Remoteness, Risk and Aircrew Ethos

By Dr Peter Lee

From the era of dog-fighting biplanes to the age of fly-by-wire, twin-engine fast-jets with stealth technology and satellite-guided weaponry, each iteration of technological advancement has seen its associated RAF aircrew – especially the pilots – construct their ethos in the shadows of those early pioneers. The heritage and heroics of their forebears have been claimed and selectively incorporated in the ethos of each new generation who would apply the increasing utility of air power in combat operations. However, the advent of the Remotely Piloted Aircraft System (RPAS) in recent years has brought a new dynamic to the aircrew/aircraft nexus, with the former being removed from both the cockpit and the battle space. This article explores some of the ways in which the personal and collective ethos of those who operate the Reaper RPAS is formed now and may be formed in the future.

Introduction

Flight and Squadron Commanders wore bunches of long ribbons which flew back from their helmets in the slipstream and looked for all the world like bannerets of the knights of old ... In their helmets, gauntlets and flying goggles, the pilots were truly romantics figures, and every small boy used to dream, in those days, of how *he* would look in the garb of his heroes.[1]

With a few evocative words John Harris captured some of the sense, some of the stereotype perhaps, of the first knights of the air. Therein lie romantic notions of duelling men of honour, trusty steeds on boggy fields replaced by soaring contraptions framed with fabric and wood. Almost a century after World War I these partial conceptions of the soaring warriors and their self-sacrificial actions above the trenches are embedded in our history, an oft-repeated cultural memory that has taken on a reality of its own. So familiar is the caricature of the WWI fighter pilot that when the fictional comedy creation Squadron Commander the Lord Flashheart stepped onto British television screens in Blackadder Goes Forth he needed no further introduction or contextualization.

From the era of dog-fighting biplanes to the age of fly-by-wire, twin-engine fast-jets with stealth technology and satellite-guided weaponry, each iteration of technological advancement has seen its associated RAF[2] aircrew – especially the pilots – construct their ethos in the shadows of those early pioneers. The heritage and heroics of their forebears have been claimed and selectively incorporated in the ethos of each new generation who would apply the increasing utility of air power in combat operations. However, the advent of the Remotely Piloted Aircraft System[3] (RPAS) in recent years has brought a new dynamic to the aircrew/aircraft nexus, with the former being removed from both the cockpit and the battle space. Understandably, given the rapid technological advances that are being made and the nature of counter-insurgency operations in Afghanistan in particular, debate is dominated by the art of what is technically and militarily possible today and speculation about what developments we might see in the future. Correspondingly, and encouragingly, debate is already taking place about the associated moral issues that are raised by the remote operation of the Reaper[4] today, as well as the moral challenges that increased autonomy might bring in the future.[5] Further, research is already under way on both sides of the Atlantic to monitor and assess the psychological impact of remote operations on RPAS pilots and sensor operators[6], given the unique juxtaposition of engaging in battle for hours on end and a 'normal' domestic life outside of the working environment.

In contrast, the scope of this article is much more modest and will explore some of the ways in which both the personal and collective ethos of those who operate the Reaper are formed now and may be formed in the future. I will argue that personal ethos is formed in two separate but interwoven ways: externally and internally. The ethos of aircrew (or soldiers, sailors or marines) is formed partly from external factors such as they way their actions are understood and portrayed in public discourse. This external dynamic is accompanied by the

self-forming of personal ethos in the ways that pilots and sensor operators see themselves and shape their actions and attitudes accordingly.

I assume that aircrew ethos, like the formation of ethos in any walk of life, is not formed in a conceptual vacuum but draws upon familiar, existing discourses, incorporating those aspects that are relevant, or can be modified to be relevant, in the present while ignoring those concepts from the past that are not. In addition, the meanings of the various discourses that use and interpret throughout the article, from books to Victoria Cross citations to written and oral contributions from current Reaper crew, are assumed to be contested and contingent. In times of war, past and present, issues of truth, objectivity and bias must be weighed up in the context of propaganda and broader political dialogue. Consequently, in assessing my arguments readers should therefore also consider the relative merits of the sources I draw upon.

Two key threads will run through this discussion. First, the place of personal risk in the formation of aircrew ethos and, second, the utility of air power in some of the ways it has been historically deployed (what pilots/crews do and how they do it). The first part of the article will outline further what I mean by ethos before exploring aspects of the historical emergence of aircrew ethos in World War I, while the second part will consider aircrew ethos over the decades that followed, particularly in World War II. The final section, drawing on sources that include personal interviews and written exchanges with current and previous RPAS crews, will look at some of the ways in which the ethos of Reaper pilots and sensor operators still draw upon aspects of those historical discourses.

The Emergence of Aircrew Ethos

The first difficulty we encounter in trying to say anything about aircrew ethos is located in the transitory, contested and nebulous meaning of the word *ethos* itself. Broadly speaking, one understanding of ethos focuses on the collective or the institution, while an alternative understanding focuses on the individual. Anthony King adopted the former approach while researching the ethos of the Royal Marines, noting, 'Every social group has an ethos for it is precisely the existence of an ethos which denotes a social group. Ethos certainly includes a spiritual dimension; it encompasses the shared understandings of the group. Yet it is more robust than this spiritual communion. Ethos refers simply to what a human group does and how it does it'.[7] King's approach is appealing – perhaps especially in a military environment – because it focuses on observable external actions and methods. Aspects of King's understanding can be found in the official *Ethos of the RAF*:

The distinctive character, spirit and attitude of the RAF which together inspire our people to face challenge, and, on occasion, danger. It is underpinned by tradition, esprit-de-corps and a sense of belonging. It encompasses the will to contribute to the delivery of effective air power that arises from confidence in the chain of command, trust in colleagues and equipment, respect for individuality, sustainment of high professional standards and the courage to subordinate personal needs for the greater good.[8]

The focus of the official RAF ethos is on 'the delivery of effective air power', while the remainder of the statement sets out how this aim is to be achieved. However, the RAF ethos also suggests, but does not develop, a role for the individual within the whole. In so doing it captures elements of Stephen Deakin's use of the term ethos in relation to the British Army and its heritage and history. He wrote: 'Ethos is concerned with the way in which people actually live and it presupposes community. Ethos is the characteristic spirit of a community.'[9] Deakin's conception of ethos appears to be more balanced than King's, incorporating both individual and communal aspects.

