The impact of ethical issue of silent Kingdoms to Defence/warfare

Introduction

The application of technology within the daily operation of Defence is pervasive. This essay will explore the contemporary ethical issues that have evolved from nature, technology and modern society. The implication to Defence application is impacted by these three "kingdoms". The rapid development of technology and its insidious impacts has been silently perceived and questions in dealing with the ramifications of this can only be considered after the fact. Within this framework, the nature kingdom focuses on the ethical issue of pollution from both Defence and private sector. The technology kingdom is derived by the ethical considerations of implementing autonomous systems, Strong Artificial Intelligence (SAI) robotic systems and space technology. The human kingdom is considered within the discourse of applying perceptions of ethics to notions of free speech (citizens) vis-a-vis national security.

Reference to these silent kingdoms is illustrative and will be used as conceptual frameworks to discuss broader ideas. It is not feasible to address each kingdom in detail as the number of considerations within a Defence-oriented context would be overwhelming. It would also be problematic to focus on the study of one kingdom over the others, as each are interdependent and an omission of one would diminish the purpose of the discussion. This paper is presented to address the consequences of Defence neglecting to consider the message from each silent kingdom before it becomes too loud and too late.

Nature Kingdom

Climate change is a confirmed threat to society caused mainly by human activity[1]. The air we breathe, the water we drink and the environment we live in are all jeopardised by increasing levels of pollution. Global temperatures are measurably warmer when compared to the previous century, and this includes rising ocean sea temperatures. Greenland and Antarctica lost over 4 billion tons of ice water per year over the last two decades[2]. The rise of sea levels, the shrinking of glaciers, declining Arctic sea ice and recent extreme weather events demonstrate the consequences of climate change. As the causes and effects of global warming can only be determined over a long period of time, attention to the problem is only given by society and governments after its impact on the environment begins to have significant social and economic consequences. Technology is designed to overcome the challenges. Disregard for environmental catastrophes in favour of retaining short term benefits features heavily in the industrialised world. This attitude is not confined to climate change. For example, the long-lasting impact on the environment from the use of Agent Orange by the United States during the Vietnam War establishes that ethical parameters for achieving a military objective by Defence planners may supersede environmental consequences. The environment damage caused by Agent Orange, was estimated to be in the

[1] Climate Change: How Do We Know?

[2] Climate Change: How Do We Know?

millions dollars[3]. Hundreds of people exposed to the chemical developed cancer while millions of others became ill and suffered genetic damage[4].

More recently, the potential Per- and poly-fluoroalkyl (PFAS) contamination from Defence establishments was detected by the NSW government[5]. PFAS is a chemical substance and applied in household products and fire-fighting foam. A subsequent Defence report also found that foams had leached into a water aquifer in 2016. The incident caused "economic loss[6]" and has prompted anger and upset amongst local residents[7]. PFAS does not break down once released to the environment, can travel long distance to contaminate the water and air. It toxic animal and has adverse health effect on human life[8].

Climate change poses a significant threat to the world's agricultural systems and negatively impacts the capacity of producers to grow food for a growing global population. Famine has occurred throughout human history and persists in the modern day for a number of reasons. Malthusian trap theory indicates that food per capita is limited due to scarcity of resources. Hence, the economy is "trapped" at the equilibrium level of subsistence[9]. Despite the crisis faced by whole populations facing starvation, some private sector organisations see this as great opportunity and focus on technology research and development. Genetic Modified (GM) food was developed to help the world's poor[10], and to relieve the world of hunger and malnutrition (Daniel Charles, 2001). The Recombinant Bovine Growth Hormone (rBGH) milk and GM food are examples of technology developed to improve some aspect of life. The parent company of the manufacturer of these goods publicly declared that all of its products were safe to use. However, all of these products brought nothing but negative effects for those for whom it was intended.

