

The Culture of Command:

**Legal and Moral Standards of Command in the Navy
and Responsibility for Machine Decision-Making**

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Abstract

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This paper argues that the current system of legal liability, administrative consequences, and policy measures has resulted in an imperfect but flexible framework that can justly and adequately integrate autonomous systems. Using the lens of the 2017 USS FITZGERALD collision and the debate that followed provide a framework to examine both the legal and ethical bases of the responsibility of command. After examining the limits of attempts to impose responsibility through the legal systems, the need for a more flexible system drawing on society's values to help determine the just limits of responsibility becomes clear and demonstrates how to the current system of hard and soft coercion can shape the decisions and responsibility of commanders. This paper will seek to apply current legal and ethical principles to autonomous technology and demonstrate that the current system is sufficient to not only meet the requirements for responsibility for the

use of force, but also that the existing limits on the “absolute” nature of command responsibility will allow those principles to be applied justly.

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Above and beyond all these variables was the human variable, the greatest variable of all. Men's hands turned the wheels, men's eyes watched the gauges, men's skill kept the compass needles steady on the cards. All kinds of men, of slow reactions and of fast, cautious men and reckless men, men of vast experience and men of almost none; and the differences between the men were of more importance than the differences between the ships; the latter differences might bring about disaster in twenty minutes, but the human variable – a careless order or misheard order, a wheel turned the wrong way or a calculation brought to the wrong conclusion – could bring disaster in twenty seconds.... – The Good Sheperd, C. S. Forester¹

In 2026 a Navy Commanding Officer is on trial for a decision everyone agrees she did not make, a mistake all her orders sought to avoid. An autonomous decision-making machine misidentified an oncoming vessel, misinterpreted its actions, and chose not to alert the Commanding Officer to verify the decision to maintain the ship's course, resulting in a collision and the death of several crewmembers for which the Commanding Officer now stands trial.

While this may seem Kafkaesque, it reflects a reasonable and foreseeable extension of the longstanding policy of responsibility of command in the Navy, along with recent events in the fleet.² In the early morning hours of June 17, 2017, as the USS FITZGERALD (DDG 62) transited through shipping lanes near Japan, it approached three vessels.³ According to the International Regulation for the Prevention of Collisions at Sea (COLREGS), the FITZGERALD was in a crossing situation, which obliged the FITZGERALD to maneuver to stay clear of each of the three vessels.⁴ The Commanding Officer and Executive Officer had retired for the evening, leaving the Officer of the Deck and the Junior Officer of the Deck in charge of the safe

¹ C.S. Forester, *The Good Shepherd* (Annapolis, Md: Naval Institutes Press, 1989:), 6.

² For this paper, the term "responsibility of command" will be used to discuss the Navy policy of holding Commanding Officer's responsible for the decisions of subordinate, which is distinct from the international law concept of "command responsibility," explored later.

³ Department of Defense. Office of the Chief of Naval Operations. *Report on the Collision between USS Fitzgerald (DDG 62) and Motor Vessel ACX Crystal; Report on the Collision between USS John S. McCain (DDG 56) and Motor Vessel Alnic MC*. Washington, DC: Department of the Navy, Office of the Chief of Naval Operations, 2017, <https://purl.fdlp.gov/GPO/gpo86262>.

⁴ "Report on the Collision," 6.

navigation of the ship.⁵ The two officers discussed maneuvering obligations and decided not to change course in relation to one of the vessels, the ACX CRYSTAL, in part due to a misidentification of the ship. The officers realized the danger to FITZGERALD approximately one minute before the two ships collided, resulting in the death of seven US Sailors.⁶ The investigation found that the Officer of the Deck “exhibited poor seamanship by failing to maneuver as required, failing to sound the danger signal, and failing to attempt to contact CRYSTAL on Bridge to Bridge radio.”⁷ Moreover, “the Officer of the Deck did not call the Commanding Officer as appropriate and prescribed by Navy procedures to allow him to exercise more senior oversight and judgment of the situation.”⁸ In essence, the officer chose to break the rules. Despite this, the Commanding Officer was relieved and court-martialed for the results of decisions made by his subordinates.⁹ The Navy eventually dismissed all of the charges for issues not related to their substance, but the Navy’s decision to hold the Commanding Officer responsible has been debated in the community. This debate has raised important questions about who should be responsible when specific decisions and even defiance lead to deadly mistakes and the just limits of subordinate responsibility.¹⁰

⁵ “Report on the Collision,” 6.

⁶ “Report on the Collision,” 6.

⁷ “Report on the Collision,” 7. The bridge-to-bridge communication, ironically, is neither required nor considered an acceptable means of communicating maneuvering intentions under the International Rules. Rule 34(h) is found only in the inland rules. International Regulations for Preventing Collisions at Sea - International Regulations for preventing Collisions at Sea, 91 Stat. 308 (1977).

⁸ “Report on the Collision,” 7.

⁹ See, Dianna Cahn, “2 USS Fitzgerald Officers Face Courts-martial In Wake of Fatal Collision A Year Ago,” *Stars and Stripes*, June 19, 2018, <https://www.stripes.com/news/2-uss-fitzgerald-officers-face-courts-martial-in-wake-of-fatal-collision-a-year-ago-1.533681>

¹⁰ See, for example, Bryan McGrath, “The Fitzgerald Collision: In Search of the Onus,” *War on the Rocks*, February 2, 2019, <https://warontherocks.com/2019/02/the-fitzgerald-collision-in-search-of-the-onus/>; and Dianna Cahn, “Fitzgerald, McCain Collisions: Are the Right People Being Held to Account?,” *Stars and Stripes*, July 15, 2018. <https://www.stripes.com/news/special-reports/featured/fitzgerald-mccain-collisions-are-the-right-people-being-held-to-account-1.537879>.

Similar questions about who should be held accountable for errors will become more pressing as the military adopts autonomous technology and allows delegation of critical decisions, along with the potential for mistakes, to machines. However, the integration of autonomous machines, even autonomous learning machines, should not change the responsibilities of command in the Navy. The Navy's culture of command is one of absolute responsibility, but re-imagine the FITZGERALD scenario: the Commanding Officer, authorized by regulation, left an automated driving system engaged before leaving the bridge. The system, programmed to assess and determine maneuvering requirements in accordance with the COLREGS, misidentified the CRYSTAL and decided not to change course. Some may argue that holding the Commanding Officer responsible in this instance seems less just, as it was a machine that made the mistake. Critics could argue that the responsibility for the decisions of subordinates derives, in part, from the Commanding Officer's influence on the exercise of how Sailors exercise their autonomy training, professional environment, and trust, things the Commanding Officer may have almost no control over in the case of the autonomous technology driving the ship.

The human element is less predictable than the technological one in many respects. No human is truly autonomous, especially in a military culture built on following rules and the chain of command. However, a human is subject to moods, differing values, distraction, varying levels of expertise, and often provides inconsistent results in following a rule set, while technology will consistently respond as programmed. No machine will be truly autonomous, and even a learning technology will incorporate the human factors through programmed parameters from which it is not permitted to deviate. The human qualities that allow people to respond independently add a level of risk that can be programmed out of a machine, or at a minimum make the risks more

predictable. If we hold Commanding Officers responsible for the unpredictable Officer of the Deck who makes a mistake or choice to disobey the rules, why should we reduce a Commander's legal liability and moral responsibility for a system that is predictably programmed? While the integration of autonomous decision-making systems may lead to questions about the justness of holding a Commander responsible for actions taken by machines, it should not change the responsibility of command as practiced in the Navy.

Reaching this conclusion requires an understanding of the Navy culture of command and its roots in both legal and moral responsibility. The FITZGERALD collision and the ensuing debate provide a framework to examine both the legal and moral bases of the responsibility of command, and this paper will seek to apply those principles to autonomous technology. The first section will discuss the history of the responsibility of command in the Navy and the legal and ethical challenges of autonomous technologies, particularly when they are allowed to make decisions related to the use of lethal force. The second will discuss the history of the development of codes to define the responsibility of commanders for their subordinates and the impact of the principles of justice in limiting how they are applied to meet the values of society. The final section will argue why we should hold military commanders responsible for the decision of machines as a continuation not only of tradition and legal standards, but also to uphold the moral foundations that justify the lawful use of lethal force and the responsibilities of command. Applying the lessons of history, what emerges is the importance of social values in shaping the just application of responsibility for decision in the military. While debates over the morality of machines may continue, the current responsibility of command framework provides an effective place to begin when defining the legal and ethical responsibilities of integrating autonomous systems.

I. The Problem with Machines and Their Human Analogs

If responsibility cannot be assigned to a machine, then it is likely to be assigned to the operator of an autonomous weapon. Hence it is tempting to invoke the principle of command responsibility to reject the argument that autonomous weapons create responsibility gaps. But this is mistaken... [command responsibility] governs relationships between, and interactions with, humans. It does not, by definition, apply to interactions between operators and autonomous machines. Autonomous machines, sophisticated as they may be, are not analogous to soldiers... They are not part of the legally and morally relevant relationships of authority and obedience that form part of the chain of command.¹¹

While machine decision-making may lead to questions about responsibility, the traditions of command in the Navy support holding Commanding Officers responsible for the decisions of machines. Machines behaving like humans capture the imagination. In war, machine autonomy is driven less by a societal imperative than by the appeal of the machines as warriors. Machines risk fewer lives and can be less costly and have fewer logistical concerns than their human counterparts, who are expensive to maintain, sustain, and keep alive.¹² Moreover, in a world where information is moving and amassing at an exponentially faster rate, autonomous systems can process and assess information at rates that far exceed human capacity. Machines are so appealing that Congress mandated in 2000 that by the year 2015, one-third of all military aircraft and ground vehicles be unmanned, which, while different than autonomous machines, highlights their popular fascination and policy impact.¹³ As a result of their potential advantages, and particularly the ability to process and assess information more quickly than humans, machines

¹¹ Alex Leveringhaus, *Ethics and Autonomous Weapons* (London: Palgrave Macmillan, 2017), 77.

¹² As one member of Joint Forces Command explained, "They don't get hungry. They're not afraid. They don't forget their orders. They don't care if the guy next to them has just been shot. Will they do a better job than humans? Yes." Tim Weiner, "New Model Army Soldier Rolls Closer to Battle," *New York Times*, February 16, 2005, <https://archive.nytimes.com/www.nytimes.com/learning/students/pop/articles/weiner2.html>.

