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About The Simons Center

The Arthur D. Simons Center for Interagency Cooperation is a major program of the Command and General Staff College Foundation, Inc. The Simons Center is committed to the development of military leaders with interagency operational skills and an interagency body of knowledge that facilitates broader and more effective cooperation and policy implementation.



About the CGSC Foundation

The Command and General Staff College Foundation, Inc., was established on December 28, 2005 as a tax-exempt, non-profit educational foundation that provides resources and support to the U.S. Army Command and General Staff College in the development of tomorrow's military leaders. The CGSC Foundation helps to advance the profession of military art and science by promoting the welfare and enhancing the prestigious educational programs of the CGSC. The CGSC Foundation supports the College's many areas of focus by providing financial and research support for major programs such as the Simons Center, symposia, conferences, and lectures, as well as funding and organizing community outreach activities that help connect the American public to their Army. All Simons Center works are published by the "CGSC Foundation Press."

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From the Editor-in-Chief

The *InterAgency Journal* is pleased to partner with the U.S. Army Command and General Staff College's Department of Command and Leadership to bring you this special edition on Ethics. I thank Dr. Ted Thomas and Chaplain (Major) Jonathan Bailey for their work in hosting the 2019 Fort Leavenworth Ethics Symposium at which these papers were presented.

Beginning in 2009, the Command and General Staff College Foundation has partnered each year with the U.S. Army Command and General Staff College to host an annual ethics symposium at Fort Leavenworth. These annual symposia provide an opportunity for academics and practitioners to come together to discuss ethics as they relate to the profession of arms, the practice of state controlled violence, and national security.

Ethical conduct in government service is a topic of concern for not only those of us who are practitioners but also of the citizens of our nation whom we represent. Life-long professional learning calls for us to think about various ethical considerations and to keep appropriate conduct in the forefront as we do our work. Over thirty papers were accepted for presentation at the symposium. This publication is a collection of ten of those papers, published largely as submitted. Other papers will be published in a Special Report later this year.

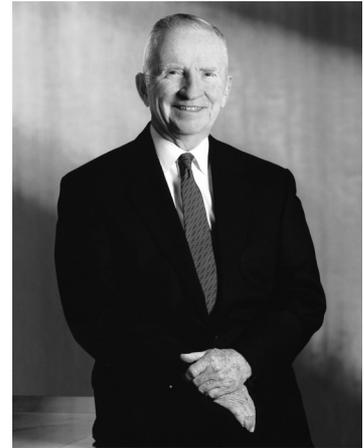
This collection of select essays from the 2019 Fort Leavenworth Ethics Symposium affords us the opportunity to consider a variety of ethical considerations posed by peer/near-peer competitors as we prepare for Large Scale Combat Operations. I think you will find these articles both informative and thought provoking.

If you or your organization has expertise on a particular topic and desire to work with the Simons Center to add your thoughts to the interagency discourse through publication of a special edition issue of the *InterAgency Journal*, please contact our managing editor.

Thank you for reading this issue of the *InterAgency Journal*. The Simons Center continues to strive to improve our utility to the interagency community. Your feedback is always welcome. I invite you to visit our website where you can benefit from our various interagency speakers' presentations and publications.

And sadly, but with great respect, on behalf of our Foundation I offer sincere condolences to the Perot family on the passing of a great American patriot, Mr. H. Ross Perot, Sr. In addition to his many contributions to our country, he was instrumental in our Foundation's life and work. Please read the article penned by our founding CEO Bob Ulin on Mr. Perot's importance to our Foundation. We will continue to honor Mr. Perot through the various programs he believed were important. – **RMC**

In the beginning...



Ross Perot, 1930-2019

**Special Report by
Robert Ulin, Founding CEO, CGSC Foundation**

It was 2005 and the Iraq war was settling into its earliest stages. Lt. Gen. Scott Wallace, the 5th Corps Commander in Iraq, had just been reassigned as commandant of the U.S. Army Command and General Staff College. One of his earliest acts was to get the College to develop a course dealing with interagency cooperation. The lack of cooperation between and among the multiple agencies – State, CIA, DEA, FBI, to mention a few – was hindering progress in combat operations. In December 2005, the CGSC Foundation was established. Following General Wallace in 2006 was Lt. Gen. David Petraeus who famously led the development of *Army Field Manual 3-24: Counterinsurgency*. Next came Lt. Gen. William Caldwell.

Early in 2007, Foundation CEO Bob Ulin, and trustee Mark “Ranger” Jones developed a plan to approach Mr. Ross Perot, Sr. Thus began a two and a half year relationship-building exercise to explore how Mr. Perot might be able to help the College through the Foundation. Foundation Chairman retired Lt. Gen. Robert Arter and founding CEO Bob Ulin visited General Caldwell in his office and presented the idea of an interagency research center to promote scholarship, understanding and cooperation among the various federal agencies of the U.S. government.

In October 2009, Mr. Perot came to Fort Leavenworth and visited the Command and General Staff College where we presented him with a proposal to establish a center for the study of interagency cooperation in his name. After considering our proposal for two days, he announced that he would provide \$3.6 million over five years to stand up the center but wanted it named after retired Colonel Arthur D. “Bull” Simons, the man who led the 1979 rescue of Perot’s EDS employees from a jail in Tehran, Iran. At the same time Mr. Perot also established an endowment for \$2.5 million to establish the General Hugh Shelton Chair in Ethics. His total gift was \$6.1 million.

On April 21, 2010, Ross Perot cut the ribbon inaugurating the Col. Arthur D. Simons Center for Interagency Cooperation in its new offices inside the Armed Forces Insurance building on Fort Leavenworth. Since its inauguration the Simons Center has matured into the professional education resource it was initially envisioned to be. As the center nears its 10th anniversary it is fitting to look back at some key accomplishments since its inception:

- 30 *InterAgency Journals* published with a distribution of more than 11,000 in print and online. The *IAJ* is also distributed to all U.S. embassies.



From left, Foundation CEO Bob Ulin, Fort Leavenworth Commander/ CGSC Commandant Lt. Gen. Robert L. Caslen, Jr., Foundation Chairman Lt. Gen. (Ret.) Robert Arter, Ross Perot, Foundation President Hyrum Smith, and the Chief Operating Officer of the Simons Center, Maj. Gen. (Ret.) Ray Barrett, cut the ribbon for the opening of the Col. Arthur D. Simons Center for the Study of Interagency Cooperation, April 21, 2010.

- 14 *InterAgency Essays*, 18 *InterAgency Papers*; five *InterAgency Studies*; and four *Special Reports* published.
- More than 116 manuscripts in all publications were penned by CGSC students, graduates and faculty.
- Published two reference books— *Interagency Handbook for Transitions* and *A Practitioner’s Handbook for Interagency Leadership*.
- Published an online “Interagency Bibliography” that includes more than 2,100 entries specific to interagency/government leadership issues.
- Established “InterAgency Brown-Bag Lecture Series” - Academic Year 2020 will be the series’ fourth year
- The Simons Center executes the Foundation’s “DACOR Distinguished Visiting Professor of Diplomacy” program, which brings retired diplomats to CGSC and the region for educational opportunities with CGSC students and local universities.
- Simons Center leadership established the “Distinguished Speaker Series” (DSS) to bring speakers of note that span the gamut of leadership and ethics, organizational effectiveness, collaboration, as well as current events and issues in business, government and the military. The DSS also includes oversight and execution of the Foundation’s other lecture series: The “General of the Armies John J. Pershing Great War Centennial Series,” a lecture series



Ross Perot takes a group photo after participating in class discussion with CGSC Professor Bud Meador and his students during his visit to the College Oct. 20, 2009. At the end of his visit, true to his form, Perot said, “The Lewis and Clark Center was magnificent, but I really enjoyed my time with the Soldiers in class and at lunch. They’re all heroes everyday for what they do for our country.”

dedicated to educating audiences about WWI during its 100-year commemorations; and the “Vietnam War Commemoration Lecture Series,” a lecture series devoted to educating audiences about the Vietnam War during the nation’s observance of its 50th anniversary. Execution of all the lecture series, including the InterAgency Brown-Bag Lecture Series, includes identification and cultivation of external sponsors to support the programs and assist with promoting them.

- The Center sponsors academic awards for the graduating classes of Command and General Staff Officers Course and the School for Advanced Military Studies (SAMS) with the “Colin L. Powell Interagency Student Award” and the “Simons Center Interagency Writing Award.”
- The Center administers a “Simons Center Fellows/Scholars/Interns” program that brings graduate and Ph.D. candidates into the CGSC arena to further their studies in interagency/government leadership, operations and related issues. – Fourteen students from both civilian and military backgrounds have completed the program since its launch in 2011.

CGSC Foundation is rightfully proud of all the Simons Center’s accomplishments and contributions to improving interagency cooperation and education of leaders for the nation. But none of this would have been possible without the willingness of a great American like Ross Perot to believe in the mission and support it from the beginning.

On July 9, 2019, the nation suffered a great loss of a true American patriot. Ross Perot was truly a man of vision, integrity and compassion, and more than just a great friend of U.S. service members. We mourn his loss and offer our condolences to his family. We will carry on his legacy with great pride. **IAJ**

Military Neuro-Interventions: Solving the Right Problems for Ethical Outcomes

by **Shannon E. French and Jacob A. Sandstrom**

Neuro-interventions are a category of procedures that include invasive and non-invasive ways of affecting the human brain, either temporarily or permanently, in order to help reverse the negative effects of damage that affects brain activity or to enhance cognitive abilities in some way. With some exceptions, interventions for repair or rehabilitation are generally seen as ethically uncomplicated, as they are focused on restoring the individual to a previous level of function after an injury or illness. However, interventions aimed at enhancing or improving cognitive abilities in individuals who have not suffered any loss of function tend to raise more eyebrows. Repairing damage is well within the usual parameters of medical professionals' activities, while elective efforts to improve healthy people can provoke some questions, especially if the procedures in question carry their own risks. Nevertheless, various elective enhancement procedures are already common, such as Lasik eye surgery, and there are fields that have shown great interest in neuro-interventions for enhancement, rather than repair, including professional sports and the military.

Neuro-interventions for the military hold both promise and perils as a means of enhancing troop performance. On one hand, despite purported benefits, attempts to narrowly focus on *skill acquisition* may do more harm than good. Chief among these potential harms is the possibility of unintentionally subverting moral reasoning by suppressing a certain neural network, leading to a reduction in empathy and increased tendencies towards dehumanization of the self and others. On the other hand, attempts to increase more general mental *agility* using neuro-interventions, such as enhancing the ability of troops to cycle between the competing neural networks¹ involved in ethical decision-making, may actually produce a healthier balance between empathy and analytic focus on

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task completion. This could reduce the negative effects of dehumanization on troops, allowing them to function better in combat, shift between combat roles and more empathy-requiring actions (such as rendering aid or engaging with civilian populations), and experience healthier transitions after deployments.

These possible benefits are enticing, but they can be realized only if military leaders maintain necessary restraint in employing neuro-interventions in specific, strategic ways. While skill acquisition is undoubtedly an important aspect of training, those skills are of little use without the ability to make effective, ethical decisions to direct the use of those skills. Above all, no neuro-intervention procedures should be adopted that do not solve existing or emerging problems identified by commanders in the field. Adding the complications of new technology to units without solving concerns they actually experience or can clearly see on the horizon is a non-starter from an ethical leadership perspective as well as a common strategic error that ought not to be repeated.

