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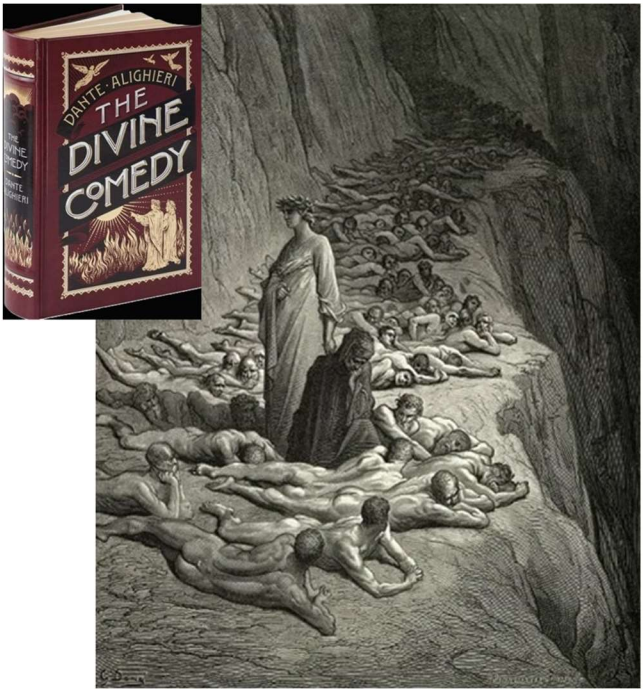
Remotely Piloted Air Systems and Moral Injury. Do we do enough to prepare operators to kill and live with its moral consequences?

Wing Commander Rebecca Woolley



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by:

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Killing, living with killing and moral injury. Do we do enough to prepare our warriors to kill and live with killing?

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This work has been reviewed and cleared for publication by the MOD's Directorate of Defence Communications and the RAF's ISTAR Force HQ.

Dedication by the publisher

Col. (ret) Manfred Rosenberger, who was a founding member of EuroISME and its first Executive Director, has passed away in January 2025. In order to honour his memory, the Board of Directors has decided that EuroISME's annual students' prize will henceforth be known as the Manfred Rosenberger prize for military ethics.

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Introduction

The use of remotely piloted air systems (RPAS) has transformed the way in which intelligence gathering, force protection, target acquisition and precision strikes are conducted. Operating a platform able to remain airborne for up to 20-hours, the RAF uses Reaper to provide persistent close air-support to ground troops, a live visual intelligence feed and a precision guided strike capability.[1] The RAF first deployed Reaper, a medium-altitude, long endurance RPAS, to Afghanistan in 2007.[2] Whilst launched from airfields in relative proximity to its designated area of operations, Reaper is operated by crews based at RAF Waddington in the UK, or Creech Air Force Base in the United States of America.[3] A three-person team consisting of a pilot, sensor operator and intelligence analyst provide a constant intelligence, surveillance and reconnaissance (ISR) capability. Traditionally selection for these roles has come from within the RAF, often with personnel from outside the aircrew branch being trained to fly and operate the platform, supported by intelligence specialists. Such was the importance of the capability in delivering effect on operations that the RAF established a flying branch for RPAS operators to recognise their work.[4] This was a message that the RAF was committed to the use of RPAS,

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[1] Kinsey B Bryant-Lees *et al.*, 'Sources of Stress and Psychological Health Outcomes for Remotely Piloted Aircraft Operators: A Comparison Across Career Fields and Major Commands', *Military Medicine* 186, no. 7–8 (1 July 2021): e784–95, https://doi.org/10.1093/milmed/usaa257.

[2] David Whetham, 'Killer Drones: The Moral Ups and Downs', RUSI, 27 June 2013, 2, <https://rusi.org/explore-our-research/publications/rusi-journal/killer-drones-moral-ups-and-downs>.

[3] *Ibid.*

[4] 'RAF Reaper Pilots Gain Wings', Ministry of Defence, accessed 6 December 2023, <https://www.gov.uk/government/news/raf-reaper-pilots-gain-wings>.

and that flying and operating Reaper was viewed by the Service as akin to that of other aircrew streams. The award of RAF pilot wings, albeit a different colour to that of the traditional aviation platforms, was seen as symbolic in communicating this message to both the aircrew community and wider Service.

RPAS can reduce the financial and human cost of war. Geographical dislocation from the area of operations protects the lives of operators and reduces the need to place service personnel at risk in the delivery of targeting at close quarters. Some in society feel that the life of a non-combatant is worth more than that of a soldier.[5] A high definition, real time on-ground picture reduces risk to non-combatants, making RPAS a more acceptable way of delivering lethality. In a liberal-Western society, they are a favoured capability for governments and military commanders, and the societies they serve. Yet whilst operating the capability from another country reduces risk to life and enables persistent ISR, there is an increasing belief that these 'remote warriors' remain at risk of battle injury, that of moral injury (MI). RPAS operations repeatedly expose crews to traumatic events in high-definition and often after a prolonged period of target observation.[6] Crews can watch potential targets for days, observing their daily pattern of life, interactions with their families and significant life-events as part of the ISR required to inform the decision to kill. Operators can become intimately familiar with deeply personal aspects of lives that they may then terminate. Post-killing, crews can witness the impact a strike has had on a target's family, triggering an emotional response to killing unique to RPAS operators.

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[5] Michael Walzer, *Just and Unjust Wars: A Moral Argument with Historical Illustrations.*, 4th ed. (New York: Basic Books, 2006).

[6] Wayne Phelps, *On Killing Remotely: The Psychology of Killing with Drones.* (New York: Little, Brown and Company, 2021), 48.

On today's battlefield, killing is no longer solely the remit of warriors on the ground with the moral 'protection' of self-defence as way to mitigate for some of the actions and trauma they are exposed to. Aviators fighting distant wars can find themselves in a state of emotional dysfunction as result of actions that breach an individual's moral code.

MI lacks a universally agreed definition and defined set of criteria to enable its diagnosis. Whilst MI may feel like a relatively new concept, it has been theorised and discussed for decades. First described by Jonathan Shay, MI was defined following studies of Vietnam-war veterans as being a "betrayal of what is right by someone holding legitimate authority in a high stakes situation".[7] It has become increasingly accepted within the medical, military, and spiritual communities as a cause of psychological distress but is not explained by fear-based responses to trauma like post-traumatic stress disorder (PTSD). In MI, traumatic events cause individuals to feel that their experiences have caused a moral transgression, leaving them with persistent feelings of shame or guilt. This can impair daily function and impact on personal and occupational relationships. Mental illness can result, and whilst treatable, may never see the root cause of a person's psychological state addressed. In short, and as described by Molendijk, MI "addresses the links between moral issues and distress, connecting the ethical and the psychological".[8]

This paper seeks to demonstrate that the RAF is not doing enough to protect RPAS operators from the long-term effects of the killing they perform in the line of duty. The literature reviewed throughout the paper will present evidence

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[7] Jonathan Shay, 'Casualties', *Daedalus* 140, no. 3 (1 July 2011): 183, <https://doi.org/10.1162/DAED_a_00107>.

[8] Tine Molendijk, *Moral Injury and Soldiers in Conflict: Political Practices and Public Perceptions* (Oxford: Routledge, 2021), 5.

that supports this. The concept of morality and how it can be injured will first be discussed, as well as the challenges in defining and diagnosing MI. Existing fear-based mental illness models and their treatment will be examined and the evidence as to why MI should be regarded as a separate phenomenon will be reviewed. The unique environment that the Reaper Force operates in will be discussed to illustrate why its personnel are at risk of MI, and the prevalence and impact of MI in this population will then be examined to determine how significant a problem MI is. Opportunities to screen for, and correct, MI will be discussed as well as the pre-killing opportunities that exist to prepare individuals who operate Reaper to kill and live with the consequences. This paper will argue that MI is an inevitability in war and could be viewed as a desirable consequence for a Service that recruits its workforce from a morally strong society in which killing is not an acceptable, everyday occurrence. It will suggest that the absence of MI in the RAF could indicate a serious cultural and organisational problem. Finally, an alternative 'just war' theory will be discussed that may have application for use as a tool to reduce the incidence of MI by fostering a morally aware RPAS Force, able to initiate conversations about killing based on individual and societal morality.

Chapter 1. The Impact of Killing

Morality and moral injury

To understand MI, this paper must attempt to define morality, a concept which the existence and definition of, is contested. Morals can be defined as being the "personal and shared, familial, cultural, societal, and legal rules for social behaviour, either tacit or explicit".[9] Morals are hypothesized to have come about to counter primitive instincts, like aggression, in early human evolution that may have led to disruption of a family or group that individuals were part of,[10] reducing an individual's chance of successfully mating and continuing its genetic line.[11] Some academics argue that morals are not innate to humans and that they must be taught during childhood, an argument which in some way explains why individuals have different sets of morals. As such, "a person's moral beliefs and expectations are essentially both personal and social". [12] However other academics argue that humans are naturally a moral species, though whether we have evolved to become a moral species, or this trait has been present since the earliest hominids is contested.[13]

As society and its values have become more developed and complex, morals have acted as a guide to how we should

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[9] Brett T Litz *et al.*, 'Moral Injury and Moral Repair in War Veterans: A Preliminary Model and Intervention Strategy', *Clinical Psychology Review* 29 (2009): 5.

[10] Sigmund Freud, 'Civilization and its discontents', *The Standard Edition of the Complete Psychological Works of Sigmund Freud.(1927-1931): The Future of an Illusion, Civilization and Its Discontents, and Other Works* XXI (1930): 96.

[11] Richard Joyce, *The Evolution of Morality*, 1. MIT Press paperback ed, Life and Mind (Cambridge, Mass.: The MIT Press, 2007), 2.

[12] Molendijk, *Moral Injury and Soldiers in Conflict*, 22.

[13] Joyce, *The Evolution of Morality*, 3.

interact and behave.[14] It is society's generally accepted moral code that also underpins the concept that there should be some sort of punishment should an individual, or organisation, deviate from these widely held beliefs.[15] At the individual level, morality drives behaviours that uphold the moral code. Some of these are dictated by an individual's need to follow a firm belief that their own moral code should be upheld at all costs. Other behaviours result from a perception that society would disapprove of any deviation from the moral code and for some, the idea of societal disapproval is enough to influence their behaviour and drive adherence to a strict moral code. Morally driven behaviours can be influenced by the emotions that may be experienced as a consequence of transgression from one's own moral code, guilt and shame being the predominant feelings reported.[16] Joyce states that these are examples of morality based emotions and are innate and self-directed so as to guide our behaviours.[17] Tangney *et. al.* define guilt as being a "painful and motivating cognitive and emotional experience tied to specific acts of transgression of a personal or shared moral code",[18] the experience of which can lead to individuals avoiding the behaviour that triggered it and seeking to make amends. Freud stated that guilt "expresses itself as a need for punishment".[19] Shame has an even greater impact on behaviour, informing interactions with others and a tendency to withdraw from

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[14] Brett T. Litz *et al.*, 'Defining and Assessing the Syndrome of Moral Injury: Initial Findings of the Moral Injury Outcome Scale Consortium', Frontiers in Psychiatry 13 (2022): 5, <https://www.frontiersin.org/articles/10.3389/fpsyt.2022.923928>.