¹³ Nathan Reiting, "Algorithmic Choice and Superior Responsibility: Closing the Gap Between Liability and Lethal Autonomy By Defining the Line Between Actors and Tools," 51 *Gonz. L. Rev.* 79, (2015): 88. The US did not meet this goal.

are likely to be given more autonomy, possibly including the authority to make potentially lethal decisions.

The theories of responsibility of command, particularly responsibility for the decisions of subordinates, can apply to machines.¹⁴ The responsibilities of command arise from the legal and moral restraints necessary when authorizing otherwise unlawful uses of lethal force for the good of society. Michael Smidt captured the interplay of these forces when describing the importance of command:

The military is a unique society where the commander has tremendous authority over subordinates not normally extended to superiors in the civilian sector. Coupled with this significant lawful control over the troops is the commander's stewardship over a unit's tremendously awesome destructive capabilities. Mankind must, therefore, rely on commanders to use their authority to control both a military force's organic capacity for destruction and the conduct of their subordinates. Commanders have both a moral and legal role in preventing atrocities that could potentially be committed by subordinates against non-combatants, as well as the destruction of civilian property lacking in military value.¹⁵

Smidt raises two critical points that guide a discussion of the responsibility of command. The first is that commanders have both a moral and legal responsibility for even delegated decisions. The second is that while some codes, such as the rules of engagement, capture organizational standards, the limits of responsibility cannot be fully reduced to writing, giving rise to questions about how to deter unwanted behavior that will be complicated by the introduction of machine decision-making. The rules are a deterrent for the commander and create a duty of stewardship to set the rules for their command and to train, monitor, and punish behavior that does not

¹⁴ This paper works from the assumption that autonomous systems deployment in the military will happen, and that it will happen in accordance with the Law of Armed Conflict. There are many articles on how these machines can comply with both the Law of Armed Conflict and International Humanitarian Law, but for purposes of this discussion, we will assume that any deployed weapon would be compliant with these principles.

¹⁵ Michael L. Smidt, "Yamashita, Medina, and Beyond: Command Responsibility in Contemporary Military Operations," *Military Law Review* 164, (June 2000): 166.

comport with the duties and often-unwritten values of the organization.¹⁶ While it is unclear how commanders will meet the duty of stewardship when it comes to machines, they can be held responsible for how they control the capacity of machines for destruction. Responsibility will promote limits on the exercise of autonomy and deter the use of machines where the outcomes are uncertain.

Autonomy, whether vested in systems or people, carries risk for which society attempts to regulate and assign responsibility. For example, humans can choose between a nearly infinite number of actions, including the wrong acts, to be selfish or to harm others unjustly. This is C.S. Forester's "human variable" alluded to in the opening quotation. As the FITZGERALD shows, even a Sailor who is subject to the oversight of a commander retains a great deal of discretion in making choices, including those that break the rules.¹⁷ The military attempts to limit the degree of discretion given to individual actors. A military that gives full autonomy to its members would fail to be a military at all.¹⁸ The Fourth Geneva Convention itself embodies this idea in Article 4, requiring all lawful combatants to be "commanded by a person responsible for his subordinates."¹⁹ The law attempts to assign responsibility even for mistakes, making a commander responsible when a unit goes awry under the stress of combat. This fundamental idea provides a basic understanding of why the Navy held the FITZGERALD Commanding Officer responsible for the decisions of the Officer of the Deck. There will always be people who break the rules, and mistakes will happen because humans are susceptible to poor judgment, stress-

¹⁶ Peter Margulies, "Making Autonomous Weapons Accountable: Command Responsibility for Computer-Guided Lethal Force in Armed Conflicts," in *Research Handbook on Remote Warfare*, ed. Jens David Ohlin (Cheltenham, UK: Edward Elgar Publishing Limited, 2017), 414.

¹⁷ Leveringhaus, *Ethics and Autonomous Weapons*, 47

¹⁸ Leveringhaus, 47.

¹⁹ International Committee of the Red Cross (ICRC), Geneva Convention Relative to the Protection of Civilian Persons in Time of War (Fourth Geneva Convention), 12 August 1949, 75 UNTS 287, accessed on June 3, 2019. <https://www.refworld.org/docid/3ae6b36d2.html>.

induced mistakes, and miscalculation.²⁰ The international law approach to this problem provides an initial understanding of how society has attempted to regulate human behavior, which can then be applied to decisions delegated to machines.

A. The History of Command Responsibility in International Law

“Command is a mountaintop. The air breathed there is different, and the perspectives seen there are different, from those of the valley of obedience. The passion for order and the genius for construction, which are part of man's natural endowment, get full play there. The man who has grown great sees from the top of his tower what he can make, if he so wills, of the swarming masses below him.”²¹

The idea of a commander being responsible for subordinates is longstanding, going back at least to 500 B.C.E. and the writings of Sun Tzu. The history of military codes regulating commanders and assigning responsibility for subordinates demonstrates the value society places on implementing controls.²² Hugo Grotius wrote that a “community, or its rulers may be held responsible for the crime of a subject if they knew it and did not prevent it when they could and should prevent it.”²³ As early as 1775, portions of the US adopted laws making commanders

²⁰ Leveringhaus, *Ethics and Autonomous Weapons*, 64.

²¹ Bertrand De Jouvenel, *On Power: The Natural History of Its Growth* (New York: Liberty Press, 2010), 118.

²² As written code came into fashion, the 1439 Ordinance of Orleans provided that officers could be held responsible for the abuses, harms, and offenses committed by subordinates. Theon Meron, Theodor, 1930. *Henry's Wars and Shakespeare's Laws: Perspectives on the Law of War in the Later Middle Ages*. Oxford [England]; (New York: Clarendon Press, 1993): 149. The first recorded subordinate responsibility trial was in the Holy Roman Empire in 1474 when a knight was convicted and hanged for failing in his duty as a commander to prevent crimes against “the laws of God and man” by his men. Michal Stryszak, “Command Responsibility: How Much Should a Commander Be Expected to Know?” *USAFA Journal of Legal Studies* 11, (2000/2001): 28. The Archduke of Austria brought Peter von Hagenbach to trial for crimes committed while executing a reign of terror on behalf of Charles of Burgundy, including murder, rape, perjury, and other crimes “against the laws of God and man.” He was convicted despite claiming that he was ordered to take these actions on the theory that he had a duty to prevent them as a knight and a commander. In 1621, Sweden issued the “Articles of Military Lawwes to be Observed in the Warres,” banning orders to do unlawful things. Stryszak, “Command Responsibility,” 28.

²³ Hugo Grotius, *De Jure Belli Ac Pacis Tres* 523 (L.I.E.P. Ed., Kelsey trans., 1925), cited in Stryszak, “Command Responsibility,” 28.

responsible for the actions of their subordinates.²⁴ Independent state lines of development coalesced in the early 20th century into the relatively narrow international law concept of command responsibility, defined as “the responsibility of military commanders for war crimes committed by subordinate members of their armed forces or other persons subject to their control.”²⁵ As noted above, the Fourth Geneva Convention of 1949 requires that a force be “commanded by a person responsible for his subordinates” to qualify as belligerents.²⁶ The Commission on Responsibility after World War I codified the theory of responsibility for abstention for things that the commander might be able to prevent, potentially expanding the scope of liability to a negligent failure to do something.²⁷ Moreover, the widespread Allied adoption of “omission theory” after World War I made commanders responsible for not only acts they ordered, but also those their subordinates took on their own and which they failed to prevent.²⁸ While these conceptions of liability entered the formal body of jurisprudence, few successful prosecutions resulted.

²⁴ Stryszak, “Command Responsibility,” 29. During the Civil War, the Union Government enacted the Lieber code, Article 71 of which provided for the punishment of any commander encouraging the intentional wounding of an already “wholly disable enemy” and led to the hanging of the Commandant of a Confederate prisoner of war camp. William H. Parks, “Command Responsibility for War Crimes,” *Military Law Review* 1 (1973): 6.

²⁵ Weston D. Burnett, “Command Responsibility and a Case Study of the Criminal Responsibility of Israeli Military Commanders for the Program at Shatila and Sabra,” *Military Law Review* 107, (1985): 76.

²⁶ Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, June 8, 1977, 1125 U.N.T.S. 3. Article 43 of the Annex to the Convention requires that the commander of an occupying force “shall take all measures in his power to restore, and ensure, as far as possible, public order and safety, while respecting, unless absolutely prevented, the laws in force in the country.” World War I changed this little during the war, but the Treaty of Versailles demanded a trial for Kaiser Wilhelm II, as the Commission on the Responsibility found he was “cognizant of and could at least have mitigated the barbarities committed during the course of the war. A word from them could have brought about a different method in the action of their subordinates...”. Stryszak, “Command Responsibility,” 33, quoting Commission on the Responsibility of the Authors of the War and On Enforcement of Penalties, Report, March 19, 1919, reprinted in *American Journal of International Law* 95 (1920). The Leipzig War Crimes Trials generally viewed as a failure, resulted.

²⁷ Stryszak, “Command Responsibility,” 33.

²⁸ Stryszak, 33. Initially, criminal liability was extended to commanders as a result of orders given that led to criminal acts perpetrated by others. After World War I the international community sought to make commanders responsible for acts of subordinate perpetrated by their own will, for actions they had not directly ordered, because of a duty to prevent such actions.

The trial of General Tomoyuki Yamashita brought the concept of command responsibility to the international stage, and its procedural history demonstrates the benefits and limitations of defining command responsibility through the law.²⁹ General Yamashita was in charge of the Philippines at the end of the Second World War and oversaw forces killing an estimated 35,000 civilians. The military commission trying General Yamashita found that “it is absurd...to consider a commander a murderer or rapist because one of his soldiers commits a murder or rape. Nevertheless, where a murder and rape and vicious, revengeful actions are widespread offenses and there is no effective attempt to by a commander to discover and control the criminal acts, such a commander may be held responsible, even criminally liable, for the lawless acts of his troops, depending upon their nature in the circumstances surrounding them.”³⁰ This strict liability standard held commanders responsible regardless of actual knowledge, a standard that met the climate of the trial after the war.³¹ As General Douglas MacArthur stated when affirming General Yamashita’s death sentence: “Humanity has a right to expect military commanders to do all they can to prevent atrocities by their soldiers.”³²

However, the US Supreme Court rejected the strict liability standard, as it has in all cases since. Instead, the court adopted an abstention theory, finding that General Yamashita “should have known” the actions of his troops and controlled them on the basis that he had “an affirmative duty to take such measures as were within his power and appropriate in the circumstances to protect prisoners of war in the civilian population.”³³ The standard of “should

²⁹ Stryszak, 36.