Developing neuro-interventions will always be a double-edged sword.

Developing neuro-interventions will always be a double-edged sword. While there is ample opportunity to learn about and improve cognitive function, the temptation to silo research into skill-based applications looms, if for no other reason than that such applications are easy to describe to funders. Yet rushing in that direction could be unwise. In the pages that follow, we will consider the respective merits of strict skill-based neuro-interventions and agility-based neuro-interventions as they apply to the military in the context of current governmental efforts to increase neuroplasticity.

Targeted Neuroplasticity Training

In 2016, the Biological Technologies Office of the Defense Advanced Research Projects Agency (DARPA) announced its Targeted Neuroplasticity Training (TNT) program, which seeks to “enhanc[e] cognitive skill learning in healthy adults by using noninvasive peripheral neurostimulation to promote synaptic plasticity in the brain,” and “elucidate the anatomical and functional map of the underlying neural circuitry involved in regulating synaptic plasticity.”² This program, part of DARPA’s larger “BRAIN Initiative,” is among a number of projects described in the public domain involving military applications of neuro-interventions. These include the Restoring Active Memory, which can aid in the formation and retrieval of memories in those with traumatic brain injuries, as well as Revolutionizing Prosthetics and HAPTIX, which develop brain-controlled prosthetics and provide naturalistic feeling respectively.³ These generally-acceptable technologies that seek to repair neural damage stand in contrast with other, bolder projects, such as Neural Engineering System Design, which aims to “develop an implantable neural interface able to provide unprecedented signal resolution and data-transfer bandwidth between the brain and the digital world.”⁴ Seeking to top even Facebook’s attempts to create a pseudo-hive mind on the order of the Borg Collective,⁵ Neural Engineering System Design could theoretically construct a true collective intelligence, which would generate a fresh collection of ethical quandaries. Though the TNT does not seem to present such extreme consequences, we are wary that its effects could be equally troublesome, if not carefully guided, given current understandings of cognitive neuroscience and moral decision-making.

As DARPA notes, TNT is unique. Unlike previous attempts to restore lost functions, the TNT program seeks to “advance capabilities

in healthy individuals,” including language acquisition and marksmanship abilities.⁶ The program is divided into two phases: “deciphering” neural mechanisms to develop nerve stimulation technologies, and employing that technology in training exercises to “measure improvements in the rate and extent of learning.”⁷ Using neurostimulation that activates peripheral nerves, the technology is expected to increase brain plasticity—the brain’s ability to adapt and change throughout life—to enhance learning. If the project is successful, it will reduce the “cost and duration of the Defense Department’s extensive training regimen, while improving outcomes.”⁸ These appear to be agreeable goals, as a matter of policy and as a general aim for research. Yet, DARPA’s focus seems to be solely on skill-based applications of neuro-interventions, which may not adequately address the real challenge facing the military: the mental agility to make decisions on when to employ particular skills (e.g. does a given moment require marksmanship or diplomacy?). Moreover, a strict skill-based focus may be actively detrimental to agility.

Opposing Neural Networks and Hard Skill Acquisition

Past empirical research indicates that human decision-making involves two competing neural networks: the empathic network, and the analytic network.⁹ Because one network suppresses the other, ‘good’ decision-making requires the agility to cycle between the networks effectively. Since we ask our soldiers to be both highly empathic and highly analytic,¹⁰ a neuro-intervention aimed at studying and encouraging this agility would be immensely beneficial, as it would increase ‘good’ decision-making as a byproduct. Additionally, improved agility would help individuals resist getting ‘stuck’ in one or the other neural network. This matters, because the psychological effects of the brain over-engaging either one of the networks include symptoms of

depression and other negative impacts on mental health.

Skill-based improvements present a different set of byproducts. Assuming the effort is successful, an increase in skill acquisition would be the primary result. Yet, a potential secondary result is the suppression of one of the two neural networks, depending on the task at hand. In the military application, one goal of TNT is improving marksmanship, a highly analytical skill that requires intense focus, concentration, and precision. Ideally, marksmen are not only acutely aware of their target but understand—based some combination of empathic and analytic reasoning—that they are justified in targeting that individual. Yet the process of aiming and firing relies almost exclusively on calculated, analytic thinking. If the TNT program, using peripheral neural stimulation, were to improve marksmanship by suppressing the empathic neural network and amplifying the analytic neural network, we are concerned of adverse effects both of dampening empathy and of remaining in one network for extended periods of time. In terms of solving

...we ask our soldiers to be both highly empathic and highly analytic...

the right problems, is it a bigger concern for commanders of combat units that troops are not hitting their chosen targets, or are the real issues target selection and avoiding moral injury? Put simply, better marksmen are not truly helpful to mission success if they shoot the wrong people and/or suffer debilitating post-combat trauma. Merely making more efficient killers cannot be the goal.

Neuroplasticity training, requiring nerve stimulation, is expected to increase the rate at which one learns. However, DARPA has explicitly noted that it will not consider contractors aiming at increasing memory

functions in the TNT project, as those are “out of scope”¹¹ of the endeavor. We wonder whether memory considerations should be within the scope of TNT’s aims. Indeed, memory function has been featured in other BRAIN Initiative projects, but it seems particularly relevant with the development of TNT training. TNT purports that a significant amount of new learning will occur; an obvious question is whether the skills will be retained. In one potential scenario, the TNT training would be extremely effective in providing new skills in the short term, but in the long-term, participants will see a return to normal skill levels. In order to retain the skills, repeated neuro-interventions would be necessary to maintain levels found immediately post-intervention. Interventions might even need to be made on deployment. If memory is insufficient to retain the additional learned skills and recurring interventions are necessary, we question the sustainability and long-term effects of the interventions and suggest that they be considered in studies before TNT is implemented. Otherwise, the intended ‘enhancements’ would more likely impede mission success.

...research indicates that we cannot be both analytic and empathetic at the same time, a key feature of our neural function is that we are constantly cycling between these two networks.

Assuming that maintaining high levels of analytic skill requires recurring stimulation of the analytic neural network, we posit that the continued stimulation of this network could lead to decreased agility to cycle between the empathic and analytic networks with time. We recognize that this is a hefty assumption, yet the potential risks appear to justify taking this concern seriously. Recent work in neuroethics emphasizes the vital importance to ethical

behavior (and ethical leadership) of being able to access equally and cycle smoothly between neural networks:

[L]eaders [need] to actively work on achieving a dynamic balance between the perspectives offered by two opposing networks in the human brain. When this balancing act is accomplished, true ethical leadership is given an opportunity to emerge. However, when an individual privileges one perspective over the other, shows poor judgment in deploying these different perspectives, or attempts to blend the two perspectives in a way that breaches neurobiological constraints, then ethical failure become inevitable with time.¹²

Especially in the dynamic domains of modern warfare, soldiers often have to be intensely analytic one moment and empathetic the next. If the ability to cycle between networks has atrophied or is blocked, this may not be possible. As Anthony I. Jack and other researchers have shown,¹³ there is also direct harm that can result from staying too long in one of the two opposed neural networks, such as depression, dissociation, and other psychiatric disorders. For healthy brain function, a balance must—and can be—obtained. Dr. Jack explains:

[W]hile the research indicates that we cannot be both analytic and empathetic at the same time, a key feature of our neural function is that we are constantly cycling between these two networks. This natural cycling between analytic and empathetic mental modes is part of what is disrupted in individuals with mental disorders. Tasks temporarily and partially disrupt this natural cycling, pushing us more into one mode or the other for more sustained periods. However, we know that when a task is used to push healthy participants into one mode, and they are then given a task-free break, they tend to compensate by cycling deeper into the opposing mode the harder they

were pushed away from it.¹⁴ Therefore, no absolute obstacle is presented by the mere fact that individuals are required to make use of both modes in a particular working context. In fact, provided the switching between modes is well managed, this is likely to be more healthy and sustainable, and less fatiguing, than a work environment that only calls on one of these cognitive modes. The trick is just managing the switching between modes – ensuring that one is in the appropriate cognitive mode to effectively tackle the task at hand. This requires attending to appropriate cues and the possession of a broader cognitive model that allows us to make good use of those cues.¹⁵

Consider this analogy: you slam a car into a gear, forcing it into one function, and you keep it in that single gear for an extended period. At first, the damage is not apparent, nor is it debilitating for the automobile. Yet, consistently forcing the car into that gear and keeping it there would cause lasting damage, such that either the transmission would be unable to shift into gear properly, or it would be unable to shift out of a particular gear. This is not to say that a five-speed transmission compares perfectly to the complex neural networks of the human brain. Yet one cannot help but question whether neuro-interventions would have a similar result when the brain attempts to “shift” between networks. One primary concern with skill-based neuro-interventions is that they appear to fall into this “gear-jamming” category of our moral decision-making “transmission.” Skill-based neuro-interventions have the potential to force the brain to operate in one gear (i.e. analytic or empathic networks) while another gear (i.e. the dormant network) may be needed for sound, ethical decision making (or, most likely, the ability to cycle smoothly between networks).

The result of remaining in one network not only causes individual harm but may lead

to grave societal ills. As Dr. Jack alludes to, psychopaths suffer from a distinct lack of empathy, the result of remaining in a highly analytic state and being unable to shift into the empathic neural network. Lacking this ability, psychopaths tend to externalize blame, in addition to being egocentric, fearless, coldhearted, and manipulative.¹⁶ As a result, psychopathy can cause difficulty in forming healthy relationships with others and with society. While most individuals exhibiting psychopathic traits never cause harm to others, there have been many infamous psychopaths – serial killers, serial arsonists, and the like—who have caused massive harm because of their inability to engage the empathic neural network. Improving a skill like marksmanship beyond what normal practice can obtain through neuro-interventions is certainly not worth the cost, if it could increase the number of psychopaths in society.

Skill-based neuro-interventions have the potential to force the brain to operate in one gear (i.e. analytic or empathic networks)...

Likewise, there is danger in remaining in the empathic neural network for extended periods of time. Hyper-empathy can be equally debilitating as hyper-analytic focus, and can also cause severe strain on healthy relationships. As a result of being unable to engage the analytic network, many hyper-empathetic individuals find themselves “taking on other people’s feelings” in order to “live their experience,” which can be off-putting to others.¹⁷ Moreover, this can cause lasting psychological harm to the individual, including crippling depression and anxiety. Though TNT does not seem to focus on amplifying the empathic network, we wish to underscore the risks of trauma that would arise if an intervention caused an individual

to remain in the empathetic network for an extended period of time. In the military context, this could be especially troublesome, as a hyper-empathetic individual might feel the need to take on the trauma of other troops, and be unable to make effective decisions as a result. On a more positive note, perhaps neuro-interventions could help those naturally suffering from psychopathy or hyper-empathy achieve a better balance of their neural networks and reduce the resultant societal impact.

...the other main area of interest for the TNT project has been using such interventions to assist troops in more rapidly and effectively acquiring second language skills.