The most helpful, though admittedly still flawed, alternative understanding of ethos I can offer acknowledges positive aspects in the approaches of both Deakin and King, and is analogous to the mathematical concept of fractals. Fractals are geometric shapes, often irregular, which when divided or split reveal a shape or pattern that is a smaller copy of the original whole. The RAF as an entity, like any other organization, cannot have an ethos that is anything other than utterly reliant on, and reflective of, the people who make up that institution. Ideally, the institutional 'shape' of RAF ethos will be found in a similar form in the smaller units that combine to make up the RAF as a whole: Commands, Stations, Squadrons and Flights. However, the ethos of all of these elements of the institutions ultimately rests upon the ethos of the individuals therein. In order to explore aircrew ethos I will therefore extend King's very straightforward notion that 'Ethos refers simply to what a human group does and how it does it'[10] , adding the individual-oriented perspective of the French philosopher Michel Foucault who described ethos as 'the formation of a certain way of being, a certain way of doing things, of conducting oneself as an individual'.[11] Consequently, my examination of the impact of remoteness on the ethos of Reaper crew will encompass the complex interplay of three interrelated questions: How does the identity of aircrew emerge? What does aircrew do? How do they do it?

When the matter of identity – a combination of self-perception and the perception held by others – is included in our understanding of ethos, the link between personal qualities and skills and the aims and methods of institutions such as the RAF becomes clearer. To demonstrate the point further, take the relationship between ethos and ethics, which are often, and mistakenly, taken to be synonymous. Individual ethical conduct, like ethos itself, shapes and is shaped by the three questions: Who am I? What do I do? How do I do it? However, ethics is only part of ethos and is primarily concerned with how I *should* conduct myself. Ethos weaves together two related questions: 'What should I do?' and 'What do I actually do?' In turn, ethical failure impacts not only upon the individuals involved but also on the ethos and standing of the institutions to which they belong.

On 5 July 2011 the Guardian newspaper stated boldly: 'Afghan civilians killed by RAF drone'.[12] Note that the headline placed the responsibility on the RAF and its 'drone' – implying an absence of human decision making and control – even though the article later acknowledged that it was remotely piloted from Nevada. A Ministry of Defence report on the same incident

noted that 'the UK Reaper's crews actions had been in accordance with procedures and UK Rules of Engagement'[13], thereby exonerating the crew. Because the crew did what they were tasked to do based on the available intelligence, with the sole intention of killing enemy combatants, their personal ethics remain intact. Despite this, the reputation of the RAF was diminished and its *modus operandi* publicly questioned. Another report on the same event added a further dimension. Aljazeera's headline stated: 'Afghan civilians killed by British drone'.[14] Responsibility for the deaths of Afghan civilians was attributed not to the pilot or sensor operator involved or even to the RAF but to Britain. We can therefore see how, in a volatile region, the political significance of the killing of civilians goes beyond both ethics and ethos and the individual/institutional questions: Who am I? What do I do? How do I do it? The article now turns to the historical emergence of aircrew ethos in WWI and the contributions made to aircrew ethos in WWII, and will return to the matter of remoteness, risk and ethos in relation to the work of Reaper crew in the final section.

Knights of the Air

Paul Robinson, in *Military Honour and the Conduct of War*, says of modern war, 'One area in which people did feel that the old ideals [about honour in battle] did survive was air warfare'.[15] He was referring specifically to the rise of aerial combat in the First World War as the benefits of using aircraft for artillery spotting and reconnaissance inevitably led to the fight for control of the air. Robinson's observation is not a twenty-first century idealization of the role of pilots from almost a hundred years earlier. He cites Bennett Molter, an American pilot, who wrote in 1918: 'In many ways the fighting aviators are living much like the lives of the heroes of chivalry. Their warfare is that of man to man'.[16] According to Molter, pilots would occasionally invite an enemy to single combat, a romantic notion that he compared with knights of old.

As the war progressed, the German, French and British authorities were keen to publicly exploit the growing legend of the noble fighter ace in the terms that Molter set out. Newspapers were complicit in the romanticizing of the Knights of the Air. In a book of that title years later John Harris used similar discursive constructs in capturing the exploits of WWI Canadian fighter aces: 'Rain and intense cold often added discomfort to the dangers of flight, but on the other hand there was a grand sensation in handling the light responsive biplanes ... In their helmets, gauntlets and flying goggles, the pilots were truly romantic figures'.[17] However, the figures were much less romantic than Harris's description of them. Starkly contrasting and more realistic was British pilot – and ace – James McCudden's recollections of aerial combat.

Taking into account his understated writing style and his preference for factual detail over displays of personal emotion or reflection, McCudden's effective and at times distinctly unchivalrous approach to the enemy shines through. Along with all other pilots, he was required to give himself the greatest possibility of killing his opponent in the air while maximising his own chances of survival. He described an encounter on 13 January 1918 when he was flying at 17,000 feet, 10 miles beyond his own lines over German occupied territory. He spotted an enemy two-seater aircraft several thousand feet below heading west and set out to

ambush it. He set his engine to idle to reduce noise and kept his own aircraft ' in between the sun and the Hun'[18] to reduce his chances of being seen while gliding down to make his attack. McCudden recalled:

> So when I got within good close range, about 100 yards, I pressed both triggers; my two guns responded well, and I saw pieces of three-ply wood fall off the side of the Hun's fuselage. Then the L.V.G. went into a flat, right-hand spiral glide until it hit the ground a mass of flying wreckage ... I hate to shoot the Hun down without him seeing me, for although this method is in accordance with my doctrine, it is against what little sporting instincts I have left.[19]

McCudden, in keeping with much military practice throughout history, typically depersonalised his aerial opponents: referring to them by the generic name of 'Hun', accompanied by the type of aircraft the 'Hun' was flying. However, he did grant exceptions to this general rule. In his memoir, *Flying Fury*, he wrote almost warmly when he referred to the German fighter aces he encountered: 'The marvellous fight which Voss put up against my formation will ever leave in my mind a most profound admiration for him, and the other instances which I have witnessed the skill and bravery of German pilots'.[20] Yet despite his admiration for German bravery and some level of desire for a sporting fight, military efficiency in the successful application of air power took priority. McCudden was certainly aware of his own ethos as a pilot and perhaps even still retained a desire for some idealized version of it as he physically and mentally deteriorated towards the end of the war. This desire took second place, increasingly so, to his effectiveness in killing the enemy. If romance endured anywhere it was not in the minds of those pilots who achieved fame through their proficiency: they had seen, heard and experienced enough of the human cost of their military art.