³⁰ United States of America v. Tomoyuki Yamashita, Military Commission, appointed by Paragraph 24, Special Orders 110, Headquarters United States Army Forces Western Pacific, 1 Oct. 1945, 34-35.

³¹ Stryszak, “Command Responsibility,” 69.

³² Order of General Douglas MacArthur Confirming Death Sentence of General Tomoyuki Yamashita, February 6, 1946, reprinted in Leon Friedman, *The Law of War, A Documentary History* (New York: Random House, 1972).

³³ *In re Yamashita*, 327 U.S. 1, 16 (1946).

have known” provides more flexibility and reflects US concepts of justice. While the majority affirmed a commander's obligation to control subordinates, later cases have softened the knowledge standard further in domestic courts in cases such as the trial of the commander of the units involved in the My Lai massacre, discussed later.³⁴

The development of international and domestic law and the narrow theory of command responsibility analyze what a commander knew or should have known about the actions of subordinates. However, history also shows little international consensus on what the legal standard for responsibility is or should be. The choice to apply a standard in a limited fashion is a reflection of the values of the society in which the court sits and the government of the state implementing policies as they deem just. However, the lack of consensus does not mean the various theories could not directly apply to machines. In simplified terms, under strict scrutiny, a commander may be held liable for the actions of an autonomous machine even if there was no knowledge of the action or potentially even if the action was not predictable. Under abstention, the commander would have a duty to understand the machine and take action to prevent the

³⁴ In re Yamashita, 327 U.S. at 16. By contrast, in the case of Wilhelm von Leeb at the Nuremberg trials, the court found that “Criminality does not attach to every individual in the chain of command...there must be a personal dereliction. That can occur only where the act is directly traceable to [the commander] or where his failure to properly supervise his subordinates constitutes criminal negligence on his part. Trial of Wilhelm von Leeb and Thirteen Others (German High Command Trial)(United States Military Tribunal, Nuremberg) (December 30, 1947-October 28, 1948): 76. http://www.worldcourts.com/imt/eng/decisions/1948.10.28_United_States_v_von_Leeb.pdf. While beyond the scope of this paper, the international standard has continued to develop. One example is international law since World War II supports holding commanders criminally liable for war crimes committed by their subordinates when their actions or inaction rise to the level of negligence or acquiescence. Smidt, “Yamashita, Medina, and Beyond,” 167. The Rome Statute of the International Criminal Court standard is “knew or, owing to the circumstances at the time, should have known” in cases involving acts of omission by a commander, taking into account the circumstances of the action. Rome Statute of the International Criminal Court, July 17, 1998, 2187 U.N.T.S. 3 (entered into force July 1, 2002). The standard applies to a person of “ordinary knowledge and sensibility,” which must be uniquely contextualized in the military case where a person may routinely receive lawful orders to do things that a person of ordinary knowledge and sensibility would perceive as wrong outside the military context. The Rome Statute promotes the principle of derivative imputed liability, or the causal link between the actor and process. In the case of commanders, liability derives from the relationship to subordinates and the act or omission committed by the subordinates. Under the approach of the Rome Statute, for command responsibility to create criminal liability a derivative relationship would need to be established.

machine from committing a crime. Finally, under omission theory, the commander would have to monitor and intervene to prevent crimes. The lack of a consensus on the applicable standard will limit its applicability and makes extending command responsibility to machines unlikely in the short term. As a result, national conceptions of justice will help to define criminal liability.

B. The Responsibility of Command in the United States

*“With responsibility goes authority and with them both goes accountability.”*³⁵

Having found the strict liability standard untenable, the US developed its own theories of responsibility of command, with each service incorporating concepts as part of doctrine, which are arguably more expansive than the international law theory of command responsibility.³⁶ The Navy Charge of Command, a document given upon assumption of command outlining a Commanding Officer’s duties, quotes the traditional language of the Navy Regulations, stating that “the responsibility of the Commanding Officer for his or her command is absolute” except, and to the extent to which a commander is relieved.³⁷ A delegation of authority “shall in no way relieve the Commanding Officer of continued responsibility for the safety, well-being and efficiency of the entire command.”³⁸ The tradition of responsibility of command in the Navy rests on a history of commanders sailing over the horizon, mission orders in hand, to execute the

³⁵ Vermont Royster, “Hobson's Choice.” *The Wall Street Journal*, May 14, 1952, 10.

³⁶ For example, U.S. Army doctrine states that commanders are “responsible for everything their command does or fails to do.” United States. Army Department. *Army Regulation 600-20*, Army Command Policy, Washington: Government Printing Office, 2014. The 1956 Army Field Manual held a commander responsible for war crimes not only if the commander ordered them, but also “if he has actual knowledge, or should have knowledge, through reports received by him or through other means, that troops or other persons subject to his control are about to commit or have committed a war crime and he fails to take the necessary and reasonable steps to ensure compliance with the law of war or to punish violators thereof.” United States. Army Department. *Field Manual Number 27-10*, The Law of the Land Warfare, Washington: Government Printing Office, 1956.

³⁷ United States. Navy Department. *Regulations for the Government of the Navy of the United States. (Navy Regulations) 1913: Reprinted 1918 with all Changes Up and Including no. 10*. Washington: Government Printing Office, 1918: Ch. 8, para 0802.

³⁸ *Regulations for the Government of the Navy of the United States*, Ch.8, para 0802

business of war away from higher authority. Trust was required when commanders had to make a choice, even if no written rule gave an easy answer, and federal law requires “All Commanding Officers and others in authority in the naval service...to show in themselves a good example of virtue, honor, patriotism, and subordination;...[and] to guard against and suppress all dissolute and immoral practices...”.³⁹ As a result, the Navy has the most “absolute” sense of command responsibility of any of the U.S. military branches, making the Commanding Officer responsible for every action taken on the ship, including delegated decisions, regardless of whether the actor failed to comply with rules or orders.⁴⁰

The responsibility of command in the Navy stretches beyond the unit, and in the case of the FITZGERALD, not only were members of the crew court-martialed, but the commanders at three senior echelons in the chain of command were also relieved of command. While a relief is not a criminal action, its use in these cases as an administrative measure serves as a way to remove a commander for a “loss of confidence” and to reinforce the values of the larger organization. The ship and its superior staffs were executing orders given, often over the protests of the leaders ultimately held responsible for them. This suggests something more than simple duty drives the ethics of command. Society expects military members to employ a virtuous framework when making decisions that could have lethal consequences for Sailors, and even more so when exercising the exceptional right of the lawful use of lethal force for the benefit of society. Responsibility for failing to meet that standard falls on the commanders in charge of those who are making the decisions.

³⁹ Requirements of Exemplary Conduct, 10 U.S.C. §5947 (1956).

⁴⁰ *Regulations for the Government of the Navy of the United States*, Ch.8, para 0802

The challenge of autonomous warfare, by both its name and nature, is that it distances humans from the decision-making process.⁴¹ Machines apply broad standards incorporated through machine learning algorithms, or sets of rules a computer follows and implements, and, taken further, autonomous machine learning would allow a computer to make independent decisions based on the information it receives. The machine would depend on the quality of the data and its “training” to determine outcomes rather than a preprogrammed set of deterministic responses to stimuli.⁴² Even in these basic definitions, it is easy to see why autonomous military systems, particularly those involving weapons systems, raise moral concerns. Purposely taking a life is an inherently moral decision that many argue should be made by the operator operating by an ethical code, not a programmer. A programmer is predicting scenarios and programming solutions, but an operator is making decisions *in situ* and can arguably better assess the context to judge the necessity of the use of lethal force, for example.⁴³ Critics of autonomous warfare argue that the result will be to divorce decision making from the moral agent who will be held accountable.⁴⁴

In rebuttal, the history of command provides that commanders pass authority but not accountability to subordinates. What matters is the intent and mindset of both the actor and the leadership when it comes to assigning liability. In some ways, the responsibility of command speaks to the very nature of autonomy, which relies on the idea that an agent acts for reasons that originate within the self, without inducement from outside parties.⁴⁵ Just as a person’s autonomy

⁴¹ Iria Guiffrida, Fredric Lederer, and Nicolas Vermeys, “A Legal Perspective on the Trials and Tribulations of AI: How Artificial Intelligence, the Internet of Things, Smart Contracts, and Other Technologies Will Affect the Law,” *Case Western Reserve Law Review* 68 (Spring 2018): 753.

⁴² Guiffrida, “A Legal Perspective,” 753.

⁴³ Jeffrey K. Gurney, “Crashing into the Unknown: An Examination of Crash-Optimization Algorithms through the Two Lanes of Ethics and Law.” *Albany Law Review* 79, no. 1 (2015): 207.

⁴⁴ Amos N. Guiora, “Accountability and Decision Making in Autonomous Warfare: Who is Responsible?” *Utah Law Review* 2017, no. 2 (2017): 407.

⁴⁵ Leveringhaus, *Ethics and Autonomous Weapons*, 47.

is limited in important ways in the military, even a learning system will act as a result of its programming. The ways a machine is programmed will limit what it is allowed to learn, and by extension to the decisions it is allowed to make. Rather than true autonomy, even a machine with the capacity to make complex decisions will act independently, subject to a set of generalized, predetermined values.⁴⁶ While this may raise questions about how to apportion liability for results of the choice to, for example, use an automated system, not only because of who made the decision, but because the results of the choice are reasonably predictable. Why a commander chooses to employ an automated system becomes relevant and can speak to the moral obligations of the responsibility of command, along with providing a basis for liability for machine decision-making. For example, a commander may be found less responsible, or share responsibility, in a case where the use of an autonomous machine is directed by a higher authority over his or her recommendation against its use.

The challenge with humans is that their risk and benefit lies in their capacity to make independent moral judgments. Humans are more likely to take pity, show sympathy, or take in social and context clues that a machine may not.⁴⁷ They can choose not to comply with an order. Consider, for example, a child with a realistic toy gun pointing at a military aircraft overhead from a residential backyard. A human may hesitate for an extra moment out of compassion to determine intent based on social and context cues, something a machine will have more difficulty assessing. That moment may cost the human lives of the service members aboard the aircraft if the instinct to spare the child is wrong, but it could also save the innocent.⁴⁸ Such moral dilemmas are less likely to stop a machine, even a learning machine, which will only have

⁴⁶ Leveringhaus, 48

⁴⁷ Leveringhaus, 92.