Soft Skills from Neuro-Interventions

We have been focusing on the potential for using neuro-interventions to improve marksmanship, which raises some red flags. As previously noted, the other main area of interest for the TNT project has been using such interventions to assist troops in more rapidly and effectively acquiring second language skills. The ability to speak other languages is most often seen as a soft skill; one that requires some level of empathetic engagement with others. At the same time, language acquisition also has analytic elements. It may be that, unlike attempts to improve marksmanship, enhancing second language acquisition skills could have a positive effect on mental agility and the ability of the subject's brain to cycle between neural networks in a healthy way.

The benefits of increasing second language acquisition among troops can be seen as much more wide-ranging than improving marksmanship. The U.S. military frequently relies on close partnerships with formal allies

and civilian populations who do not speak English. Better communication could make these partnerships much more effective. Despite its fictitious nature, *Star Trek's* Universal Translator provides a useful, analogous case. As Mark E. Lasbury notes in *The Realization of Star Trek Technologies*:

[T]he Starship Enterprise is a place where very different individuals participate in reasoned discussion and take definitive actions. Clearly understanding each other is a matter of life and death. They each speak passionately for their preferred course of action or shout out commands that must be followed to the last syllable, yet Kirk is from Iowa and Picard from France. Mr. Scott calls Scotland home, La Forge hails from Somalia, and Ensign Sato is Japanese.¹⁸

Evidently, many technologies that once seemed distant and only plausible in a science fiction/fantasy setting are now nearly at our disposal. Neuro-interventions in the military that facilitate a similar common understanding as the imagined Universal Translator could be useful in joint missions, while also helping soldiers better understand the context in which they are engaged. That said, unlike in *Star Trek*, there is a question of whether such drastic saturation is practical or possible given logistical and budgetary constraints.

Another question that must be asked is whether rapid second language acquisition through neuro-intervention might have the negative unintended consequence of subverting other benefits that come from the slower-paced more traditional methods of second language learning. For instance, having to gradually immerse oneself in a new language might provide deeper understanding of the associated culture than it would be possible for anyone to achieve if neuro-stimulation of some kind were able to radically speed up that process. While this is an important question to ask, it must be

balanced against the negative consequences of fewer troops having any second language skills at all. In other words, while it might be ideal to allow troops the time to gradually acquire integrated second language skills and the associated cultural understanding, it may still be far preferable to have more troops quickly spun up to be at least able to communicate to some degree in a relevant second language than not to have that capacity at all. We certainly do not want “the perfect to be the enemy of the good,” as the old expression goes.

Serving with Neuro-enhancements

Beyond the direct impact of the neuro-interventions themselves, in the military context (and beyond), we must be concerned with the effects of living and working as and with enhanced individuals. How would military units function if some members were enhanced, and others were not? How would the enhanced and unenhanced regard one another, and what impact would this have on unit cohesion? Would units with enhanced troops always require enhanced officers? What would the experience for future troops be like if some of their enhancements were temporary, or the effects of neuro-interventions ebbed and flowed during deployments? These are just a few of the questions that must be confronted before any rush to implement these procedures with serving members of the military.

If certain troops have been administered a neuro-intervention to improve skill “x,” while their superiors have not, one can imagine the tension that could naturally arise. We also suspect that it would create a new power differential within individual ranks if some troops are enhanced, while others are not.¹⁹ Alternately, there could be situations in which the superior has been administered a neuro-intervention that increases the power differential. In this situation, one would expect to see a disconnected superior who is resented by his/her subordinates. Again, the question must be asked, what problems are

these neuro-interventions intended to solve? It is not at all clear that military missions are failing due to a lack of enhanced super-soldiers. On the other hand, many missions have been compromised by poor unit cohesion and bad leadership.

It is not at all clear that military missions are failing due to a lack of enhanced super-soldiers.

Life after Neuro-enhancements

Post-Enhancement Distress Syndrome is a new term (obviously echoing Post-Traumatic Stress or Post-Traumatic Stress Disorder)²⁰ that was devised to cover a wide range of negative reactions that might be experienced by individuals following bioenhancements, including the type of neuro-enhancements that concern us here. Post-Enhancement Distress Syndrome can arise in a number of ways. In one scenario, a soldier is given a neuro-enhancement during active service but is not allowed to retain the enhancement (or the specific version of the enhancement) upon return to society, resulting in distress. In another, the soldier is enhanced in a way that is irreversible, such that when they return to society, they are unable to reintegrate, resulting in distress. The same can be said for military-grade prosthetics and other military technologies that dramatically alter the individual’s experience of the world.

Fictionalized versions of what it is like to be enhanced (and unenhanced) have been helpfully explored in various works of fiction (especially science fiction), from Daniel Keyes’ well-known short story and novel *Flowers for Algernon*, to the film “Gattaca,” to the TV series “Chuck.” What the creators of these works help us imagine is the trauma and alienation that being enhanced or unenhanced might provoke. It can already be difficult for combat veterans to

adjust to ordinary civilian life after the highly adrenalized experience of an active deployment. Now suppose that some veterans are given neuro-interventions that actually enhance their abilities during their service (or a particular deployment), and then they must revert to their previous, unenhanced levels of competence. The sense of loss - not only of ability, but of identity as a special person with unique capacities - could be psychologically crippling. We are calling this the Flowers for Algernon Effect. Someone suffering from the Flowers for Algernon Effect might feel tremendous depression and despair from losing abilities that made them feel special and useful.

...suppose that some veterans are given neuro-interventions that actually enhance their abilities during their service (or a particular deployment), and then they must revert to their previous, unenhanced levels of competence.

Would the answer be to provide the means for enhanced troops to remain enhanced after their service? That possible solution would then cause another problem, both for veterans and society in general, in that it would introduce two distinct types of humans: the enhanced and the unenhanced. We are calling this the Gattaca Effect. This, too, would build on an already existing problem; namely, that some combat veterans (or veterans in general, as well as those currently serving) at times feel alienated and apart from the society they have pledged to serve. This oft-discussed phenomenon is sometimes associated with the language of “sheep, sheepdogs, and wolves,”²¹ employed by Lieutenant Colonel Dr. Dave Grossman in his book *On Killing*. Although it is by no means universal, some who fight can come to

see themselves as “sheepdogs,” with civilians being hapless “sheep” who need protection from deadly enemies, or “wolves.” This mindset is antithetical to healthy warrior transitions post-service, and when taken to extremes can even threaten civilian control of the military. The concern with the Gattaca Effect is that having troops who are given not just specialized training and experiences but actual bioenhancements might increase their sense of detachment from (and possibility superiority over) unenhanced civilians. At the same time, unenhanced civilians might become fearful of troops and veterans with enhancements, thus pulling the civil-military gap even wider.

The TV show “Chuck” tackles both the Flowers for Algernon Effect and the Gattaca Effect, as various characters on the show experience both enhancement through neuro-interventions and the loss of those enhancements. The conclusions the writers draw might provide some insight for real-life management of these issues. For example, in playing out the thought experiment, they make a compelling case that the pre-existing character and psychology of the enhanced individual is the key to how the Flowers for Algernon Effect or the Gattaca Effect will play out for that individual and those with whom he interacts. The clear suggestion is that not everyone is suited to being enhanced, and that in order to reduce the chances of negative results, careful advanced screening would be necessary.

This is not a new thing for the military, of course. Many specialized roles require certain character types and psychological profiles. Not everyone who serves is suited to be a sniper, or a SEAL, or an intelligence officer. To avoid some of the predictable pitfalls of employing enhancements, one wise course would be to consider them only for select individuals, and not as a tool that could be given without significant and lasting negative consequences to wide swaths of service members. This would mean

that the TNT project should not aim to make all infantry better marksmen through neuro-interventions, for these reasons as well as those previously raised. Even rapid second-language acquisition might best be reserved for a limited number of people in specific roles.

Further Ethical and Legal Issues with Neuro-interventions

Since neuro-interventions are so novel, it is unclear how these technologies will integrate with existing laws, norms, and the established Just War criteria. In combat, strict skill-based enhancements appear to present greater potential for indiscriminate use unless adequate guidance is given. In the absence of an accompanying enhancement in decision-making ability, troops and leaders may use enhancements for greater harm than good. This, in turn, could lead to atrocities in war that would not have been possible otherwise. While members of the military receive training in the Law of Armed Conflict, Just War Theory, the Geneva Conventions, and are given rules and guidelines to abide by, skill-based neuro-interventions do not clearly align with most explicit, established provisions. It appears that adaptations will be necessary to accommodate these technologies as they emerge; however, as with most codes and laws, changes will take time and fine-tuning. In the interim, it is possible that troops will have to rely on their own judgment—or their superiors’ judgment—of the best approximation of what is just and what is not. Are neuro-enhancements proportional? Are they discriminate enough? While not the focus of this paper, these questions require further investigation and critical examination.

The impacts of neuro-interventions are neither exclusive to the military, nor limited to one’s time in active duty. Given that cognitive enhancements and neuro-interventions are becoming a subject of research (and not just a radical pipedream), it is not unreasonable to

assume that there will soon be applications in society as a whole. As with most technologies of this scale and importance, it is also safe to assume there will likely be military-grade and civilian-grade forms of neuro-interventions, such as TNT. This divide is especially important when considering whether to employ skill-based neuro-interventions.

Since neuro-interventions are so novel, it is unclear how these technologies will integrate with existing laws, norms, and the established Just War criteria.

Neuro-interventions that focus on developing particular skills, as with some other forms of voluntary bio-enhancements, can introduce additional points of failure. While technology can provide an advantage in conflict, it is not a sufficient condition to yield guaranteed success. Some technologies can, even when employed properly, be extremely clumsy and haphazard, especially when they do not easily integrate with other technologies and daily organizational practices. There is a reason that Bluetooth-enabled salt shakers are not found on every suburban kitchen table; the investment of time and effort it takes to operate the gadget does not justify the results. The amount of money spent could be used to purchase multiple conventional versions, which would still fulfill their fundamental purpose effectively. Likewise, the success of technology in the military context depends on many factors, including convenience, usability, and practicality. In combat, technological superiority is among these factors, but depending on the situation, geography, command climate, strategy, and the troops’ ability to adapt to changing circumstances, it is unclear whether technological superiority is paramount. While “bringing a knife to a gunfight” is understood

as likely to yield an unfavorable outcome, pitting conventional forces against forces with neuro-interventions will not necessarily follow the same pattern. Additional technology does not equal victory, and in many instances it can introduce new vulnerabilities. There are many historical examples of the higher-tech side in an asymmetrical conflict being defeated by their low-tech opponents.²² Claims that neuro-interventions are the best option for improving training tend to ignore the fact that many military training programs are highly effective at honing skills in a reasonable amount of time, but that programs are woefully underfunded. “Bread and butter” training may be a harder sell, but in actuality, investment in conventional training may be as or more effective as taking the neuro-intervention route, while avoiding some of the potential drawbacks of tech-driven bioenhancement.

...we have refrained from an outright renunciation of all neuro-interventions.

