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Tom Watts and Rubrick Biegon

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Introduction

On 28 February and 1 March 2019 the Remote Warfare Programme and the authors held a two-day conference on remote warfare. We had three goals when organising this event:

- to provide a forum for a more holistic study of remote warfare;
- to promote greater dialogue between different stakeholder communities working in or researching remote warfare;
- and to encourage reflection on the recent debates on remote warfare.

Our goal was to lay the groundwork for a richer understanding of the past, present, and future of remote warfare to help better inform academics and practitioners.

This essay captures the beginning of this conversation. It addresses the three major questions asked in our call for papers:

- What is remote warfare?
- What are the historical roots of remote warfare?
- What is the future of remote warfare?[1]

Our analysis is selective, and we do not offer an exhaustive summary of the entire conference. Podcasts are available on most of the panels, and we did not wish to reproduce information which is available for you to listen to elsewhere.[2] To this end, this essay also aims to stimulate the development of remote warfare scholarship by identifying gaps within the conference proceedings. Some potential areas for future research are listed in the conclusion.

What is Remote Warfare?

Our conference was organised around existing debates that speak to a perceived shift in the character of warfare in the twenty-first century. According to some, there is “a deep and widespread feeling that war has entered a new era, significantly different from what we have known in the past”. [3] In defining this shift, scholars have entered into what Jolle Demmers and Lauren Gould have labelled “something of a coining contest” as they grapple with “the spatial and temporal reconfiguration of war” in the contemporary era.[4] Remote warfare forms part of this larger debate, although its exact relationship to liquid warfare,[5] proxy warfare,[6] surrogate warfare,[7] and vicarious warfare[8] remains unclear.

As it relates to some of the specific practices of remote warfare, drone warfare was a major theme of our conference.^[9] Serious questions remain regarding the purported precision of drone strikes, at least as it relates to civilian casualties.^[10] These, in turn, have generated legal and humanitarian concerns.^[11] When coupled with the use of other remote warfare practices, drones have contributed toward what some see as the “myth” that “it is possible to do remote warfare cleanly”.^[12]

The discussion of drones was also related to a broader discussion about the of the “intimacies” of remote warfare which was another major theme of our conference.^[13] Several studies have examined the perspectives of drone operators, including conference participant Alex Holder.^[14] Peter Lee, who embedded with UK drone pilots as part of his research, has written in detail about the “distance paradox” which drone operators face. The very same technology which allows MQ-9 Reaper pilots to fly the craft from thousands of miles away has also compressed the emotional and psychological distance between drone operators and their targets to a level comparable to World War One fighter pilots.^[15] The psychological challenges experienced by drone operators have also been previously studied by Joseph Chapa, who argued that they have generated new forms of military sacrifice and ethics.^[16]

Somewhat paradoxically, however, as warfare has become more “intimate” for some, it has become increasingly distant for others. This seems to be as true for drones as other types of warfare. Malte Riemann has previously argued that the use of private military security contractors has reshaped modes of remembrance, duty, and sacrifice, thereby making war appear less visible within democratic societies.^[17] The study of remote warfare therefore raises important questions about who pays the costs of warfare in democratic societies, and what this means for the accountability and oversight of the use of military force.^[18] Likewise, as Yvonne Efstathiou of the International Institute for Strategic Studies explored, it also raises the question of whether there is a relationship between regime type and the use and non-use of remote warfare.^[19]

In fact, one major theme of our conference was the use of other practices of military intervention which, like drones, have enabled Western states to manage security challenges overseas from a greater strategic distance. As Foeke Postma of Pax for Peace noted in his post-conference summary, “[d]rones are used in concert with special forces, private military corporations, local armed groups, the transfer of arms, the sharing of intelligence, and other forms of security assistance”.^[20] This broadened focus on the practices of remote warfare is not new, and does not mean that the debate on drones is now redundant. From the term’s recent inception, the practices of remote warfare were recognised to consist of more than drones.^[21]