I previously set out three questions to be used in trying to understand the emergence of aircrew ethos, which I will use here with reference to those early pilots: How does the personal identity of a pilot emerge? What does a pilot do? How does the pilot do it? Clearly these three elements of ethos are interlinked but the first – identity – has two further aspects to it: how pilots saw themselves and how others saw them. McCudden typified a self-deprecating understatedness that has become a hallmark of aircrew ethos in the RAF; in *Flying Fury* his descriptions of his own actions are heavily factual and almost devoid of emotion or drama. On the privations of war and the mental and physical toll of combat he wrote: 'The are times while flying when one experiences such hardship and suffering [especially from the cold] that one is inclined to say, "No more flying for me," but after passing that state one becomes keen again and the fascination of the whole things begins afresh'.[21] In stark contrast to McCudden's mundane self-analysis, the perception of some of those soldiers and officers who looked upwards from the squalor of the trenches was that of a self-aggrandizing elite who were separated from the harsh realities of the front lines. Such a view was probably reinforced by the rising curiosity of a public that, as the war progressed, wanted to hear more and more about the pilots whose freedom of the skies was often enjoyed for the briefest period before their untimely deaths.

Major 'Mick' Mannock was accredited with destroying 50 German aircraft and was posthumously awarded the Victoria Cross (VC) on 18 July 1919. Marking the occasion, the *London Gazette* summed up his flying career and character: 'This highly distinguished officer, during the whole of his career in the Royal Air Force, was an outstanding example of fearless courage, remarkable skill, devotion to duty and self sacrifice, which has never been surpassed'.[22] McCudden's VC citation referred to his 'utmost gallantry and skill, not only in the manner in which he has attacked and destroyed the enemy, but in the way he has during several aerial fights protected the newer members of his flight'.[23] The characteristics and skills that were attributed to Mannock, McCudden and others acknowledged the gallantry for which their VCs were conferred. The citations also created and reinforced in the eyes of fellow combatants of all branches of the armed forces and the general public the discourse of the pilot as a form of ideal warrior. Even where the dangers of combat were shared in two-seat aircraft, with very few exceptions it was the pilot alone who was given the publicity and awards.

No matter how many gallantry citations are read, the same characteristics are called upon repeatedly in the descriptions of the pilots and their actions: skill, duty, courage, perseverance, self-sacrifice. The common thread that connected these qualities and abilities in the eyes of the public was risk: physical danger from a combination of the enemy, the elements or the aircraft that were flown at and beyond the extremes of their technical specifications. Ferdinand West's award was not made because he attacked a large number of enemy fighters; pilots on both sides regularly carried out such actions. West was recognised because he fought on in extreme pain, overcoming the limitations placed upon him by the wounds he sustained.[24] Similarly, George Barker was awarded the VC for sustained attacks against the enemy despite being shot in both legs and having his left arm shattered.[25] Skill was essential in every pilot. Maintaining that skill level in spite of grave injuries and the threat of death gave rise to the myth of the pilot as some kind of demi-god, not only physically separated from those who looked up from the fields below but somehow morally transcendent as well. On such foundations was aircrew ethos built.

Reinforcing the public perception of pilots as somehow possessing extraordinary characteristics and capabilities was the disproportionately high number of awards they received, in contrast to the number given to the vast armies of soldiers who battled on the ground. The immense, anonymous wholesale slaughter that took place in trench warfare is difficult to comprehend but provides an important backdrop to the recognition given to those who flew overhead. From a twenty-first century viewpoint where individual losses in Afghanistan feature regularly in both broadcast and print media, the numbers involved in WWI are almost too great to imagine. In one week in the Ypres Salient, only one element of the Ypres land campaign, two million artillery shells were fired by the British Army, 3,000 soldiers died and 14,000 were wounded.[26] The scale of the losses and the nature of the fighting, as well as provoking questions about tactics, morality, morale and leadership, caused problems when it came to the award of decorations. How could one or two individuals out of 500 be set apart from those who shared their risks, privations and horrors?

The war in the air, in contrast, provided the canvas upon which reputations and legend could be written. Even Trenchard publicly declared (against his private disregard for the aces): 'Albert Ball was the most audacious, the most skilful and most marvellous pilot in the RFC. Every pilot in the corps considered him the perfect model and strove to imitate him'.[27] Lord Rothermere the Air Minister, on the day the RAF came into existence, went much further in extolling aircrew, enhancing and endorsing their already burgeoning and unrealistic legend. He wrote an article entitled 'British Airmen's Daring' where he eulogized the outstanding bravery of 'the British flying man', going as far as to say that the pilots of the RFC and RNAS had rewritten the definitions of bravery and daring[28] . Going further, the remarkable deeds of these airmen and their successful attacks on 'the Hun' were attributed to a combination of 'perfect physique, of matchless bravery, [and] of extraordinary quickness of brain'.[29]

Lord Rothermere's short article used the word 'bravery' four times and referred to the airmen as 'supermen'. The breathless tones in his description of aerial derring-do would appear more at home in a romantic novel than in a ministerial message published in *The Times*. Airmen were not only physically set apart from their fellow combatants by their ability to take to the skies, they were metaphorically set apart as being somehow extra-ordinary. The emergence of aircrew ethos took on a dynamic that was beyond the control or the desire of those who flew in battle. Public perception and the shaping of public perception in political and military discourse resulted in a 'reality' that did not match the experience of the aircrew in the war in the air. Since millions of people vicariously shared in the public 'reality' and only thousands knew what it was like to fly in combat the perceived reality morphed into actual 'reality' over time. This process was helped by a wilful determination to maintain the myth, the legend of the supermen. Politicians and military leaders increasingly wanted it, the public wanted it, and at least some proportion of flyers revelled in it.