[15] Litz *et al.*, 5.

[16] June Price Tangney, Jeff Stuewig, and Debra J. Mashek, 'Moral Emotions and Moral Behavior', *Annual Review of Psychology* 58 (2007): 345–72, <https://doi.org/10.1146/annurev.psych.56.091103.070145>.

[17] Joyce, The Evolution of Morality, 101.

[18] Tangney, Stuewig, and Mashek, 'Moral Emotions and Moral Behavior'.

[19] Freud, 'Civilization and its discontents'.

society. It involves personal reflections that can lead to the belief that an individual has not made acceptable contributions to society and that their self-worth is diminished.[20] This can lead to persistent emotional dysfunction, poor mental and emotional health, and impaired function.[21]

There is no universally accepted definition of MI. This in part, explains why screening and treatment for MI is not commonplace. Definitions of MI vary, even between experts in the field. Brett Litz describes MI as "perpetrating, bearing witness to, or learning about acts that transgress deeply held moral beliefs and expectations".[22] Jonathan Shay compared the experience of Vietnam veterans with the ancient Greek warriors Achilles and Odysseus to demonstrate that 'spiritual wounds' of war are not a new concept and proposed that the causes of MI are twofold.[23] The first causes the individual to see themselves as the perpetrator of an act, or failure to act, which transgresses personal morals, resulting in guilt or shame. In the second, the individual is the victim and feels betrayed or abandoned by an individual or organisation due to their action or inaction. Fundamental to Shay's argument is the concept that the type of MI sustained is determined by the experience of the individual, and whether they perceive themselves to have done wrong or been wronged. It is the organisational betrayal of Shay's theory that is key to understanding some of the risk factors, and therefore mitigations, for MI in RPAS operators that will be discussed later in this paper.

In addition to the lack of a universally accepted definition, the inability to measure moral tensions has rendered

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[20] Tangney, Stuewig, and Mashek, 'Moral Emotions and Moral Behavior'.
[21] *Ibid.*
[22] Litz *et al.*, 'Moral Injury and Moral Repair in War Veterans: A Preliminary Model and Intervention Strategy'.
[23] Jonathan Shay, *Achilles in Vietnam: Combat Trauma and the Undoing of Character,* vol. xxiii (New York: Atheneum, 1994).

it difficult to develop an accepted method to screen for MI. For most members of society, morality can only really be explored within the realms of hypothetical scenarios that do not mirror real-life choices and actions. Moral choices are rarely made by simple and rational thought processes. The social context of a situation, an individual's position of status in relation to others, as well as social pressures and expectations have all been shown to influence the moral or immoral choices one may make.[24] The 1971 Stanford Prison Experiment studied how behaviour can change according to the situation people are placed in.[25] It assigned participants to act as prison guards or prisoners in a simulated prison but was cut short due to the extreme and unethical behaviour that the 'guards' quickly started to display.[26] The study was repeated by the BBC which reported that no behavioural changes were observed and that external variables influenced behaviour in the original experiment.[27] The variability in results and ability to influence moral choices demonstrated here is indicative of how difficult it can be study morality accurately. No observations of morality, either based on artificial situations or real-life transgressions, have provided a metric that has been meaningfully translated into a way that can objectively measure whether an individual's experiences have caused a deviation from their unique moral code. In a hypothetical

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[24] Molendijk, *Moral Injury and Soldiers in Conflict*, 22.

[25] Philip Zimbardo, *The Lucifer Effect: Understanding How Good People Turn Evil,* (New York: Random house, 2007), <https://www.researchgate.net/profile/Juan-Manso/publication/26594577_Resena_de_The_Lucifer_Effect_Understanding_how_good_people_turn_evil_de_P_G_Zimbardo/links/5564770808ae86c06b6a77a2/Resena-de-The-Lucifer-Effect-Understanding-how-good-people-turn-evil-de-P-G-Zimbardo.pdf>.

[26] *Ibid.*

[27] Alex Haslam and Steve Reicher, 'Welcome to the Official Site for the BBC Prison Study. Home - The BBC Prison Study', BBC prison study, accessed 11 May 2024, <http://www.bbcprisonstudy.org/>.

situation exploring morality, it is likely that most people would know what actions would be considered moral or immoral. This awareness, in combination with understanding the societally acceptable answer, is likely to skew an individual's decision in choosing how they might hope to act. The reality of life, the variables like those described, and the results of the Stanford Prison Experiment show that this does not directly translate into lived behaviours or how we may feel after experiencing them.

Despite the lack of a standardised definition or method to diagnosis it, MI is said to exist when transgression from one's moral code results in a persistent heightened state of morality-based emotions.[28] Affected individuals may experience a spectrum of emotions and beliefs including guilt, shame, anger, disgust, thoughts of being a 'bad' or 'unworthy' person, and a distrust of others.[29] The persistence of these emotions and beliefs can have an adverse psychological impact. This may lead to the development of the widely recognised and accepted spectrum of symptoms that include low mood, anxiety, feelings of hopelessness, poor concentration and motivation and suicidal ideation that define mental illnesses such as PTSD and depression.[30] As such, MI is believed to have a significant influence on the wellbeing of individuals that have directly or indirectly engaged in traumatic events, and can result in functional impairment as a result of mental illness and behavioural changes.[31]

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[28] Andrea J Phelps *et al.*, 'Addressing Moral Injury in the Military', *BMJ Military Health*, 15 June 2022, 2, <https://doi.org/10.1136/bmjmilitary-2022-002128>.

[29] *Ibid.*

[30] *Ibid.*

[31] Timothy Hodgson and Lindsay Carey, 'Pastoral Narrative Disclosure Manual. An Intervention Strategy for Chaplaincy to Address Moral Injury.' (Australian Department of Defence, 30 May 2022), 3.

Psychiatric conditions

Exposure to trauma can result in mental illness. MI can also lead to mental illness, however established mental illness models and the theories for them do not explain MI or consider it as part of the diagnostic criteria. Exposure to psychological stressors is a normal part of life and the mind and body are able to manage short term reactions to such events without chronic sequelae. Exposure to trauma, like killing, is abnormal and can lead to a range of psychological disorders, from impaired ability to function in activities of daily life to debilitating, fear-based psychiatric illness. Trauma is defined as "exposure to actual or threatened death, serious injury or sexual violation by either directly experiencing or witnessing the event or experiencing repeated or extreme exposure to aversive details of the traumatic event".[32] PTSD was first included in The American Psychiatric Association's (APA) Diagnostic and Statistical Manual of Mental Disorders, third edition (DSM III) [33] following extensive research in Vietnam War veterans. It was previously known as shellshock or combat fatigue.[34] It is widely accepted as being triggered by exposure to trauma such as actual or threatened death, or through experiencing or witnessing a traumatic event, series of events or set of circumstances. This experience may have been physically harmful or emotional and it can affect all aspects of a person's wellness including mental, physical and

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[32] American Psychiatric Association, DSM V, *Diagnostic and Statistical Manual of Mental Disorder*, 5th ed. (Washington D.C.: American Psychiatric Association Publishing, 2013), 76.

[33] American Psychiatric Association, DSM III, *Diagnostic and Statistical Manual of Mental Disorder.*, 3rd ed. (Washington D.C.: American Psychiatric Association Publishing, 1980), 65.

[34] 'What Is Post-Traumatic Stress Disorder?', American Psychiatric Association, 6 December 2023, <https://www.psychiatry.org/patients-families/ptsd/what-is-ptsd>.

spiritual well-being.[35] Sufferers do not have to have directly experienced trauma, for some simply learning that a traumatic event has happened to a family member or friend can be enough to trigger PTSD. However, PTSD is felt by some in the academic and medical communities to have become something of a 'default' diagnosis where it is often ascribed to personnel with any combat-related psychiatric or functional difficulty.[36]

As more has been understood about the long-term effects of trauma on mental health, so has the understanding that PTSD is medical problem requiring specialist input to diagnose and manage it. The APA's DSM is the definitive guide on the understanding and diagnosis of mental illness and seeks to standardise the diagnosis of mental illness globally.[37] PTSD is defined as a spectrum of symptoms present for four or more weeks based upon a fear response to a trauma that includes intrusive thoughts around the event, altered arousal states, avoidance of triggers and negative mood in the presence of a

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[35] *Ibid.*

[36] Barton Buechner and Jeremy Jinkerson, 'Are Moral Injury and PTSD Distinct Syndromes? Conceptual Differences and Clinical Implications', *Veteran and Family Reintegration; Identity, Healing and Reconciliation*, November 2016, 3, <https://www.researchgate.net/profile/Barton-Buechner/publication/337168245_Are_Moral_Injury_and_PTSD_Distinct_Syndromes_Conceptual_Differences_and_Clinical_Implications/links/5dc985d1299bf1a47b2f96e1/Are-Moral-Injury-and-PTSD-Distinct-Syndromes-Conceptual-Differences-and-Clinical-Implications.pdf>.

[37] Barton Buechner and Jeremy Jinkerson, 'Are Moral Injury and PTSD Distinct Syndromes? Conceptual Differences and Clinical Implications', *Veteran and Family Reintegration; Identity, Healing and Reconciliation,* November 2016, 3, <https://www.researchgate.net/profile/Barton-Buechner/publication/337168245_Are_Moral_Injury_and_PTSD_Distinct_Syndromes_Conceptual_Differences_and_Clinical_Implications/links/5dc985d1299bf1a47b2f96e1/Are-Moral-Injury-and-PTSD-Distinct-Syndromes-Conceptual-Differences-and-Clinical-Implications.pdf>.

defined 'stressor'.[38] Patients suffer with intense and disturbing thoughts related to their trauma and may relive the event through flashbacks. Sufferers may also avoid people or situations that remind them of the event. Treatment for PTSD and other fear-based mental illnesses focuses on the alleviation of symptoms and the resulting behaviours caused by the trauma. They include pharmacological measures like selective serotonin reuptake inhibitors (SSRIs), cognitive behavioural therapy (CBT) and eye movement desensitization reprocessing. CBT is a talking-based therapy that seeks to address the underlying psychological response to trauma by trying to change how an individual acts in response to thoughts about the event.[39] This underpins a process of altering the thoughts and behaviours that are triggered by changing the narrative about the event in an attempt to give the individual back control of their fear and support a return to normal function.[40] Pharmacological agents such as benzodiazepines can be used to manage the physical symptoms of anxiety such as palpitations and panic attacks. SSRIs, commonly known as anti-depressants, boost the mood-stabilising neurotransmitter serotonin in the synapses of the brain's cerebral cortex, improving some of the cognitive effects like low mood and poor sleep that can be experienced in PTSD.[41] Persistent psychological distress is seen in both PTSD and MI, the similarity in the resulting mental illness partly explaining why MI can be misdiagnosed as PTSD. This risks the cause of an individual's

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[38] American Psychiatric Association, *DSM V, Diagnostic and Statistical Manual of Mental Disorder*, 120.