Many at the conference emphasised the importance of including building partner capacity operations in this debate, including Martijn van der Vorm and Ivor Wiltenburg of the Netherlands Defence Academy, CIVIC’s Dan Mahanty, and the Oxford Research Group’s Emily Knowles and Abigail Watson. According to Mahanty, partnered operations have “come to represent the preferred method of achieving national security objectives for the United States and several European countries”.^[22] Similarly, van der Vorm and Wiltenburg argued that “[w]hen large scale deployments are practically unfeasible or politically unpalatable, interventions focus on assisting local partners with enhancing their security forces in order to help them

resolve security issues without large commitments”.^[23] Despite the continuing uncertainties about the military effectiveness of these practices, many areas in the world – such as the Sahel and Horn of Africa – have seen an increase in these partner-building activities, as multiple conference participants discussed.^[24]

Moving forward, one major area of research identified at the conference was the need to amplify the voices of the communities in which remote warfare operations are conducted. Whilst there are obvious data limitation problems given the difficulties in conducting fieldwork in these countries, examining the non-Western experience of remote warfare offers the prospect of a more comprehensive analysis of its costs, consequences, and effectiveness. As Norma Rossi and Malte Riemann argued, by destabilising the temporality and spatiality of war,^[25] remote warfare has undermined the traditional dichotomy between war and peace. One effect of this has been to create “privileged spaces of exception” in Western states where the conditions of war are absent.^[26] Yet, whilst remote warfare may be “remote” in some aspects from a Western perspective, it is “immediate” and “ever present” for some communities in Africa, the Middle East, and Asia.^[27]

During the conference, Baraa Shiban and Camilla Molyneux helped bring these currently marginalised voices into clearer focus. Drawing on fieldwork in Yemen, they demonstrated that the harm generated by remote warfare operations must be measured in more than just civilian casualties. These operations also have significant economic, educational, and mental health implications for impacted communities.^[28] On this theme of non-Western experiences, Anicée Van Engeland has also begun to “decolonise” the study of remote warfare by examining how its practices are understood in Islam and how they may reinforce perceptions of “otherness”.^[29] Both of these studies make particularly timely contributions to the wider debate on the character and implications of remote warfare.

What are the historical roots of remote warfare?

The concept of remote warfare is widely used to “periodise” the current slate of global conflicts ranging from the Middle East and the Sahel to the Horn of Africa. At the conference, it was commonly used as a shorthand to capture the effort by Western states – principally the UK and the US – to move away from the counterinsurgency (COIN) model associated with recent “large footprint” campaigns in Afghanistan and Iraq. As Paul Schulte has previously argued, for a variety of strategic and political reasons, Western policymakers pledged “never again (to) big interventionary COIN”.^[30]

According to some at the conference, contemporary practices of remote warfare have their roots in the military campaigns fought by the United States and Soviet Union during the Cold War. Emil Archambault, for example, examined the use of strategic and tactical air power during the Vietnam War as a key moment in the history of remote warfare.^[31] During the Cold War, the superpowers regularly engaged one another via locally trained and equipped forces partly to reduce the risk of direct confrontation.^[32] Some analysts go back further; John Alexander, for instance, traces the modern origins of remote warfare to the British use of airpower during the inter-

war period. It could be argued that the concept has origins in imperial policing operations.^[33]

Some of the practices of remote warfare – intelligence sharing, private military contractors, security cooperation, special forces – have roots in the twentieth century (if not before). It will not be difficult for scholars to find historical case studies to document this.^[34] Others, such as drones and cyber, are more novel and are the result of more recent technological developments. Can this tension be reconciled, or is the history of remote warfare best studied as a response to the failure of large-scale overseas intervention?