Thus far, we have refrained from an outright renunciation of all neuro-interventions. Yet there are a few conditions under which such programs would be justified. If the same criticisms of skill-based neuro-interventions, such as the potential for harm to troops (including Post-Enhancement Distress Syndrome) and society, was found to apply to all forms of neuro-interventions, the ethical choice for military leaders would be not to pursue neuro-interventions. Even a technology that reliably reduces the cost in terms of time and funding of essential military training is not worthwhile if it comes at a severe cost in terms of harm to troops and to their missions. By pursuing a technology that reduces the costs of training in the short-term but causes harms in the mid- to-longer term, we fall into a trap: pushing problems to the future is neither

sustainable nor prudent. To that end, we further hold that with any type of neuro-intervention, if there is potential for generational or reproductive harms, the technology should not be employed until such time that the neuro-intervention is definitively proven to be safe across multiple generations.

Animal-based and twin studies about the heritability of neurological changes suggest that there is potential for DARPA’s TNT program to cause lasting generational effects.²³ That is, alterations made in the brains of troops by the proposed interventions might be passed on to their offspring. If the effects of a neuro-intervention, especially one that suppresses specific networks in the brain, are generational, we hold that such an intervention is irresponsible and unethical, as it causes undue harm to future generations without consideration for their wants or needs.²⁴ As such, generational concerns should be given due weight in deciding whether to pursue specific neuro-interventions, regardless of the level of involvement or type of intervention. Informed consent is already fraught in the military context, but it adds another layer of complexity if troops may be “voluntold” to undergo neurological interventions that might affect the mental abilities of their unborn children.

Conclusion: Recommendations

Our goal has not been to answer all the ethical questions raised by the possible adoption of neuro-interventions by the military, but rather to raise and draw attention to some of them to highlight the fact that further discussion and analysis is required. We hope we have accomplished that aim. There is much work to be done to align new technology with the just war tradition and ensure that appropriate legal protections are in place for both military and civilian populations. While we acknowledge that skill-based neuro-interventions may lead to greater and more rapidly-acquired specialization

and skill levels within the military (which is not inherently problematic), they may disrupt current power and command structures to the point of being more trouble than they are worth. Even more worryingly, they may cause significant and lasting unintended harms, if the interventions improve a hard skill (e.g. marksmanship) at the cost of dampening empathy and other essential capacities needed for healthy social interactions. Some of these harms may not only affect active troops and mission accomplishment but could easily spread to veteran and civilian populations and further disrupt civil-military relations. We concede that, if applied equally to all service members, some neuro-interventions to enhance a limited set of softer skills (such as second language acquisition) could be more beneficial than not and raise significantly fewer concerns. However, overall, neuro-intervention directed towards the acquisition of specific skills appears to be a misguided pursuit. Funds would be better spent supporting more traditional training methods for skill acquisition.

Agility-based neuro-interventions seem to have much greater promise. They may produce better leaders among (and of) troops who are able to cycle effectively between neural networks, and we do not anticipate the same power disruptions as with skill-based interventions. Where applied (whether to all, or some members of the military at each level), we posit that there would be an increase in ethical leadership. Agility-based interventions increase the ability of troops to make sound decisions, such that the analytic and empathic networks are used appropriately, and can be accessed more efficiently than would be naturally accessible.

Agility-based cognitive enhancements also have practical applications outside of the military. Moreover, they theoretically create fewer issues for military members after they are no longer in active duty and can in fact ease the transition to civilian life and post-service productivity and success. Some skill-based

cognitive efficiencies (i.e. language and arguably marksmanship) have civilian applications, yet they do not have the universal applicability of agility-based enhancements.

Forcing a healthy brain that already cycles between networks into one network or another and using technology to stimulate that network beyond levels normally achieved through common skills training is potentially troubling. While particular skills such as marksmanship are highly analytic, it does not follow that gains in marksmanship should come through neuro-interventions if such interventions might damage mental health and/or inhibit ethical sensitivity. Focusing on increasing marksmanship by activating the analytic network may be an effective means to a specific end (greater precision hitting targets), but it could also lower inhibitions and disrupt the ability to discriminate between legitimate and illegitimate targets. As such, it is not a gain that makes sense, particularly in most modern combat contexts (where discrimination is arguably the more essential skill). Such an intervention would be, in essence, solving the wrong problem, while introducing new potential harms.

Agility-based interventions increase the ability of troops to make sound decisions, such that the analytic and empathic networks are used appropriately...

Despite the fact that skill-based neuro-interventions may save valuable time and resources during training, the potential for causing lasting harm to troops and society at large outweighs the benefits. It makes more sense to apply the promise of neuro-interventions to increasing the ability of troops to cycle effectively between neural networks, so that they can perform the diverse tasks assigned to

them better and at less cost to their mental health. We do not need better marksmen. We need more discriminating marksmen. The right kind of neuro-interventions will increase resiliency in troops and provide society-wide benefits. The wrong kind will create more problems than it solves, for present and future generations. Before programs like TNT get further down the field, it is essential for ethicists, legal experts, military professionals, and all interested parties to engage in open and transparent dialogue in academic circles and the public sphere about the full range of their ethical, legal, and social implications. **IAJ**

NOTES

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The Decembrist Revolt and its Aftermath: Values in Conflict

by Robert F. Baumann

Editor's Note: Look for Shushanna Baumann's companion piece to this article in the upcoming Special Report featuring papers presented at the 2019 Fort Leavenworth Ethics Symposium.

In December 1825, a group of Russian conspirators attempted to seize power by carrying out an uprising against the tsarist regime. Known as the Decembrist Revolt, Soviet historians embraced the episode as a precursor to the Bolshevik Revolution, which followed a century later. Less well known is the fact that the Decembrist Revolt drew inspiration from the American Revolution and U.S. Constitution. Made up primarily of nobles, officers and professionals, the Decembrists—as they came to be known later—offer a fascinating example of the complexity of ethical decision making. Moved by moral and political convictions to undertake an astonishingly brash and dangerous takeover, they gave meticulous thought to the justification, methods and end state of this extraordinary endeavor. Not only did they leave behind extensive documents and correspondence, but many survivors were extensively interviewed in the aftermath. This record faithfully reflects a process of principled ethical reasoning as well as the phenomenal complexity in taking the drastic step from discussion and debate to action.¹

This essay explores the implications of Decembrist actions and their aftermath, as well as the resonance of the entire episode in Russian politics today. Since the period of the Decembrists, there has been a more or less continuous struggle by a significant fraction of Russia's intellectual class to introduce liberal, Western ideas of legality and governance. Foremost among these concepts have been freedom of expression, the rule of law, a representative political process, and a genuine form of accountable governance. Whether challenging tsars, commissars or presidential strongmen, liberal Russian intellectuals have confronted similar criticisms—that their ideas were foreign or not true to the Russian nature, that they were a “Trojan Horse” for alien interests, or that their ideas could never work in Russia. Thus, it is informative to take a look at this tradition through the experience of the Decembrists. Similarly, it is illuminating to examine the post-Decembrist reaction in light of contemporary regime efforts to stifle political opponents. The official ideology of Nicholas I has

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an audible echo in Moscow today.

Concerning the specific focus of [the 2019 Fort Leavenworth Ethics Symposium], the role of ethical considerations in officer behavior, it is essential to observe that liberal Western ethical values informed the political judgement of the Decembrists. The Russian nobility as a class did share some notable Western attributes beyond the fact that most of the elite were fluent in French and often spoke other European languages as well. This reflects their sense of class kinship with their counterparts in the West. Individual honor, as expressed in oaths of allegiance, was an important element of the common culture. The officers among the Decembrists had sworn an oath of allegiance to the tsar, an oath that they took seriously. Therefore, acting against the regime, as their consciences demanded, posed an ethical dilemma.

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Before beginning an analysis of the work of the Decembrists, a brief survey of the historical context is in order. In particular, it is crucial to consider the events and political currents that influenced the decisions of the Decembrists. In the early nineteenth century, Imperial Russia was in some respects at the zenith of its prestige in Europe. In 1812, Russian forces repelled a French invasion in which Napoleon's army marched all the way to Moscow before withdrawing in disastrous defeat. From the Russian viewpoint, this great common ordeal contributed much to the formation of a modern national identity, a collective awakening in response to foreign invasion. A pivotal moment occurred as Russian armies reached the western frontier of

the empire. Against the advice of some of his leading generals, Tsar Alexander I resolved to pursue the French across Europe, with the result that a Russian army staged a victory parade in Paris. It marked the zenith of Russian prestige and influence in nineteenth-century Europe. The experience was fraught with implications. Many Russian officers participated in one of the more fateful military occupations in history. Immersed in French society and culture, it was hard to escape the conclusion that Russian society was by comparison harsh and unenlightened.

The European Enlightenment penetrated Russia slowly during the second half of the eighteenth century. Catherine the great had corresponded with leading French intellectuals and for a time fancied herself as the model "enlightened monarch." Inevitably, the disparity between social theory and reality forced a difficult reckoning. The French Revolution and the execution of Louis XVI stirred revulsion in Russia and led Catherine to abandon her liberal posturing.

A case in point is the role of Alexander Radishchev, a liberal Russian intellectual who for a time enjoyed the Tsarina's favor. However, Radishchev was not content with superficial agreement about a vision for a more enlightened Russia. In his most famous work, *A Journey from St. Petersburg to Moscow*, he described the poverty and subjugation among Russia's serfs as well as the cruel ignorance prevalent among the provincial nobility. This expose on the barbarous side of life in Russia did not play well at court. Radishchev eventually punched his ticket to exile to Siberia.

Radishchev preceded the Decembrists by several decades but his analysis of Russian society anticipated theirs. Like most—not all—of the Decembrists, he did not reject Russia's autocracy.² Yet, apparently inspired by the American Revolution, Radishchev produced his first poetic political commentary in *Ode to Freedom*, which unsparingly denounced

unchecked autocratic prerogatives and serfdom, while invoking the names of George Washington and Oliver Cromwell as heroic challengers of the status quo.³ One stanza reads: “What you have, indeed, is what we thirst for; Your example has revealed the dream.”⁴ Though a critic of the violent seizure of native lands in America, Radishchev saw the founding of the United States as a new dawn for liberty and expressed boundless admiration for free expression and thought.⁵ Following immediately upon the French Revolution, his scathing social critique, including his repudiation of serfdom, received a far more skeptical reception at the Court of Catherine the Great. The final straw was the regicide in Paris and the waves of beheadings of leading royals. Sensing that tolerance could well be confused with weakness, Catherine banned Radishchev’s main works which joined the realm of underground literature.

A quarter century later, the same principal issues stood out in the writings of the Decembrists. The first was the immorality of serfdom, a form of bondage already eliminated across Western Europe and ever more a source of national shame. Serfs were not slaves, although the distinctions were subtle enough that observers could not be faulted for failing to notice. Serfs were tied to the land, could be bought and sold, and were very much at the mercy of the whims of their masters. The most striking distinction concerning the practice of slavery in the Americas was that the serfs themselves were of the same ethnicity as their masters. Interestingly, Russian owners viewed their serfs in much the same way that white slaveholders in the Americas saw their slaves. Popular opinion among owners held that the serfs were naturally less capable of managing their own affairs, and that their servitude was perfectly appropriate.