[39] National Health Service, 'Treatment - Post-Traumatic Stress Disorder', 17 February 2021, <https://www.nhs.uk/mental-health/conditions/post-traumatic-stress-disorder-ptsd/treatment/>.

[40] *Ibid.*

[41] 'Overview - SSRI Antidepressants', nhs.uk, 15 February 2021, <https://www.nhs.uk/mental-health/talking-therapies-medicine-treatments/medicines-and-psychiatry/ssri-antidepressants/overview/>.

mental illness not being addressed and explains the need for MI to be recognised as a separate illness.

Moral injury as a discrete injury

DSM V diagnostic criteria does not recognise PTSD as having any moral component to it. MI is also not currently recognised by the APA, meaning it is not an accepted cause of mental illness. However, the symptoms often reported in MI have overlap with the diagnostic criteria for PTSD. Koenig and Al Zaben have defined these overlapping criteria. They include negative thoughts or feelings related to the event, oneself and the world, an increased blaming of others or self for their part in the trauma, a blunted affect resulting in an ability to experience happiness, and reduced interest in previously enjoyed activities and a feeling of isolation.[42] Depression is also characterised by blunted affect and anhedonia, symptoms associated with low serotonin levels that typically respond well to SSRIs. Where MI is the cause of mental illness, improvement in symptoms will likely be achieved with the use of SSRIs. However, clinicians will only be treating the consequence of MI rather than the cause, the perceived moral transgression. In fear-based mental illness, the possibility that a moral component exists is not addressed based on the current diagnostic criteria. This can lead to an incorrect diagnosis of a fear-based illness, rather than consideration of MI. The treatment regime that results, whilst addressing the outcome of MI, will not treat the patient by addressing the moral transgression causing the mental illness. Treatment will not be definitive.

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[42] Harold G. Koenig and Faten Al Zaben, 'Moral Injury: An Increasingly Recognized and Widespread Syndrome', *Journal of Religion and Health* 60, no. 5 (1 October 2021): 2994, <https://doi.org/10.1007/s10943-021-01328-0>.

Prevalence of mental illness and moral injury in the military

In 2018, a Defence Select Committee Report (DSCR) into the extent of mental illness in the British Armed Forces stated that 3% of serving personnel were diagnosed with mental illness in 2017.[43] This figure represented a significant increase compared to the reported prevalence of mental illness in the previous decade.[44] The report acknowledged that whilst this was lower than that of the UK's general population, 18.9% in 2014,[45] it could only report against the military population that had sought help.[46] In the British military mental illness diagnosis can result in occupational health limitations and a restriction in duty including serving overseas.[47] This is a recognised barrier to seeking help and one acknowledged in the DSCR where it was suggested that the prevalence of mental illness in the British military was likely closer to 10%.[48] Those personnel that had served in combat roles in Afghanistan or Iraq were identified as being at higher risk of developing mental illness during their

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[43] 'Veterans Are Not 'Mad, Bad or Sad', Says Defence Committee - Committees - UK Parliament', UK Parliament, accessed 12 January 2024, <https://committees.parliament.uk/committee/24/defence-committee/news/114551/armed-forces-mental-health-report-published-17-19/>.

[44] *Ibid.*

[45] 'Mental Health Pressures Data Analysis', The British Medical Association, accessed 18 May 2024, <https://www.bma.org.uk/advice-and-support/nhs-delivery-and-workforce/pressures/mental-health-pressures-data-analysis>.

[46] 'Common Mental Health Disorders - OHID', Public Health England, accessed 12 January 2024, <https://fingertips.phe.org.uk/profile-group/mental-health/profile/common-mental-disorders/data>.

[47] 'AP1269A Royal Air Force Manual of The Assessment of Medical Fitness' (Air Publications, 1 November 2023), 594.

[48] 'Veterans Are Not "Mad, Bad or Sad".'

military careers, compared to those that had not served in these countries.[49]

The veteran's mental health charity, the Forces In Mind Trust, recognised that MI could exist as a separate entity to PTSD. It funded a study undertaken by Kings' College London to understand the military experiences that might cause MI, the impact of it on the military population and the perceived need to diagnose and rehabilitate those with MI.[50] 204 veterans voluntarily completed a questionnaire exploring their traumatic experiences which were assessed against both DSM V PTSD criteria and the subjective feelings of a violation of their own moral code. A further 30 veterans who had self-reported trauma undertook semi-structured interviews to understand whether MI or PTSD prevailed, as well as the functional impact either condition had.[51] MI was diagnosed when the trauma was based on an act of omission or commission which violated an individual's own moral code and left them feeling shame or guilt about the experience. The study found that morally injurious experiences could cause friction with an individual's core values and that this disparity contributed towards negative cognitive and emotional responses and increased the likelihood of meeting diagnostic criteria for PTSD, depression, anxiety and experiencing suicidal ideation.[52] The study also identified risk factors for developing MI. These included having experienced childhood adversity, a lack of social support, unclear rules of engagement on military operations and poor emotional and psychological preparation for trauma exposure. Leaving military

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[49] M Jones *et al.*, 'What Explains Post-Traumatic Stress Disorder (PTSD) in UK Service Personnel? Deployment or Something Else?', *Psychological Medicine* 43, no. 8 (2013): 1703–12, <https://doi.org/10.1017/S0033291712002619>.
[50] Victoria Williamson *et al.*, 'Experiences of Moral Injury in UK Military Veterans', *BMC Psychol.* 9, no. 73 (5 May 2021): 8.
[51] *Ibid.*
[52] *Ibid.*

service for civilian life also increased vulnerability. The research confirmed that MI increased the risk of developing a mental illness that had an adverse impact on an individuals' wellbeing, family and civilian work life. Importantly, the study also found that traumatic events, like killing, could concurrently be life threatening and morally challenging.[53] This suggests that in the military population a potential response to killing could result in both the development of a fear-based response like PTSD and MI. This justifies the need to consider MI in those service personnel that have experienced killing and developed persistent psychological distress as a result.

Before any conclusions can be made about the need to screen for and treat MI in military personnel exposed to killing, the prevalence of MI in the military population needs to be understood. Academic research into this is limited, though one study into the psychological causes of functional impairment in 90 US Marines by Litz *et al* found that MI was more likely to be the cause of impairment than PTSD. This research determined that the prevalence of MI could be five times greater than that of PTSD.[54] The Australian Defence Force (ADF) have applied this data to their own population. They report that PTSD affects between 8-12% of their serving population.[55] This aligns with the DSCR suggested prevalence of PTSD in the British Armed Forces.[56] Applying Litz' findings could mean that in both the ADF and British Armed Forces, the prevalence of MI in the serving population could be as high as 40-60%. There is potential for MI to be a significant problem in the serving military population.

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[53] *Ibid.*

[54] Litz *et al.*, 'Defining and Assessing the Syndrome of Moral Injury', 2.

[55] Samuel Cox, 'An Introduction to Moral Injury in Defence | Future Forge', *The Forge,* 12 January 2024, https://theforge.defence.gov.au/article/introduction-moral-injury-defence.

[56] 'Veterans Are Not "Mad, Bad or Sad".'

In summary, morality, though contested, can be defined as personal and shared societal rules, likely evolved to regulate behaviours and maintain social cohesion in early human evolution. Whilst some argue that morals are taught, others believe they are innate to humans. It is becoming accepted that trauma that causes a transgression from an individual's moral code can result in an injury that manifests when actions contradict deeply held beliefs, leading to persistent emotions like guilt and shame. Persistence of these feelings can contribute to mental health issues like PTSD and depression, and significantly impact an individuals' well-being and ability to function. Although psychological stressors are a normal part of life, killing as part of military service exposes personnel to an exceptional traumatic event that can lead to fear-based psychological disorders as well as transgression from an individuals' moral code. DSM V criteria for PTSD currently excludes any moral component, even though evidence suggests concurrent MI, or MI as a discrete diagnosis, may be the cause of the psychological distress. The diagnosis of mental illness following MI could be falsely attributing the reaction to killing as being a fear-based response rather than a MI, resulting in the root cause of distress never being resolved. This may result in personnel with MI being misdiagnosed and being denied the correct help needed to address their feelings of moral transgression. Furthermore, studies suggest that the prevalence of MI in the military may be greater than that of PTSD, potentially indicating a need for screening and tailored interventions to correct the moral transgressions that result from killing.

Chapter 2. Remotely Piloted Air Systems

The advantages of RPAS

The RAF operates two RPAS squadrons from bases in the UK and USA.[57] Reaper's primary use is in the delivery of armed real-time ISR. It can operate in all-weather due to a synthetic aperture radar, ground moving target indicator and real-time global-positioning system data.[58] A payload of up to four 100lb hellfire missiles and two 500lb laser guided bombs[59] means that Reaper can quickly take decisive action against targeted threats whilst keeping the capability, and its human operators, physically distant from threats. Testament to the success that Reaper has brought to RAF operations was the reversal of the decision to retire Reaper as part of the 2015 Strategic Defence and Security Review.[60] In 2018 the MoD confirmed that Reaper would be replaced by Protector, the US State Department confirming that up to 26 airframes would be supplied to the RAF.[61] Protector is due to enter RAF service in 2024 and is considered to significantly enhance the RAF's ability to operate RPAS platforms anywhere in the world whilst being controlled from the UK. Protector's introduction will ensure RPAS remain an essential RAF capability for decades to come.

Able to remain airborne for up to 20-hours, Reaper provides a persistent armed ISR capability currently unmatched by crewed platforms and creates an option for commanders to

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[57] Dr Peter Lee, *Reaper Force. Inside Britain's Drone Wars.* (London: John Blake, 2018), 70.
[58] *Ibid.*
[59] 'Reaper (MQ-9A)', Royal Air Force, accessed 14 February 2024, <https://www.raf.mod.uk/aircraft/reaper-mq9a/>.
[60] *Ibid.*
[61] *Ibid.*

apply lethal force without the need to balance this decision against the risk to life of their own service people.[62] Walzer's principles of 'just war' provide guidance to politicians and military commanders built upon a framework of international law.[63] In addition to the legal aspects of war that should be upheld, 'just war' provides moral guidance on how to behave in conflict.[64] If *Jus ad Bellum*, the legitimate reasons for a state to go to war, and *Jus in Bello*, the conduct and responsibilities of states engaged in war, are applied, decisions about the actions of war are more likely to be deemed proportionate, authorised and driven by the right legal and ethical motivations.[65] To satisfy these principles, and so follow an internationally accepted code of combat, military commanders have to consider actions they must take to mitigate the risk to life of their subordinates. Human rights law and the International Law of Armed Conflict[66] seek to ensure that those identified as targets in war are legitimate targets and that their deaths are an expected consequence of war.[67] The real-time, high-definition ISR of Reaper discriminates targets well, in addition to being a far

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[62] Christian Enemark, *Armed Drones and the Ethics of War* (Oxford: Taylor and Francis, 2014), 23.