Studies have shown that consumption of GM foods grown in areas treated by Roundup leads to damaged internal organs, infertility, immune system failure, allergies, toxins, new diseases and nutritional problems. In lab testing, rats developed a number of side effects with days of eating GM foods. These included development of pre-cancerous cell growth, smaller brains, livers and testicles, partial atrophy of the liver and damaged immune system[11]. Hunger put the ethic of private sector into challenge. The issue of hunger was just an excuse for the commercial opportunities to get rid of the unwanted GM food. In 2002, Zambia was suffering from food shortages… but the country's president condemned GM food as "poisonous"

[3] Profit without honor: white-collar crime and the looting of America

[4] Agent Orange case for millions of Vietnamese is dismissed

[5] New PFAS sampling results released for Commonwealth sites in NSW

[6] Katherine residents say Defence was negligent, caused economic loss with PFAS contamination

[7] PFAS chemicals at 'exceedingly high' levels in some Katherine residents, doctor says

[8] Australian Health Protection Principal Committee - Per- and poly-fluoroalkyl substances (PFAS) FactSheet

[9] A Model on the Escape from the Malthusian Trap. *Journal of population economics*

[10] The corporate shaping of GM crops as a technology for the poor

[11] video Seeds of Death: Unveiling the Lies of GMO's

food[12][13]. The food aid to Zambia became a commercial opportunity after it was discovered that some food aid coming from the US had been genetically modified Maathai[14] suggested that the Western technology can help but should be used to assist, and not to destroy… and the power and corruption embedded in the economic system have contributed to that problem[15]. "Humanitarian" was used to justify its action.

The objective of Defence is to defend its country and eliminate enemy but should the achievement of the objective be placed ahead of ethical consideration? Private sector are become part of large workforce, money. The main corporate objective is to maximise shareholders' wealth[16], In other words, money comes first[17]!. Questions of ethics to a big corporation are disregarded in favour of their true profit-oriented objectives. In other words, whatever can be done to achieve their interests can be justified if it suits the business needs. It is too easy to lose sight of the technological impacts on customers or on the broader community when money is the first priority. Private contractors are large part of defence workforce. It is defence responsibility to ensure ethical conduct is also part of the assessment during the tender evaluation.

Technology Kingdom

Technology forms a crucial component of Defence and the country's military capability and effectiveness. Technological advancement has developed rapidly over recent decades with many breakthroughs emerging as a result of research into military and defence applications. For example, unmanned system applications are considered to be critical in ensuring success on the battlefield. It is expected that continuing improved and upgraded technology within Defence forces will enhance soldiers' performance, reduce physical and cognitive loads, protect the force and increase efficiency[18]. Strong Artificial Intelligence (SAI) Robotic System[19] may still sound like science fiction, but the intense development of high-end technology among Australian forces and their allies will eventually close the gap at an unpredictable rate. Although outer space Defence systems are not yet as well established as unmanned systems and SAI, it undoubtedly has become one of the hottest areas of research among nations and will inevitably become a vital part of future warfare strategic means.

Unmanned systems are one of the required capabilities for the Australian Defence Force (ADF) and has been well utilised[20] since it was announced in the Defence White Paper in 2016. Whether the MQ-4C Triton or MQ-9 Reaper is used to carry out surveillance or attack missions

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[12] CRIME, BIO-AGRICULTURE AND THE EXPLOITATION OF HUNGER", *The British Journal of Criminology*

[13] Genetic engineering in agriculture and corporate engineering in public debate: risk, public relations, and public debate over genetically modified crops

[14] Let nature's harvest continue African counter-statement to Monsanto

[15] video Seeds of Death: Unveiling the Lies of GMOs

[16] Introduction to Corporate Finance

[17] Culture and life: Trump and Monsanto - both are bad for you

[18] Army Robotic & Autonomous System Strategy

[19] The ethical issue of the use of Unmanned Systems and Strong Artificial Intelligent robotic systems in warfare

[20] Army Robotic & Autonomous System Strategy

from the sky above, or with unmanned ground vehicles carrying out manual handling and causality evacuations task[21] on the ground, ethical operation and moral considerations need to be incorporated and integrated within operational processes. External and internal trust is important in the chain of ethical operations. The external trust is established between the manufacturer and Defence client. Some suggest that elements of code-oriented morality can be incorporated into… lethal strike drones.[22]

Morality and ethics are based on individuals' beliefs, religion, education, background and worldview, and naturally this varies greatly among individuals and nations. It implies that what is considered to be right for one part of the world may not be considered appropriate in another. Disagreement amongst scientists, computer programmers, policy makers and politicians is common. Consistent and aligned agreement among all the participants is essential from the beginning. The internal trust is between the operator and the commander. It is crucial that the operator can trust the commander, and that both personnel can be held accountable and responsible for their performance while delivering a task. In Australia, One Defence Leadership Behaviours assist to build trustworthy leadership and encourage trust culture to develop.