The second burning issue in the minds of most Decembrists was Russia’s autocracy. In this regard especially, currents of Western thought had

a powerful impact. Almost without exception, the Decembrists believed that governance in Europe and the United States was more enlightened and just (despite the continuation of slavery in the latter). Rule under a constitution and a law code enshrining individual rights for all were the foundation stones of a civilized regime. The French Revolution might have ended badly but even the Emperor Napoleon had created a code of laws. The development of the United States was more inspirational. George Washington was a symbol of liberty. The words of the Declaration of Independence and the Constitution became the object of endless study and reflection. The persistence of slavery in America was objectionable but since Russia, too, had not been able to end the scourge of human bondage the emphasis was on what had been achieved to date and what a great country could aspire to in the future.

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In the meantime, another source of distress for Russian liberal intellectuals was that the reign of Alexander I had begun in 1801 with such a sense of promise. Having been tutored by enlightened Westerners, personally chosen by his grandmother Catherine, Alexander was conversant with the latest theories on social justice and seemed genuinely interested in reforming Russia. His youthful inner circle of close friends and advisers fully believed that great progress would take place in the near future. Nevertheless, conservative resistance at court and among the great landowners remained formidable and Alexander could hardly be faulted for remembering that his own father, Paul I, had been deposed and murdered in part because of his unorthodox views. Still,

Alexander generally earned a reputation for vacillation and for delegating too much authority to the anti-reformist Alexei Arakcheev, who served as Minister of War from 1808.⁶

Napoleon's invasion of Russia in 1812 roughly coincided with a change in Alexander's outlook. Victory accompanied Alexander's withdrawal into deep religious mysticism and reinforced a mounting concern for the preservation of autocracy in Russia. Thus, even as they returned home from France, flush with visions for improving Russia, the future Decembrists found that their sovereign was losing interest. In the words of the leading Western historian of the Decembrist movement, Anatole Mazour, "Gradually, they [future Decembrists] began to discover that they had come back to an alien country."⁷ Disillusioned Russian liberals began to form secret networks. Some took advantage of the democratic discussion forums provided by Russia's fledgling Masonic societies, but those most committed to change formed a new secret organization. This clandestine society laid down the founding principles of the movement and created a framework for organizing and planning.

One of the documents that most informed Decembrist thinking about the structure of a future government was the American Declaration of Independence...

One of the documents that most informed Decembrist thinking about the structure of a future government was the American Declaration of Independence, the text of which would not actually appear in print in Russia until the middle of the nineteenth century.⁸ The declaration struck a chord with liberal Russian intellectuals, who were for the most part aware of it through brief published summaries passed along from France.

Equally influential was the American

constitution. Indeed it is clear that for most of the Decembrists the establishment of a constitutional regime was fundamental. Nikita Murav'ev, author of one of the draft constitutions put forward by a Decembrist, drew extensively from the American model, as well as from the examples of one or more of the individual states. Not at all coincidentally, the proposed oath to be taken by a future Russian emperor bore a strong likeness to the one taken by American presidents.⁹

The relatively youthful Murav'ev had joined the Army during the 1813 campaign to liberate Europe from Napoleon at the age of 17. By virtue of his noble status, he became a captain in the Guards Corps in short order and fully exploited his time in Paris to associate with French intellectuals. Not long after his return to Russia, he became a founding member of the Union of Salvation from which the eventual revolt was forged. Due to his energy and commitment, he soon emerged as a leader in the movement and willingly took on a constitutional project. What he produced was radical enough in a Russian context, but might not have fully reflected Murav'ev's staunch republicanism.¹⁰ The proposal settled for a constitutional monarchy, but did address liberation of the serfs and slaves, as well as the establishment of some form of legislative assembly. Moreover, it declared unequivocally that "autocratic government is equally fatal to rulers and to society," and that "it is not permissible to let the basis of government be the despotism of one person."¹¹ A hereditary "emperor" would in reality be a very strong executive, commanding the army, conducting foreign policy, and enjoying a legislative veto. The Russian Empire would become a federation of nationalities, an evident attempt to balance central authority with a reasonable latitude for local governance.¹²

Murav'ev's constitutional project did not enjoy universal support among the Decembrists. A more extreme constitutional gained support

among those who were more radical in their approach. A split in the movement occurred in 1820, resulting in the formation of the Southern Society, which operated in a much more secretive fashion and championed more extreme solutions.

Another officer, Pavel Pestel, spearheaded the work of the Southern Society. Not an ethnic Russian, Pestel hailed from a Lutheran, rather than Orthodox, religious background and had spent several years studying in Germany before the Napoleonic invasion. By 1821, he was commanding an infantry regiment based in Tulchin, even as he drafted a scheme to overthrow the tsar's government. Pestel's reform plan, titled Russian Law, demanded immediate emancipation with land for the serfs, abolition of class privileges, and openly espoused republican government. He was even open to the possibility of regicide. A monarch limited by a constitution, he believed, could not be trusted and would seek the first opportunity to redesign the system of government in his own favor.¹³

Like Murave'ev, Pestel believed that the United States offered a viable model of republican government. Conventional wisdom in Russia not only in conservative, but also in many more liberal political circles, was that republicanism would inevitably result in chaos and governmental collapse. Pestel achieved political success in the Southern Society in pressing for a genuinely republican vision. Like some other partially Westernized Decembrists, Pestel's worldview was influenced by Enlightenment philosophy. At the same time, as evidenced by his correspondence with his parents, his Orthodox Christian faith was wavering.¹⁴ Generally, Orthodoxy was a bulwark of the social status quo in Imperial Russia. In contrast to America, in Russia there were few religious voices that opposed serfdom. Otherwise, there were remarkable similarities between the debates over serfdom or slavery in Russia and the United States.¹⁵

Meanwhile, events both domestic and

foreign conspired to shape the plans of the future Decembrists. A liberal revolution against Ferdinand I in Spain enjoyed brief success in 1820. Backed by part of the army and commanded by a colonel (Rafael del Riego), it forced the king to accept a liberal constitution before conservative Europe marshalled an army of its own to restore the status quo.¹⁶ (The failed takeover in Spain nevertheless confirmed the views of leading Decembrists that a well-led, limited revolution might succeed. In this sense they also seem to have taken note of the example of George Washington, who rejected the idea of a revolution of the masses or a guerilla war out of fear that a general social conflagration would make the restoration of a civil society nearly impossible. The key point is that Washington succeeded by waging a primarily conventional war that observed international norms. The Decembrists could look to another, domestic historical example, the Pugachev rebellion of 1773-1775, for a contrary example of how fomenting a mass uprising of the peasants could be a bloody and destructive failure.¹⁷ Even in this instance, there were practical lessons. One was that a crisis of succession or monarchical legitimacy could prove to be a political opportunity.

Conventional wisdom in Russia... was that republicanism would inevitably result in chaos and governmental collapse.

A very recent domestic event served to fuel discontent and highlight the arbitrary severity of the Russian regime. The revolt of the illustrious Semenovskiy Guards Regiment in 1820 jolted the consciousness of many Decembrists. Founded by Peter the Great while still in his youth, the regiment was home to many sons of Russia's elite and had outsized influence in palace politics, playing a key role for example in securing the

throne for Catherine II. In turn, Alexander took a keen interest in the unit and guaranteed that they lacked no comfort befitting their regimental lineage.¹⁸ In fact, the Tsar personally led the Semenevsky Guards during the triumphal parade in Paris in 1814, a signal mark of distinction.

Over time, however, the sense of entitlement within the regiment led to trouble. More than a few partook of radical political views at a time when Alexander's own political orientation was shifting in favor of reaction. In 1819 a new commander, Colonel F. E. Schwartz, took the reins of the regiment. An ardent disciplinarian, Schwartz was determined to reconstruct the regimental culture. His conduct seems to have

The Decembrists awaited a propitious moment to act and serendipitous luck provided just that moment.

been purposefully demeaning and he quickly lost all respect among the officers. A final straw leading to mutiny was corporal punishment meted out to a few who had won the Cross of Saint George fighting the French, and were consequently supposed to be exempt from such forms of punishment. As indignation spread through the barracks, on October 17, 1820 the First Company announced that they could no longer serve under such a commander. In the ensuing standoff, they received the support of the rest of the regiment. Discipline did not completely dissolve and the entire regiment marched to the Peter and Paul Fortress to face new sanctions. Subsequent discovery of a note suggesting that tyrants could be legitimately removed triggered a full investigation. In the end, a tribunal condemned 220 men of the regiment to run a battalion gauntlet. Alexander reassigned the regiment out of the capital to the southern military district.¹⁹ That step unintentionally put them in contact with Pestel and the Southern

Society.

Thus, the historical conditions were set for radical action. Unfortunately for the Decembrists, continued philosophical differences between the northern and southern branches of the movement imperiled the possibility of coordinated action. Attempts at reconciliation proved unsuccessful despite a broadly shared understanding that neither group could act alone. A precipitating event was necessary. That event would be the death of Tsar Alexander to whom every officer had sworn loyalty. Notably, in a culture that placed a premium on honor and oaths, withdrawing such a pledge required a counter-pledge. Consequently, those joining the Union of Salvation had to accept the possibility of moving against the reigning sovereign.

Acting against Alexander I proved highly problematic, and not just for the reason that many were still somewhat sympathetic towards him even in their disappointment. Another active consideration was that the whiff of conspiracy had long since reached the palace, particularly after the Semenevsky incident. As a result, the regime had become far more vigilant in enforcing ideological orthodoxy and threatened violators with arrest and more. One consequence was that active communication among the Decembrists of the north and south became even more difficult.

The Decembrists awaited a propitious moment to act and serendipitous luck provided just that moment. Briefly, the sudden death of Alexander in November 1825 provided a short pause between regimes alexander until a successor could be crowned and a government sworn to allegiance. To nearly all, the death of Alexander came as a shock. As described by one Decembrist, the still youthful tsar, only 48 years of age, had always been a vigorous and universally admired physical presence. No one could imagine someone like him dying of natural causes.²⁰ The confusion and vague sense of mystery attending the death added to the troubling atmosphere that surrounded the

impending succession.

The pause between reigns became painfully prolonged because of a highly secret and unorthodox development in the succession plan. Since Alexander died childless, the rightful successor according to Russian tradition was his brother, Constantine, the next in line by virtue of age. Constantine, unfortunately, had privately declined his right to the throne because he had divorced and remarried, this time to a Polish Catholic woman who lacked royal lineage. Therefore, the right to the throne would pass to the next brother in line, Nicholas. No one in government, not to mention the general public, was privy to this knowledge. Indeed, Nicholas himself was quite uncertain as to how to proceed, and in fact had already pledged himself to Constantine, who was still in Poland with no intention of returning to St. Petersburg. Thus Russia faced the peculiar situation in which each brother was setting aside his own claim to the throne in favor of the other. Prince S. P. Trubetskoi, the designated temporary dictator, noted later in captivity that the troops were unlikely to trust the announcement of a secret manifesto designating Nicholas as the heir.²¹ While all of Russia waited for clarification, the Army took an oath to Constantine.

The selection of December 14 as the date for general swearing of allegiance to Nicholas left just enough time in an age of slow communications for the Decembrists to put together an action plan. Members of the Northern Society, acting in St. Petersburg, were to pre-empt the oath of allegiance by preventing the ceremony in the senate square and boldly attempting to rally elite units in the capital, some of which might be sympathetic, to the join the cause of revolution. The Moscow Life Guards Regiment was part of the plan and reached the intended rally point ahead of the scheduled ceremony. General Confusion was their ally. Thousands of liberally-minded civilians began to gather as well.