[63] Walzer, *Just and Unjust Wars*.

[64] Christian Nikolaus Braun and Lonneke Peperkamp, *'Contemporary Just War Thinking and Military Education' in 'Violence in Extreme Conditions: Ethical Challenges in Military Practice'*, ed. Eric-Hans Kramer and Tine Molendijk (Cham: Springer International Publishing, 2023), 101, https://doi.org/10.1007/978-3-031-16119-3.

[65] Enemark, *Armed Drones and the Ethics of War*, 23.

[66] Ministry of Defence. 'JSP 383 - The Joint Service Manual of the Law of Armed Conflict' (23 October 2004), <https://assets.publishing.service.gov.uk/media/5a7952bfe5274a2acd18bda5/JSP3832004Edition.pdf>.

[67] Enemark, *Armed Drones and the Ethics of War*, 63.

cheaper alternative to that provided by conventional fast-jet ISR targeting.[68]

The high degree of accuracy in target identification that RPAS possess has other benefits when delivering lethality. In traditional close quarter combat target discrimination is enhanced by proximity to the enemy, an act that increases the threat to those delivering force.[69] The traditional converse to this is remaining at a distance where a high degree of target discrimination is not achieved. This can increase the risk of non-combatant deaths, an often unpalatable outcome.[70] Although deaths of non-combatants are an expected consequence of war, morally this should not be viewed as an acceptable inevitability.[71] If "risking one's life is part of what it means to be a soldier",[72] Walzer argues that users of force must risk a soldier's life before that of a non-combatant.[73] As such, RPAS can make the decision-making process required to deliver a lethal strike less complex and more aligned with *Jus in Bello* principles.

Another argument in favour of the use of RPAS, rather than land forces or close air support delivered from fast jets or attack helicopters, is that RPAS remove the need for humans from the combat environment, reducing risk to life and loss of aircraft assets. Removal of the immediate threat to the crew of an aircraft can enable the operator to be more considered in their decision making and interpretation of data. The removal of the

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[68] Rajiv Kumar Saini, M. S. V. K. Raju, and Amit Chail, 'Cry in the Sky: Psychological Impact on Drone Operators', *Industrial Psychiatry Journal* 30, no. Suppl. 1 (October 2021): S15–19, <https://doi.org/10.4103/0972-6748.328782>.

[69] Enemark, *Armed Drones and the Ethics of War*, 46.

[70] *Ibid.*

[71] *Ibid.*

[72] Paul Christopher, The Ethics of War and Peace: An Introduction to Legal and Moral Issues., 2nd ed. (New Jersey: Prentice-Hall, 1999), 165.

[73] Walzer, *Just and Unjust Wars*, 64.

need to act quickly under the stress of acting in self-defence and without the luxury of time to make a considered decision, could mean that operators are more like to act 'justly'.[74] This view is contested; Alston argues that operators can become detached from the real-life context and likens their actions to that of playing a computer game in which operators find it easier to apply force without appropriate consideration for the consequences.[75] This counter-argument is one of several reasons that RPAS operators may be vulnerable to MI following a lethal strike.

Satisfying the principles of *Jus in Bello* is not a straightforward task in war. However, RPAS can solve this paradox, rendering decisions made during conflict more acceptable to both politicians and their instruments of power, as well as the public they serve to protect and who increasingly hold politicians to account over acts of war.

RPAS operators and moral injury risk factors

The deliberate removal of operators from any physical threat has separated RPAS operators from those 'warriors' who take pride in having an ethos "comprised of values such as honour, duty, courage, loyalty and self-sacrifice".[76] Teddy Roosevelt famously said, "the credit belongs to the man who is actually in the arena,

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[74] *Ibid.*

[75] Philip Alston, 'Special Rapporteur on Extrajudicial, Summary or Arbitrary Executions', Office of the High Commissioner for United Nations Human Rights, accessed 23 January 2024, <https://www.ohchr.org/en/special-procedures/sr-executions>.

[76] Timothy J. Demy, Naval War College (U.S.), eds., 'Ethics and the Twenty-First-Century Military Professional', *The John A. van Beuren Studies in Leadership and Ethics,* number 2 (Newport, Rhode Island: Naval War College Press, 2018), 12.

whose face is marred by dust and sweat and blood".[77] This reflects the courage, willingness to take risk and preparedness to sacrifice oneself in order to serve, such as on the battlefield. The act of physically going to war has been observed as being:

> "a transformative act…[sic] that wraps together a deliberate choice of self-sacrifice, taking on a new identity, and adhering to a new code of behaviour, conduct and honour. This experience changes how a person looks at the world and how the world looks at that person."[78]

Yet RPAS operators do not physically deploy to their operational areas. They are not the 'man in the arena'. This may actually increase the risk of MI for several reasons. Deployment commonly changes an individual's mentality and allows them to focus on their military duty whilst removed from the immediacy of personal stresses. Deployment tends to foster a spirit of camaraderie between those serving together, through shared experiences and an understanding of what is being asked of those serving on operations together including the risk to, and taking of, life.[79] The very nature of being deployed to an operational arena where the threat to life is increased may be protective in accepting that there may be a requirement to kill or witness killing. Where the threat to self is raised, geographical proximity to risk may result in a shift in individual morality that enables an acceptance that killing may be necessary to preserve one's own life or protect others. Deployment also facilitates compartmentalisation, a psychological defence mechanism that

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[77] Theodore Roosevelt Center, 'TR Center - Man in the Arena', accessed 12 May 2024, <https://www.theodorerooseveltcenter.org/Learn-About-TR/TR-Encyclopedia/Culture-and-Society/Man-in-the-Arena.aspx>.

[78] P. W. Singer, *Wired for War: The Robotics Revolution and Conflict in the 20th Century*, (New York: Penguin, 2009), 343.

[79] Saini, V. K. Raju, and Chail, 'Cry in the Sky', 3.

allows people to draw clear boundaries between life experiences.[80] This can prevent cognitive dissonance in which the different expectations and experiences within the complex layers of life can cause internal conflict. Being deployed allows compartmentalisation of military life from personal life and can support an acceptance of the acts of war that doesn't cause internal conflict or tension beyond the individuals' military role.

By contrast, the removal of geographical proximity to risk preserves the moral code aligned to life in which exposure to killing does not routinely feature, reducing resilience to moral transgression. This is the experience of RPAS operators who are not conferred the morally protective attitudinal changes, camaraderie and acceptance of increased risk that comes with physical deployment, but who often experience killing before returning home to their families and their 'normal life' routine at the end of a shift. Some crews have reported the feeling of being on a "never-ending deployment" that cannot be discussed with their families on returning home after a shift has ended.[81] One minute crews are at war, the next they are collecting their children from school.[82]

Whilst not physically present in a combat environment and facing an aggressor that poses an immediate, life-threatening risk to the operator, combat stressors remain associated with the act of killing in RPAS operations. Physical distance from the kill target does not necessarily mean there is disengagement with the act being carried out. The physiological effects of adrenaline

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[80] Psychology Today, 'Compartmentalization | Psychology Today United Kingdom', *Psychology Today*, accessed 17 May 2024, <https://www.psychologytoday.com/gb/basics/compartmentalization>.

[81] Phelps, *On Killing Remotely*, 102.

[82] Eyal Press, 'The Wounds of the Drone Warrior', *The New York Times*, 13 June 2018, sec. Magazine, 3, <https://www.nytimes.com/2018/06/13/magazine/veterans-ptsd-drone-warrior-wounds.html>.

experienced by the operators reflect those that kill in close quarters. There is an adrenaline rush; time can feel slowed or sped up; operators can feel sick and sweat profusely; their hands may feel cold or shaky. It may be obvious to those around them that they are affected, or it may not.[83] Irrespective, the crews are at war, regardless of their physical location. Unable to share the details of their day with their usual support network, predominantly for security reasons, operators have reported feeling that this can lead to misperceptions and assumptions about the importance of their work in a society that seems to have become "increasingly disconnected from war".[84] This inability to share their experience can lead to feelings of isolation that could compound features of MI and increase psychological dysfunction.

A lack of transparency over RPAS operations together with poor public opinion of them has historically contributed towards a perception of the actions of RPAS operators as being de-legitimised, contributing to the feelings of guilt and shame associated with MI.[85] Positive public support, shared national belief and leaders taking responsibility for actions taken in war are suggested as being protective against MI in those asked to kill.[86] A shared feeling of responsibility or acceptance that these actions are needed and valid can help in shifting the burden of feeling responsible, and the guilt that can be associated with it, away from the shoulders of those that operate the trigger. There are frequently demonstrations against RPAS operations at the gates to RAF Waddington. Whilst demonstrators can only ever represent a small cross-section of public attitude, the frequency and timing of these protests serve as a reminder to crews that

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[83] Phelps, *On Killing Remotely*, 63.
[84] Press, 'The Wounds of the Drone Warrior'.
[85] Saini, V. K. Raju, and Chail, 'Cry in the Sky', 3.
[86] Phelps *et al.*, 'Addressing Moral Injury in the Military', 2.

their actions, however poorly understood, remain unacceptable to some. This is a factor that can cause some operators to feel that their actions are morally unacceptable, contributing to risk of developing MI.

The prolonged surveillance that can be required in the build-up to a kill can lead to feelings of attachment towards the targets being observed and result in feelings of grief when they die, or their family members are observed to grieve in the immediate aftermath.[87] Described by a former RPAS operator as "cognitive combat intimacy", high-resolution images can result in a magnified sense of proximity closeness to kill targets and a resulting feeling of attachment.[88] Operators may also witness the loss of personnel from their own or coalition forces and feel powerless to help, or guilt over not having been able to protect them from a threat. Collateral damage and civilian casualties, whilst heavily mitigated in the build-up to a strike, also occur. All these scenarios can misalign with an operator's sense of what is morally right, leaving them with persistent feelings of shame or guilt about their actions.