⁴⁸ Leveringhaus, 93.

a programmed moral framework to rationally resolve the scenario. For example, through the utilitarian lens espoused by John Stuart Mill, the multiple lives aboard the aircraft may matter over the single child, emphasizing the effects of a choice over its motives or even the fact that those aboard the aircraft are friendly or the child is potentially hostile.⁴⁹ Or, as is so often assumed in the military, a machine could prioritize compliance with rules, and the obligations of self-defense may cause a machine to act more quickly, but these are only programmed responses. Like Plato's cave, machine morality will never move beyond the shadow puppetry of real moral reasoning, which is born from will, intention, thought, and consciousness, none of which are found within the physical structure of the brain, as metaphysicists such as Rene Descartes argued three hundred years ago.⁵⁰ A program and machine to emulate this process are likely to fail. While machines can simulate these processes, they cannot resolve them with the moral acuity of humans.

As a result, questions arise when non-moral agents, such as autonomous weapons, make decisions with moral consequences without the ability to contextualize the decision within the social, moral, and cultural values that underlie the decision to use lethal force.⁵¹ In the case of military commanders, the values that drive decision-making come not just from broader society, but through the military and its leadership. One factor in the decision to charge the Commanding Officer of the FITZGERALD with the deaths of his Sailors was the result of his failure to create a culture which could have prevented the tragedy, a type of responsibility unique to the position of military command. Autonomous decision-making machines can be programmed to meet the

⁴⁹ Wendell Wallach and Colin Allen. *Moral Machines: Teaching Robots Right from Wrong* (New York; Oxford: Oxford University Press, 2009), 70.

⁵⁰ John T. Noonan, Jr, "Three Moral Certainties," in *The Leader's Imperative: Ethics, Integrity, and Responsibility*, ed. Ficarrota, J. (West Lafayette, Ind: Purdue University Press, 2001): 11.

⁵¹ Royster, "Hobson's Choice."

expectations of the organization, resulting in more predictable outcomes, including predictable mistakes. The question is when and how to hold commanders responsible for failing to meet those expectations. In the next section, three theories already in practice will be expanded to show that the laws necessary to achieve the intent of subordinate responsibility are already in place and can apply to machines.

II. Imposing Responsibility: Legal Standards for Criminal Liability

It is cruel, this accountability of good and well-intentioned men. But the choice is that or an end to responsibility and finally, as the cruel sea has taught, an end to the confidence and trust in the men who lead, for men will no longer trust leaders who feel themselves beyond accountability for what they do.⁵²

As a result of the power that comes with the lethal use of force, military members are subject to expanded criminal liability in various circumstances. Within the military legal community, criminal responsibility for some uses of autonomous systems is assumed: “Clearly, any commander who decided to launch AWS [autonomous weapons systems] into a particular environment is, as with any other weapon systems, accountable under international criminal law for that decision.”⁵³ Autonomous decision-making machines are different than traditional autonomous military technology, such as automatic launch systems, in that some decision-making is independent and raises questions on the limits of criminal liability. A prime example of the distinction is the Navy’s Close in Weapon System, or CIWS, which, if configured to do so, automatically fires when a target meets a checklist of criteria. Instead of an automatic response based on predetermined criteria, an autonomous decision-making machine chooses its response based on its analysis of data and its environment, which are not predetermined. This is

⁵² Royster, Vermont. “Hobson's Choice.” *The Wall Street Journal*, 14 May 1952, 10.

⁵³ Michael Schmidt, “Regulating Autonomous Weapons might be Smarter Than Banning Them,” *Just Security*, August 10, 2015, <https://www.justsecurity.org/25333/regulating-autonomous-weapons-smarter-banning/>.

different than, say, a missile that might change course in flight but always targets the largest radar signature. However, machines do not operate without some oversight or human influence, and several theories of military criminal liability can be applied to extend subordinate liability and responsibility of command to autonomous decision-making machines, making a commander responsible for his or her decisions and mistakes. Three such legal theories are causation, dereliction of duty, and simple negligence.⁵⁴

The simplest theory, rooted in causation, argues that if a commander uses an autonomous weapon as a tool to cause a violation of the Law of Armed Conflict, he or she can be subject to prosecution. Application of causation theory to autonomous weapons systems is grounded in the most basic tenets of criminal law, which require both the *mens rea*, or required mental state, and *actus reus*, a criminal act, which can be an act or an omission.⁵⁵ Without independent intention or moral agency, an autonomous system can commit an act but it cannot have *mens rea* and be held criminally responsible for the consequences of a decision.⁵⁶ Like a corporation, which courts describe as having a "body to...kick" but "no soul to...damn,"⁵⁷ another actor will be held responsible. In the case of corporations, the government imposes liability through causation theory.⁵⁸ While the corporation may "commit" the act, the individuals who cause the corporate act are held responsible. In other words, when an actor uses a tool to commit a crime, the person wielding the tool is held liable, even if the tool commits the act semi-independently.⁵⁹

⁵⁴ What will change is the potential application of affirmative defenses, which is a feature of the American justice system that helps to ensure the rights of the accused. While it may also result in limited application of the rules or fewer prosecutions, that results from the system in all cases, not just those involving autonomous systems.

⁵⁵ Gurney, "Crashing Into the Unknown," 241.

⁵⁶ Reitinger, "Algorithmic Choice and Superior Responsibility," 90.

⁵⁷ Gurney, "Crashing Into the Unknown," 241.

⁵⁸ Gurney, 241.

⁵⁹ Dafni Lima, Could AI Agents Be Held Criminally Liable? Artificial Intelligence that the Challenges for Criminal Law, 69 S.C.L. Review 677, (Spring 2018): 680.

Causation theory for autonomous systems would hold the human wielding the tool or who made a decision leading to the violation of law liable. Put simply, if a commander gives an unlawful order to a machine, the commander is responsible for the action taken as a result.⁶⁰ As with corporations, orders can be given directly or indirectly and commanders can be held liable for both acts and omissions. Causation helps to explain the doctrine of command responsibility and its broader application under the responsibility of command. For example, the decision by a helicopter pilot to mistakenly engage a civilian target after leaving a ship on a self-defense mission could lead to liability for the Commanding Officer who decided to launch the helicopter. The decision to launch an autonomous system for the same purpose incurs the same liability. Whether a human or machine makes a mistake, the scope of liability for the commander could be the same.⁶¹

While causation is an effective conceptual framework, its application in the military takes into account the need to regulate the use of lethal force. In the civilian system, a machine may be viewed as an intervening actor, breaking the chain of causation that leads to liability. However, the Uniform Code of Military Justice offers expanded theories of liability for military members. Dereliction of duty and negligent homicide are two theories that address the more complicated question of when a machine might make a mistake and can be explored through the lens of the FITZGERALD. Dereliction of duty holds commanders responsible for failing to meet the standards and duties outlined in documents such as the charge of command that impose a duty to take action, such as to prevent crimes or maintain safety. For example, commanders

⁶⁰ Reiting, "Algorithmic Choice and Superior Responsibility," 111.

⁶¹ Commanders could defend themselves by arguing not only that they lacked intent when a mistake occurred, but also that they lacked knowledge or control. Such defenses can be extremely difficult to overcome and severely limit criminal liability. However, affirmative defenses are a feature, not a flaw, of the US legal system.

have a duty to train their units on the requirements of the Law of Armed Conflict, and failing to do so adequately could lead to criminal liability.⁶² Dereliction of duty is a deontological approach to criminal liability that asks whether the actor complied with the rules and expectations of their position.⁶³ Dereliction of duty holds a commander accountable for the foreseeable consequences of an action or inaction, and both a willful and negligent failure to perform their duties. The theory was applied in several ways to the facts of the FITZGERALD, where the charges included dereliction in the safe navigation of the ship in failing “to provide adequate oversight to the ship’s watch...or...approve an adequate watchbill.”⁶⁴ The adequacy standard can be ambiguous, however, when there is no written standard, and often the Navy has chosen to rely on the outcome, such as a collision, to assert that the standard was not met. The Navy has not had much success in prosecuting Commanding Officers in such cases for dereliction of duty for the actions or inaction of their subordinates.

Dereliction could prove to be an even more difficult theory in prosecuting commanders for the actions of autonomous decision-making systems. Knowledge of the system and its algorithms could limit liability, or learning by the system itself could lead to reasonably unforeseeable outcomes.⁶⁵ However, prosecution for dereliction of duty is at least as reasonable as a human, given the unpredictability of human decision-making versus machines. Commanders will retain the duty of oversight and should know the capabilities and limitations of any system, autonomous or not, they choose to deploy. Consider a Commanding Officer who fails to understand the probable outcomes of launching an autonomous system in a scenario with

⁶² Reiting, “Algorithmic Choice and Superior Responsibility,” 114.

⁶³ *United States v. Ferguson*, 40 M.J. 823, 832-3 (N.M.C.M.R. 1994).

⁶⁴ Sam LaGrone, “Former USS Fitzgerald CO Pleads Not Guilty to Negligence Charges,” *USNI News*, July 10, 2018, <https://news.usni.org/2018/07/10/former-uss-fitzgerald-co-pleads-not-guilty-negligence-charges>.

⁶⁵ Reiting, “Algorithmic Choice and Superior Responsibility,” 115.

a large risk of misidentification, such as civilians directly participating in hostilities amongst a fleet of fishing vessels. The Commanding Officer would have a duty to assess the circumstances, approve deployment of the appropriate technology, and provide oversight to the machine, duties similar to assessing the transit plan, approving an adequate watchbill, and providing oversight for a nighttime transit in a busy maritime traffic separation zone. The choice in either case relies on the commander's judgment. The fundamental duties of command will not change, and therefore the responsibility and liability under dereliction of duty should remain the same.

A second theory, negligent homicide, can impose criminal liability when actions cause death through simple negligence.⁶⁶ Under an omission theory of responsibility of command, an individual can be found to have failed to fulfill a requirement and is therefore negligent in a duty. An individual could be held liable in cases such as the FITZGERALD where a commander was alleged to have negligently failed to provide adequate oversight, for example.⁶⁷ Simple negligence, which requires the least intent, does not generally support a homicide charge in civilian courts but, as the Court of Military Appeals has stated, there is a "special need in the military to make the killing of another as a result of simple negligence a criminal act....because of the extensive use, handling and operation in the course of official duties of such dangerous instruments as weapons, explosives, aircraft, vehicles, and the like. The danger to others from careless acts is so great that society demands protection."⁶⁸ Such lofty ideas underlie the charges against the FITZGERALD Commanding Officer and reflect the value of higher accountability for military leaders.

