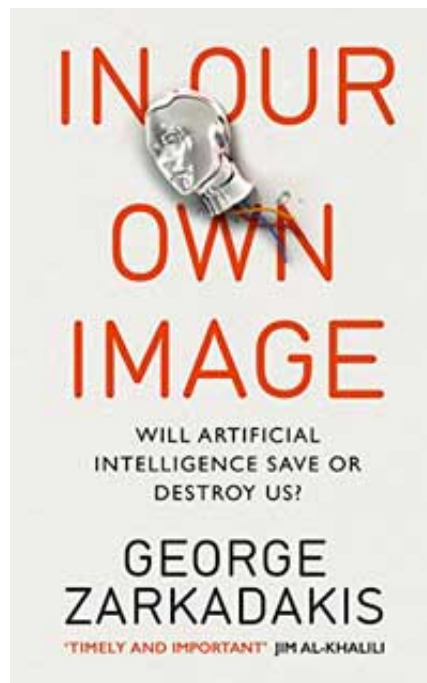
I have a deep fondness for Greeks, especially those bearing the gift of storytelling and Zarkadakis does not disappoint. His future of artificial intelligence could be a dull or difficult read, especially for non-scientists like myself, but Zarkadakis places Artificial Intelligence (AI) in the context of our own intelligence, especially that of historical philosophical enquiry.

Early on, Zarkadakis makes a useful connection between metaphysical dreaming and practical reality by showing that the principles of ancient philosophical logic underpin modern software design and that the questions that haunted the Greeks 2,000 years ago, such as the nature of reality or free will, still haunt the Geeks of today.

Putting to one side delicious debates about how you know that you are actually reading this (i.e. whether or not humans are actually digital programs run by hyper-intelligent AI along the lines of the movie *The Matrix*), the key question posed by the book is whether we can create machines that are aware of their own thinking. In other words, can we act like God and create beings in our image?

Machines that are smarter than humans in a narrow field such as expertly playing chess is yesterday's news. The IBM supercomputer Deep Blue beat World Chess Champion Gary Kasparov 3½ matches to 2½ matches almost 20-years ago. The current challenge is creating machines that are smarter

*principles of ancient philosophical logic underpin modern software design*than people across a wide range of fields, ranging from driving cars to writing newspapers and reviewing books, which could make them our servants, but also our companions. But the real challenge (or the real threat depending upon your mood) is creating machines that are consciousness. The problem here, of course, is that computers are always logical, while we are not. Programs rule machines, while we are ruled by feelings.

Having just finished [Susan Greenfield's book, *Mind Change*](#), it seems apparent that it will be extremely difficult to achieve artificial awareness, not least because the human mind (as opposed to the human brain) is unique within every one of us, based as it is upon a subjective experience of the outside world. In this sense, the challenge that lies ahead isn't merely the creation of an artificial brain. Additionally, we must develop an artificial body that senses and extracts meaning from the physical world. This information then needs to be relayed to a brain, which then develops a sense of self. Any successful future AI may therefore need to be 'plastic' like our own brains, which may have the interesting implication that no two AIs will be quite the same—or at least no two AIs will think in quite the same manner.

An explosive ordnance disposal technician in the US army gets a refresher course on an EOD robot at Combat Outpost Honaker-Miracle in eastern Afghanistan's Kunar province, Aug. 1, 2011. Photo by Sgt. 1st Class Mark

Suffice to say that according to Zarkadakis, brute computing power alone is unlikely to be successful in the quest to create thinking machines. On this basis the Internet is unlikely to 'awaken' next Tuesday evening, which may be something of a relief to much of humanity who want to be left alone to simultaneously watch the X-Factor and funny videos of cats on YouTube.

Another good point made by Zarkadakis is that Science & Technology are cultural products, influenced as much by literary fiction as literary fiction is influenced by Science & Technology. Hence, Zarkadakis juxtaposes the influence of Plato, Socrates and Aristotle against that of *Frankenstein, Blade Runner* and *Metropolis.*

So where does this leave us? I cannot recall who said it, but having finished the *Any successful future AI may need to be 'plastic' like our own brains*book I was reminded of a comment that I read ages ago saying that if we do manage to develop true AI there are essentially three possible outcomes. The first is that our machines become engaged with their intelligence and that of our own and we jointly set out on a path of altruism and enlightenment.

The second option is that the machines become bored with their intelligence. In this scenario the computer either says *"No"* or *"Do I look bothered*?" The third option is that the machines look down their anthropomorphised noses at us and try to kill us, which obviously makes for the best science fiction.

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It's impossible to say which of the three options is the most likely, but one thing we can be fairly sure of is that whatever happens our machines are destined to become more like us while we become more like them.

Personally I'm against this particular future. I like machines, but I like people more, especially the ones that make mistakes and have imperfections. In other words, I appreciate character as much as intelligence and this is far more difficult to engineer in my experience.

It is indeed possible that AI will destroy us. Stephen Hawking thinks it's possible and he's certainly no slouch when it comes to thinking. But I have an alternative vision.

One thing that science fiction has always done is place a mirror in front of society, showing us what we value and fear the most. My hope is that as AI develops it will focus our attention on what it means to be human. The unexpected twist in the plot might be that we end up using AI to reveal our true nature and to help us figure out where we'd like the human species to go next.

Richard Watson is the author of _The Future: 50 Things You Really Need to Know_ (Quercus), and the founder and author of nowandnext.com.

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