RPAS operators' physical dislocation from theatres of war underpinned a legacy exemption from medallic recognition for operations. This stance compounded a feeling of being undervalued amongst the Reaper Force, as has a perception that the RPAS contribution is somehow less when compared to aircrew operating other platforms. The award of an aircrew brevet of a different colour to that of the rest of the aircrew community also exacerbated a sense that RPAS aircrew are 'different' to their peers.[89] This negative perception towards

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[87] Wayne Chappelle *et al.,* 'Symptoms of Psychological Distress and Post-Traumatic Stress Disorder in United States Air Force "Drone" Operators.', *Military Medicine* 179, no. 8 (August 2014): 1.

[88] Press, 'The Wounds of the Drone Warrior', 7.

[89] 'Royal Air Force - Remotely Piloted Air System Pilots from XIII... | Facebook', accessed 6 May 2024,

RPAS operators is also expressed by some in the wider military community who feel remote operations breech the 'warrior ethos' that distinguishes those who adhere to it, from being murderers or vigilantes.[90] This ethos seeks to bind and protect those that may be required to kill on behalf of their country. Some feel that it legitimises the actions of war but is reliant on both aggressor and adversary assuming reciprocal risk.[91] RPAS operators are removed from direct combat so do not share equivalent risk with their adversary. Some interpret this as a breech to the warrior ethos and that killing in this way is murder.[92] Lawrence Wilkerson, former US Army Colonel and chief of staff to Colin Powell, stated "if you give the warrior, on one side or the other, complete immunity, and let him go on killing, he's a murderer".[93]

Psychological distress and moral injury in RPAS operators

There is a lack of research into the prevalence of MI in RPAS operators. The lack of an accepted definition of MI, its psychological impact and lack of recognition as cause of mental illness has contributed to this. As such, a standardised assessment tool able to screen those that have been exposed to

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<https://www.facebook.com/royalairforce/posts/10157351174284885:0?paipv=0&eav=Afaq4eeSKjzDEw9qfhYIwXPO1hSJwIc22XqAapC295QsWgcQhp1tLHGBt__4NLPXK2E&_rdr>. See comments in response to post.

[90] Andrew Ledford and Celeste Raver, 'Developing the Warrior Ethos', *The Journal of Character and Leadership Development*, no. Winter 2021 (25 February 2021): 24.

[91] Press, 'The Wounds of the Drone Warrior', 6.

[92] Akbar Ahmed and Lawrence Wilkerson, 'Dealing Remote-Control Drone Death, the US Has Lost Its Moral Compass', *The Guardian*, accessed 17 February 2024, <https://www.theguardian.com/commentisfree/2013/may/04/drone-death-us-moral-compass>.

[93] Press, 'The Wounds of the Drone Warrior', 6.

potentially injurious events, or that are suffering as a consequence of exposure, has not been available.[94]

Chappelle *et. al.* sought to determine whether rates of PTSD or emotional distress were higher in RPAS operators than the wider military.[95] 1094 US RPAS aircrew completed a questionnaire that assessed perception of occupational stress, the presence of PTSD symptoms and emotional distress not attributable to a fear-based mental illness. Emotional distress was defined as the presence of a negative emotional state and associated behavioural, physical or cognitive symptoms. 10.72% of respondents self-reported as having high levels of emotional distress whilst only 1.57% responded with high levels of PTSD symptoms, a prevalence lower than that typically seen in the military population. The 10% that responded positively for high levels of distress reported feelings of anger, worry and anxiety, difficulty concentrating, problems falling and staying asleep, trouble getting along with peers and increased alcohol usage. Whilst the high prevalence of emotional distress reported could be explained by a variety of stressors, MI as a cause was not investigated, a significant limitation of the study being that the presence of feelings of guilt or shame were not explored. Specific exposure to killing-related trauma was also not investigated, however, by the nature of the duties undertaken by this population, it can be assumed that a high number of respondents had experienced regular exposure to killing.

If the findings of Litz' work[96] are applied to this population, and the prevalence of MI is accepted as being five times greater than that of PTSD, MI could account for the 10% of respondents with emotional distress. This would be

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[94] Litz *et al.*, 'Defining and Assessing the Syndrome of Moral Injury', 1.
[95] Chappelle *et al.*, 'Symptoms of Psychological Distress and Post-Traumatic Stress Disorder in United States Air Force "Drone" Operators.', 63.
[96] Litz *et al.*, 'Defining and Assessing the Syndrome of Moral Injury'.

consistent with prevalence across the wider military. Significantly, this would not suggest that RPAS operators are at an increased risk of MI. The study recommended further monitoring and assessment of the emotional impact of RPAS operations on personnel as well as round the clock access to mental health providers with security clearances that would enable open dialogue about operational experiences. In response, the US Air Force embedded a Human Performance Team made up of psychologists, physiologists, and chaplains with its Reaper Squadrons.[97] Critically the team were awarded the security clearances required to discuss all aspects of operational missions with the personnel delivering them. Data as to the impact of this team is not available, however its creation indicates that the potential for MI and mental illness in the USAF RPAS Force is significant.

In 2017, and in response to reports of stress and withdrawal from RPAS training as well as an apparent correlation in operators with a history of mental illness having further mental health episodes whilst on RAF RPAS squadrons,[98] senior RAF medical officers explored the impact of RPAS operations on personnel's mental health. Analysis of primary health care data, including referral to specialist mental health services, did not reveal an increased prevalence of mental illness in RPAS operators compared to the rest of the Armed Forces. What was reported by operators and their families alike was increased alcohol use, tiredness, altered mood and emotional instability immediately before and after a weapon strike.[99] In November 2017, and in response to this increased

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[97] Press, 'The Wounds of the Drone Warrior', 3.

[98] John W. Scadding *et al.*, 'The Independent Medical Expert Group 5th Report' (London: Ministry of Defence, February 2020), 14, <https://assets.publishing.service.gov.uk/media/5fad2e8ee90e0703aab0fc63/20200213_IMEG_FIFTH_REPORT___FINAL_VERSION.pdf>.

[99] 'IMEG Report', 14.

reporting of worrying behaviours and emotional instability, the RAF accepted that Reaper operations could place a unique stressor on operators because of their participation in the kill-chain on a recurrent basis.[100] It was also acknowledged that the mental health repercussions for such exposures were varied, complex and not fully understood but that there was evidence that being part of the Reaper Force could have a negative impact on operator mental health. In recognition of this, the RAF provided Reaper Force at RAF Waddington with a Psychological Wellbeing Supervisor to support the psychological wellbeing of front-line operators and act as the Force subject matter expert in mental wellbeing to aid further understanding of the impact that killing could have on personnel.

In 2020, the Chief of the Air Staff commissioned an independent medical expert group (IMEG) to provide ministers with medical and scientific advice as to the scale of emotional disturbance, and what Defence could do to mitigate it at the operational and individual level.[101] The report commented on the lack of peer-reviewed studies on the subject but in that those that did exist, no increase in clinically diagnosed mental illness was found. A limitation was that the report only looked at diagnosed mental illness, and not a subjective assessment of symptoms in the Force. Aircrew are well known for not reporting to medical centres for fear of being declared 'unfit flying' and being removed from their primary duty. Therefore, no documented increase in diagnosed illness is not necessarily indicative of the real force-health picture. The report acknowledged that prolonged surveillance, targeting, kill and post-kill surveillance likely breached "normal ethical standards" and could be attributable to MI.[102] These findings, though

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[100] Reference redacted.

[101] *Ibid.*

[102] Scadding *et al.* 'IMEG Report', 2.

perhaps not unexpected, were significant. This was the first time that the MoD appeared to have been explicitly told that its personnel were at risk of MI because of their military duty.

The report also stated that RPAS operators were observed to be suffering with low morale and a feeling of being undervalued and unrecognised by their peers and the public, despite the operational effect they enabled and the contribution this made to UK military operations. Finally, and significantly, the report stated that RPAS operators were asked to kill people who posed no risk to themselves. In the build-up to a strike and following high-resolution surveillance of all aspects of a target's life, it was commented that operators could draw comparisons with their own lives which they would return to at the end of their shift. This juxtaposition may cause moral ambiguity and a transgression from one's own moral code. In addition, the public and peer-group attitudes toward RPAS operators may further compound this feeling of moral transgression, leading to feelings of shame and guilt and the risk of chronic disabling effects. In summary, the IMEG report acknowledged that RAF RPAS operators were at risk of suffering MI as a direct consequence of their duty and that the risk factors for MI discussed earlier in this paper were present and prevalent in the RAF RPAS Force.

Screening for moral injury

Until recently only two tools had been developed in an attempt to measure MI, the Moral Injury Symptom Scale – Military Version (MISS-M) and Expressions of Moral Injury Scale – Military Version (EMIS-M).[103] However, both scales have had their validity questioned.[104] MISS-M did not have its content validity assured and was not considered to be sensitive enough

[103] Litz *et al.*, 'Defining and Assessing the Syndrome of Moral Injury', 2.
[104] *Ibid.*

as a diagnostic tool to determine if an individual had MI. EMIS-M was developed in conjunction with MI experts to provide an opinion on the validity of the tool. It was limited in application as symptoms of MI were not linked back to specific events meaning the trauma causing event could not be verified as meeting the criteria for it to cause MI, rather than a fear-based response. Additionally, EMIS-M asked respondents to rate symptoms during a specific time-period, creating the potential for a misdiagnosis based on a trait rather than a psychological state. These limitations have meant that it has not been possible to objectively assess the prevalence of MI in RPAS operators to date.

A 2022 study by Litz et al sought to address the lack of a sensitive and validated tool.[105] Firstly, traumatic events that could cause a transgression away from an individual's own moral values were clearly defined. These events were deemed 'potentially morally injurious events' (PMIEs) and included acts of commission such as violence or cruelty, acts of omission in which there was a failure to protect others, or being the victim of, or bearing witness to, others acts of commission or omission. In defining those events associated with MI, the authors were able to consult populations of active-military and veterans for those that had experienced PMIEs. Those that responded positively to this exposure were then questioned on a series of hypothesised impact domains, such as the presence of morality-based emotions like guilt, shame and anger, as well as alterations in the way individuals felt about themselves. Any social impact these feelings engendered, as well as altered thoughts about the purpose and meaning of life, were explored. Impact domains were carefully selected to remove any overlap with psychiatric conditions described in the DSM V in a deliberate attempt to aid definition of MI as a separate entity to existing fear-based

[105] *Ibid.*

reactions. Addressing the criticism of the MISS-M and EMIS-M tools, the scale developed was subjected to high levels of content validity checks by both researchers and clinicians. The resulting MI Outcome Scale (MIOS) was then combined with a tool that assessed the extent of functional impairment as a consequence of psychological distress. This allowed assessment of the type of PMIE experienced as well as the symptom burden and degree of functional impairment that the respondent had experienced. Importantly, MIOS assessed individuals for shame-related and trust-violation related outcomes, meaning that an entirely distinct MI could be diagnosed without conflation with PTSD or other fear-based response. A reliable tool able to diagnose MI based on trauma exposure and presence of morality-based emotions had finally been created, addressing one of key limitations in understating the prevalence of MI to date.

