

Institution: University of Portsmouth		
Unit of Assessment: UoA 17: Business and Management Studies		
Title of case study: Killing by Drone: Implementing professional ethics training in the induction and practice of the UK's Royal Air Force Reaper drone operators		
Period when the underpinning research was undertaken: 2014 - 2018		
Details of staff conducting the underpinning research from the submitting unit:		
Name(s):	Role(s) (e.g. job title):	Period(s) employed by submitting HEI:
Peter Lee	Professor of Applied Ethics	14 November 2012 - date
Period when the claimed impact occurred: 2016 - 2020		
Is this case study continued from a case study submitted in 2014? N		
1. Summary of the impact <p>RAF Reaper drones have been widely deployed in combat missions in Afghanistan, Iraq and Syria since 2007. Their use has prompted media debate, public controversy, protests outside the bases involved, Parliamentary Questions, and an Inquiry by the All-Party Parliamentary Group on Drones (APPGDrones) on 'The UK's Use of Armed Drones'.</p> <p>Peter Lee was uniquely placed to provide independent advice to the Inquiry based on his detailed research with Reaper crews, and spoke strongly of the increased psychological and emotional jeopardy faced by crews undertaking remotely piloted air operations. He advocated, to both the Inquiry and the RAF, the urgency of introducing military ethics training to provide a moral framework and vocabulary to support the decision-making and mental wellbeing of Reaper crews as they made these life-or-death choices. The RAF acted on his advice and not only introduced bespoke professional ethics training into the initial induction and ongoing development of new and existing crew members of their Reaper squadrons – but asked Lee to develop and deliver this training to all Reaper personnel (around 400 staff - exact number not available for security reasons) in 2018 (Impact 1).</p> <p>His expert knowledge of military drones and his 'unique insights into the human dimension' of drone operation has seen his appointment as an Expert Advisor to APPGDrones, a position from which he advises on the wider societal use of drones (Impact 2).</p>		
2. Underpinning research <p>Peter Lee served as a Royal Air Force chaplain (2001-08) before joining RAF College Cranwell (part of the University of Portsmouth since 2013) in 2008 where he taught ethics and air power studies. His experiences as a chaplain infused his research and caused him to reflect upon both the ethics of military interventions and, in particular, the ethical responsibilities of combatants in such interventions.</p> <p>His initial research into the theme (2010-11) employed a qualitative, discourse analysis approach to better understand new and emerging ethical aspects of UK military interventions in Afghanistan and Iraq in the twenty-first century, and was published as <i>Blair's Just War: Iraq and the Illusion of Morality</i> (R1). Key findings: 1. A link between "British soldiers, sailors and airmen [being] expected, in war, to conduct themselves in accordance with the law and to uphold high ethical standards," and, "... that they expect to be sent to fight for good reasons" (R1, pp.163 ff.). 2. The ethics involved were complicated by the unconventional nature of the wars in these countries as there were usually "no uniforms to distinguish legitimate from illegitimate" enemy targets (R1, p.166).</p> <p>The application of the European Convention on Human Rights to British combat operations in June 2013, and assumptions about the status of combatants in modern war zones, led Lee to examine the emerging challenges to centuries of Just War ethics assumptions (R2). His research highlighted the dilemma relating to the role of individual rights when making normative judgements about the morality of war and ethical conduct therein, and noted; "The use of the Reaper by the Royal Air Force on remote operations in the Afghanistan theatre adds a further layer of complexity to those ethical considerations" (R2, p.30).</p> <p>The RAF's first Reaper drones (39 Squadron) flew their initial sortie from Creech Air Force Base (Nevada) in October 2007 and had since conducted surveillance and lethal missile and bomb</p>		

strikes in Afghanistan, Iraq and Syria. Unlike conventional airpower interventions, however, RAF Reaper operators are not exposed to battlefield dangers. Instead, they deliver lethal weapon strikes from physical safety thousands of miles away in the UK or US. This new modus operandi caused Lee to revisit the Just War theory of political theorist Jean Bethke Elshtain. He argued that while ethical conduct in military personnel remains framed by a complex interplay of social, cultural, military, psychological and legal factors, **“human lives, with all their attendant political, social, and religious complexities, should be the focus when military force is used, or even proposed, for political ends”** (R3, p.859).