⁶⁶ United States, Department of Defense. *Manual for Courts-Martial, United States*. 2016th ed. Washington, DC: Department of Defense, 2019, IV-147.

⁶⁷ *Manual for Courts-Martial*, IV-147.

⁶⁸ *United States v. Kick*, 7 M.J. 82, 84 (C.M.A. 1979).

As applied by the courts, the lower standard of negligence appears to increase the level of knowledge required regarding subordinate behavior before a commander will be held liable. For example, in the case of *United States v. Flaherty*, the court reviewed a case of negligent driving resulting in the death of six soldiers. Overturning the conviction of the senior ranking passenger, the Army Board of Review found that the commander must *have actual knowledge* that a subordinate is acting in a criminally negligent manner before imposing liability.⁶⁹ The actual knowledge precedent was applied in the prosecution of the company commander implicated in the My Lai massacre, where the commander of the Charlie Company was not held liable for the actions of his unit in killing civilians, even as his subordinates were found to be criminally responsible for the deaths.⁷⁰ Building on the international law standards, these precedents demonstrate not a deontological view, but rather a justice ethic, where compliance with a duty is only a threshold question and the courts ask whether, in context, the application of the standard of negligence is just or should be limited. Before holding individuals liable, the court first asked whether it was just to hold someone responsible when they had no knowledge of the negligent nature of the actions taken. The court attached a standard of actual knowledge to assure a just outcome, even though a stricter application of the law could be reasonable.

The concept of justice in holding individuals responsible highlights the larger ethical issue: even if a legal framework exists to prosecute commanders for the decisions of machines, should it be used to do so? Criminal liability has already been expanded to further regulate the military, as in the case of negligent homicide. When applying expanded liability, the question is not merely whether a killing or mistake occurred, but also whether, given the cultural, moral, and

⁶⁹ *United States v. Flaherty*, 12 C.M.R. 466, 467-9 (A.B.R. 1953).

⁷⁰ See, *United States v. Calley, Jr.*, 22 U.S.M.C.A. 534 (1973).

emotional contexts, prosecution is just.⁷¹ When it comes to people, we use the standard of actual knowledge in negligent homicide, but how will that standard be applied to an autonomous decision-making machine? Some argue that it is reasonable to hold a Commanding Officer responsible for understanding the systems and how they will work before deploying them.⁷² But how knowledgeable must a commander be?⁷³ While this question is one of fact to be decided in courtrooms over time, the unsuccessful use of both dereliction of duty and negligent homicide suggests that when it comes to criminal liability, an approach that focuses on the outcome is difficult to prosecute. Proving negligence in providing “adequate” oversight requires something more than the fact that the collision occurred, for example. Holding a commander responsible for a machine will almost certainly require more than proving the machine made a mistake. Just as these theories raise questions of justice when applied to humans, the next section looks at the moral underpinnings and just limits of the responsibility of command to explore whether a Commander should be responsible for the unforeseeable decisions of machines in a system where the Commander is held responsible for an Officer of the Deck who defies the rules.

III. Justice: There is Just Something Different About the Military

... on the sea. There, since time immemorial admirals, commanders and lowly lieutenants have been asked to account for what they did. Not necessarily to be blamed, for the accounting can

⁷¹ Robert Sparrow, "Robots and Respect: Assessing the Case Against Autonomous Weapon Systems," *Ethics & International Affairs* 30, no. 1 (2016): 106.

⁷² Charles J. Dunlap, Jr. "Accountability and Autonomous Weapons: Much Ado about Nothing?" *Temple International and Comparative Law Journal* 30, no. 1 (2016): 69.

⁷³ In the cyber domain, the Tallinn Manual argues that "Commanders and other superiors...cannot be expected to have a deep knowledge of cyber operations; to some extent, they are entitled to rely on the knowledge and understanding of their subordinates. Nevertheless, the fact that cyber operations may be technically complicated does not alone relieve commanders ...of responsibly...commanders and other superiors are assumed to the same degree of understanding as a "reasonable" commander at a comparable level of command...the knowledge must be sufficient to allow them to fulfill their legal duty to act reasonably to identify, prevent, or stop the commission of cyber war crimes. Michael N. Schmitt, *Tallinn Manual on the International Law Applicable to Cyber Warfare: Prepared by the International Group of Experts at the Invitation of the NATO Cooperative Cyber Defence Centre of Excellence*. Cambridge; New York: Cambridge University Press, 2013: 94.

absolve as well as condemn; but simply to say, "This is what I did and why" so that others may judge, and perhaps learn. It may seem cruel, this tradition of asking good and well-intentioned men to account for their deeds. But what ought truly to be lamented is that it is a tradition so little honored elsewhere. – Vermont Royster, Thinking Things Over⁷⁴

The judgment of a commander is considered a reflection of the values of the organization and her choices reflect the policies of the government she represents. As a result, the responsibilities of command are more than legal, and commanders are held responsible in more than just criminal ways; administrative actions such as relief from command end the careers of men and women who have devoted a large portion of their lives to the service of the nation. Measures such as firing for a “loss of confidence” provide a vehicle to capture the unwritten code of command and enforce decision-making in line with organizational values.⁷⁵ The close link between the values of the military and the values of the nation help explain the reticence to be held to a strict international standard when it comes to command responsibility, the use of force, and actions in war. The U.S. position has been criticized in the international community as reluctance to submit to external jurisdiction. However, the domestic concept of responsibility of command is in some ways broader and more flexible, meaning it can be more exacting on the commander and can be extended effectively to regulate autonomous systems.

One of the fundamental values of command relies on the concept that the commander is responsible even when his or her own actions are not the proximate cause of an event. The responsibility of command in the Navy as demonstrated by the FITZGERALD extends to even *direct violations of orders explicitly given*. The Commanding Officer was asleep at the time of the collision and left the decisions related to navigation to the Officer of the Deck, who denied the Commanding Officer an opportunity to intervene or provide expertise by violating Navy

⁷⁴ Vermont Royster, “Thinking Things Over.” *The Wall Street Journal*, January 30, 1969, 10.

⁷⁵ Leveringhaus, *Ethics and Autonomous Weapons*, 29.

procedure, tradition, and explicit orders. A machine in the same scenario may make the same mistake in identifying a vessel, but will act within preprogrammed limits on its autonomy. The expectations will be programmed and reliance on its analysis arguably more reasonable. However, the duties of command to use prudent judgment and provide effective oversight do not change, and holding commanders responsible for machine decision-making through legal and administrative measures will be an effective way to reinforce the values of the organization and society.

A. The Value of Values: Just War Theory

What are the values of a Good Soldier? ...Freedom and courage. Freedom is what makes us fight, and courage is what keeps us from running away. Those who command Soldiers in combat understand both why men fight and why they do not run away. The wellsprings of the warrior spirit come not only from the aggressive, animalistic depths of a man's nature, but also from his most philosophical and idealistic yearnings.⁷⁶

While the legal traditions of command responsibility arose through codes and courtrooms, the justice of holding commanders responsible for decisions made under their watch arises from the tradition of just war theory. However, questions of justness in war often run into ambiguity and lead to the rejection of a debate over legitimate moral considerations.⁷⁷ Some lawyers argue that the ethical questions that go beyond these definable standards are distracting and that strict enforcement is all that is necessary.⁷⁸ With a deontological bent, just war theory has developed a body of international humanitarian law, also known as the law of war, where the focus is on the rights and duties of states and their rulers in order to more peacefully order states

⁷⁶ Nye, Roger H. *The Challenge of Command: Reading for Military Excellence*, (New Jersey: Avery Pub. Co, 1986):81.

⁷⁷ A. J. Coates, *Ethics of War*, Second ed. (Manchester: Manchester University Press, 2016), 147.

⁷⁸ Leveringhaus, *Ethics and Autonomous Weapons*, 26.

and minimize the impact of war on civilians.⁷⁹ There are limits to the ability of the law to answer questions under just war theory, however. For example, the question of who constitutes a combatant, and therefore a lawful target, has plagued the War on Terror, leading to imperfect but morally justifiable determinations more nuanced than the law embodied in any convention. The international humanitarian law standard of “directly participating in hostilities” is merely an attempt to codify the just war tradition’s distinction of those “currently engaged in the business of war” as lawful targets without encouraging the philosophical questioning Michael Walzer intended when he adopted the phrase.⁸⁰ Moreover, the use of nuclear weapons has been argued to be legal in specific circumstances, but moral restraints contribute to deterrence on their use.⁸¹ When it comes to machines, one question will be whether there is a morally relevant difference between ordering a person to decide to kill a human and ordering an autonomous machine to do so if the person is a legitimate target.⁸² If the answer is no, then is there a difference if they make a justifiable but lethal mistake? Just war theory may have led to a legal code, but it draws on the deeper question of society’s values that help determine the just limits of the responsibilities of command, essential questions in the context of machine decision-making.

The debate over the values and morality of war has a long history and demonstrates the challenges of applying an ethical code to the responsibility of command. For example, Augustinian ethics frames the problem in terms of virtue-ethic, calling on individuals and communities to constrain the inherent chaos of individuals in war, also called the dogs of war: “The desire for harming, the cruelty of revenge, the restless and implacable mind – these are

⁷⁹ Henrik Syse and Gregory M. Reichberg, *Ethics, Nationalism, and Just War: Medieval and Contemporary Perspectives*, (Washington, D.C.: The Catholic University of America Press, 2007): 42

⁸⁰ Michael Walzer, *Just and Unjust Wars* (Hammondsworth: Penguin, 1978) 43

⁸¹ Leveringhaus, *Ethics and Autonomous Weapons*, 27.

⁸² Leveringhaus, 90.

what are justly blamed in wars.”⁸³ Under an Augustinian virtue-based ethic, the rules are not enough. There must not only be rules, but a community that fosters the virtues needed to maintain them, a sort of moral training that falls to the commander. The concept of responsibility of command neatly follows from this tradition, suggesting that there are some written rules but that they do not capture the true evil of war. Instead, some rules are developed through the practice and climate of the command. Similarly, Richard Posner, the legal scholar and judge, argues that all morals are local and none can be applied universally, meaning that there will always be questions about the context in which decisions are made.⁸⁴ There is an inherent tension between the reality that morals and ethics can lead to ambiguity in the “right” and the desire to regulate the dogs of war through a set of common, though sometimes unwritten, standards.