Existing pre and post-killing interventions to protect against moral injury

The reasons why some individuals, and not all, go on to develop mental illness or MI is unclear. Some risk factors have been linked to an increased risk of developing PTSD. These include past psychiatric illness, childhood abuse or trauma, social class and family construct. Pre-screening for previous mental illness, and many other medical conditions, is undertaken in all personnel as part of the RAF pre-entry admission process. Medical entry standards are high and the presence of past mental illness, no matter how long ago or how mentally well a person has been since, can be a bar to joining the RAF in any capacity. The lack of sensitive risk factors for PTSD restricts the option for pre-screening of individuals who may be more prone to developing it when it comes to employment in areas that may

expose personnel to trauma.[106] The Stamford Prison Experiment discussed earlier, demonstrates this. One of the criteria for participation in the study was assessment as being psychologically robust yet this did not protect participants from behavioural changes brought on by the environment they went into.[107]

Legally it is questionable to 'screen out' personnel on the basis of a subjective assessment of being more at risk of a fear-based response as a result of their occupational duty. Someone may be assessed at increased risk of PTSD, but this does not mean that that they will be exposed to the traumatic event required to trigger it. Brewin et al conducted meta-analysis of risk factors for PTSD. These included, age, previous-trauma, childhood adversity and psychiatric history.[108] In isolation, the presence of these risk factors resulted in only a modest increase in the risk of developing PTSD. Those risk factors with the greatest impact included a lack of social support, other life-stressors and the severity of the trauma. These risk factors reflect the current state of the individual, not the past. Pre-screening for those that may be at increased risk of psychological disturbance post-killing, is therefore, unlikely to be an effective strategy in reducing the prevalence of killing associated mental illness, whether as a result of a fear-based response or MI.

Current medical assessments do not explore societal or demographic risk factors for the development of mental illness, only its past or current presence. It is well documented that 'screening-out' of military service those individuals assessed as

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[106] Jones *et al.*, 'What Explains Post-Traumatic Stress Disorder (PTSD) in UK Service Personnel? Deployment or Something Else?'

[107] Zimbardo, *The Lucifer Effect: Understanding How Good People Turn Evil.*

[108] C. R. Brewin, B. Andrews, and J. D. Valentine, 'Meta-Analysis of Risk Factors for Posttraumatic Stress Disorder in Trauma-Exposed Adults', *Journal of Consulting and Clinical Psychology* 68, no. 5 (October 2000): <https://doi.org/10.1037//0022-006x.68.5.748>.

being at increased risk of developing mental illness had no impact on the overall psychological health of an armed force or its ability to deal with the trauma associated with combat.[109] The US military undertook personality testing during World War II to 'predict' those individuals who were unlikely to be able to live with combat stress. This caused the military to run out of enough people deemed recruitable to maintain the US war machine, resulting in a reversal of the decision. Those previously deemed not suited to combat joined up and largely went on to fight and live with the consequences.[110]

Pre-screening for risk factors that may increase the likelihood of an individual experiencing a fear-based response to trauma offers no benefit to the military in reducing the prevalence of killing related functional disorder. Excluding individuals from the military on this basis only serves to reduce the demographic from which recruitment can occur and potentially contribute to a workforce crisis. For the RAF to care for the personnel it expects to carry out killing, strategies to mitigate for MI need to be introduced after people have joined the Service. All the indicators for reducing the impact of killing point towards building resilience throughout a career and in the run-up to killing and fostering a protective culture that supports those within it and encourages peer-facilitated discussion around the aftermath of killing.

Under the health and safety at work act employers have a duty to protect their workforce from occupational hazards and to ensure the "health, safety and welfare at work" of all employees.[111] A risk to life or a life-changing injury is a real threat to personnel on operations. The MoD is required to mitigate for

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[109] Scadding *et al* 'IMEG Report', 19.

[110] *Ibid.*

[111] UK Public General Acts, 'Health and Safety at Work Etc. Act 1974', Legislation (Statute Law Database, n.d.), accessed 1 May 2024. <http://legislation.gov.uk/ukpga/1974/37/contents>.

this as much as is reasonably practicable. Exposure to trauma that may cause psychological harm is a risk to health and there is good evidence that following a traumatic incident, peer delivered, workplace based interventions can be sufficient in preventing development of a persistent fear-based response that may cause functional impairment.[112] Studies of military personnel exposed to trauma have shown that unit cohesion, camaraderie and supportive leadership play a role in post-trauma resilience and can foster an organisational culture in which the key to building post-trauma resilience is found between personnel rather than solely within the individual exposed to trauma.[113] This has led to the development of Trauma Risk Management (TRiM) a tri-service, talking-based intervention that allows individuals and groups that have experienced a traumatic event to process their experience whilst providing support to each other.[114] Although evidence that TRiM has a measurable impact on reducing persistent fear-based states is limited, it is reported as being well received by personnel.[115] Those personnel with persistent difficulties in processing the event one-month after its occurrence are encouraged to seek medical help in line with best clinical practice.

The introduction of RPAS as a deliverer of lethality from afar has changed how its operators identify with the wider military service and their aircrew peers. This is because of differences in how RPAS operators are viewed by more 'traditional' aircrew as well as a military and public perception of what risk is involved, and if it is morally right, to deliver lethal

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[112] Neil Greenberg, Samantha Brooks, and Rebecca Dunn, 'Latest Developments in Post-Traumatic Stress Disorder: Diagnosis and Treatment: Table 1', *British Medical Bulletin* 114, no. 1 (June 2015): 149, https://doi.org/10.1093/bmb/ldv014.

[113] Greenberg, Brooks, and Dunn, 149.

[114] 'IMEG Report', 14.

[115] Greenberg, Brooks, and Dunn, 149.

force from the geographical safety of the UK or US. There are regular public demonstrations against RPAS operations. Within the wider military community, high-profile individuals have questioned whether the employment of RPAS is in line with the 'warrior ethos' that underpins military service. These factors can contribute to RPAS operators questioning the morality of their actions. Additionally, RPAS operators have been asked to kill, and do so frequently, without recognition for their service when others are rewarded. They are considered to be aircrew but not identified in the same way as those that physically fly in their aircraft and are unable to share the burden of their duties with their support network. Perhaps it should not come as a surprise that RPAS operators are at risk of experiencing a MI when those in their own organisation cannot identify with the value, or psychological stress, of RPAS operations.

The combined findings of Chappelle and Litz's research, in conjunction with the IMEG report, suggest that MI is prevalent in RPAS operators. However, the prevalence of MI does not seem to be higher than that of the wider military, despite the presence of unique risk factors for RPAS operations. Limitations in the ability to screen for MI have contributed to a lack of data that enables identification of the extent of MI in the Force. Despite the absence of hard data, the embedding of a mental well-being SME is formal acknowledgement by the RAF that RPAS operations can impact on mental wellbeing and that the Service should be doing more to assist those affected. Identifying the requirement for a mental wellbeing SME is a statement of need for an informed understanding of the longer-term emotional and moral effects of RPAS operations and to provide assurance that all reasonable measures are in place to support those expected to kill for their country. It is acknowledgment of the legal, and morally correct, requirement that the RAF has to ensure it has a psychologically healthy RPAS Force able to sustain operations and deliver future effect. Historic attempts to predict other trauma responses like PTSD

have proven ineffective. As such, pre-screening offers no benefit in reducing the prevalence of killing-related moral transgression. Whilst there are some strategies in place to identify those who may be at increased risk of psychological disturbance, they are not sensitive enough to accurately identify who may be at risk of developing MI following PMIE exposure. Post-PMIE exposure mitigation does exist but is reliant on recognition of exposure to killing as an abnormal event. For the RPAS Force, the requirement to take life is not uncommon in the operational environment. This may lead to a normalisation of a traumatic event and a shift in the perceived need to seek interventional measures to protect against lasting emotional disturbance caused by it.

Chapter 3. The Prevention, Identification and Rehabilitation of Moral Injury

Preparing RPAS operators to kill and live with killing

General James Mattis, a retired 4-star US Marine Corps veteran, has suggested that war and the traumatic experiences it generates can be an opportunity for growth that can benefit a warrior's morality and psyche. This challenges the idea that those who serve their country and experience trauma are destined to become victims of war due to the development of a fear-based response.[116] The shared experience of war for some can provide a sense of purpose and fulfilment that fosters a sense of community and a set of values beyond that of the individual.[117] Other positive changes include, "improvements in relating to others, awareness of new possibilities, increased personal strength, spiritual change, and increased appreciation of life".[118] Research suggests 30-90% of service personnel that experience trauma report some of these changes, sometimes alongside PTSD or during recovery from it.[119] It is not understood why some experience this positive effect when others suffer only psychological harm, however traits such as being an extravert and optimist, having strong social support and spirituality as well as acceptance coping skills, agreeableness, being open to change, and practising reflection are all likely to contribute.[120] Whilst this

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[116] Tim Robinson, 'Should Army Also Talk about Post Traumatic Growth?', Australian Army Research Centre, 17 April 2017, <https://researchcentre.army.gov.au/library/land-power-forum/should-army-also-talk-about-post-traumatic-growth>.
[117] Cox, 'An Introduction to Moral Injury in Defence | Future Forge', 8.
[118] Robinson, 'Should Army Also Talk about Post Traumatic Growth?'
[119] *Ibid.*
[120] *Ibid.*

suggests that personality plays a significant part in post-traumatic growth, teachable skills, such as reflection, also play a key role.

Post-traumatic growth and the usefulness of skills such as reflection underpins the US Army's Comprehensive Soldier and Families Fitness programme. This framework is designed to build resilience before operational deployment and potential exposure to trauma, in which killing and living with killing are discussed. [121] Skills are developed to both process moral challenges and transgressions as well as enhancing the positive experience of war in the hope of enabling service personnel to grow from trauma rather than being psychologically injured by it.

Discussing the potential to experience a PMIE early in one's military service is the first opportunity to prepare a warrior for killing and to live without ongoing emotional disturbance as a consequence. Presently, the RAF does not have a formalised programme as part of its basic, phase 2 or operational training to have these discussions, yet it has been found that being unprepared for exposure to a PMIEs could be a risk factor for experiencing moral injury.[122] It was also acknowledged that there is a gap in the research into the significance that this early, and potentially through career, discussion could have on protecting members of the Armed Forces from future MI. Further research into the benefits of early discussion about the need to kill, as well as regular 'through-career' conversations about the requirement to take life is needed to understand if such an initiative could protect against MI.