This belief prompted Lee to request research access from the RAF (2014) to conduct an in-depth, qualitative questionnaire-based study with 25 RAF Reaper drone operators to explore – using thematic analysis – the role of personal ethics in their day-to-day operational practices (R4). The research provided new insight into the actions and identities of British Reaper drone operators and unravelled the previously unseen, complex and creative ethical dynamics at work in individuals who routinely make decisions and actions that have life or death consequences. **Key finding:** Some Reaper crew members regularly considered the ethical questions raised by their work but others either did not, lacked a suitable ethics vocabulary/framework, or were uncertain about the topic.

As previous research, extensive public engagement, and media debate had highlighted a limited public understanding of how Reaper drones operated and an absence of insight into the operators' perspectives Lee made a further successful research access request to the RAF in 2015. The project (*RAF Reaper: 21st Century Drone Warfare from the Operators' Perspective*) saw Lee employ a qualitative, narrative life history approach, interviewing 90 Reaper operators to gain further insights into this way of modern warfare. This led to the publication of the life-narrative, personal-story-based book *Reaper Force: The Inside Story of Britain's Drone Wars* (2018). Additional scholarly analysis followed in R5. **Key research findings:** 1. There was no bespoke ethics element in the training of RAF Reaper drone operators. They were not given any ethical guidance in their training to make decisions about who they would (or would not) target and kill in the course of conducting military operations. 2. A 'distance paradox' was identified, where vast physical distances between drone operators and targets are accompanied by high definition, screen-mediated intimate, immersive, emotional and psychological aspects of targeting and killing (R5, pp.124-5). Lee concluded: **“The potential jeopardy of manned air operations is replaced by increased psychological and emotional jeopardy in remotely piloted air operations. This could be dangerous in an organisation that has, throughout its history, deliberately downplayed emotional and psychological risks and reactions [...] Supporting and developing those remote operators is the next great challenge”**.

3. References to the research

- (R1) Lee, P. (2012). *Blair's Just War: Iraq and the Illusion of Morality*. Basingstoke: Palgrave Macmillan.
- (R2) Lee, P. (2013). Rights, Wrongs and Drones: Remote Warfare, Ethics and the Challenge of Just War Reasoning, *Air Power Review*, 16,(3), 30-49. <https://www.raf.mod.uk/what-we-do/centre-for-air-and-space-power-studies/documents1/air-power-review-volume-16-no-3/>
- (R3) Lee, P. (2013). Scarred Souls, Weary Warriors and Military Intervention: The emergence of the subject of war in the writings of Jean Bethke Elshtain, *Review of International Studies*, 39 (4), 859-880. <https://doi.org/10.1017/S0260210512000344>
- (R4) Lee, P. (2017). The Drone Operator and Identity: Exploring the Construction of Ethical Subjectivity in Drone Discourses. *Critical Approaches to Discourse Analysis across Disciplines*, 9 (2), 62-78. <https://www.lancaster.ac.uk/fass/journals/cadaad/volume-9-2/>
- (R5) Lee, P. (2018). The Distance Paradox: Reaper, the Human Dimension of Remote Warfare, and Future Challenges for the RAF. *Air Power Review*, 21 (3), 106-131. <https://www.raf.mod.uk/what-we-do/centre-for-air-and-space-power-studies/documents1/air-power-review-vol-21-no-3-raf100-special-edition/>

The references above contain four peer-reviewed journal articles (R2, R3, R4 and R5) and one book (R1). Following peer-review, R1, R2 and R3 were adjudged as of at least 3* REF2021 quality.

4. Details of the impact

Introduction

Lee's research has led to **significant quality of life benefits** for operators of Reaper aircraft, **new understanding and awareness** among senior RAF staff and managers of the psychological and emotional jeopardy faced by Reaper operators. It has **influenced the wider policy debate** around the military and civilian use of drones. The main pathway to impact saw Lee invited as an expert witness to the APPGDrones Inquiry into the UK's Use of Armed Drones. His input into that Inquiry directly led to introducing new training practices for all UK Reaper Operators (**Impact 1**). Lee has also influenced the broader policy debate around the use of drones through his advice to two APPG roundtable events on 'The Future of Civilian Drones in the UK' (**Impact 2**).

