

Book Review: I, Warbot

Tim McQueen

I, Warbot - the dawn of artificially intelligent conflict.

Kenneth Payne

Hurst & Company, London

Payne based his title for this book on Asimov's famous short story 'I, Robot', with its three rules for robots:

- A Robot should not injure a human being;
- A Robot must obey orders from human beings unless they conflict with rule 1;
- A Robot must protect its own existence unless in conflict with rule 1.

Payne feels that this might be a good starting point for rules for warbots.

In 1096, Pope Urban II banned crossbows as an extreme threat to human life. Since then we've had gunpowder, rocketry, nuclear weapons and, more recently, drones and cyber warfare. Reading Daniel Ellsberg, Eric Schlosser and others shows that the world only just survived the Cuban missile crisis, and the movie 'Dr Strangelove' was closer to a documentary than a dystopian comedy. Humanity seems to have an ability to adjust to new threats as they arise.

Payne starts his survey examining what we think we know of warbots to date. Most of our impressions come from movies and science fiction. Fictional artifacts like The Terminator do not exist.

We need to investigate potential warbot psychology. Payne's first chapter examines how to build a warbot. Automated weapons have been around since at least the late 1930s with Hitler's V2s. These were quite primitive; they could not take evasive action or be re-directed. In contrast Payne sees the victory in the Battle of Britain as being due to automation. Not so much the invention of radar itself as its incorporation into an overall system of anticipation, planning and disposition of scarce fighter resources.

British Infantry soldiers refer to their rifle as a weapon system. Their successful use depends on ammunition, intelligence (where is the enemy?), transport, engineering, catering and so on. The circle enclosing the system can be narrowed or widened as necessary.

The chapter 'i-Battle is joined' envisages how warbots might fight. Payne looks at the history of Artificial Intelligence (AI). This has gone through periods of frenetic activity and major advances punctuated with dead ends and disappointment. The current trend of neural networks training with real world examples holds promise. However, most Chess playing machines can do nothing else, although some newer developments can teach themselves to play Arcade games from scratch.

But no AI has emotions or can experience the world in a human way. Look at the example of self-driving cars. They often work well in daylight on wide, straight roads. How would they perform in the narrow medieval streets of some European cities at dusk in pouring rain? Perhaps a way around this issue would be for human-machine teams to form. This is much the case with the US F35 fighter jet; the pilot is a controller managing systems that fly the aircraft and launch munitions. There are possibilities of mind control; already a quadriplegic has managed to fly an F35 through thought alone.

The rate of change of automation in warfare is accelerating. By the time our proposed nuclear submarines are launched it is more likely that smaller autonomous devices which can stay underwater 'forever' (there's no need to feed machines) will have made them obsolete.

It does seem unlikely that we are about to be invaded by flocks of drone assassins. Global heating is a greater threat than artificially intelligent conflict.

Finally, Payne reveals his proposed rules for warbots, inspired by Asimov's rules. I, Warbot is a dense and interesting book covering an array of topics from 'The art of war' to advanced genetics. It is recommended reading for Melbourne PC User Group members.