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[121] Army Resilience Directorate, 'Comprehensive Soldier & Family Fitness', Ready Army, accessed 11 April 2024, <https://ready.army.mil/csff>.
[122] Williamson *et al.*, 'Experiences of Moral Injury in UK Military Veterans', 65.

Another opportunity to protect against MI in RPAS operators comes in the preparation for missions. Front-loading training and operational missions with a discussion about killing is a strategy that acknowledges the possible requirement to kill, starts to psychologically prepare operators for the act and presents an opportunity to ascribe accountability to the chain of command and Service. Reinforcement that the decision to kill is based upon ISR subjected to multiple layers of scrutiny in combination with strict legal frameworks can reduce the perception of individual accountability for the event from the operator. It has been shown that post-mission justification for killing can help realign an individual's own moral framework by reframing actions with the belief that they were carried out in 'acting for the greater good' or by installing a belief that these were actions that individuals were paid to do and so required, and legitimised, by the MoD.[123] A study found that individuals thought to be suffering MI who had recognised their poor mental health was a result of moral dissonance and had worked to resolve this by reframing who was accountable for killing, reported this reframing as taking years.[124] These individuals reported allocation blame for the PMIE to an external source, such as the MoD or chain of command, as integral to resolving their perception of moral transgression. Early signposting of accountability to the organisation, rather than the individual, may be an important step in reducing MI in RPAS operators.

Cultural and organisational protection against moral injury

Cultural and organisational changes could protect against MI in the RPAS Force. The RAF has started to make changes that may address some of the perceptions and attitudes towards RPAS

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[123] Williamson *et al.*, 'Experiences of Moral Injury in UK Military Veterans', 26.
[124] *Ibid.*

operators that have been discussed. An RPAS 'stream' has been added to the pilot training programme. This will see pilots specially selected to fly RPAS on completion of elementary flying training, rather than pilots being trained from other specialisations in the RAF that are overborne or have been made redundant. Significantly, this will see RPAS pilots being awarded their 'wings' alongside those streamed to fly fixed and rotary wing platforms and will be the same colour. RPAS pilots will be indistinguishable from other pilots when in uniform, will have passed the same rigorous aptitude tests and been selected for flying training in a highly competitive field. This may go some way to fostering a sense of belonging and camaraderie that has been shown to be protective against MI and has been absent to date.[125]

In 2019, the RAF decided to award campaign medals to RPAS operators flying missions in operational theatres that had previously only attracted medallic recognition based on the levels of risk they exposed military personnel to when physically in the operational area.[126] The decision to expand medal eligibility was acknowledgement of the role played by the RPAS Force in global operations and reflected "the changing character of warfare."[127] Medallic award is important for several reasons. For some it is perceived to be a message of thanks for the dedication and sacrifice made in the pursuit of national interest. It is a symbol of an individual's operational career and is seen as proof of 'time-served' and having been to 'war'. For RPAS operators who have remained geographically dislocated from war, it is public acknowledgement of the work they have done

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[125] Phelps *et al.*, 2.

[126] Joseph Verney, 'Waddington Drone Pilots Get Medals for ISIS Air Strikes', *The Lincolnite,* 18 February 2019, https://thelincolnite.co.uk/2019/02/waddington-drone-pilots-get-medals-for-isis-air-strikes/.

[127] *Ibid.*

on behalf of their country. It is also recognition that they have served in an operational role that poses risk to psychological health.

Another organisational change that could be protective against some of the stressors of RPAS operations is the forward deployment of operators.[128] Deployment into the theatre of operations is not required and may go against some of the benefits that RPAS bring, such as reducing the human footprint in combat zones. However, deploying operators away from their home stations, and more importantly their families and personal lives, may confer some of the protective 'deployment bubble' and compartmentalisation benefits discussed earlier. The RAF regularly conducts fast-jet operations in the Middle East from its strategic hub in Cyprus. A forward-deployed, enablement presence in support of these operations is routine business for the Service. The addition of a forward-based Reaper Force able to rotate through and live and work with other service-personnel supporting operations in the same theatre as RPAS would facilitate the separation from personal lives that can reduce the risk of MI. It would also foster a sense of camaraderie and proximity to the fight that others already experience and are awarded medallic recognition for. It may go some way to making RPAS operators feel closer to the 'man in the arena' and aid a change in cultural perceptions that has made the Force feel isolated and undervalued to date.

Post-killing interventions

The challenges of screening for MI have already been discussed. Without a validated tool, sensitive enough to reliably diagnose MI in the majority of people suffering from it, post-killing interventions are limited in their applicability unless the whole

[128] Phelps, *On Killing Remotely*, 307.

Force is assumed to be morally injured. TRiM is an immediate tool for mitigating emotional disturbance post-killing and is already in routine use in the RAF's RPAS Force. At the end of every mission, operators are asked the specific question, "have you witnessed any event that needs TRiM?".[129] This intervention is only useful however, if individuals recognise that their killing exposure is abnormal. A potential barrier to this in the RPAS Force is that killing can become routine. Normalisation of this abnormal act may cause a change in an individual's perception and a belief that they don't require TRiM when in reality, they do. As such, TRiM is now mandated to all operators flying on a mission when a strike against a human target is executed.

Despite inability to diagnose MI to date, some research has been undertaken into the treatment of it.[130] Of note, research in the use of acceptance and commitment therapies based on the practice of confession as a way to atone for one's perceived transgressions, has attracted notable attention. Confessional practice, similar to that seen in religious practice, can be thought of as the individual's disclosure of their story or traumatic event. Practitioners help the individual to construct and reframe a narrative so that the moral transgression felt is appeased. This can result in the restoration of a person's feeling of self-worth, life-purpose and trust, and an ability to function personally and professionally.[131] One criticism of this form of absolution is that existing pastoral methods to deliver this practice can be too 'quick-fix' and unable to satisfy the ongoing requirement to build sufficient rapport and trust with an individual to fully explore their narrative and meaningfully rebuild it. The assessment

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[129] Lee, *Reaper Force*, 34.

[130] Victoria Williamson, N. Greenberg, and D. Murphy, 'Impact of Moral Injury on the Lives of UK Military Veterans: A Pilot Study', *BMJ Military Health* 166, no. 5 (October 2020): 302–6, 16; <https://doi.org/10.1136/jramc-2019-001243>.

[131] Hodgson and Carey, 'Pastoral Narrative Disclosure Manual', 10.

required to truly understand the functional impact of MI and the potential mental illness that can ensue is dependent on a multi-disciplinary approach as part of the assessment, rehabilitation and post-rehab that conventional confessional practice is not thought to routinely provide.[132] Adaptive disclosure (AD) is another psychotherapy-based approach used in PTSD but with some use in MI. Based on a programme of understanding MI through exposure therapy, self-forgiveness, and planning for the future, AD was developed to focus on combat trauma.[133]

The ADF is leading the way in acknowledging the impact that MI has on its personnel. It has invested in research that has contributed to the development of a diagnostic tool for MI and a rehabilitation programme that seeks to correct it.[134] It is the only Armed Force that research for this paper has identified as having accepted MI as a significant cause of psychological distress, requiring diagnosis and treatment. The ADF have also overcome one of the challenges that has led to MI not being recognised globally, an accepted definition. Based on the works of Shay, Litz, and several other leaders in this field,[135] the ADF defines MI as:

> "a trauma related syndrome caused by the physical, psychological, social and spiritual impact of grievous moral transgressions, or violation, of an individual's deeply-held moral beliefs and/or ethical standards due to: (i) an individual perpetrating, failing to prevent, bearing witness to, or learning about inhumane acts which result in the pain, suffering or death of others, and which fundamentally challenges the moral integrity of an individual, organization or community, and/or (ii) the subsequent experience and feelings of utter

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132 Hodgson and Carey, 11.
133 Hodgson and Carey, 12.
134 Hodgson and Carey, 'Pastoral Narrative Disclosure Manual', 6.
135 Hodgson and Carey, 3.

> betrayal of what is right caused by trusted individuals who hold legitimate authority."[136]

In developing this programme, the ADF have acknowledged the link between the violation of moral beliefs and the development of core and secondary symptoms that can occur. Core symptoms are defined as guilt, shame, anger, a loss of trust in self/others and spiritual or existential conflict including questioning the meaning of life. The ADF have also addressed the debate as to whether MI is a condition that should be treated medically or spiritually, devising a programme delivered by the chaplaincy service but without a reliance on religion as the way of addressing the MI. Military chaplains have provided psychological, emotional and spiritual care for centuries, and customarily care for those with MI and its core symptoms as part of their military duty.[137] It is argued that recent operations in Iraq, Afghanistan, and the rapid Allied withdrawal that saw it end, have caused more military personnel to have suffered MI.[138] This contributed to a requirement to manage MI in the ADF after chaplains identified 4803 PMIEs in active military personnel between November 2020 and July 2023.[139] Separately, Defence-led research has suggested that 62% of ADF Air Force veterans may have some form of MI.[140] It is in part due to this high potential prevalence of MI and the pastoral branch's regular contact with morally-injured personnel that the ADF felt duty-

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[136] *Ibid.*

[137] L B Carey and T J Hodgson, 'Chaplaincy, Spiritual Care and Moral Injury: Considerations Regarding Screening and Treatment.', *Frontiers in Psychiatry* 9, no. 619 (2018): 7.

[138] Hodgson and Carey, 'Pastoral Narrative Disclosure Manual', 6.

[139] Hodgson and Carey, 7.

[140] Department of Defence, 'Aiding Healing from Moral Injury', Website, Australian Government, accessed 10 April 2024, <https://www.defence.gov.au/news-events/news/2024-01-26/aiding-healing-moral-injury>.

bound to ensure its chaplains were prepared to recognise and meaningfully support individuals with MI, particularly given the accepted link between MI, mental illness and suicide risk.

Collaboration between psychiatrists, allied health care professionals such as psychologists and chaplains contributed to the development of Pastoral Narrative Disclosure (PND), a combined pastoral care, counselling, and a guided rehabilitation strategy. It was devised following extensive literature review revealed the lack of consensus on a MI definition, the need to develop a model focussed on MI diagnosis as a separate entity to PTSD and the realisation that MI was prevalent in the ADF. Existing rehabilitation programmes were reviewed but these were deemed unsuitable due to significant cultural differences or practices that could not be easily translated into delivery by ADF chaplains. The processes of the confessional narrative (CN) and AD, discussed earlier, were found to be the only suitable tools that would be acceptable to the ADF population, and have high enough efficacy to be reliable and useful enough to manage diagnosed MI. Consequently the ADF are using CN to facilitate an individual's telling of their trauma before embarking on a guided reconstruction of an alternative narrative to support the rebuilding of the individual's self-worth, life purpose and trust.[141] AD is delivered alongside this as emotion focused psychotherapy in which MI education, exposure therapy, understanding of the personal impact on the patient, moral authority dialogue and reparation and forgiveness seek to realign an individual's moral values. The ADF programme mitigates for the main criticism of CN, that of confession as a 'quick fix' approach to counselling, by ensuring the programme is given sufficient time and structure to deliver effective counselling, guidance and education by combining it with AD. This allows

[141] Hodgson and Carey, 'Pastoral Narrative Disclosure Manual', 10.

utilisation of other experts within the multi-disciplinary team depending on a patient's individual needs.