The SAI robotic system is a system where a machine possesses the ability to operate autonomously and undertake decision making based on accumulated learning and knowledge. The existence of SAI frequently appears in science fiction movies and is a desired capability in the Defence Force. In reality, the 'Blind' Cheetah at MIT[23], the robot Jellyfish developed by Harvard University for marine study [24] and a humanoid robot progressed by Boston Dynamics[25] indicate the steps being made to realise this "electric dream".. In contrast, SAI is a far more advanced system when compared to current unmanned and robotic systems. The fast quantum computing processor, infinite memory capacity and human cognitive capability may make this technology become a perfect danger to the human race. If a machine that is trillions of times smarter than its creator, would it continue to obey and to serve in the way for which it was initially designed? This question has prompted substantial attention and consideration be given to on ethical conduct, control planning and risk assessment before the development and implementation of this technology is fully realised.

Since the first artificial satellite was launched into Earth orbit in 1957, a whole new frontier of scientific research has opened providing the opportunity for nations to carry out all kinds of technological endeavours. Science research, vital communication supporting systems, and a new and expanded environment for Defence systems to operate, has spurred international governments' political and strategic interests. The United Nations Outer Space Treaty (1967) was established to stipulate the basic framework and requirement for the exploration of outer space. The initiative of this treaty is based on humanity, cooperation, and building a strengthened friendly relationship through research and discovery of space between nation-

[21] Australian Army to acquire more unmanned ground vehicles
[22] Automation Autonomy, and Ethical Decision-making
[23] No Vision, No Problem for This 'Blind' Cheetah Robot
[24] This Robot Just Wants To Hug A Jellyfish Without Committing Jelly murder
[25] Humanoid Robot Atlas Can Now Do Parkour and That's Not at All Terrifying

states[26]. It does not support the utilisation of space for military purposes "The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden"[27]. Australia also established a Space Activities Act 1998 to address its own outer space obligations based on this treaty[28]. The Act also agrees with the principle of non-military engagement. The distinctive characteristic and geographic location of outer space play a vital role. The distinctive characteristic of space not being bounded by geographic territory plays a vital role for all nations. As a result, defence forces may not have principal responsibility to protect and defend it, but have an ethical obligation to be a responsible peacekeeper.

The ethical decision underlying high-end and powerful technology therefore require quality discussion and better understanding. The accountability and responsibility of developer, commander and operator of the unmanned system require defined documentation. The ethical mindset of developing lethal high-end weapons such as SAI need to be carefully considered prior to their creation. Outer space is another brand-new frontier, which is so "alien" but at the same time so closely related to Defence's primary role in ensuring the security of national interests. The underdeveloped ethical framework of outer space requires close attention for the oncoming pressures from alliances as well as foreign countries.

Human Kingdom

The recent cases of leak of highly classified national information by Edward Snowden[29] and Julian Assange has challenged the idea of where the boundaries lie between notions of freedom of speech and the degree of protected, classified and secret information can be disclosed or withheld by governments. The idea that information can be used to hold governments accountable was fundamental to the establishment of Wikileaks, the website set up by Assange in 2006[30]. This provided a framework by which whistleblowers could conceivably provide information to ensure their respective organisations held true to their purpose and mission, and to allow the greater public to be aware of any alleged wrongdoing.

The range of information collected for dissemination included 'evidence' relating to war crimes, human rights abuses and corruption. Although he has maintained Wikileaks was established to provide a public service, Assange was recently arrested in London and is now facing US federal conspiracy charges. Similarly, an American contractor to the Central Intelligence Agency, Edward Snowden, is now seeking asylum in Russia because he leaked highly classified information in the belief that the public's right to know transcended the government's need for secrecy for national security purposes.

As a democratic nation, Australia's government is ultimately answerable to the people who elect them into office. The principles of democracy assumes that at least a majority of people

[26] United Nations Treaties and principles on outers space
[27] United Nations Treaties and principles on outers space
[28] Space Activities Act 1998
[29] NHS cyber attack: Edward Snowden says NSA should have prevented cyber attack
[30] Q&A: Julian Assange and the law

who participate in the electoral process would have faith that their representatives in government would act in their interests - at both local and national levels. Hence, the decisions made by government is in the interest of the majority of the nation. Furthermore, the constitution provides a framework for opposition parties to monitor and critique the effectiveness of those in power, thereby discouraging complacency by incumbent governments. Thus, it is a feature of democracy that people do have concern about the conduct of their elected governments as corrupt activity can occur at any time. Transparency and accountability are important to the reputation of any government or organization. As the public learn the truth, public confidence in government increases and allows a deeper trust to build.