How could anyone live up to the words of the Air Minister? For all the lack of realism in the tone of his article – it should be borne in mind that he was also fighting a propaganda war at the time – the foundation of aircrew ethos was set by the end of World War I and it would prove remarkably durable. Perhaps more interestingly, since Lord Rothermere was writing on 1 April 1918, aircrew ethos was already clearly established *by the time the RAF was formed*, being brought into the new organisation from the RFC and RNAS. The essential elements of ethos that I set out previously – What is the identity of the pilot? What did he do? How did he do it? – were all present in Rothermere's statement. The pilot's identity as the brave superman of extraordinary physique and intelligence brought him affection from the public and envy from the trench-bound Tommy. He 'strafed the Hun', contested aerial duelling, reconnoitred enemy territory, drop bombs: all with remarkable skill, endurance in the face of physical and mental injury, determination and cunning. Usually until he died doing so.

Fighters and Bombers

After the Great War ended aircrew ethos altered little over the decades, fliers and adoring public alike still preferring the legends to the harsh realities of policing the Empire with scarce

resources. If there was any risk of pilots in particular falling from public favour as the most adored and romantic of combatants then World War II confirmed their places, *in perpetuity*, in the pantheon of military heroes. Over the summer of 1940 another generation of young men took to the skies in their Hurricanes and Spitfires to stave off the German quest for air superiority that was intended as a prelude to an invasion of the UK. From early in WWII Churchill and the government sought to use any means to boost public confidence and morale at a time when a country under siege needed both hope and heroes. Fighter pilots provided an ideal point of focus and optimism. Gallantry awards continued to be publicised as public perception of the pilots slipped straight into the stereotypes of the past. The VC citation of Flight Lieutenant James Nicolson captures his efforts as the Battle of Britain approached its most intense period:

> On 16th August, 1940, Flight Lieutenant Nicolson's aircraft was hit by four cannon shells, two of which wounded him whilst another set fire to the gravity tank. When about to abandon his aircraft owing to flames in the cockpit he sighted an enemy fighter. This he attacked and shot down, although as a result of staying in his burning aircraft he sustained serious burns to his hands, face, neck and legs ... this incident shows that he possesses courage and determination of the highest order ... he displayed exceptional gallantry and disregard for the safety of his own life.[30]

Aircrew ethos was perpetuated on the basis of the same characteristics and actions upon which it had been founded almost three decades earlier: skill, duty, courage, perseverance and self-sacrifice in the context of extreme physical risk. Seventy years after those immortalized aerial duels Geoffrey Wellum, a former WWII Spitfire pilot, recalled the challenge they faced. "The effort that was being put in by the Germans and the Luftwaffe – they weren't doing it for fun and we had to stop them. That was the important thing. Not whether Jim shot down 10 and Bill shot down one and poor old Sid didn't get any. It didn't matter who shot down what. It never worried me, these Germans were up to no good and they HAD to be stopped."[31]

Wellum's stark account dispensed with the romantic notions that meant so much to those who observed the pilots' actions from afar, his realism encapsulated in a single imperative: 'they had to be stopped'. As a combatant his emphasis was on repelling wave after wave of attack with consideration of the individual personalities or opinions of the pilots almost irrelevant. There was certainly no place for gentleman duelers. Patrick Bishop sums up the seriousnessof the situation early in the war: 'Of the 2,917 men who fought in Fighter Command air battles of the summer of 1940, 544 were killed'.[32] On 15 September 1940, as the period commonly recognised as the Battle of Britain came to a close, Churchill reinforced the legend of the fighter pilot even further with his immortalized words: "Never in the field of human conflict has so much been owed by so many to so few."[33]

While the pilots of Fighter Command took their plaudits, the war progressed on multiple fronts, with Bomber Command aircraft able to strike directly against Germany. The dangers

faced by the bomber crews took a different form to those faced by their fighter counterparts. Instead of repeated, short, intense high speed encounters they had to endure up to eight hours' flying over occupied territory and Germany. The constant threats posed by mechanical failure, icing, anti-aircraft batteries and interception by Luftwaffe fighters led to its aircrew suffering the highest attrition rates of any arm of the British forces. The comparative dangers also resulted in 23 VCs being awarded to Bomber Command and only one to Fighter Command. Leonard Cheshire's VC was unique because it was awarded for persistent bravery in the face of the enemy over an extended period – 102 sorties – rather than a specific act of valour. His citation stated:

> In four years of fighting against the bitterest opposition he maintained a standard of outstanding personal achievement, his successful operations being the result of careful planning, brilliant execution and supreme contempt for danger – for example, on one occasion he flew his P-51 Mustang in slow 'figures of eight' above a target obscured by low cloud, to act as a bomb-aiming mark for his squadron. Cheshire displayed the courage and determination of an exceptional leader.[34]

As a feat of physical and mental endurance his accomplishment was remarkable. With regard to aircrew ethos, however, the key words remained: skill, duty, courage, perseverance and self-sacrifice. Furthermore, Cheshire's development of low level target marking highlighted a commitment not only to bombing proficiency but in doing so reduced what we now refer to as collateral damage, all whilst increasing his own exposure to the risk of being shot down. The extreme dangers and the associated high possibility of death or forced landing and imprisonment were not sufficient to deter those who waited to sign up for the riskiest of duties.

Significantly, increasing numbers of gallantry awards were made to rear crew who placed themselves in danger or sacrificed themselves in the hope of saving their aircraft and their colleagues, highlighting the shared risks they faced. Flight Engineer Sergeant Norman Jackson was awarded the VC for attempting to save his burning Lancaster and the lives of his colleagues therein. Despite being wounded in the leg during an attack by a German fighter, Jackson climbed on to the wing of his aircraft to try and extinguish a fire near a fuel tank on the starboard wing. He suffered horrific injuries in the failed attempt, falling from the aircraft in a partially opened parachute.[35] What the Bomber Command offensives contributed to aircrew ethos was an emphasis on duty, the bearing of personal danger and a willingness to project air power with extreme prejudice in support of military and political ends: to do what needed to be done as proficiently as possible. Any thoughts of romance were firmly quelled by the deadly realities of bomber operations, whether they were called precision bombing, area bombing, carpet bombing, saturation bombing or any of the other euphemisms that were used.