In this respect, it remains unclear how far back we should trace the historical roots of remote warfare beyond Afghanistan and Iraq. It could be, to paraphrase Hew Strachan, that we have generally treated remote warfare as being “new” because in part we have not been addressing [it] properly”.^[35] As he reminds us:

The challenge for the historian is much harder than the identification of continuity. That is the easy bit. The next stage is to use that as the bedrock from which to identify what is really new, as opposed to what merely seems to be new, to distinguish the revolutionary and evolutionary from the evanescent and ephemeral.^[36]

In his keynote address to our conference, Strachan grounded contemporary practices associated with the “remote warfare” label in a much longer historical trajectory. Without discounting recent political and technological changes, he suggested that the dynamics linking strategy to domestic factors can be traced to the time of Clausewitz, if not before. In a contemporary setting, the strategic “distance” of more limited forms of war must be seen in light of democratic considerations “at home”.^[37]

What is the future of remote warfare?

As conference participants repeatedly stressed, for the immediate future, remote warfare is here to stay. Notwithstanding a major unforeseen security catastrophe, and despite the Trump administration’s renewed emphasis on Great Power rivalry, it is unlikely that Western states will resume large-scale COIN campaigns in the immediate future.

In the longer term, the potential development of autonomous weapons systems (AWS) could change the fundamental character of warfare itself. An autonomous weapon can be broadly defined as “a machine, whether hardware or software, that, once activated, performs some task or function on its own”.^[38] The development of autonomous weapons have formed a central component of the Third Offset Strategy in the United States which aims to leverage advances in artificial intelligence to offset vulnerabilities elsewhere.^[39] Whilst the Ministry of Defence has insisted that “[t]he UK does not possess fully autonomous weapon systems and has no intention of developing them”^[40], the UK is investing (if on a much smaller scale and for different reasons) in similar technologies. Robert Clark described how, as part of Exercise Autonomous

Warrior 2018, a British Army Battlegroup conducted four weeks of combat trials and testing with unmanned ground systems on Salisbury Plain.^[41] Whilst barriers may still remain to their integration into British Armed Forces, autonomy is likely to become an increasingly important part of combat operations, surveillance, and logistics in the future.^[42]

The development of such systems is the subject of considerable controversy. Multiple civil society groups, leading scientists, and some states have called for a pre-emptive ban on such weapons due to ethical and legal considerations.^[43] According to Ingvild Bode and Hendrik Huelss, the development of weapon systems with autonomy in their critical functions may create novel logics of appropriateness which challenge the existing norms governing the use of force.^[44] Furthermore, as Bode discussed at the conference, the potential development of weapon systems with autonomy in their critical functions raises questions about the issue of meaningful human control in technologically-mediated forms of remote warfare.^[45]

Others, however, are more optimistic. Used under the right conditions such systems have potentially “virtuous” uses.^[46] Larry Lewis, director of the Centre for Autonomy and Artificial Intelligence, argued that the proper use of machine learning algorithms can help minimise civilian casualties during armed conflict.^[47] As he has previously argued:

AI could review imagery and other intelligence to reduce the number of civilians mistakenly identified as combatants. They could monitor areas and provide a double check of existing collateral damage estimates, particularly as things can change over time. AI-driven unmanned systems would allow those systems to take on risk and use tactical patience, which can reduce risk to civilians.^[48]

Given the uncertain trajectory concerning the development of autonomous functions, it is difficult to precisely anticipate how they may change the practices and study of remote warfare.

Conclusion

Our conference aimed to lay the groundwork for a richer understanding of the past, present, and future of remote warfare to better inform academics and policymakers. In order to help further develop the study of remote warfare, we have identified a series of potential areas for future research:

What is remote warfare?

- Does remote warfare encompass different conceptualisations of the changing character of warfare, or is it distinct? What is the relationship between remote warfare and the debates on grey-zone warfare, hybrid warfare, liquid warfare, proxy warfare, surrogate warfare, and vicarious warfare?

- Who are the users of remote warfare? Are these exclusively Western democratic states like the UK, the US, and France, or is there a non-Western approach to remote warfare?
- How are remote warfare operations experienced by different communities in Africa, the Middle East, and Asia?

The history of remote warfare:

- How far should we trace the historical roots of remote warfare beyond the end of the counterinsurgency campaigns in Afghanistan and Iraq?
- Has remote warfare often been treated as a “new” development because its historical roots have not been properly addressed, or does the use of new technological practices, such as drones and cyber warfare, make it genuinely novel?
- How should the historical roots of remote warfare be studied: as a set of practices or as a nexus of technological, security, and political developments?