While it is normal in our democratic society to constantly question the government, we should not assume to blindly accept those who seek to uncover governments' hidden "agenda". If we cannot trust the current government, does that make a person that we've never met more trustworthy? What apparatus exists to establish that Assange's decision to expose corrupt undertakings by the elites is correct and not simply a biased preference? What credibility can he provide to ensure that himself has no personal conflict of interest in relation to any given information? Classified information has a reason to exist. Some information is easy to determine and understand, but other information is far more complex than it appears. Governments may have numerous means to provide context to the information they retain, whereas external viewers may only view this in relation to their priorities and agenda. Given this, if Assange does not have the capability to determine all aspects of the issue, without detailed analysis and investigation, the mass leaking of classified and secret information that is not in the public interest cannot be considered appropriate conduct. The reader would be unable to determine the veracity of the information within its original context given their relative distance from it.

There is a reason the government classifies information. Information that is classified might provide a trigger and tag to other sensitive data. Without knowing all aspects of the issue, the mass leaking of one side of information might cause harm to innocent persons. Another big issue triggered from the leaking cases is the acquirement of power when critical information is provided to those who have had no involvement in its collection. Justification, truth and transparency are important when the activities are funded by public money. However, no matter if it's Julian Assange, Edward Snowden or John Bloke, when a vast repository of valuable information and deep secret are handed over, it gives a greater amount of power to the individual who holds and controls the information.

Leak of highly classified and secret information is not the only channel that could damage national security. The recent terrorist attacks at two Christchurch mosques by an Australian killed 69 people[31]. The first 17 minutes of this attack were live-streamed on Facebook Live. The subsequent action of the attack caused a deep concern of information distribution via public social media. Some argue that that the public should know the truth. However, others argue that violent and criminal action should not be promoted to public, as this may prompt others to carry out similar actions, worsen the existing situation, escalate current tensions

[31] New Zealand shooting: More than 200 users watched live stream video of Christchurch mosque attacks, but nobody reported it, says Facebook

and threaten social stability. The immediate availability of any information to the public via social media such as Facebook, Instagram and Twitter has made it so much easier for information to be accessed and distributed.

Defence holds protected, classified as well as top secrets of the country. It is important to protect this information, as well as the person who put the information forward. When a person has access to a privilege, it can be a challenging decision for them to determine the most ethical path when the evidence deviates from their own personal value and belief system. Therefore it is important for Defence to build a trusted environment should things go wrong. A protect and clear process/channel and a trustworthy group can be easily and safely accessed. Training and promotion of the importance of protecting information.

Conclusion

in conclusion, the contemporary ethical issue of nature, technology and human discussed from above are equally significant to Defence. The consequences of climate change such as pollution and hunger are shared responsibility between the public (Defence) and private sectors. Defence should work towards being a leader in responding to environmental issues, and not the cause of them. Money oriented private sector is motivated to carry out research and development in technology by profit maximization. Defence should pay attention to the ethical quality of the contractors as long term workforce strategy.

Technology also plays a vital role in strengthening the capability of the Defence force. The internal and external trust are essential while operating unmanned systems. The trust relationship can be helped by One Defence leadership behaviour. It also requires a consistent ethical and moral value among manufacturers, computer coders, policy makers and politicians when building the machines. However, ethical consistency may be still be difficult to establish and maintain as moral conduct and value systems are subject to any number of variables.

Technology play a huge part in the modern human world and its profound ethical implication to Defence is enormous. Freedom of speech and national security do not work against each other. In fact, it is in government's interests to maintain a transparent and accountable reputation. However, the mass release of national security information without further assessment and investigation does not necessarily advantage the recipient but may significantly harm those involved in its collection. Another issue the need to be considered from this discussion is the empowerment of an individual. overall, it is in Defence's interest to take consideration of ethical issues from the three influential kingdoms based on the fast growth of the technological environment. They are equally important and require appropriate attention and strategy.

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