What the bombers did – try to defeat Germany and its Nazi regime – took priority over the personal feelings of the aircrew and whatever preconceived notions of what it was to be an aviator. It also took precedence over their views of the means they used: the destruction of

large swathes of German cities with the associated burning and death of child, shopkeeper, firefighter and munitions maker alike. Mark Wells summed up the character and achievements of the bomber crews: 'British airmen of Bomber Command ... faced a daily routine that pointed to the inevitability of combat death. Their response, which was to cling together, overcome their fears and to go on, is a tribute to man's ability to survive almost any hardship'.[36] Having explored a number of historical aspects of the emergence of aircrew ethos the article now turns to examine how the ethos of RPAS crew has emerged in recent years as they have operated Reapers and Predators in combat operations.

Ethos and Remote Operations

In an era of instant global communications via the internet, 24-hour scrolling TV news and an increasingly sensationalist print media the line between perception and reality in the domain of war is as blurred as it has ever been, even without an official propaganda ministry of the type used in both world wars. Once a 'narrative' has been established in public discourse and a widespread degree of acceptance achieved, it becomes almost impossible to subvert or change it. On the one hand this means that no matter how many revisionist books are published about the Battle of Britain they are unlikely at this stage to cause any major shift in the public's view of what took place. On the other, it is very difficult to transform negative impressions, and much of the public discourse surrounding the use of the Reaper in Afghanistan has negative connotations. Consider these contrasting newspaper stories concerning two events that took place in March 2011:

'RAF Top Guns launch Libya raids'
- BRITISH Top Guns last night launched a series of precision bombing raids on Colonel Gaddafi's armoured vehicles as they were poised to attack civilians.[37]

'Afghan civilians killed by RAF drone'
- Four Afghan civilians were mistakenly killed and two others injured in an attack by a remotely controlled RAF "drone" targeting insurgent leaders in Helmand province.[38]

The first story was illustrated by a photograph of an RAF Tornado GR4 and went on to discuss 'guided Brimstone missiles', describing how they were used in 'precision bombing raids' against military targets: all with the aim of saving civilian lives. The article referred to 'the "herculean" efforts of our brave crews', a reference that could have come from a government description of pilots in either of the world wars. The piece concluded by highlighting the risk to aircrew, mentioning 'the wreckage of a US F-15 fighter that crash-landed in Libya'.[39]

The second story appeared alongside a photograph of a USAF Reaper taken in a hangar at Creech Air Force Base, Nevada. The accompanying article referred to Afghan civilians being mistakenly killed as a result of poor intelligence on the ground. The basing of the crew in Nevada was discussed before a journalistic link was made to the CIA operating 'drones' in Pakistan. The repeated use of words like 'drone', 'unmanned drone' and 'remote controlled

aircraft' implied the de-humanising or de-personalising of combat operations and the taking of life. The article quoted Chris Cole, from the Drone Wars UK website, who stated: 'The secrecy and lack of accountability surrounding the use of British armed drones is a matter of great concern'. Perhaps not surprisingly, given that the deaths of four civilians were being reported, the tone of the item was sombre. Notably, however, in contrast to the description of the Tornado strike, the Reaper, its *modus operandi* and its aircrew were described in an almost entirely negative light.

When these stories are juxtaposed in this way the difficulty of developing an RPAS aircrew ethos with which the pilots and sensor operators can identify *and to which the public can relate* becomes clearer. The consistently negative tone applied to remotely piloted aircraft systems and those who operate them also has implications for the way this particular capability is viewed both by other branches of the armed forces and by the crew themselves. The most commonly identified feature of Reaper operations in current public discourse is that they are operated from Nevada, with an emphasis on the physical separation of the operators from the battlefield in Afghanistan. The implication is that they are not sharing the operational risks that are being faced by those on the battlefield below or the inherent risks involved in flying a fast-jet low and fast over hostile territory.

The nature of remote operations highlights one problematic area for the ethos of pilots and sensor operators: aircrew ethos as I have described it above has always been built on the bedrock of courage in the face of danger or death and the capacity to perform at a high skill level under great pressure or whilst injured. Therefore, what is RPAS aircrew ethos built upon in the absence of threat from the enemy? In answering this question it should be borne in mind that while there seems little chance of the Taliban or other Afghan enemy fighters being able to target Reaper crews at Creech Air Force Base at present, it cannot be assumed that a different, better resourced enemy would not seek to do so in the future. In addition, the generalization about the absence of risk cannot be extended to those pilots who carry out the visual take-offs and landings of RPASs within an area of combat operations such as Afghanistan or Iraq.

I have explored this issue at length with a number of RPAS pilots and sensor operators, some of whom previously operated the Predator or Reaper and some of whom continue to do so. The opening question that I have asked every one of them is: 'When asked, how do you describe what you do in the RAF?' Those who transferred from piloting another aircraft type – Tornado, Harrier, Hercules – gave almost identical answers that can be summarized as: 'I am a pilot who now flies the Reaper,' as opposed to, 'I am a Reaper pilot.' (In contrast, one of their colleagues was very clear in his identification with the RPAS type: 'I describe myself as a Reaper Sensor Operator'.)

The emphasis of the replies was on 'pilot', with Predator or Reaper added on as appropriate. The reasons given for this emphasis varied and included: the kudos associated with being an RAF pilot; a preference for manned flight; and not having a real choice about transferring

to Reaper when another aircraft type was taken out of service. Each of my exchanges also addressed the preconceptions of the pilots themselves as they moved into this new and rapidly developing field, some of which were initially very negative. Interestingly, they also spoke of being 'convinced by' the capabilities of the Reaper and its role once they stated to engage in combat operations. A key motivator for this was outlined: 'In the Tornado we trained for most of the year and deployed on active operations for a few weeks each year. On the Reaper every sortie is a combat sortie'. For some there was a clear disjuncture between how they viewed themselves ('I am a pilot [as opposed to an RPAS pilot] at heart') and their enthusiasm for what the Reaper could achieve on the battlefield. Those without prior operational experience as a pilot appeared more comfortable with and confident about their identity as a Reaper pilot or sensor operator.