The future of remote warfare:

- Is remote warfare here to stay? If so, how should we approach elements of change and continuity?
- What consequences would the development of AWS have for the “remoteness”, oversight, and practices of contemporary warfare?

Given its breadth and complexity, we recognise that the study of remote warfare is likely to remain fluid for some time. It will continue to be shaped by shifts in the global security landscape *and* the patchwork of different professional, normative, and analytical perspectives of those involved in its study.

This presents both challenges and opportunities. At times, tensions emerge between those focused on the technical and operational dimensions of remote warfare, and those seeking to scrutinise its effects on human security and democratic accountability. All stakeholders would do well to reflect on their own positions in the study of remote warfare. A commitment to open dialogue and analytical reciprocity remains essential if remote warfare scholarship is to continue to grow. For some, “mentioning theory has long been a sure way to make policy makers’ eyes glaze over”^[49]. As our conference demonstrated, however, theory can add considerable depth to our understanding of the drivers, characteristics, and implications of remote warfare. Likewise, the first-hand experiences and perspectives of the military personnel conducting remote warfare operations are vital if we are to avoid a circular and inaccurate discussion of its practices.^[50]

The intellectual and professional pluralism of remote warfare scholarship represents one of its greatest strengths. Participants may face different professional cultures and incentive structures, but the inclusion of diverse voices remains crucial if we are to realise a more holistic understanding of remote warfare. This briefing represents the beginning of this process, not its end, and we hope to organise similar events in the future. As remote warfare scholarship continues to develop, our collective commitment to reaching beyond our professional silos and working collaboratively remains paramount.

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Tom Watts is a Teaching Fellow in War and Security at Royal Holloway, University of London with research specialisations in American foreign policy, military assistance programs, and Lethal Autonomous Weapons Systems. His PhD thesis asked what the Obama administration's military response against al-Qaeda's regional affiliates in the Arabian Peninsula, the Horn of Africa and the Sahel tells us about the means and goals of contemporary U.S. military intervention in the global south. Working within the historical materialist tradition, it advances a more critical reading of these processes which places military assistance programs and the reproduction of 'closed frontiers and open-doors' at the centre of its analysis.

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References

[1] Our original call for papers can be found here: <https://www.oxfordresearchgroup.org.uk/news/call-for-papers-conceptualising-remote-warfare-the-past-present-and-future>

[2] Podcasts can be listened to here <https://www.oxfordresearchgroup.org.uk/pages/category/event-podcast-conceptualising>

[3] Azar Gat, 'The Changing Character of War', in *The Changing Character of War*, ed. by Hew Strachan and Sibylle Scheipers (Oxford: Oxford University Press, 2011), pp. 27–47 (p. 28). See also Hew Strachan, 'The Changing Character of War: A Europaeum Lecture Delivered At The Graduate Institute Of International Relations, Geneva', 2006 <<https://europaeum.org/wp-content/uploads/2017/09/The-Changing-Character-of-War-Hew-Strachan-Europaeum-Lecture-2006.pdf>> [accessed 29 March 2019]; Hew Strachan and Sibylle Scheipers, 'Introduction: The Changing Character of War', in *The Changing Character of War*, ed. by Hew Strachan and Sibylle Scheipers (Oxford: Oxford University Press, 2011), pp. 1–26.

[4] Jolle Demmers and Lauren Gould, 'An Assemblage Approach to Liquid Warfare: AFRICOM and the "Hunt" for Joseph Kony', *Security Dialogue*, 49.5 (2018), 364–381 (pp. 365–66). You can also listen to Jolle Demmers and Lauren Gould's podcast here: <https://www.oxfordresearchgroup.org.uk/event-podcast-theorising-remote-warfare>

[5] Demmers and Gould, 'An Assemblage Approach to Liquid Warfare: AFRICOM and the "Hunt" for Joseph Kony'.