Some may see mere compliance as the best approach to resolve the tension, which would arguably be the most equal, if not just, approach. However, the best policy-making must also account for the social values and ethics regarding not just whether, but also why, a technology is deployed.⁸⁵ Compare an approach based in compliance alone, which would put into practice the standard of “always obey the orders of lawful superiors,” while disregarding the maxim of “always follow one’s conscience.” Conscience is not a rational method for resolving moral dilemmas, but rather an alert that a dilemma exists.⁸⁶ A true moral agent would then assess a variety of options and potential solutions and rank them before acting, giving context to a decision that may not be reducible to an algorithm. For example, when reviewing the facts

⁸³ Augustine, *Political Writings*, Michael W. Tzacz and Douglas Kries. (Indianapolis: Hackett, 1994), 221-222.

⁸⁴ Noonan, Jr., “Three Moral Certainties,” 7.

⁸⁵ Leveringhaus, *Ethics and Autonomous Weapons*, 29.

⁸⁶ Thomas E. Hill, Jr., “Conscience and Authority,” in Ficarrota, J. Carl, 1957. *The Leader's Imperative: Ethics, Integrity, and Responsibility*. (West Lafayette, Ind: Purdue University Press, 2001), 231.

surrounding an unintended killing, there must be more than simply an assessment of the observable elements, but also a review about whether a killing was justifiable given the facts and circumstances around the decision-maker at the time.⁸⁷ Any judgment of the agent's actions must take these factors into account. When it comes to judging the actions of others, a standard of compliance is not always just.

However, assigning responsibility in war is about more than just outcomes, and intent can matter just as much as effects. One way to approach the balance between intent and outcome in just war theory is through the principle of double effect, which attempts to balance the ethical approaches to find a definition of just actions in war. Double effect concludes that neither the ends nor the means are sufficient to determine the justness of decision.⁸⁸ If an action produces two effects, one good and one bad, but both foreseeable, the action can be just if five conditions are met: the bad effect is not the purpose; it is unavoidable; one works to mitigate the negative effect; the bad effect is not out of proportion to the good; and the good effect is significant to the war effort.⁸⁹ In essence, one can have either a good intent but a bad effect or a bad intention with a good effect and violate the standard. Autonomous systems are an interesting application of this principle. In ancient wars, which were more limited in nature and often took place in discrete and distant battlefields, the ability to distinguish between combatants and non-combatants was relatively simple.⁹⁰ Modern warfare retains the requirement of distinction between combatants and non-combatants in targeting, but industrialization integrates production, conscription, and civilian enterprises, making the identification of combatants difficult. Moreover, using an

⁸⁷ Wallach, "Moral Machines," 48.

⁸⁸ Coates, *The Ethics of War*, 240.

⁸⁹ Syse, *Ethics, Nationalism, and Just War*, 46.

⁹⁰ Coates, *The Ethics of War*, 235

algorithm in a machine to identify combatants can increase the risk of misidentification.⁹¹

Insurgencies and grey zone conflicts, increasingly common fields of battle today, complicate these matters even more.

How and why machines are employed, or not, in a complex wartime environment matters to whether it is just to impose responsibility on a commander. Morality is not merely a numbers game or a checklist, and the ethical guidelines for machines rely on ethical principles.⁹² What matters is that the programmed machine guidelines reflect the values of the community, which is larger than the unit or even the military. How machines resolve ethical dilemmas must incorporate the values of the public.⁹³ The Navy has some experience in the responsibility for lethal scenarios involving decision-making involving machines. During the Iran-Iraq War, the Commanding Officer of USS STARK (FFG-31) did not identify an incoming aircraft as a threat, resulting in the death of 37 Sailors during an attack on the ship. Engaging an automated weapons system installed on the ship might have stopped the attack, but the CO was not anticipating a threat from the direction the aircraft came. The year after the STARK incident, the USS VINCENNES (CG-49) shot down an Iranian passenger plane after the automated systems correctly assessed its flight profile and transmissions as indicating a civilian aircraft but human error led to mistakenly identifying it as a threat.⁹⁴ In both cases, an error resulted from a failure of the humans involved to use or trust the information available from the machines.

⁹¹ Coates, 236. Coates argues that some groups will be easy to identify, such as the very young and the very old. The problem of identifying combatants and the protections various persons on the battlefield may receive is difficult even in protracted legal battles, such as with the detainees at Guantanamo, held not as prisoners of war, a status conferred on legal combatants, but rather as non-combatant detainees. How a machine might negotiate these nuances presents the risk of misidentification, much like with humans in the heat of the battle are asked to do.

⁹² Edmond Awad et al., "The Moral Machine Experiment," *Nature*, October 24, 2018, <https://www.nature.com/articles/s41586-018-0637-6>.

⁹³ Awad, "The Moral Machine Experiment."

⁹⁴ Gregory P. Noone, "The Debate Over Autonomous Weapons Systems: International Regulation of Emerging Technologies," *Case Western Reserve Journal of International Law* 47, no. 1 (March 22, 2015): 25.

Responsibility for the decision not to use machines must be identified as well as the decision to use them, though as these cases demonstrate the choice not to use a machine often affects the unit more than the enemy. As noted, the Navy has not had much success in prosecuting cases of dereliction or negligent homicide where a commander failed to intervene. The Navy punished neither Commanding Officer in the above examples, but the facts suggest they could have been subject to charges. For example, the STARK Commanding Officer could have been found derelict or negligent in his duties for a failure to use the technology at his disposal, a prosecutorial choice that would reinforce deference to machines. Returning to the initial question about mistakes, these lethal mistakes were, in the end, justifiable under the ethical rules of society that attempt to balance a variety of interests. For example, the risk of imposing liability is that it will discourage commanders from using new technology, undermining not only the ability to take advantage of greater accuracy, but putting Sailors at risk by encouraging conservative decision-making in the face of the decision to use force, including in self-defense.

However, both STARK and VINCENNES highlight issues with assigning liability for mistakes related to human interpretations of machine assessments. If autonomous decision-making technology is employed, society accepts some of the associated risks because the machines are programmed with values that are predetermined. Such policy choices can mitigate liability for the errors of machines, as they become a referendum not on the decision of the commander, but on the acts committed as a result of the choices of policymakers. However, the Commanding Officer will always retain the same duties with regards to oversight. The responsibilities of command will not fundamentally change, even as the application of legal principles may, because those responsibilities are rooted in the just uses of force and the

protection of those who serve. The legal and even just war theories that try to capture it are imperfect attempts to capture a fundamentally moral responsibility, but they can achieve no better than to be the shadows on the wall of Plato's cave. The Navy should maintain its standard of responsibility of command while recognizing that conceptions of justice may lead to debate, and even limits, on the appropriate limits of accountability because those debates are fundamental to the just waging of war.

B. When Machines Make Mistakes: Keeping Commanders Accountable

Too often we just look at these glistening successes. Behind them in many, many cases is failure along the way, and that doesn't get put into the Wikipedia story or the bio. Yet those failures teach you every bit as much as the successes.- ADM Mike Mullen⁹⁵

What the law, just war theory, and the FITZGERALD case demonstrate is that there is no truly autonomous Sailor.⁹⁶ When a human makes mistakes, negotiating responsibility requires balancing the duties of command with a justice ethic that limits the possibly expansive liability of commanders. In much the same way, there is no truly autonomous system, as they are all the result of combining human and machine capabilities, of programming, of the limits placed upon them, and the decision to use them.⁹⁷ How responsibilities are delegated and why matter to the adjudication of mistakes, and the enforcement of responsibility of command continues to matter in shaping how those decisions are made and by what values. Responsibility can and should be assigned much the same way to machines as it is to humans, understanding that society may impose limits out of a sense of justice or expand liability to reinforce its values. The Navy's

⁹⁵ "Admiral Mike Mullen," *Harvard Business Review*, June 2012, <https://hbr.org/2012/06/admiral-mike-mullen>.

⁹⁶ Chris Jenks, "False Rubicons, Moral Panic, & Conceptual Cul-De-Sacs: Critiquing & Reframing the Call to Ban Lethal Autonomous Weapons." *Pepperdine Law Review* 44, no. 1 (2016): 19.

⁹⁷ Jenks, "False Rubicons," 19.

responsibility of command provides a starting point for negotiating those limits. Machines do not change the subordinate-commander relationship in ways that undermine the traditional duties of responsibility of command in the Navy, but rather reinforce the role of both the values of society in shaping those decisions and of justice in limiting individual accountability.

Just as with humans, employment of an autonomous decision-making machine must be placed in its ethical context, and the limits of responsibility explored. For example, just war theory requires that if a weapon system is employed, it must be for a proper military objective. This concept can be ambiguous and raise dilemmas about proportionality, for example. How a machine is programmed to resolve such ethical dilemmas should, as already noted, take into account society's values and priorities. Once identified, machines will follow those moral preferences, even if it leads to a mistake.⁹⁸ A real risk may be that the actions and decisions of an autonomous machine may extend beyond its originally intended use.⁹⁹ However, these are questions of policy, values, and accountability for risk that must be resolved by society before deploying a system. If the deployment of an autonomous weapon system is for a proper military purpose, resolution of the ethical dilemmas it faces must reflect society's values. Outcomes that are predictable, including mistakes, and within the bounds of the risks that society deemed acceptable should not lead to liability for the commander.

Such limits may seem to argue for lessened responsibility for commanders, both because they will not set the programmed preferences and because society has accepted moral responsibility for the ethical choices of the machine. The great fear is that autonomous weapons will create a "responsibility gap," or situations where no one is responsible for the actions of a

⁹⁸ Awad, "The Moral Machine Experiment."