The PND has chosen the Moral Injury Events Scale (MIES) as the method of assessing the presence and impact of MI. Deemed to have high reliability, consistency and validity, as well as being relatively easy to administer, the MIES facilitated three key dimensions to be considered; perceived moral transgressions to self, perceived transgressions by others and perceived betrayal.[142] Yet the PND is alive to limitations of the MIES, namely the scale being more a measure of moral pain than injury and that it is based upon expert opinion rather than the lived experience of those being interviewed.[143] Regardless of this, the MIES has been deemed a highly valid and acceptable screening tool able to assess exposure to PMIES and indicate the need for further assessment and intervention.

To administer a valid, reproducible, and acceptable programme to address MI in its personnel, the ADF have delivered bespoke training to 250 chaplains. 95% of chaplains that have received the training reported a better understanding of MI, and importantly, the ability to deliver rehabilitation to address it.[144] Data on the uptake and success in those that have completed the programme was not available for review in this paper, though post-intervention satisfaction scores in a study of 44 marines subjectively assessed following AD reported it to be helpful in making them feeling in control and able to resolve emotional difficulties that had been having a negative impact on their life.[145] The study demonstrated AD was well tolerated by

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142 Hodgson and Carey, 14.

143 Cameron B Richardson *et al.*, 'Examining the Factor Structure of the Moral Injury Events Scale in a Veteran Sample', *Military Medicine* 185, no. 1–2 (13 February 2020): e75–83, <https://doi.org/10.1093/milmed/usz129>.

144 'Aiding Healing from Moral Injury'.

145 Matt J. Gray *et al.*, 'Adaptive Disclosure: An Open Trial of a Novel Exposure-Based Intervention for Service Members With Combat-Related

those receiving it and resulted in substantive symptomatic improvements in the shame-based emotions associated with MI.[146] Interrogation of data when released by the ADF may facilitate the roll-out of a similar programme within the RAF.

Psychological Stress Injuries', *Behavior Therapy*, Direct-to-Consumer Marketing of Evidence-Based Psychological Interventions, 43, no. 2 (1 June 2012): 407–15, <https://doi.org/10.1016/j.beth.2011.09.001>.

[146] Gray *et al.*

Discussion and Conclusion

There is an opportunity to view the presence of MI within the UK Armed Forces as an indicator of social health. The presence of MI as a direct result of the military experience could be seen as measure of the morality of the workforce, and so the society from which they are recruited. Its presence could be viewed as marker of the military population's morality and a sense of following a military career guided by societal definitions of what is 'right'. Those that are affected by what they see and are asked to do could be more expected to behave in accordance with the law of armed conflict and in the spirit of Jus in Bello, rather than those who may not consider the implications for killing, or ensure they are legally and ethically able to justify it. This might make service personnel more likely to question what is being asked of them and in doing so hold the chain of command to account for the orders it gives. So, in the military context, MI could be a desirable outcome proving that the 'right' people are being recruited to a fighting force that is required to take life. It could also create a force that challenges what it is asked to do and in doing so, uphold society's treasured values. This view, however, does not absolve the RAF from any responsibility it has in protecting its personnel from MI.

Furthermore, the absence of MI in the military population should be regarded as being more of a concern to our commanders than its presence. Without the presence of MI as an indicator of the moral health of the workforce, culturally the RAF could become morally insensitive and more at risk of being inhumane in its acts of war.[147] In a liberal, democratic society such as that of the UK and which relies on society's sense of service, rather than conscription, to provide its Armed Forces,

[147] Cox, 'An Introduction to Moral Injury in Defence | Future Forge', 8.

it could be viewed as unrealistic to expect personnel not to suffer from MI when exposed to PMIES in the line of military duty. This paper has proposed that an emotional response to a transgression from the moral code that most in society follow as part of their daily lives, is a normal response.[148] As such, MI could be seen as being part of a normal human response and that by pathologizing it, there is a risk that it becomes defined as being a greater problem than it really is.

The ability to reconcile the realities of the trauma of war with the internationally accepted legal constraints and ethics that dictate our actions on the battlefield are critical in morally empowering those that serve within it. This reconciliation could help preserve moral integrity and prevent the individual transgression that can result in MI and impaired psychological health. The concept of a thinking soldier, who is politically aware and able to conduct self-reflection as a step towards being accountable for actions in war is a notion practised in the German and Dutch military.[149] By creating such warriors, these Forces encourage the development of critical thinkers, aware not only of their own values and morals but those accepted by the society in which they live and serve. This fosters an understanding that soldiers will "think for themselves, rather than obey blindly."[150] Organisationally this has developed a "primacy of conscience" within the German military leadership structure in which personnel not only regularly explore their own moral code, but actively test it against the actions that military service expects them to take.[151] Importantly in this

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148 Cox, 7.

149 Braun and Peperkamp, *Violence in Extreme Conditions*, 107.

150 Bundesministerium, 'Innere Führung: Selbstverständnis und Führungskultur.' (Bundesministerium der Verteidigung, 2008), <https://www.bundeswehr.de/de/ueber-die-bundeswehr/selbstverstaendnis-bundeswehr/innere-fuehrung>.

151 Braun and Peperkamp, *Violence in Extreme Conditions*, 103.

system, soldiers are expected to think for themselves and assess their own morality against what they are being asked to do and challenge anything they deem to be immoral, either at the individual level or societal. This concept argues that combatants have certain rights in war but that these rights are different for each actor dependent on the justification and legitimacy of their cause.[152] This theory opposes traditional 'just war' theory widely taught and practiced in military academies.[153] Revisionist theory may help to address the problem of MI in a world in which states believe they have the legitimate right to kill using a remote capability questioned by society and some military leaders. Furthermore, applying revisionist just war theory to RPAS operations may help some personnel in addressing the PMIEs they are exposed to through feeling encouraged and empowered to challenge on the basis of individual and societal moral codes. This paper assumes that the killing that takes place on RAF RPAS operations is legal and satisfies all ethical frameworks that can be applied to it, so in reality pre-killing moral challenges are not likely to change the outcome of a strike on a target. They may, however, open up important post-killing conversations in which individuals feel able to voice the feelings of moral transgression that may arise. As a framework to enable discussions about a traumatic event, revisionist theory of just war may have an important place, alongside the other interventions discussed in this paper, in enabling RPAS operators to realign their feelings of moral transgression and reduce the incidence of MI in this cohort.

This paper has demonstrated that military service, and in particular the operation of RPAS as a result of the frequency and

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[152] Chris Brown, *Revisionist Just War Theory and the Impossibility of a Moral Victory*, vol. 1 (Oxford University Press, 2017), <https://doi.org/10.1093/oso/9780198801825.003.0006>.

[153] Braun and Peperkamp, *Violence in Extreme Conditions*, 102.

normalisation of killing, exposes personnel to PMIEs that can result in MI. The literature reviewed has suggested the prevalence of MI in the British Military is greater than that of PTSD, a culturally accepted fear-based response to trauma which is regarded as being a consequence of military service. MI should be viewed in similar terms. The acts of war and trauma of killing that military personnel can be exposed to, are not a part of normal life. The RAF has an obligation to better prepare its warriors to kill and live with the moral effects of killing in the same way that it seeks to reduce the prevalence of PTSD. The RAF has a legal and moral obligation to reduce the harm it exposes its personnel to as a result of their military service. This paper has demonstrated that there are strategies proven to protect against MI by providing through career training, screening for MI, and rehabilitation to ensure that those who kill on behalf of their country are able to live and function without the psychological impact that a moral transgression can have.

The RAF does not do enough to prepare its RPAS operators to kill and live with killing. It should instigate a programme that starts discussion about the potential need to kill early in a military career. This should be repeated frequently, especially in the build-up to operational deployments. In the RPAS Force, discussions about killing and accountability should be held regularly, not just in advance of an expected strike. A pastoral-led programme that identifies personnel with MI using a screening tool such as the MIES should be established. Consideration for the MIES to be completed as part of the annual aircrew medical should be made. Those with mental illness as a result of MI can be medically managed as needed whilst also undertaking a rehabilitation programme to address their MI and correct the underlying cause of their illness. Mental wellbeing advisors should be awarded security clearances that support open discussion about operational events. Finally, forward deployment of operators to the theatre of operations should be considered.

Perhaps in the future equipping our warriors with the skills needed to reconcile killing with their own moral code will prove to be as important as the training given to enable them to kill. These skills should be taught and practiced from the start of a military career with regular opportunities to refresh before personnel are exposed to acts of war, whether it be in close quarters where the risk to life is raised and real, or from the relative 'safety' of a ground control station thousands of miles from the killing zone. The ability to protect against, screen for, diagnose and successfully rehabilitate MI is no longer hampered by a lack of accepted definitions, sensitive and valid screening tools or a suitable rehabilitation programme able to restore feelings of self-worth and purpose in those that have been injured as a result of their military service. The RAF is finally in a position to understand the burden that killing can place on its warriors and enact its duty of care in protecting them from MI as well as correcting the moral transgression that it can cause. Whilst the RAF does not presently do enough to prepare its RPAS Force to kill and live with killing, our commanders should now decide if the duty they expect their subordinates to carry out at risk to their own morality, is important enough to invest in the through career strategies and interventions suggested in this paper.

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Exposure to a traumatic event like killing, can cause a transgression from an individual's moral code resulting in persistent feelings of guilt, shame, betrayal and a 'moral injury' (MI). This thesis investigates MI and the psychological effects that can occur when acts of war violate deeply held moral beliefs that can leave service personnel with lasting inner conflict and emotional disturbance. Focusing on UK Royal Air Force (RAF) Remotely Piloted Air Systems (RPAS) operators, this paper reviews established views that this aircrew population are at increased risk of MI. It suggests that MI may be more prevalent than PTSD across the armed forces, yet it remains under-recognised and without a strategy to rehabilitate for it. Current RAF processes prepare personnel to kill but fail to equip them to live with the consequences. This thesis argues for reframing MI as a normal human response to an abnormal act, and for introducing preventative and rehabilitative measures such as moral resilience training, screening, and pastoral-led programmes. By addressing the ethical as well as psychological dimensions of war, the RAF can better fulfil its duty of care and ensure that those who kill on its behalf can reconcile their actions whilst sustaining long-term wellbeing.

This thesis has been awarded the second prize of the year 2025 in EuroISME's annual contest for the best student's thesis. For information about the contest, please visit www.euroisme.eu.