How RAF Reaper drones 'work'

An RAF Reaper crew has three members. A pilot who remotely flies the Reaper aircraft (known colloquially as a drone) and fires laser-guided 100-pound missiles and 500-pound bombs when authorised under specific legal frameworks/ Rules of Engagement. They are supported by a Sensor Operator who manually controls the missiles and bombs onto the designated targets (physical objects or human combatants), and a Mission Intelligence Coordinator who ensures that the correct person/people or object is being targeted. The pressures on such crew are immense. Defence Procurement International noted that 100,000 hours of flight time had been notched-up by the UK's two drone squadrons (equating to more than 11 years of being airborne, or flying around the world 550 times) by December 2017. Moreover, drone strike statistics show that UK Reaper drone operators launched 985 Hellfire missiles or bombs against ISIS in Iraq and Syria between August 2014 and December 2020 (**S10**).

Yet a crucial finding in Lee's 2013-15 (R4) research was that more than 50% of all Reaper crew members he had interviewed – precise numbers not given for security reasons – **did not have a clear ethics framework or vocabulary within which to make their life and death, kill or no-kill decisions**. Decisions they would live with forever and which, inevitably, impacted detrimentally upon their wellbeing. The legal element was clear, but the ethical aspects had not been addressed. For example, Respondent 8 had no ethical consideration beyond 'operating within the law' (**R4**, p.71), while Respondent B strived to 'answer the personal question, "is what I am doing morally justified?"' (**R4**, p.71). Subsequent research (**R5**) confirmed there was no bespoke Ethics element in the training of RAF Reaper crew members. Yet, the ability to align actions with core ethical values is important for the psychological wellbeing of the Reaper personnel: a strong sense of ethical purpose is a protective factor against moral injury (**R4**, pp.122 ff.).

Impact 1: Influencing policy and practice: The APPGDrones Inquiry into the UK's Use of Armed Drones.

In 2016 the APPGDrones initiated a Special Inquiry into the UK's Use of Armed Drones as "... there is a political and ethical imperative for the Government to review and clarify its procedures for using drones and all the multi-national systems that back them ..." (Michael Clarke, Chair of Inquiry Panel, <http://appgdrones.org.uk/wp-content/uploads/2014/08/APPG-Drones-Master-final-amendments.pdf>, p.3). Evidence submitted to the Inquiry by Air Marshal Greg Bagwell's in December 2016 raised concerns that UK Reaper pilots faced 'some incredible moral dilemmas here' given "The demand for these systems to operate is relentless, as with the demand to keep growing and training these crews. It's fair to say we have had some crews who have left because they'd had enough" (**S1**, p.13). On being informed of Lee's research in this area, he was invited to submit written evidence to the Inquiry in March 2017 (**S2**). **His 15-page submission was delivered on 12 June 2017 and detailed the impact remote warfare had on Reaper crews and their partners – and strongly recommended four mitigating actions; (i) a specific ethics induction** ("Remote warfare asks new questions of conventional war ethics and Reaper personnel should, from the outset, fully understand the practical and ethical demands of their

roles”) (S3, p.13), (ii) **individual workload, lifestyle and sustainability assessments**, (iii) **mandatory psychological support** every 3-6 months, and (iv) **recognition in the form of medals/awards** for “meritorious service that has significant tactical or operational impact and which incurs significant mental and social costs to the personnel and families involved” (S3, p.12). At the same time, the report and recommendations – including the proposal “Upon joining the Reaper Force – and perhaps even at the recruitment/ enquiry stage – I recommend that all personnel should undergo an introduction to remote warfare ethics.” (S3, p.13) - was also submitted to the Officer Commanding, RAF Reaper Force.

On 26 June 2017 the **RAF not only accepted Lee’s recommendation to include mandatory professional ethics training for its operators but invited Lee to provide relevant materials to implement this bespoke ethics education programme in both RAF Reaper drone squadrons**, “to ensure that personnel selected for Reaper are suitably prepared and understand the role for which they are volunteering” (S4). Moreover, the RAF also highlighted they were in the process of exploring options for providing psychological support for operators at regular intervals based on what Lee had also advocated. They concluded by thanking Lee for “your work so far, it is of great importance to the Reaper Force [...] The ethical dimension is critical and your input is greatly appreciated” (S4).

