

The significance of the Battle of Jutland

I enjoyed reading *United Service* 61 (4) (December 2018) and in particular Josh Abbey's interesting article on the significance of the Battle of Jutland (pp. 25 – 28). Indeed, the Zimmerman Telegram and the sinking of American merchant vessels did cause America to enter the war. In the *International Encyclopaedia of the First World War*¹, we are reminded of the banking connection, *i.e.* as United States manufacturing capacity grew at a staggering pace during the period 1914–1918 due to essential exports to Britain, so too did British debt – to approximately US\$400 million. It was not necessarily clear to the United States that this debt could be repaid – especially if the Allies failed in their strategic objectives. The entry of America into the war ensured that the debt would, or indeed, could be repaid.

In a nutshell, in our analysis of war, we generally tend to focus on the blood, sweat, hardware and tactics, and fail to consider the role of cross-border (financial) exposure.

James Ayliffe
Tasmania, 8 December 2018

Robotics in Future Land Warfare

After reading Major-General Kathryn Toohey's paper on robotics (*United Service* 69 (4), 9 – 12, December 2018), I deduced that the Army has adopted a philosophy of 'man the arm' rather than 'arm the man'; implying a strategy of attrition in any future warfare – fight to the last machine *i.e.* grind down an enemy's resources until he no longer has any capacity to fight.

As David Kilcullen has remarked (quoted by General Toohey), drones and robots can give soldiers a powerful edge in battle against other soldiers, when they can direct drone airstrikes onto enemy troops and equipment. If so, a few special forces soldiers with radios might control a vast area of the battlefield using drones. This implies 'no surrender' tactics, as enemy soldiers will not get a chance to surrender before being obliterated by drone strikes. That could harden enemy resolve and render any peace settlement less attainable.

If General Toohey's lecture does imply that attrition may become Army policy, I think the Army, while investigating robotic devices for tactical employment, might be less enthusiastic about their effects on strategy in warfare.

Denis Ashly Ross
Sunnybank Hills, Queensland, 23 December 2018
(Continued next page)

¹https://encyclopedia.1914-1918-online.net/article/war_finance_great_britain_and_ireland

Robotics in Future Land Warfare

The paper by Major-General Kathryn Toohey on robotics and autonomy as part of future land warfare (*United Service* 69 (4), 9-12, December 2018) was most timely and thoughtful. As Toohey pointed out, robotics has the potential to change warfare.

In 2005, I published a paper titled "Unmanned tele-operated robots as medical support on the battlefield" [R. Atkinson *et al.*, *ADF Health* 5 (1), 34-37]. This was a progression from research on the lower leg physical model for survivability against landmines, and related to the Bushmaster Project.

Australians have a history of being inventive 'niche marketers'. While not able to produce the next best fighter plane, we can make it better. We also gain a seat at the high-tech table, for our innovation and technology (along with our values). I would encourage the development of robotics in its broader sense, under a leader such as Kathryn Toohey.

Rob Atkinson
Orthopaedic surgeon, University of Adelaide
24 January 2019

Robotics in Future Land Warfare

I was heartened to read Kath Toohey's article on the challenges and opportunities for robotics, autonomy and artificial intelligence in land warfare.

Physical load reduction on individual soldiers has the potential to not only enhance capability but to reduce injuries. Additionally, it would overcome one of the main hurdles for women to be combat soldiers. Individual load reduction warrants priority investment.

She also mentioned the policy dimension of these technologies. There is a significant and growing movement seeking to 'ban' lethal autonomous robots globally. Like the land mines ban, where we and many other countries signed the convention, we need to make sure that, if we also follow suit with robotics and artificial intelligence, we aren't creating a vulnerability for our potential enemies to exploit.

As a nation with a small population but a reasonably high level of technological capability, the leveraging of robots to enhance our ability to defend Australia and its interests should be pursued with vigour.

Marcus Fielding
Melbourne, 5 February 2019