According to the plan, a sympathetic priest was to lead guards units and civilians in the square in taking an oath to a new regime. A leader of the conspirators was to address the crowd, following which a sympathetic Orthodox priest would administer an oath created for the occasion. Called the “Orthodox Catechism,” and authored by Sergei Murav’ev-Apostol, a former member of the Semenovskiy Regiment, this pledge contended that good Christian Russian soldiers would be violating their duty to Christ by aligning with tyranny. Their sacred duty was to support armed insurrection to restore Christian law and liberty.²² Moreover, a scheme was in place to set up a temporary dictatorship until a proper governmental transition was possible. Notably, the Decembrists wanted to include some leading liberal members of the existing government who were not actual participants in the conspiracy. This was partly in recognition of the need to broaden the base of the prospective regime and to build public confidence.²³

Just as the stage seemed to be set, it turned out that Nicholas had already received the oath of allegiance from key figures in the government in an unannounced pre-dawn ceremony.

Just as the stage seemed to be set, it turned out that Nicholas had already received the oath of allegiance from key figures in the government in an unannounced pre-dawn ceremony. Then it so happened that the designated “dictator,” Prince Trubetskoi, had lost his nerve and failed to arrive. Cavalry units, who were not part of the conspiracy, arrived to challenge the leaderless Decembrists. The critical moment slipped away and by evening Nicholas had control of the square.

Clearly defeated, the Decembrists in the capital scattered. Some, including a significant number of soldiers, headed south to link up with

the Southern Society to join an attack on Kiev. Compared to the revolt in the capital, events in Ukraine moved in slow motion due to the lag in transmission of information and the relatively remote location of most of the conspirators. Pestel, the intended leader, was arrested before he could act. Therefore, command of the uprising of the Chernigov Regiment fell to Murav'ev-Apostol. Unable to rally any significant support from other army units, the regiment surrendered within two weeks.

The immediate aftermath of the uprising was a lengthy investigation...

The immediate aftermath of the uprising was a lengthy investigation, including extensive debriefing of anyone associated with the conspiracy. The new Tsar, Nicholas I, personally interviewed a number of the leaders to learn more about their motives and methods. As a result of this exhaustive compilation of records, modern historians have been able to assemble a detailed history of the event and the roles of key participants. In the end, 121 individuals were exiled to Siberia and 5, including the top leadership, were hanged. A number of wives accompanied their husbands into exile even though their children were not allowed to come along.

Defeating the ideas behind the Decembrist movement proved more difficult for Nicholas than crushing their uprising. The memory of the Decembrists, ably assisted by those such as Russia's most gifted writer, Alexander S. Pushkin, who sent a letter of moral support to the exiles, carried on to inspire subsequent generations of revolutionaries. The Bolsheviks and their leader, V. I. Lenin, would invoke the example of the Decembrists even though the future communist regime would have little use for political liberty. Indeed, Soviet-era writers

were prolific in their commentaries and histories of the movement which even today remains a staple in the historical education of young Russians.

What perhaps receives less attention in Russian schools is the history of the political reaction that set in under Nicholas. Here too, interestingly, inspiration came from France on the wave of post-Napoleonic reaction.²⁴ Much expanded police monitoring of suspected dissent, increased censorship, and a concerted ideological effort to mold the outlook of the population characterized his reign. Under Nicholas the government propagated the doctrine of Official Nationality resting on three philosophical pillars: Russian Orthodoxy, Autocracy, and Nationality. The Russian Orthodox Church had served as a virtual organ of state power since the reign of Peter the Great and functioned to remind the populace constantly that the Tsar was their sovereign and protector. In turn, the autocratic principle affirmed the theoretically unlimited power of the ruler. Finally, nationality, not *nationalism*, proclaimed the historic importance of Russia and the legitimate role of the state ruling over many nationalities.

One intriguing aspect of this official ideological triad is the extent to which it is mirrored in the priorities of the Russia state today. Especially since the widespread public protests of 2012, the Putin government has systematically implemented a program to manage and shape public perceptions.²⁵ He has surrounded himself with advisors who share a similar vision of Russia's past and present. For example, his Foreign Minister, Sergei Lavrov, publicly associates Russia's present policies with figures from its imperial past, such as diplomat Alexander Gorchakov, whose service spanned from the last years of Nicholas's reign through the period of his successor, Alexander II during the second half of the nineteenth century.²⁶ Gorchakov represented Russia to the world in the aftermath of the national humiliation in the

Crimean War. A vigorous advocate of Russian interests, he was a respected figure on the world stage.

More to the point, however, has been the construction under Putin of a contemporary Russian ideology that bears a likeness to that of Nicholas I. Broadly described as “conservatism” as spelled out in terms of Russian traditional values, this outlook provides Putin’s domestic audience with a coherent message that resonates emotionally and politically.²⁷

Today, Putin has effectively rebranded Nicholas’s ideological trinity of Orthodoxy, Autocracy and Nationality. Putin, even more than Boris Yeltsin before him, has embraced the Orthodox Church as a fundamental source of legitimacy. In exchange for generous financial support and broad legal protections shielding it from competition by “alien” religions—mainly proselytizing churches from the West—Putin has received robust support for his presidency and policies. Indeed, Putin has claimed the mantle of defender of mainstream Western Christian values by taking a stance against the godless rejection of traditional morality in contemporary Europe. As journalist Melik Kaylan summarized, “What Putin is trying to accomplish is a complete swapping of roles between East and West since the Cold War. The ground zero for defenders of Christian tradition, of conservatism, the nation-state, family values, and the like has reversed its geo-polarity.”²⁸ Since 2014, when that article was written, Putin has further been able to exploit domestic tensions across Europe concerning immigration by openly lending moral, and occasional financial, support to nativist political parties.

Putin has also borrowed from the Soviet Union with his creative re-definition of political terms such as democracy (now described as “sovereign democracy,” which he holds has a distinctive form in Russia unlike that in the West. In other words, to boil this principle down to its essence, Russia can have an exceptionally

powerful chief executive whose, broad, but not unlimited, powers reflect a national style of democracy that Russians intuitively appreciate.²⁹ So, while there is no attempt to restore autocracy, some of the trappings of tsarist rule are present. The third complementary element in Putin’s formula is the affirmation of the greatness of the Russian state and the multiethnic population it governs. This is nuanced in a way that does not demand focus on Russian ethnicity so much as Russian acculturation. Terms like *Rossiiane* or *rossiiskie* encompass all those Russian-speaking peoples bounded by Russia’s traditional territory and historically falling within its cultural orbit. It is fascinating also that although Putin is not public an adherent of so-called Eurasianism, a vaguely defined view of Eurasia as a distinct historical space dominated by Russia, his approach to Russian nationalism is in many ways compatible with it.³⁰

Today, Putin has effectively rebranded Nicholas’s ideological trinity of Orthodoxy, Autocracy and Nationality.

Putin’s regime has adopted still another aspect of the Official Nationality of Nicholas I. The American historian of Russia Nicholas Riasanovsky noted about the Russians under Nicholas: “They loved to contrast happy, stable, and harmonious Russia to the dissatisfied, restless, and revolutionary West.”³¹ Moreover, the future belonged to Russia. As Riasanovsky notes, “The Messianic Russian future demanded an adventurous, aggressive, even revolutionary, foreign policy which represented the very opposite of the conservative and legitimist orientation of Nicholas I and his government.”³² To be sure, there was an inherent tension between the values of romantic nationalism, on the one hand, and conviction that the tsar knew best on the other.

In summary, there is remarkable continuity in the competition between liberal Western values and traditional Russian conservatism that is reflected still in Russian politics and behavior today. The values of Orthodoxy, Autocracy and Nationality are alive and well. Much as imperial Russia under Nicholas I acted to curb the influence of values espoused by the Decembrists, Russian officialdom today seeks to insulate the current regime from Western cultural influences. Likewise, there remain Westernized citizens in Russia today, struggling still for recognition of full political liberty. No attempt at revolution is in the cards today, however. The Decembrists formed as a conspiratorial movement as a result of a distinct set of circumstances, perhaps the most important of which were momentous revolutionary changes in the United States and France. It was also vitally important that a large number of young idealistic officers had spent a lengthy period of time in Paris where the contrasts with home were striking. Today Russia's obsession with security guarantees both that officers will be thoroughly indoctrinated and they will not fraternize excessively with foreigners. Another distinction, of course, is that the continued existence of serfdom in 1825 was a major motivating factor for the Decembrists, one that has no equivalent today. Neither is the economic gap between Russia and the West comparable to 1825, even though a perceptible gap remains.

If we try to isolate the values that drove the Decembrists to action, it is clear that three were operative. The first was a belief in political liberty and opposition to arbitrary rule by one individual unchecked by a constitution or representative legislature. Clearly, the Decembrists took their oath to Alexander I seriously enough that they were unable to reach a consensus to move against him. A second moral conviction was that the abolition of serfdom was essential to pave the way for a society of equal citizens no longer rigidly bound by birth or class. To be precise, the Decembrist vision did not yet include a place for women or non-Christians at the table of power, but if realized it would have created new momentum in that direction. A third, implicit belief was that there was nothing sacred about tradition or the status quo. They viewed Russian society as a work in progress.

What is most fundamental about the ethical beliefs of the Decembrists is that they were not known to have entertained notions of revolution or regicide prior to 1815. Upon return to Russia they experienced a collective crisis of conscience, exacerbated by growing disappointment with Alexander I. As officers, they adhered to a code of conduct and did not take jumping the chain of command lightly. Of course, the Decembrists were also a highly entitled group of men, accustomed to the privileges of their class, convinced that they should be taken seriously. Moreover, recent historical precedent in America and France cast a bright light on possibilities and perils of seizing the political initiative. The outcome, had they succeeded, belongs to the realm of counterfactual history. Undoubtedly, change would have proved tumultuous and bloody, perhaps even on the scale of the October Revolution and Russian Civil War of the twentieth century. Given conditions in Russia, a course of events like those of the French Revolution seems far more probable than one resembling the American case. Revolution imposed by a tiny group from above, no matter how enlightened, was not likely to end well. **IAJ**

NOTES

- 1 (Without question, the seminal Western study of the Decembrist revolt remains the work of Anatole Mazour, *The First Russian Revolution, 1825: The Decembrist Movement, Its Origins, Development, and Significance* (Berkeley: University of California Press, 1937). Soviet works in Russian on the Decembrists are too numerous to mention here, although a few are cited in this study. The larger point is that the Soviet regime adopted the Decembrist revolt as a forerunner of Lenin's revolution, although the former was only bourgeois, rather than socialist in character. Nevertheless, as part of the officially recognized revolutionary tradition, the Decembrists occupied a place of honor in Soviet history. One notable Soviet-era work on the struggle between autocracy and revolution is I. V. Orzhekhovskii, *Samoderzhavie protiv revoliutsionnoi rossii*, [Autocracy against Revolutionary Russia], Moscow: Mysl', 1982. A more recent work tracing the history of attempts to reform Russian government up to the October 1917 Revolution is *Vlast' I reform: Ot samoderzhavii k sovetskoi vlasti*, [Power and Reform: From Autocracy to Soviet Power], ed. B. V. Anan'ich (Moscow: Olma, 2006.)
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Coding Just War Theory: Artificial Intelligence in Warfare

by **Dana Gingrich**

Leveraging Artificial Intelligence (AI) to improve decision making is not a new concept. The proliferation of AI, however, makes this period in history a strategic inflection point. Tomorrow's wars will be fought and won using AI. The United States military must understand this technology and utilize AI to retain the advantage. Today's leaders will be responsible for integrating AI within the current battlefield and must therefore consider the impacts of employing AI within the principles of Just War Theory.