The following year, Lee delivered in-person teaching on the ethics of remote (drone) warfare to 80% of RAF Reaper drone crew members (total around 400 personnel but specific number not provided for security reasons) on two training days: one at [text removed for publication] (February 2018), and the second at [text removed for publication] (June 2018). In line with the RAF request, he produced “an audio-visual presentation, relevant recommended reading, and a staff induction to enable current squadron personnel to teach this package in the future” (S4). To ensure programme continuity, Lee employed a ‘train-the-trainer’ approach, and 6 members of each squadron were taught how to conduct ethics teaching for all new Reaper drone personnel.

The Reaper Force Commander subsequently highlighted (18 June 2018) the value of having a clear ethics framework to guide their work: “Understanding the ethical background, as well as the underlying principles, of the responsibilities and decisions these crew make is a key part of the work the Reaper Force undertakes daily. **The ethics training that Dr Lee has delivered is clearly an essential part of helping my crews understand the work they consistently perform to such a high standard, and builds strongly into the Resilience [health and wellbeing] Package Reaper operators now undertake**” (S5).

Two Reaper personnel subsequently wrote independently to Lee describing the impact his ethical guidance had on them in the context of their Reaper Force working environment. A recently appointed sensor operator described how, following Lee’s ethics briefing, they “felt more informed and knowledgeable than ever before [...] and could properly go home that night to answer some difficult questions him and his wife had” (S6). Separately, a pilot wrote: “From my perspective... the work you have done on the Reaper Force has been enlightening and has significantly helped inform the wider community guiding the ethical principles not only of those actually conducting Reaper Operations but more significantly those commanding the Operations.” (S7).

Impact 2: Influencing the wider policy debate on the use of drones.

In December 2018, Lee was invited to become an Expert Advisor to the APPGDrones in recognition of his “extensive research with the RAF Reaper Force and unique insights into the human dimension” (S8). He extended his influence on the policy debate to drones’ civilian use by offering advice at two APPGDrones Roundtable events in May 2019. Later that year he provided ‘expert support’ in the APPGDrones meeting with [text removed for publication] to discuss the implications of the Roundtables’ findings. In March 2020, the APPG wrote of his contribution:

“His extensive research with the RAF Reaper Force and unique insights into the human dimension of remote air warfare provided invaluable insights into the situation of UK personnel, and his broader research background in the ethics of military drone operations, with regard to the use of both piloted and autonomous drones continues to offer a crucial sounding board to inform the Group’s thinking [...] Professor Lee was an invaluable partner, advising and assisting us in

planning and chairing two Roundtable events on 8 and 22 May on 'The Future of Civilian Drones in the UK'." (S9).

5. Sources to corroborate the impact

(S1) APPG on Drones. Oral evidence: APPG Inquiry into 'The Use of Armed Drones: Working with Partners', 07.12.2016. <http://appgdrones.org.uk/wp-content/uploads/2014/08/APPGDrones-Transcript-Evidence-Session-7.12.16.pdf>

(S2) Email from [text removed for publication], APPG on Drones, 27.03.2017.

(S3) Peter Lee – Submission to the APPG on Drones, 12.06.2017. <http://appgdrones.org.uk/wp-content/uploads/2014/08/Dr-Peter-Lee-Submission-to-APPG-Inquiry.pdf>

(S4) Email from [text removed for publication], RAF Reaper Force HQ, 26.06.2017.

(S5) Letter from the RAF Reaper Force Commander, 18.06.2018.

(S6) Email from RAF Reaper Sensor Operator, 08.04.2020 (**redacted**).

(S7) Email from RAF Reaper Pilot, 09.03.2020 (**redacted**).

(S8) Letter from the APPG on Drones [text removed for publication], 04.12.2018.

(S9) Letter from the APPG on Drones [text removed for publication], 31.03.2020.

(S10) UK RAF Reaper Drone Strike Statistics. <https://dronewars.net/uk-drone-strike-list-2/>