⁹⁹ Margulies, "Making Autonomous Weapons Accountable," 413.

machine.¹⁰⁰ Machines, particularly complex machines, are often built in pieces and by different companies, programmers, and teams. Some argue that assigning responsibility for a machine can be difficult in this context, as even an interaction between components may lead to an unintended or unforeseen consequence.¹⁰¹ However, there are many ways to hold someone responsible. It requires a review of the facts, just as is required in any case in which someone is being held accountable. Factual questions can be difficult regardless of the nature of the actor. For example, if an otherwise legitimate system is used wrongfully, then the user is responsible for the wrongful outcome. A poorly programmed machine could lead to the programmer along with, or alternatively, the person responsible for creating the programming requirements being responsible.¹⁰² Another argument by critics is that autonomous machines will, in fact, be autonomous, which means that they will make unpredictable decisions, limiting the application of liability that relies on predictability or foreseeability.¹⁰³ Finally, critics may argue that in the case of a mistake, no one would be held liable because the machine would be an easy scapegoat. For the military, expanded liability for simple negligence will likely account for such gaps and administrative measures, which were ultimately used in the case of the Commanding Officer of the FITZGERALD. Such measures provide options to hold individuals accountable even when criminal liability seems unjust.

Safeguards minimize the risk of a responsibility gap in the military, and commanders must remain responsible for decisions that occur in a morally ambiguous space. Just war theory provides ways to do this justly. For example, the concept of “right intention” in the context of

¹⁰⁰ Leveringhaus, *Ethics and Autonomous Weapons*, 19.

¹⁰¹ Wallach, “Moral Machines,” 39.

¹⁰² Leveringhaus, *Ethics and Autonomous Weapons*, 64-66.

¹⁰³ Reitingger, “Algorithmic Choice and Superior Responsibility,” 84.

the doctrine of double effect is the idea that individuals must have the proper perspective on their roles, the enemy, and the nature of war such that they wish to limit the effects of combat, even on the enemy.¹⁰⁴ While “right intention” is traditionally an *ad bellum* question, it asks questions about the context of decisions and actions relevant to actions in war and which underpin the concept of justice in applying the rules, and gives latitude in the judgment of human error. Humans generally accept morally ambiguous decisions by other humans because part of being human is having a conscience, of acting as a judge and jury when there is a moral failing. Kant argues the conscience has two purposes: to judge whether conduct lives up to a moral code and to reassess, through interactions with other humans and confrontation of opinion, whether those moral standards are correct.¹⁰⁵ However, conscience itself is not sufficient, but rather provides a warning that sound moral reasoning is necessary.¹⁰⁶ When moral dilemmas arise and make the decision unclear, humans accept some variance from their own values and apply concepts of justice in assigning liability for what some may perceive as a mistake. It remains to be seen whether society will accept the same from machines.¹⁰⁷

The inability to simulate the conscience in a machine helps to explain why commanders will be expected to be responsible for machine decision-making. There is no equivalent for a machine to do penance after a battle, as required until the Middle Ages of soldiers in case, during the heat of battle, they fought with the wrong intention.¹⁰⁸ People do not trust machines to make

¹⁰⁴ Mark S. Swiatek, “Intending to Err: The Ethical Challenge of Lethal, Autonomous Systems,” *Ethics and Information Technology* 14, no. 4 (2012): 242.

¹⁰⁵ Hill, Jr., “Conscience and Authority,” 237.

¹⁰⁶ Hill, Jr., 238.

¹⁰⁷ Wallach, “Moral Machines,” 61.

¹⁰⁸ James Turner Johnson, “The Just-War Idea and the Ethics of Intervention,” in *The Leader's Imperative: Ethics, Integrity, and Responsibility*, ed. J. Carl Ficarrotta, (West Lafayette, Ind: Purdue University Press, 2001), 118.

decisions in morally ambiguous spaces, which is why, even in states that use computer-generated sentencing or other judicial decision enhancement technologies, there is generally the option to appeal to a human before a final decision is made.¹⁰⁹ Even though the sentencing choice by the computer may be more rational and even more fair, people fear that it may be less just. To resolve this, the responsibility of command must encompass accountability for machine-decision making, even when criminal liability does not result. The simplest solution is to put a human in the loop when moral ambiguity exists to allow the human conscious to supplement the programmed values of a machine.¹¹⁰ Setting aside the practical questions of this solution, even human involvement in the moment will not be sufficient if society has not defined its expectations.

If given guidelines, the military has a variety of tools to ensure autonomous decision-making machines are deployed in accordance with policy values. The line between the legal and moral is not as stark as in the civilian world, and enforcement is what drives compliance, whether through moral means or more coercive, legalistic ones.¹¹¹ Moral enforcement can be difficult, as it is a series of soft coercive measures, such as praise and blame.¹¹² The customary international law system works primarily under this construct, and has been criticized by legal and ethical scholars.¹¹³ Ethics itself is plagued by the lack of clear answers that moral dilemmas present; in resolving the classic trolley dilemma, someone innocent always dies. As Judge

C. Anthony Pfaff, "Respect for Persons and the Ethics of Autonomous Weapons and Decision Support Systems," RealClear Defense, accessed on March 14, 2019, https://www.realcleardefense.com/articles/2019/03/04/respect_for_persons_and_the_ethics_of_autonomous_weapons_and_decision_support_systems_114233.html

Margulies, "Making Autonomous Weapons Accountable," 434.

Leveringhaus, *Ethics and Autonomous Weapons*, 22.

Leveringhaus, 73.

Syse, *Ethics, Nationalism, and Just War*, 44.

Posner argued, there is no set of universal values that defines which death is most just or justified. However, the Navy can also use the soft tools of enforcement, such as relief from command, changes to doctrine, or public censure to help define the values of the organization. The Navy's push for an ethical culture that goes beyond compliance is about understanding the values of the organization as rooted in tradition, just war theory, and the law. Despite the fact that the charges against the FITZGERALD Commanding Officer were ultimately dismissed, the impact of the decision to pursue prosecution, and hold public hearings in the preliminary stages, provided an opportunity for the community to debate the choices of the Commanding Officer and the Navy. It also provided an opportunity to discuss how responsibility is apportioned under the responsibility of command.¹¹⁴ That some of this debate occurred in the public realm helped, but as the questions become more complicated, and less clearly governed by existing legal regimes, the Navy should be wary of hiding the debate over responsibility, which provides a framework for understanding the values of the organization and society. As one professor at the Naval War College argued regarding the FITZGERALD:

Fifty years ago, Vermont Royster wrote that "it may seem cruel, this tradition of asking good and well-intentioned men to account for their deeds." This accounting [in the FITZGERALD] should not stop with the commanders at sea, but should also go to actions ashore, including how incidents like this are handled, and learned from. ProPublica and Congress are making a valiant effort. It is in the interest of national security that they succeed.¹¹⁵

IV. Old Paradigms, New Machines

Mike Junge, "Accountability in the U.S. Navy: "So That Others May Learn," Strategy Bridge, March 19, 2019, ¶ [HYPERLINK "https://thestrategybridge.org/the-bridge/2019/3/19/accountability-in-the-us-navy-so-that-others-may-learn"](https://thestrategybridge.org/the-bridge/2019/3/19/accountability-in-the-us-navy-so-that-others-may-learn) ¶ <https://thestrategybridge.org/the-bridge/2019/3/19/accountability-in-the-us-navy-so-that-others-may-learn> .

Mike Junge, "Accountability in the U.S. Navy."

A cautious man might linger awhile before giving the order...and those moments of delay could bring the bows of a ship in the next column pointing right at the beam, at the center and heart, of the ship that hesitated. A touch could be death.¹¹⁶

In the end, it is people who suffer the consequences of war, both as decision-makers and those whom the decisions affect.¹¹⁷ It is humans who are ultimately entrusted with the authority to use lethal force, and humans who must be responsible for the exercise of it, particularly when a mistake is made. Critically, it is humans who will judge the actions and decision in war. It is a collective set of social standards and values that will be used to render judgment on those making difficult decision in life or death situations. While the FITZGERALD proved a painful experience for the Navy community, it created opportunities to define standards and expectations through public debate that extended beyond the military itself, incorporating the thoughts and values of society at a time when the standards of the Navy were at issue. It was through the process of accountability, both legal and moral, that the duties of command and values of society were negotiated.

Applied to the use of autonomous decision-making machines, similar debates are likely, and both the Navy and policymakers should use the opportunity created by the FITZGERALD to debate justice and social values surrounding responsibility for subordinate decision makers, human or machine. The Navy's tradition of responsibility of command provides a platform for debate as it provides a forum and mechanism that is already reasonably adequate, just, and

Forester, *The Good Shepard*, 6.

See, Geoff Ziezulewicz, "Some Families of the Fitzgerald Seven Frustrated By Decision to Drop Criminal Charges," *Navy Times*, April 11, 2019, ¶ [HYPERLINK "https://www.navytimes.com/news/your-navy/2019/04/12/some-families-of-the-fitzgerald-seven-frustrated-by-decision-to-drop-criminal-charges/"](https://www.navytimes.com/news/your-navy/2019/04/12/some-families-of-the-fitzgerald-seven-frustrated-by-decision-to-drop-criminal-charges/) ¶ <https://www.navytimes.com/news/your-navy/2019/04/12/some-families-of-the-fitzgerald-seven-frustrated-by-decision-to-drop-criminal-charges/> .

necessary to incorporate social and policy values into the duties of command. The system can continue to do so, even with the introduction of new technologies. Given the pace of change, however, the 1500-year development of the international doctrines of subordinate liability and command responsibility is unlikely to meet the challenges presented by autonomous decision-making machines. The FITZGERALD presents an opportunity for the domestic doctrine to change more quickly. The Navy should capture the debate, reduce changes to existing standards to writing, and recognize that just outcomes may require not only public debate, but also a continual review of those policies. However, the concepts of law and justice are flexible enough to account for autonomous decision-making machines. So is the Navy's culture of command.