The U.S. military is at the threshold of another frontier to determine how to synchronize multiple domains—including space, cyber, information, and others—to avoid decisive conflict or to defeat potential threats. AI has demonstrated the ability to develop superior strategies never considered by humans; AI should inform our strategic options. There are ethical implications, though, on how AI determines optimum strategies. Humans currently define the variables and parameters for the machine and the machine optimizes based on a given criteria. The computer's objectivity could eventually counter the accepted principles of *jus en bello*, principles for waging war, which would require strategists to constrain the power of AI.

Our adversaries are constantly looking for opportunities to expose and exploit our critical vulnerabilities. What if our adversaries are willing to code different rules? Our adversary's AI could develop strategies that put the United States in an untenable position. In such a situation, if the U.S. does not have the ability to fight and win, then we must consider additional ethical implications for *jus ad bellum*, principles for going to war. The U.S. must find a new balance between upholding Just War Theory and leveraging the full power of artificial intelligence to fight and win in this new era of warfare.

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The technology is here. What is to be done about it?

In 2015, Google's DeepMind Artificial Intelligence Lab sought to develop a computer program to learn the Chinese board game Go, more than 2,500 years old and widely considered the world's most complex strategic board game. Within two years, the DeepMind computer program, AlphaGo Zero, defeated the Go world grandmaster two games in a row, evidencing the power of advancing technology.¹ The competition yielded two amazing outcomes. First, the computer taught itself. After researchers coded the Go rules into the program, AlphaGo Zero determined the optimal strategy by playing itself over 4.9 million times, learning from its experience. Second, and most importantly, AlphaGo employed techniques that no human player had ever considered.²

While recognizing AI's superior strategy, we must consider the inherent limitations of defining all necessary parameters for a wartime scenario.

To achieve this overwhelming feat of technology, DeepMind employs a deep neural network AI algorithm that allows the system to learn unconstrained. Traditional computer analytics rely on large data sets of previous human experiences that introduce a bias into the AI system. By only coding the Go rules into AlphaGo Zero, the computer scientists allowed the computer to learn in an unconstrained and unbiased environment. DeepMind has replicated the power of this technology with a new program, AlphaZero. Scientists programmed AlphaZero with the rules for Chess, Shogi, and Go. The computer produced similar results in each strategy game, innovative strategies never previously considered and undeniable defeats

over a human grandmaster. AlphaZero produced these results in "9 hours for Chess, 12 hours for Shogi, and 13 days for Go."³

While recognizing AI's superior strategy, we must consider the inherent limitations of defining all necessary parameters for a wartime scenario. AlphaGo and AlphaZero developed strategies within a structured game based on programmed optimization criteria. War is not that precise. The military defines end-state with respect to friendly forces, enemy forces, terrain, and civilians. The computer programmer would have to input all the cross-domain capabilities available to strategists, the "rules" of the game, and a weighted value for each of the end states. AI would generate vastly different strategic approaches depending on the application of the resources and the prioritization of the end states. This does not mean that the different approaches are irrelevant, but it does create an inherent risk to blindly accepting AI's solution.

What does an AI enhanced military strategy look like?

In 1982, Stanford University computer science professor, Douglas Lenat, decided to participate in Traveller, a well-known naval war game competition in Silicon Valley, California. The war game provided a budget for each team and more than 140 factors to consider when creating its fleet. The teams could allocate funds for whatever attributes (armament, protection, maneuverability) they deemed crucial for their fleet to survive and win.⁴

Lenat had no previous military experience and was competing against highly respected strategists from across the political-military spectrum. He did, however, understand the power and capabilities of AI. Lenat developed a computer program, Eurisko, to consider the value of all factors when determining the optimal strategy. Eurisko ran thousands of simulations learning the strengths and weaknesses of different fleets. It then calculated the optimal

size, speed, and lethality of the naval fleet given the constrained budget. Lenat entered the competition with a 96-ship fleet of small, defensible vessels. The average competitor, with expertise in military strategy, had 20 well-armed, technologically advanced warships. Eurisko recognized this and fought a battle of attrition, losing 50 ships but also destroying all but one of the competitor's.⁵

Lenat competed with Eurisko again the following year. The Traveller commission wanted to prevent the computer from winning decisively, so they did not release the game parameters until the week before the competition. The updated rules placed more importance on maneuverability than protection. In that week, Eurisko developed a new strategy that resulted in scuttling its own damaged ships to maintain tempo and speed. Eurisko, again, achieved victory.⁶

The computer objectively determines the optimal way to achieve the end-state given the current means, as demonstrated by Eurisko. Although the computer developed the superior strategy two years in a row, it never considered the second and third order effects of its “winning” strategies. In the second scenario, what happens to sailor morale when the commander begins scuttling friendly ships? What happens to national resolve? The computer’s strategy might win the tactical scenario and lose the war.

What are the ethical implications for the United States?

The United States military accepts Just War Theory as foundational to professional military ethics. Two tenets of Just War Theory are *Jus ad Bellum* and *Jus en Bello*, the principles for going to war and the principles for waging war respectively. Analysts generally consider eight components of *jus ad bellum*, discussed later in this paper, when studying a nation’s decision to go to war. Analysts then consider two components of *jus en bello*, discrimination

and proportionality, when studying conduct in war.⁷ How can the military strategist blend the power of AI with the accepted principles of Just War Theory?

Computer scientists developed AlphaZero and Eurisko to “conduct war” in their respective strategy games. Although computer scientists used different AI techniques to develop Eurisko and AlphaZero, the systems acted with considerable similarity. The AI systems considered the rules in the form of parameters, the variables to be acted upon, and the end result in the form of optimization criteria. Both systems found the most efficient and effective strategy to achieve that end-state and were successful. Military leaders must leverage this power to develop innovative solutions to multi-domain operations. Today’s leaders must consider how to integrate space-based systems, offensive and defensive cyber, and joint service capabilities to deter potential adversaries or to defeat threats.

The value of AI technology for the military is not only the capability to rapidly assist decision-making but also to develop unbiased approaches to future challenges.

The value of AI technology for the military is not only the capability to rapidly assist decision-making but also to develop unbiased approaches to future challenges. Both AlphaZero and Eurisko learned in an unconstrained environment, meaning they taught themselves based on simple parameters. The output for Eurisko was a winning strategy, but also one that scuttled friendly ships without stopping to save the lost crew. For AI to be a viable tool in the U.S. military, the strategy must be scrutinized under Just War Theory.

Since these AI systems would be developed to “conduct war,” they must consider proportionality and discrimination.

Proportionality in Just War Theory means military actions should not cause unnecessary destruction. Considering only proportionality, an unconstrained AI solution could cripple the adversary's critical infrastructure and economy with a precisely launched cyber-attack, winning the war without firing a shot. This would potentially optimize for minimizing physical destruction but would not consider the impact on non-combatants. Discrimination, as the second tenet, means military actions should target combatants. Optimizing for discrimination could result in a drawn-out conflict focused solely on combatants that results in numerous military casualties. The subjectivity of these two tenets creates a significant challenge for an objective computer. The current military leader must simultaneously consider tenets of *jus en bello* and utilize judgment to weigh the costs in both unnecessary destruction and non-combatant casualties.

The United States faces a major challenge to codify Just War Theory in AI.

Although objective in decision-making, AI could still consider both proportionality and discrimination as parameters to be addressed in recommending a strategy. As demonstrated with AlphaZero and Eurisko, AI has superior intuition across a range of strategic scenarios against leading human experts. Its ability to rapidly consider thousands of possible outcomes in making decisions puts AI's human opponent in an almost unwinnable situation. This gives a nation with such technology a clear advantage in warfare.

Moving forward, the international community will have to consider this power asymmetry when incorporating AI into wartime scenarios and would most likely seek to establish an international norm that all potential belligerents should follow. Proponents of constraining AI are currently petitioning the

United Nations Security Council to consider international standards for AI's application in warfare.⁸ Universal standards for AI's consideration of non-combatants would support Just War Theory and *jus en bello* principles, and those standards would prevent military leaders from simply toggling the two tenets to determine an outcome when considering *jus en bello*.

The United States faces a major challenge to codify Just War Theory in AI. Because AI has the power to put its opponents in an untenable situation, our adversaries may not be willing to program the same rules. Does this possibility add more weight to a solution from the international community?

Can international norms constrain AI's application in modern warfare?

So in war, the way is to avoid what is strong and to strike at what is weak. – Sun Tzu⁹

Predicting a solution's potential breach is no reason to fail to implement a solution in the first place. International treaties and norms have been established across the range of science and technology to guide individual behavior for the collective good. Establishing an international norm that forces AI algorithms to consider proportionality and discrimination would preserve just conduct of war, but it would also constrain the power of AI to determine a range of innovative solutions to fight and win. The United States must consider the latter part when assessing a potential belligerent's willingness to constrain its AI systems.

Two recent violations of international norms should give the United States military pause when considering constraining the power of AI. In 2007, the Chinese military shot down Tiangong-1, a weather satellite, at 500 miles above the Earth, which drew sharp criticism for the violation of international norms established

in the Outer Space Treaty of 1967.¹⁰ The incident spread thousands of debris particles which prevented the further use of that orbit and demonstrated a Chinese military capability that threatened U.S. satellites.

In 2018, Chinese researcher, He Jiankui, published a paper claiming to have successfully edited the human genome of two embryos later born as twin girls. Although He Jiankui was attempting to alter a gene that would prevent these girls from ever contracting HIV, his human gene-editing experiment gravely violated scientific norms.¹¹ At the Second International Summit for Human Genome Editing, scientists from across the globe rebuked He's violation as "a failure to meet ethical standards for protecting the welfare of research subjects."¹² There is, however, an encouraging aspect to these two violations of international norms: in both instances, the Chinese people strongly opposed the violations. In 2007, the Chinese government received backlash from its citizens for violating international space norms, and in 2018, a group of 122 Chinese researchers signed an open letter criticizing their colleague's actions.¹³ The question remains would this internal criticism exist or exert enough force to constrain China's use of AI against an existential threat in warfare?

Sun Tzu, an ancient Chinese military strategist, stated that "in war the victorious strategist only seeks battle after the victory has already been won."¹⁴ AI has demonstrated superior intuition and decision-making against human experts. Humans study the innovative strategies developed by AI, but still cannot sustain that level of thinking to achieve victory. For every human action, AI has a superior counteraction. This has ethical implications for a nation's decision to go to war against an adversary with superior AI capabilities.