[6] Andrew Mumford, *Proxy Warfare* (London: John Wiley & Sons, 2013).

[7] Andreas Krieg, 'Externalizing the Burden of War: The Obama Doctrine and US Foreign Policy in the Middle East', *International Affairs*, 92.1 (2016), 97–113; Andreas Krieg and Jean-Marc Rickli, 'Surrogate Warfare: The Art of War in the 21st Century?', *Defence Studies*, 18.2 (2018), 113–30.

[8] Thomas Waldman, 'Vicarious Warfare: The Counterproductive Consequences of Modern American Military Practice', *Contemporary Security Policy*, 39.2 (2018), 181–205.

[9] For a more detailed summary of the drone-related debates at the conference, see Foeke Postma, 'Drones as Part of Remote Warfare: A Conference Summary', *The European Forum on Armed Drones*, 2019 <<https://www.efadrones.org/drones-as-part-of-remote-warfare-a-conference-summary/>> [accessed 28 March 2019].

[10] Reprieve, 'Game Changer: An Investigation by Reprieve into President Donald Trump's Secret Assassination Programme and the Massacre of Yemeni Civilians in the Villages of Yakla and Al Jubah', 2017 <https://reprieve.org.uk/wp-content/uploads/2017/09/2017_08_15_PRIV-Yemen-Report-UK-Version-FINAL-FOR-USE.pdf> [accessed 29 March 2019]; Reprieve, 'Opaque Transparency: The Obama Administration and Its Opaque Transparency on Civilians Killed in Drone Strikes', 2016 <<https://reprieve.org.uk/wp-content/uploads/2016/06/Obama-Drones-transparency-FINAL.pdf>> [accessed 29 March 2019].

[11] All-Party Parliamentary Group on Drones, 'The UK's Use of Armed Drones: Working with Partners', 2018 <<http://appgdrones.org.uk/wp-content/uploads/2014/08/APPG-Drones-Master-FINAL-310718.pdf>> [accessed 29 March 2019]; Max Byrne, 'Consent and the Use of Force: An Examination of "Intervention by Invitation" as a Basis for US Drone Strikes in Pakistan, Somalia and Yemen', *Journal on the Use of Force and International Law*, 3.1 (2016), 97–125; Max Brookman-Byrne, 'Drone Use "Outside Areas of Active Hostilities": An Examination of the Legal Paradigms Governing US Covert Remote Strikes', *Netherlands International Law Review*, 64.1 (2017), 3–41.

[12] Emily Knowles and Abigail Watson, 'Remote Warfare: Lessons Learned from Contemporary Theatres', *Remote Warfare Programme*, 2018, p. 23 <<https://www.oxfordresearchgroup.org.uk/Handlers/Download.ashx?IDMF=4026f48e-df60-458b-a318-2a3eb4522ae7>> [accessed 11 December 2018].

[14] See Michelle Bentley, 'Fetishised Data: Counterterrorism, Drone Warfare and Pilot Testimony', *Critical Studies on Terrorism*, 11.1 (2018), 88–110; Lindsay C Clark, 'Grim Reapers: Ghostly Narratives of Masculinity and Killing in Drone Warfare', *International Feminist Journal of Politics*, 20.4 (2018), 602–23; Alex Holder, Elizabeth Minor, and M D Mair, 'Targeting Legality: The Armed Drone as a Socio-Technical and Socio-Legal System', *Journal of the Oxford Centre for Socio-Legal Studies*, 2018, 1–17.

[15] Peter Lee, 'The Distance Paradox: Reaper, the Human Dimension of Remote Warfare, and Future Challenges for the RAF', *Air Power Review*, 21.3 (2018), 106–30. See also Peter Lee, *Reaper Force-Inside Britain's Drone Wars* (London: John Blake Publishing Ltd, 2018).

[16] Joseph Chapa, 'Remotely Piloted Aircraft, Risk, and Killing as Sacrifice: The Cost of Remote Warfare', *Journal of Military Ethics*, 16.3–4 (2017), 256–71.