Bibliography

- Augustine, Ernest L. Fortin and Douglas Kries, eds. *Political Writings*. Translated by Michael W. Tzacz and Douglas Kries. Indianapolis: Hackett, 1994.
- Awad, Edmond, Sohan Dsouza, Richard Kim, Jonathan Schulz, Joseph Henrich, Azim Shariff, Jean-François Bonnefon and Iyad Rahwan, "The Moral Machine Experiment." *Nature*, October 24, 2018:59-64. <https://www.nature.com/articles/s41586-018-0637-6>.
- Burnett, Weston D. "Command Responsibility and a Case Study of the Criminal Responsibility of Israeli Military Commanders for the Pogrom at Shatila and Sabra," *Military Law Review* 107, (1985): 71-190.
- Cahn, Dianna. "2 USS Fitzgerald Officers Face Courts-martial in Wake of Fatal Collision A Year Ago'." *Stars and Stripes*, June 19, 2018. <https://www.stripes.com/news/2-uss-fitzgerald-officers-face-courts-martial-in-wake-of-fatal-collision-a-year-ago-1.533681>
- Cahn, Dianna. "Fitzgerald, McCain Collisions: Are the Right People Being Held to Account?" *Stars and Stripes*, July 15, 2018. <https://www.stripes.com/news/special-reports/featured/fitzgerald-mccain-collisions-are-the-right-people-being-held-to-account-1.537879>.
- Camus, Albert. *The Fall*. Translated by Justin O'Brien. New York: Vintage International, 1991.
- Coates, A. J. *Ethics of War*. Second ed. Manchester: Manchester University Press, 2016.
- De Jouvenel, Bertrand. *On Power: The Natural History of Its Growth*. New York: Liberty Press, 2010.
- Department of Defense. Office of the Chief of Naval Operations. *Report on the Collision between USS Fitzgerald (DDG 62) and Motor Vessel ACX Crystal; Report on the Collision between USS John S. McCain (DDG 56) and Motor Vessel Alnic MC*. Washington, DC: Department of the Navy, Office of the Chief of Naval Operations, 2017. <https://purl.fdlp.gov/GPO/gpo86262>.
- Dunlap, Charles J., Jr. "Accountability and Autonomous Weapons: Much Ado about Nothing?" *Temple International and Comparative Law Journal* 30, no. 1 (2016): 63-105.
- Forester, C.S. *The Good Shepherd*, Annapolis, Md: Naval Institutes Press, 1989.
- Friedman, Leon. *The Law of War, A Documentary History*. New York: Random House, 1972.
- Grotius, Hugo. *De Jure Belli Ac Pacis Tres* (L.I.E.P. Ed., Kelsey trans., 1925).

Guiffrida, Iria, Fredric Lederer, and Nicolas Vermeys. "A Legal Perspective on the Trials and Tribulations of AI: How Artificial Intelligence, the Internet of Things, smart Contracts, and Other Technologies Will Affect the Law," *Case Western Reserve Law Review* 68 (Spring 2018): 747-782.

Guiora, Amos N. "Accountability and Decision Making in Autonomous Warfare: Who is Responsible?" *Utah Law Review* 2017, no. 2 (2017): 393-423.

Gurney, Jeffrey K. "Crashing into the Unknown: An Examination of Crash-Optimization Algorithms through the Two Lanes of Ethics and Law." *Albany Law Review* 79, no. 1 (2015): 183-267.

Hill, Jr., Thomas E. "Conscience and Authority," in *The Leader's Imperative: Ethics, Integrity, and Responsibility*, edited by J. Carl Ficarrotta, 228-242. West Lafayette, Ind: Purdue University Press, 2001.

In re Yamashita, 327 U.S. 1 (1946).

International Committee of the Red Cross (ICRC), Geneva Convention Relative to the Protection of Civilian Persons in Time of War (Fourth Geneva Convention), 12 August 1949, 75 UNTS 287, available at: <https://www.refworld.org/docid/3ae6b36d2.html>.

International Regulations for Preventing Collisions at Sea - International Regulations for preventing Collisions at Sea, 91 Stat. 308 (1977).

Jenks, Chris. "False Rubicons, Moral Panic, & Conceptual Cul-De-Sacs: Critiquing & Reframing the Call to Ban Lethal Autonomous Weapons." *Pepperdine Law Review* 44, no. 1 (2016): 1-58.

Johnson, James Turner, "The Just-War Idea and the Ethics of Intervention," in *The Leader's Imperative: Ethics, Integrity, and Responsibility*, edited by J. Carl Ficarrotta, 107-125. West Lafayette, Ind: Purdue University Press, 2001.

Junge, Mike. "Accountability in the U.S. Navy: "So That Others May Learn," *Strategy Bridge*. March 19, 2019. <https://thestrategybridge.org/the-bridge/2019/3/19/accountability-in-the-us-navy-so-that-others-may-learn>.

LaGrone, Sam. "Former USS Fitzgerald CO Pleads Not Guilty to Negligence Charges." *USNI News*, July 10, 2018. <https://news.usni.org/2018/07/10/former-uss-fitzgerald-co-pleads-not-guilty-negligence-charges>.

Leveringhaus, Alex. *Ethics and Autonomous Weapons*. London: Palgrave Macmillan, 2016.

Lima, Dafni. "Could AI Agents be Held Criminally Liable? Artificial Intelligence and the Challenges for Criminal Law." *South Carolina Law Review* 69, no. 3 (2018): 677-696.

- Margulies, Peter. "Making Autonomous Weapons Accountable: Command Responsibility for Computer-Guided Lethal Force in Armed Conflicts," in *Research Handbook on Remote Warfare*, edited by Jens David Ohlin, 405-442. Cheltenham, UK: Edward Elgar Publishing Limited, 2017.
- McGrath, Bryan. "The Fitzgerald Collision: In Search of the Onus," *War on the Rocks*, February 2, 2019. <https://warontherocks.com/2019/02/the-fitzgerald-collision-in-search-of-the-onus/>.
- Meron, Theodor. *Henry's Wars and Shakespeare's Laws: Perspectives on the Law of War in the Later Middle Ages*. New York: Clarendon Press, 1993.
- Noonan, Jr, John T. "Three Moral Certainties." in *The Leader's Imperative: Ethics, Integrity, and Responsibility*, edited by Ficarrota, J., 3-14. West Lafayette, Ind: Purdue University Press, 2001.
- Noone, Gregory P. "The Debate over Autonomous Weapons Systems." *Case Western Reserve Journal of International Law* 47, no. 1 (March 22, 2015): 25-36.
- Nye, Roger H. *The Challenge of Command: Reading for Military Excellence*. New Jersey: Avery Pub. Co, 1986.
- Parks, William H. "Command Responsibility for War Crimes," *Mil. Law Review* 62, (1973): 1-104.
- Pfaff, C. Anthony. "Respect for Persons and the Ethics of Autonomous Weapons and Decision Support Systems." *RealClear Defense*, March 14, 2019. https://www.realcleardefense.com/articles/2019/03/04/respect_for_persons_and_the_ethics_of_a_automonomous_weapons_and_decision_support_systems_114233.html
- Protocol Additional to the Geneva Conventions of 12 August 1949, and Relating to the Protection of Victims of International Armed Conflicts, June 8, 1977, 1125 U.N.T.S. 3.
- Reitinger, Nathan. "Algorithmic Choice and Superior Responsibility: Closing the Gap between Liability and Lethal Autonomy by Defining the Line between Actors and Tools." *Gonzaga Law Review* 51, no. 1 (2015): 79.
- Requirements of Exemplary Conduct, 10 U.S.C. §5947 (1956).
- Rome Statute of the International Criminal Court, July 17, 1998, 2187 U.N.T.S. 3 (entered into force July 1, 2002).
- Royster, Vermont. "Hobson's Choice." *The Wall Street Journal*, 14 May 1952, 10.
- Royster, Vermont. "Thinking Things Over." *The Wall Street Journal*, January 30, 1969, 10.
- Schmitt, Michael. "Regulating Autonomous Weapons might be Smarter Than Banning Them." *Just Security*, August 10, 2015. <https://www.justsecurity.org/25333/regulating-autonomous-weapons-smarter-banning/>.

Schmitt, Michael N. *Tallinn Manual on the International Law Applicable to Cyber Warfare: Prepared by the International Group of Experts at the Invitation of the NATO Cooperative Cyber Defence Centre of Excellence*. Cambridge; New York: Cambridge University Press, 2013.

Smidt, Michael L. "Yamashita, Medina, and Beyond: Command Responsibility in Contemporary Military Operations." *Military Law Review* 164, (June 2000): 155-234.

Sparrow, Robert. "Robots and Respect: Assessing the Case Against Autonomous Weapon Systems." *Ethics & International Affairs* 30, no. 1 (2016): 93-116.

Stryszak, Michal. "Command Responsibility: How Much should a Commander be Expected to Know?" *USFA Journal of Legal Studies* 11, (2000): 27-161.

Swiatek, Mark S. "Intending to Err: The Ethical Challenge of Lethal, Autonomous Systems." *Ethics and Information Technology* 14, no. 4 (2012): 241-254.

Syse, Henrik and Gregory M. Reichberg. *Ethics, Nationalism, and just War: Medieval and Contemporary Perspectives*. Washington, D.C: Catholic University of America Press, 2007.

Trial of Wilhelm von Leeb and Thirteen Others (German High Command Trial)(United States Military Tribunal, Nuremberg) 76 (December 30, 1947-October 28, 1948).

http://www.worldcourts.com/imt/eng/decisions/1948.10.28_United_States_v_von_Leeb.pdf

United States. Army Department. *Army Regulation 600-20, Army Command Policy*, Washington: Government Printing Office, 2014.

United States. Army Department. *Field Manual Number 27-10, The Law of the Land Warfare*, Washington: Government Printing Office, 1956.

United States. Navy Department. *Regulations for the Government of the Navy of the United States. (Navy Regulations) 1913: Reprinted 1918 with all Changes Up and Including no. 10*. Washington: Government Printing Office, 1918.

United States. Department of Defense. *Manual for Courts-Martial, United States*. 2019 ed. Washington, DC: Department of Defense, 2019.

United States v. Calley, Jr., 22 U.S.M.C.A. 534 (1973).

United States v. Ferguson, 40 M.J. 823 (N.M.C.M.R. 1994).

United States v. Flaherty, 12 C.M.R. 466 (A.B.R. 1953).

United States v. Kick, 7 M.J. 82 (C.M.A. 1979).

United States of America v. Tomoyuki Yamashita, Military Commission, appointed by Paragraph 24, Special Orders 110, Headquarters United States Army Forces Western Pacific, 1 Oct. 1945, 34-35.

Wallach, Wendell and Colin Allen. *Moral Machines: Teaching Robots Right from Wrong*. Oxford: Oxford University Press, 2009.

Walzer, Michael. *Just and Unjust Wars*. Hamondsworth: Penguin, 1978.

Weiner, Tim. "New Model Army Soldier Rolls Closer to Battle." *New York Times*, February 16, 2005.
<https://archive.nytimes.com/www.nytimes.com/learning/students/pop/articles/weiner2.html>.

Ziezulewicz, Geoff. "Some Families of the Fitzgerald Seven Frustrated By Decision to Drop Criminal Charges." *Navy Times*, April 11, 2019. <https://www.navytimes.com/news/your-navy/2019/04/12/some-families-of-the-fitzgerald-seven-frustrated-by-decision-to-drop-criminal-charges/>.