



Our Edge in a Machine-Dominated World

People can't win against computers; fortunately we are irrational.

Am I alone in thinking it a shame that we can fix fewer things by ourselves these days? Personally I always drew great satisfaction from fixing a broken piece of equipment. I enjoyed opening it – against the manufacturers' warnings – to discover how it actually worked, and then fix it using superglue or a paperclip.

We are increasingly denied this feeling of being in control. It started with simple, loose parts being replaced by horrendously expensive integrated parts. The shift from mechanical to electronic parts was even more drastic. Now car engines are largely computer-controlled and a spanner often does more harm than good.

Technology has become a sort of black box – opaque, unknowable – whilst being ever present.

As computers control more and more everyday objects, our own inventiveness is increasingly being replaced by electronic intelligence. In maths, the abacus and a sliding rule (I still have one) were first supplanted by the calculator, then by the PC, and now by our telephones. Our paper maps first gave way to GPS navigation devices, now our phones (again) and, perhaps in the not-too-distant future, self-driving cars.

Even in our personal lives artificial intelligence is taking over. Recent **research** by David Stillwell

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(Cambridge) and Michal Kosinski (Stanford) shows that Facebook is better able to describe someone's personality (based on his or her likes) than even the person's best friends.

The shift to artificial intelligence is thus undeniably underway. Within this shift, there are two possible outcomes, as described in Walter Isaacson's book *The Innovators: How a Group of Hackers, Geniuses, and Geeks Created the Digital Revolution*. One scenario describes machines that will become more intelligent than people. Consider IBM's supercomputers Deep Blue and Watson, which respectively beat the top players at chess and the American gameshow **Jeopardy!** Or Google's DeepMind which managed to beat the world's Go champion last year. Most recently, a Carnegie Mellon School's AI programme won against a team of professional poker players.

Augmentation instead of automation

The other possibility is for artificial intelligence to be more like an extension of our brains, making them more agile and effective, just as cars make us more mobile than our legs, and pistols, deadlier than our fists.

Beyond ethical questions surrounding automation and AI, we must ask ourselves: What will the added value of people be in the future? What will we still

do ourselves and what will we delegate to machines based on them being quicker, more logical and increasingly objective? Rationally, it might be hard for us to win a place in a world of machines.

An interesting question is what role our irrational side will play in the future: Is it simply a useless remnant of prehistoric times, or rather something which will determine our unique value? Humans make many illogical decisions every day. For example, we pick a job that the job test advises us not to take. We fall in love with the wrong person. We put our own interests aside to help others and gain nothing from it.

These irrational decisions can, of course, cause us a great deal of trouble, but oftentimes they also lead to unforeseen progress and add colour to our existence. The more brilliant machines become, the more we humans should allow ourselves to become playful and experimental. In this sense, both possible futures seen by Isaacson are incorrect. Intelligent machines may (in the broadest sense) replace us or enable us to perform tasks more effectively. Instead of being characterised by an increasing dependency on computers, the role of humans will be to critically review the insights of the algorithms and sometimes wholeheartedly ignore them.

We will still need to reach for the screwdriver and, against the intention of the manufacturer, open things up and discover what lies within.

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