In *Wired for War*, Peter Singer explored a number of aspects of what it means to belong to a Predator or Reaper squadron. On the relationship between the combatant, risk and bravery he wrote: 'The courage of a warrior, then, is about victory over fear. It is not about the absence of fear. By removing warriors completely from risk and fear, unmanned systems create the first complete break in the ancient connection that defines warriors from their soldierly values'.[40] As far as Singer is concerned the RPAS crew is 'now fully disconnected' from war.'[41] On a physical level, his argument appears unassailable. Even if a small-arms round or shoulder-launched rocket-propelled grenade happened to strike and bring down a Reaper the immediate physical response from its pilot will be visual and limited, an acknowledgement of a blank screen where previously there had been moving images. However, while there is no danger of that round or grenade hitting the Reaper pilot or sensor operator thousands of miles away, the individuals cannot fully be said to be without a physical response. Adrenaline, the body's fuel for 'fight or flight', still surges when a Reaper crew is tasked to provide close air support to allied soldiers or marines on the ground. An overabundance of adrenaline experienced over an extended period can have a debilitating physical affect on the human body – including the brain – regardless of its proximity to war.

Peter Olsthoorn explores respect as a crucial dimension of military ethics and makes a bold point about remote pilots and the psychological impact of physical separation from the battlefield. He writes: 'It's hard to imagine how one can respect the local population, as said a vital element of the hearts and minds approach, from, for instance, a control room in Nevada (where pilots of Predators and Reapers mostly work from). With such a distance – physical, but also psychological – between soldiers and the horrors of war, it has to be feared that killing might get a lot easier'.[42] Like Singer's similar claim about RPAS crews being fully disconnected from war, intuitively, Olsthoorn's argument appears sound. How can someone thousands of miles away in a temperature controlled environment properly engage – physically, psychologically or emotionally – with a battle in Afghanistan when they cannot feel for themselves the searing heat, taste the impenetrable dust and smell the stench of sweat and fear? When they cannot 'sense' the hostility of local tribesmen and their guts are not doing somersaults waiting for the first incoming sniper round or the deadly thump of an IED?

When I put this question to Reaper crew, including individuals who have flown missions from Nevada and also carried out take-offs and landings during operations in Iraq and Afghanistan, the consistent answer was not what I expected. While Olsthoorn's point has some merit it should be generalized with great caution because it overlooks the counter-intuitive point. Far from providing only disadvantages, the emotional and physical separation of the remote pilot from events on the ground brings the benefit of increased objectivity. The number of available visual inputs through multiple screens provides a breadth (though admittedly not the depth) of perspective not available to a crew travelling in a fast-jet at high speed and having to be continually rotating their heads to carry out checks, maintain spatial awareness and stay safe in the air. Furthermore, if fatigue sets in for the Reaper crew there is always the option of being temporarily relieved and coming back to the situation rested and with renewed concentration.

Singer's and Olsthoorn's assumptions about the disconnection of RPAS crews from war should be qualified further. Physical separation from the combat zone does not, for example, automatically lead to emotional disconnection. The crew of a Tornado flying at low level above an enemy contact may be *more* emotionally disengaged than the Reaper crew depending on the personalities of the pilot and weapons systems officer (WSO) and the intensity of the tasks they are carrying out in the air. This point was stressed by a Reaper pilot who had previously flown the Tornado GR4 in combat operations. Consider some of the actions of the crews of these respective types of aircraft.

Many fast-jet targets are pre-planned and as long as the necessary legal authorization is granted will be carried out under the relevant rules of engagement unless a forward air controller or some other individual in the 'kill chain' highlights a change of strike parameters. However, whether it is a planned strike or in response to an in-air tasking, the fast-moving Tornado crew has only a few seconds to acquire and attack a target. Then, having hit the intended target the aircraft will depart the scene as rapidly as it arrived, some 800 to 900 feet per second. Consequently, the results of the strike are not immediately seen by the pilot or weapons systems officer: sparing them the instant emotional impact of the physical destruction of life and materiel below.

In contrast, a Reaper crew can spend hours or even days confirming the identity of an enemy combatant. Long loiter times enable a pattern of life to be established in considerable and mundane detail, with meal times, prayer times, toilet habits, friends and even relatives being identified. A much greater degree of emotional engagement with an intended target becomes possible when aspects of his personality and lifestyle become familiar, in contrast to the high speed interventions of a manned fast-jet. Consequently, as one Reaper, former fast-jet, pilot summed it up: 'UAV targets are much more personal'. Numerous studies have been and are being undertaken to examine physical, emotional and psychological factors involved in the operation of RPASs and only the passing of time will reveal how many of their crews will develop symptoms associated with combat stress or Post Traumatic Stress Disorder/Syndrome.[43] These will eventually be compared and contrasted with the experience of their fast-jet counterparts.

I have discussed at length the relationship between courage and risk at the heart of the emergence and maintenance of aircrew ethos since the advent of air combat in WWI, and for the most part the emphasis has been on what might be more specifically called physical courage: the ability to persevere with a high degree of skill in the face of mortal danger or physical injury. There can be little doubt that with regard to the need for physical courage Singer, Olsthoorn and others are correct about the remoteness of Reaper crew rendering this aspect of their characters and ethos obsolete (at least until a more competent enemy can target their Nevada or other haven). However, there is and always has been more to the place of courage in aircrew ethos than the willingness to physically confront the dangers posed by an enemy, and that is having the moral courage to kill, or refrain from killing, as circumstances and rules of engagement dictate. This is clearly stated in Air Publication 1, *Ethos, Core Values and Standards of the Royal Air Force*, which says: 'Courage, both physical and moral, forms the bedrock upon which bravery, fighting spirit and success depend'.[44] It is that moral courage, combined with a determination to protect allied troops and kill enemy combatants while going to great lengths to avoid the unnecessary deaths of noncombatants that already provides, and will increasingly provide, the basis of RPAS aircrew ethos. An example of the seriousness with which Reaper pilots and sensor operators approach their operational art came in a candid submission to my research, part of which I reproduce here in full:

> I sleep soundly at night because every person that I have killed was a clearly identified enemy combatant engaged in hostile actions as described in the rules we work to. I utterly refute the concept that we are capable of reducing the taking of life to a "play-station game" just because we are 12000 miles from the people we kill. I feel that the certain knowledge that everything we do is being watched by many others: general officers, legal advisors, operations officers etc in the command centre makes us more, rather than less, aware of the consequences of the actions we take. We have the capability to see (unlike in a fast-jet) the effect of our weapon strikes in relatively close-up detail. Also, if the troops on the ground take photos of the strike effects they often send them to us as feedback. No matter how explicit these photos are I personally look at them all. Not because of some voyeuristic tendency but because I believe that if you cannot face the reality of what you do in killing a human being then you should not be part of that process.[45]

The author of those words moved to the Reaper from the Tornado fast-jet, thereby giving credence to his comparison of the two roles. From the initial identification to the targeting and then the killing of enemy combatants there is a clear dependence on rules of engagement, comprehensive oversight of the process and a highly developed sense of personal responsibility for the taking of life that I encountered in all the subjects I engaged with. The importance of ethical conduct in personal ethos was consistently emphasized to me, usually in quite forceful terms: 'Ethics are paramount. To take a life when it is not necessary is an act of moral cowardice'. If that ethical standard is inculcated in every new remote pilot or sensor operator then the ethos of that particular flying branch will be set on a sure footing

for all future operations. The corollary of my general observation is that any ethos, in any armed force, which does not rest on the highest ethical standards will inexorably lead only to unconstrained violence, needless death and the moral degradation of the perpetrators.

Currently, and I have focused on the RAF, the disparate previous experience of Reaper crew members means that ethos can be more individualized than shared depending on how individuals form their own identities as aircrew. I would suggest that this is especially true of pilots, with many – perhaps most – of them more closely associating themselves with aircraft that have been flown in the past than with the RPAS they fly in the present. This is not necessarily a bad thing, though it defers the time when remote aircrew ethos can be more commonly shared. The positive benefit is that operationally experienced aircrew, whether they are from fast-jet, multi-engined or helicopter squadrons, bring tremendous experience and air-mindedness. However, if RPAS's are to provide a significant cornerstone of future RAF capability in the long term, financial strictures alone will prohibit the use of experienced aircrew from fast-jet and other squadrons. Directly recruited and trained pilots and sensor operators will probably identify more strongly with their remote airframe and an associated ethos but they will lack the wider experience of those who pioneered this type of operational capability. In the midst of overcoming technological and operational challenges in the future the importance of the continual embedding of ethos and ethical standards should never be overlooked.

Summary

It is difficult to see how representations of RPAS operations and crews in the media will shift from the negative connotations now commonly portrayed to something more positive. The contrast with the long established and deeply embedded public perception of fighter pilot and fast-jet operations in particular provides TV and print media journalists with easy and convenient labels on which to hang their stories. Consequently, those who opt to serve as remote aircrew will have to accept that they will never be viewed in the romantic or daring light of aircrew elsewhere. Those I have questioned prioritized the protecting of allied troops on the ground above the killing of the enemy, their unanimity suggesting that this 'protector' role plays a significant part in their individual and collective ethos. Having also spoken to both Army and Marine officers about the role of the Reaper and those who operate them I would also suggest that the latter are unlikely to be seen by the former as fellow warriors in any historical understanding of the word.

In terms of constructing current and future RPAS ethos from historical air-centric discourses, I would make the following observations. Reaper pilots and sensor operators will never be seen as the new Knights of the Air, principally and obviously because they are not in the air. Similarly, they will not be associated with that part of aircrew ethos over the past century that was forged in battle through acts of daring, courage and self-sacrifice: the absence of risk will preclude it. However, there are aspects of historical, traditional aircrew ethos that remain highly relevant. Most of the personal aircrew characteristics I highlighted earlier from

WWI and WWII – skill, duty, courage, perseverance, self-sacrifice – are still relevant, albeit in modified form. The need for great skill is perhaps the most obvious, especially when fighting an asymmetric counter-insurgency where the line between combatant and noncombatant has long been blurred. In the absence of physical danger the requirement for moral courage is as great as ever. The requirement may even be greater than ever because those who take life from a Reaper do so with a much more intimate sight and knowledge of their targets than others before them in combat aircraft, and with a detailed and prolonged exposure to the consequences of their actions. This was acknowledged by one Reaper pilot who wrote to me: 'Flying a UAV from across the world sounds obviously detached but, due to the nature of the targets and our insistence (we watch them for hours), I feel closer to the action than I did in a fast jet'.

The sense of duty and the need for perseverance, though with an emphasis on mental rather than physical endurance, might perhaps be associated with aspects of Bomber Command ethos in WWII. Granted, there is no longer the extreme and extended exposure to the risk of death, burning or capture, but there is a deep sense amongst those who operate the Reaper that they are taking the fight to the enemy in an essential, though unglamorous way. Just as the crews of Bomber Command – perhaps with the exception of No. 617 'Dambuster' Squadron – did not attain the degree of affection that the public bestowed on their fighter counterparts, it is unlikely that RPAS crews will be admired in the way that other operational aircrew, particularly fast-jet aircrew, are today or will be in the future. In addition, the long standing army and navy disregard for all things Royal Air Force (characterized by banter such as: 'The army digs in; the navy sails in; and the air force checks in!') will probably be intensified towards those who operate from a safe distance. However, from time to time a quiet word or the briefest email message will sum up the essence of what RPAS crew do on a daily basis and an ethos built on moral courage, integrity, professionalism and ethical conduct: 'Thanks guys, you got us out of the s**t that time.'