[17] Malte Riemann, 'Conceptualising the Dichotomy between Private Military Contractors and Soldiers amid "Society"', *Political Perspectives*, 8.3 (2014), 1–15.

[18] This topic was examined by multiple conference participants including Aditi Gupta, Peter Finn and Liam Walpole and Meghan Karlshoej-Pedersen amongst others. You can listen to their respective conference presentations here: <https://www.oxfordresearchgroup.org.uk/event-podcast-the-oversight-and-accountability-of-remote-warfare>; <https://www.oxfordresearchgroup.org.uk/event-podcast-roundtable-on-ai-and-the-future-of-remote-warfare>

[19] You can listen to Yvonne Efstathiou's presentation and view her slides here: <https://www.oxfordresearchgroup.org.uk/event-podcast-the-oversight-and-accountability-of-remote-warfare>

[20] Foeke Postma.

[21] One of the Remote Control Project's earliest digests identified five key areas of Remote Warfare, for example: "special forces, [private military security contractors], drones, cyber warfare, and intelligence and surveillance". Caroline Donnellan and Esther Kersley, 'New Ways of War: Is Remote Control Warfare Effective?', *Remote Control Project*, 2014, pp. 6–10 (p. 7) <<https://www.statewatch.org/news/2014/oct/Remote-Control-Digest.pdf>> [accessed 29 March 2019].

[22] You can listen to Dan Mahanty's presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-building-partner-capacity-and-remote-warfare>

[23] You can listen to Martijn van der Vorm's and Ivor Wiltenburg's presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-building-partner-capacity-and-remote-warfare>

[24] See also Abigail Watson and Emily Knowles, 'Improving the UK Offer in Africa: Lessons from Military Partnerships on the Continent', *Remote Warfare Programme*, 2019 <<https://www.oxfordresearchgroup.org.uk/Handlers/Download.ashx?IDMF=94a8e650-09a0-408e-bc0d-3c0610c10d5e>> [accessed 29 March 2019].

[25] A similar argument was also made by Jolle Demmers and Lauren Gould. You can also listen to Jolle Demmers and Lauren Gould's podcast here: <https://www.oxfordresearchgroup.org.uk/event-podcast-theorising-remote-warfare>

[26] You can listen to Norma Rossi's and Malte Riemann's conference presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-the-cost-and-consequences-of-remote-warfare>

[27] You can listen to Norma Rossi's and Malte Riemann's conference presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-the-cost-and-consequences-of-remote-warfare>

[28] You can listen to Baraa Shiban's and Camilla Molyneux's conference presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-the-cost-and-consequences-of-remote-warfare>

[29] You can listen to Anicée Van Engeland's presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-theorising-remote-warfare>

[30] Paul Schulte, "'What Do We Do If We Are Never Going to Do This Again?' Western Counter-Insurgency Choices after Iraq and Afghanistan', in *The New Counter-Insurgency Era in Critical Perspective* (Springer, 2014), pp. 340–65.

[31] You can listen to Emil Archambaul's presentation on the Strategic Logic of Remote Counterinsurgency: From Vietnam to the War on Terror here: <https://www.oxfordresearchgroup.org.uk/event-podcast-the-cost-and-consequences-of-remote-warfare>

[32] See Mumford.

[33] You can listen to John Alexander's presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-the-geographies-of-remote-warfare>

[34] We are grateful to Dr Edward Stoddard for pointing this out.

[35] Strachan, 'The Changing Character of War: A Europaeum Lecture Delivered At The Graduate Institute Of International Relations, Geneva', p. 28.

[36] Hew Strachan, 'Strategy in the Twenty-First Century', in *The Changing Character of War*, ed. by Hew Strachan and Sibylle Scheipers (Oxford: Oxford University Press, 2011), pp. 503–23 (p. 504).