Notes

[1] Harris, John Norman, *Knights of the Air* (London: Macmillan, 1958) p. 12.
[2] This observation clearly applies to other air forces as well but I will focus on the RAF.
[3] I will use the term Remotely Piloted Aircraft System (RPAS) throughout as it is currently the preferred terminology used by the RAF and 39 Squadron, which operates the Reaper. Other terms presently used in wider debate include Unmanned Aerial Vehicle (UAV), Remotely Piloted Vehicle (RPV) and 'Drone'. I have tried to avoid these labels – especially the latter – because they connote higher degrees of autonomy and de-humanization than I believe to be the case with the currently operated Reaper and because they are often used to describe small and micro (including battlefield) aerial vehicles.
[4] In my research I have been assisted by both Reaper pilots and sensors and Predator pilots. To make it easier for the reader I will refer to the Reaper throughout.
[5] See, for example, Arkin, Ronald C., 'The Case for Ethical Autonomy in Unmanned Systems', Journal of Military Ethics, Vol. 9, No. 4 (2010) p. 332-341; Lin, Patrick, 'Ethical Blowback from

Emerging Technologies', Journal of Military Ethics, Vol. 9, No. 4 (2010) p. 313-331; Dipert, Randall R., 'The Ethics of Cyberwarfare', Journal of Military Ethics, Vol. 9, No. 4 (2010) p. 384-410; Singer, P.W., 'The Ethics of Killer Applications: Why Is It So Hard To Talk About Morality When It Comes to New Military Technology?', Journal of Military Ethics, Vol. 9, No. 4 (2010) p. 299-312; Strawser, Bradley Jay, 'Moral Predators: The Duty to Employ Uninhabited Aerial Vehicles' Journal of Military Ethics, Vol. 9, No. 4 (2010) p. 342-368; Sharkey, Noel, 'Saying 'No!' to Lethal Autonomous Targeting', Journal of Military Ethics, Vol. 9, No. 4 (2010) p. 369-383.

[6] 'Sensor operators' are responsible for operating surveillance and weapon systems on remotely piloted aircraft systems such as the Reaper.

[7] King, Anthony, 'The Ethos of the Royal Marines: The Precise Application of Will', Independent report commissioned by the Commandant, Commando Training Centre, Royal Marines, Lympstone, July 2004, p. 2, located at **https://eric.exeter.ac.uk/repository/handle/10036/58653**, accessed 10 October 2011.

[8] *Ethos, Core Values and Standards of the RAF, Air Publication* 1, TGDA Media Services, Crown Copyright.

[9] Deakin, Stephen, 'British Military Ethos and Christianity', *British Army Review*, No 138, (Winter 2005) p. 98.

[10] King, 2004, p. 2.

[11] Foucault, *Michel, The Courage of Truth: The Government of Self and Others*, Edited by Frédéric Gros, Trans. Graham Burchell (London and New York: Palgrave Macmillan, 2011) p. 65.

[12] The Guardian, 5 July 2011.

[13] Id.

[14] Aljazeera, 6 July 2011, located at **http://english.aljazeera.net/news/asia/2011/07/2011761314932518.html**, accessed 6 October 2011.

[15] Robinson, Paul, *Military Honour and the Conduct of War* (Oxford: Routledge, 2006) p. 155.

[16] Molter, Bennett A., *Knights of the Air*, New York and London: D. Appleton and Company, 1918) p. 121 cited in Robinson, 2006, p. 155.

[17] Harris, John Norman, *Knights of the Air* (London: Macmillan, 1958) p. 12.

[18] James T. B. McCudden, *Flying Fury* (Newbury: Casemate, 2009) p. 253.

[19] Id.

[20] Ibid., p. 282.

[21] Ibid., p. 270.

[22] *The London Gazette*, 18 July 1919, p. 9136.

[23] *The Times*, 3 April 1918, p. 9.

[24] *The London Gazette* (Seventh Supplement), 5 November 1918, p. 13190.

[25] *The London Gazette* (Second Supplement), 30 November 1918, p. 14203.

[26] Denis Winter, *The First of the Few* (London: Allen Lane, 1982) p. 132.

[27] Ibid., p. 133.

[28] *The Times*, 1 April 1918, p. 8.

[29] Id.

[30] *The London Gazette*, 15 November 1940, p. 6569.

[31] Geoffrey Wellum, 22 September 11, Interview with John Sergeant in 'The Spitfire: Britain's

Flying Past', BBC2.
[32] Bishop, Patrick, *Fighter Boys: The Battle of Britain*, 1940 (New York and London: Viking, 2003) p. 398.
[33] Churchill, Winston, 15 September 1940, quoted in Hart, Liddell, *History of the Second World War* (London: Pan Books Ltd, 1970) p. 107.
[34] *The London Gazette*, 5 September 1944, p. 4175.
[35] *The London Gazette* (Fourth Supplement), 26 October 1945, p. 5233.
[36] Wells, Mark, K., *Courage and Air Warfare: The Allied Aircrew Experience in the Second World War* (London and Oregon: Frank Cass & Co Ltd, 2000) p. 132.
[37] *The Sun*, 24 March 2011, p. 1, located at **http://www.thesun.co.uk/sol/homepage/news/3487789/RAF-jets-launch-raids-in-Libya.html**, accessed 28 September 2011.
[38] *The Guardian*, 5 July 2011, p. 1, referring to an incident on 25 March 11, located at **http://www.guardian.co.uk/uk/2011/jul/05/afghanistan-raf-drone-civilian-deaths**, accessed 28 September 2011.
[39] *The Sun*, 24 March 2011, p. 1.
[40] Singer, Peter, W., *Wired for War* (New York: Penguin, 2009) p. 332.
[41] Id.
[42] Olsthoorn, Peter, *Military Ethics and Virtues: An interdisciplinary approach for the 21st century* (New York: Routledge, 2011) p. 126.
[43] See the following examples from a large and growing body of literature: Barnes, M.J. and Matz, M.F. (1998) 'Crew Simulations for Unmanned Aerial Vehicle (UAV) Applications: Sustained Effects, Shift Factors, Interface Issues, and Crew Size', *Proceedings of the Human Factors and Ergonomics Society 42nd Annual Meeting*, p. 143-147; McCarley, J. S. and Wickens, C. D. (2004) 'Human factors concerns in UAV flight', located at http://www.hf.faa.gov/docs/508/docs/uavFY04Planrpt.pdf, accessed 14 October 2011; Trimble, Stephen, 'Flying Predators Bad For Pilot's Health', The DEW Line: 'Distant Early Warning' for the Defense Industry, 15 April 2008, located at **http://www.flightglobal.com**, accessed 14 October 2011; Tvaryanas, A. P., 'Human systems integration in remotely piloted aircraft operations', *Aviation, Space, and Environmental Medicine*, Vol. 77, No. 12 (2006) p. 1278-1282.
[44] Op cit., p. 5.
[45] In accordance with the assurance of anonymity that I gave to those who assisted me with my research, the quote will remain unattributed. The individual is currently serving on operations at Creech Air Force Base, Nevada.