[37] You can listen to Hew Strachan's presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-sir-hew-strachan-keynote-speech>

[38] Paul Scharre and Michael C. Horowitz, 'An Introduction to Autonomy in Weapons Systems', *Center For A New American Security*, 2015, p. 5 <https://www.files.ethz.ch/isn/188865/Ethical_Autonomy_Working_Paper_021015_v02.pdf> [accessed 29 March 2019].

[39] Larry Lewis, 'Insights for the Third Offset: Addressing Challenges of Autonomy and Artificial Intelligence in Military Operations', *Center for Naval Analyses*, 2017.

[40] Ministry of Defence, 'Joint Doctrine Publication 0-30.2 Unmanned Aircraft Systems', *Development, Concepts and Doctrine Centre*, 2017, p. 14 <https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/673940/doctrine_uk_uas_jdp_0_30_2.pdf> [accessed 29 March 2019].

[41] Ministry of Defence, 'Army Innovation: Exercise Autonomous Warrior', 2018 <<https://www.army.mod.uk/news-and-events/events/awe-2018/>> [accessed 29 March 2019].

[42] James Rogers and Robert Clark, 'The United Kingdom', in *Digital Infantry Battlefield Solution: Research and Innovation*, ed. by Uģis Romanovs and Māris Andžāns, 2019, pp. 103–13 <<http://www.liia.lv/en/publications/digital-infantry-battlefield-solution-research-and-innovation-part-three-781>>.

[43] Formed in 2012, the Campaign to Stop Killer Robots is an international coalition of non-governmental organisations which is committed to a complete ban on the development of fully autonomous weapons systems. More can be found here: <https://www.stopkillerrobots.org/>. See also Future of Life Institute, 'Autonomous Weapons: An Open Letter From AI & Robotics Researchers', 2015 <<https://futureoflife.org/open-letter-autonomous-weapons/?cn-reloaded=1>> [accessed 29 March 2019]. For an alternative position on the banning of autonomous weapons systems, see Kathleen McKendrick, 'Banning Autonomous Weapons Is Not the Answer', *Chatham House*, 2018 <<https://www.chathamhouse.org/expert/comment/banning-autonomous-weapons-not-answer>> [accessed 29 March 2019].

[44] Ingvild Bode and Hendrik Huelss, 'Autonomous Weapons Systems and Changing Norms in International Relations', *Review of International Studies*, 44.3 (2018), 393–413.

[45] You can listen to Ingvild Bode's conference presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-roundtable-on-ai-and-the-future-of-remote-warfare>

[46] This has parallels in the earlier debate on "virtuous" drones. See Caroline Kennedy and James I Rogers, 'Virtuous Drones?', *The International Journal of Human Rights*, 19.2 (2015), 211–27.

[47] You can listen to Larry Lewis' conference presentation here: <https://www.oxfordresearchgroup.org.uk/event-podcast-roundtable-on-ai-and-the-future-of-remote-warfare>. Also see Larry Lewis, 'AI and Autonomy in War: Understanding and Mitigating Risks', *Center for Naval Analyses*, 2018 <https://www.cna.org/CNA_files/PDF/DOP-2018-U-018296-Final.pdf> [accessed 29 March 2019]; Larry Lewis, 'Redefining Human Control: Lessons from the Battlefield for Autonomous Weapons', *Center for Naval Analyses*, 2018 <https://www.cna.org/CNA_files/PDF/DOP-2018-U-017258-Final.pdf> [accessed 29 March 2019].

[48] Larry Lewis, 'AI for Good in War; Beyond Google's "Don't Be Evil."', *Breaking Defense*, 2018 <<https://breakingdefense.com/2018/06/ai-for-good-in-war-beyond-googles-dont-be-evil/>> [accessed 29 March 2018].

[49] Quoted in Joseph Nye, 'Bridging the Gap between Theory and Policy', *Political Psychology*, 29.4 (2008), 593–603 (p. 594).

[50] Joseph Chapa, "'Drone Ethics" and the Civil-Military Gap', *War on the Rocks*, 2017 <<https://warontherocks.com/2017/06/drone-ethics-and-the-civil-military-gap/>> [accessed 29 March 2019].