One foundational tenet for *jus ad bellum*, the law for going to war, is that the nation has a reasonable hope of success. The criterion for this tenet suggests that "if defeat is inevitable, then

avenues other than war should be pursued."¹⁵ The military's role in the United States, though, is to provide civilian leaders with a military capable of projecting national power in the interests of the country. Military leaders must reconcile this tenet of *jus ad bellum* with incorporating AI into warfare. One possible solution to leverage the full power of AI and to uphold Just War Theory is to keep the human in the loop.

Human-in-the-loop systems incorporate the power of AI with human judgment.

Human-in-the-loop systems incorporate the power of AI with human judgment.¹⁶ This combined effort must start when assessing *jus ad bellum*. Civilian and military leaders should come together to determine the strategic and military objectives for the computer to optimize against. AI could prescribe a range of actions across the Diplomatic, Informational, Military, and Economic elements of national power that provides leaders comprehensive strategies that achieve the end-state. If the decision is made to go to war, military leaders should leverage unconstrained AI systems to inform operational approaches, especially in an era of multi-domain operations. This assists commanders and staffs in understanding how they synchronize the range of multi-domain capabilities to mass effects while also considering the tenets of *jus en bello*. AI develops approaches that human commanders simply fail to consider. With human-in-the-loop decision-making, the commander then utilizes his or her experience, intuition, and judgment to determine how best to consider proportionality and discrimination when executing AI's operational approach.

Conclusion

This generation of military leaders will incorporate Artificial Intelligence into warfare. Unconstrained AI systems have developed

superior approaches to strategy games that human experts had yet to consider. With less than a week to learn their respective strategy games, AlphaZero and Eurisko markedly defeated world experts. The computer, though, demonstrated these capabilities in games with clearly defined rules and objectives. Warfare does not have clearly defined rules. Just War Theory strives to provide universal tenets that leaders must consider when deciding to go to war and when conducting war. Incorporating AI into warfare also means considering the principles of *jus en bello*, proportionality and discrimination, understanding that considering additional objectives, such as limiting non-combatant casualties or minimizing unnecessary destruction, would constrain the possible solutions that AI would determine due to the computer's objectivity.

AI's impartiality creates a dilemma for the military leader incorporating AI into warfare. If potential adversaries are willing to allow unconstrained AI systems to inform decision-making, then constraining AI could put the U.S. military in an unwinnable situation. This violates accepted tenets of *jus ad bellum*, the principles for going to war. The U.S. military leader, however, cannot allow unconstrained AI to make decisions on the battlefield without considering *jus en bello*. Therefore, the U.S. military leader must retain the decision-making authority. Military leaders must allow unconstrained AI to inform strategic and operational approaches in multi-domain operations while utilizing their experience, intuition, and judgment when considering proportionality and discrimination. There are times where a commander must prioritize proportionality over discrimination, resulting in more civilian casualties, but this decision is made by a human who contemplates the second and third order effects of the decision made. When first introducing AI into warfare, human-in-the-loop decision-making allows U.S. military leaders to leverage the power of artificial intelligence while upholding the principles of the Military Ethic through the tenets of Just War Theory. **IAJ**

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When Asimov's Robots Encounter the Laws of War

by **Michael H. Hoffman**

It's been culturally ingrained since 1942 that robots should never harm human beings. Isaac Asimov first introduced his famed laws of robotics in a science fiction story published that year. They stand the test of time as an influence on popular thinking. The modern, "transhuman" movement is pressing for artificial enhancement of natural human abilities. The view that robots should do no harm is now complemented by an emerging view that engineering of human beings should do no harm either.

In consequence, military legal and ethical standards are undergoing healthy scrutiny to determine if they are sufficient to address emerging artificial intelligence (AI) capabilities, and whether these will be complemented by a system sufficient to maintain command and control over them.¹ Not yet getting as much attention are ethical implications should AI and transhuman warfighters gain some measure of unplanned for autonomy. Beyond that, other challenges calling for attention are ethical implications should feedback from AI and transhuman warfighters adversely influence military decision making. The ethical implications of decisions and actions taken by autonomous AI and transhuman military actors, and their potential influence on military decision making, is the focus of this paper.

Norms for Military Artificial Intelligence

The cultural foundation for modern exploration of ethics and robotics first appeared in 1942 in Asimov's story "Runaround" which ultimately found its way into his famed novel *I Robot*. The rules are as follows.

"We have: One, a robot may not injure a human being, or, through inaction, allow a human being to come to harm."

"Right!"

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“Two,” continued Powell, “a robot must obey the orders given it by human beings except where such orders would conflict with the First Law.”

“Right!”

“And three, a robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.”

“Right! Now where are we?”²

Where we are, almost 80 years later, is the rapid integration of artificial intelligence and robotics into military capabilities, art and science. Asimov’s own stories demonstrated potential problems in the implementation of these rules. However, in spirit, his Rules of Robotics are still alive and well, with debate underway as to how such principles can be prospectively modified for application in the employment of military technology and in compliance with the modern law of armed conflict.

The fundamental summary of the law of armed conflict is found in “Common Article 3” found in each of the four Geneva Conventions of 1949. Though this article is commonly interpreted as applying to internal armed conflicts within states, the principles apply to all military armed conflict. It sets out requirements that endure in all forms of warfare including machine augmented military operations.

ART. 3. In the case of armed conflict not of an international character occurring in the territory of one of the High Contracting Parties, each Party to the conflict shall be bound to apply, as a minimum, the following provisions:

1) Persons taking no active part in the hostilities, including members of armed forces who have laid down their arms and those placed *hors de combat* by sickness, wounds, detention, or any other cause, shall in all circumstances be treated humanely,

without any adverse distinction founded on race, colour, religion or faith, sex, birth or wealth, or any other similar criteria.

To this end, the following acts are and shall remain prohibited at any time and in any place whatsoever with respect to the above-mentioned persons:

a) violence to life and person, in particular murder of all kinds, mutilation, cruel treatment and torture;

b) taking of hostages;

c) outrages upon personal dignity, in particular, humiliating and degrading treatment;

d) the passing of sentences and the carrying out of executions without previous judgment pronounced by a regularly constituted court, affording all the judicial guarantees which are recognized as indispensable by civilized peoples.

2) The wounded and sick shall be collected and cared for.

An impartial humanitarian body, such as the International Committee of the Red Cross, may offer its services to the Parties to the conflict.

The Parties to the conflict should further endeavour to bring into force, by means of special agreements, all or part of the other provisions of the present Convention.

The application of the preceding provisions shall not affect the legal status of the Parties to the conflict.³

These principles of the law of war are the foundation for a substantial body of law. The law of armed conflict is sometimes applied in two categories; “Geneva law” applying to care and protection for the wounded, sick, and shipwrecked of armed forces, prisoners of war, and civilians, and “Hague law” applying to regulate means and methods of war, to include weapons systems and targeting. Harmonizing the

use of military robotics and artificial intelligence in a manner complimentary with Hague law is a challenge generating heated international debate.⁴

That debate goes beyond the scope of this paper, but it's important to note that it encompasses questions relating to use of artificial intelligence to make judgment calls on identification of military targets and risk to civilians. Potential uses for autonomous military machines (with use of unmanned aerial vehicles being the first category to gain attention in this dispute) generate particularly fierce controversy. Some commentators question whether machine intelligence is capable of decision making consistent with the law of armed conflict.⁵ Also calling for consideration are the challenges of AI that gets loose and makes its own decisions, even with no intent by its designers to build in such capabilities.

Some commentators question whether machine intelligence is capable of decision making consistent with the law of armed conflict.

If military AI assets become truly autonomous, our closest analogy will come from the ethical and legal challenges presented by operations with coalition partners. Law of war treaties do point towards some obligation by armed forces to take measures ensuring humanitarian compliance and restraint by allies and coalition partners. Similar requirements need to be anticipated when armed forces launch AI that, with or without planning by its designers and operators, takes itself out of the human decision making process. Specific law on continuing responsibility for law of war violations, after a handover of capabilities or responsibilities to an ally or coalition partner is limited, but some guidance is available for analogous situations that could arise involving

artificial intelligence.

The Hague Convention of 1907 Respecting the Laws and Customs of War on Land remains a foundation for the modern law of war. That Convention's Regulations Respecting the Laws and Customs of War on Land establish that any armed force, constituting part of an army legally qualified to wage war, is obligated to follow the rules. "The laws, rights, and duties of war apply not only to armies, but also to militia and volunteer corps...In countries where militia or volunteer corps constitute the army, or form part of it, they are included under the denomination 'army.'"⁶ The Hague Regulations of 1907 were certainly adopted without reference to responsibility for the actions of artificial intelligence, but international law advances by custom as well as treaty. Thus, by analogy to established legal responsibilities, powers that build and launch autonomous systems platforms would be well advised to anticipate that they will be legally culpable for attacks conducted by that technology in contravention to the laws of war.

Another suggestion of continuing responsibility comes from the Geneva Convention relative to the Treatment of Prisoners of War of 12 August 1949. When a Detaining Power transfers prisoners of war to the custody of another power, this does not free it from all obligations for the protection of those POWs. If the transferee power "fails to carry out the provisions of the Convention in any important respect, the Power by whom the prisoners of war were transferred shall, upon being notified...take effective measures to correct the situation or shall request the return of the prisoners of war. Such requests must be complied with."⁷ This provision also points towards a broader principle likely to be applied in future machine warfare. Ceding or losing control over autonomy capable machines does not absolve combatants from responsibility to ensure that the technologies make decisions and act in conformance with the laws of war.

Norms for Transhuman Warfighters

While unmanned aerial vehicles are already bringing forward legal and ethical issues in the employment of artificial intelligence, scrutiny of such issues in relation to the employment of transhuman warfighters—artificially augmented combatants—still lags behind. Though real problems will likely emerge soon enough, science fiction still remains a source for cautionary tales on the perils of artificial human augmentation. This paper does not address the many benefits flowing from therapeutic medical technologies employed to treat injuries and illness. Rather, it focuses on artificial augmentation designed to boost natural human capabilities. There is a history of combatants using drugs to maintain energy and keep their mental edge, with dubious clinical results and ethical implications that have been explored elsewhere.⁸ The prospect of using medical technology to “build” warfighters with enhanced physical and mental capabilities is a new one and we do not have a long history to draw upon for insights.

However, a far seeing cautionary tale first published in 1948 did anticipate some of the more extreme transhuman prospects taking form in the non-fictional 21st century. In *Scanners Live in Vain*, Cordwainer Smith depicted an elite outer space security force, composed of re-engineered, artificially enhanced members who suffered devastating psychological effects and dislocations from reality in consequence of being cocooned in enhanced artificial casings. “Martel noticed that he alone relaxed. The others could not know the meaning of relaxation with the minds blocked off up there in their skulls, connected only with the eyes, and the rest of the body connected with the mind only by controlling non-sensory nerves and the instrument boxes on their chests.”⁹ This vision may be moving towards reality with the prospect that bio-engineering could foster a merging of biology and technology to create transhuman warfighters.¹⁰

If transhuman combatants disengage psychologically from their units and other service members, we need to consider the prospect of distorted decision making, and actions taken in defiance of Rules of Engagement and obligations under the laws and customs of war. Such scenarios would not absolve their governments from obligations to ensure transhuman combatant compliance with the laws of war¹¹ but does make it more difficult. We will now consider some of the problems inherent in the advance of military AI and artificially augmented transhuman warfighters.

The prospect of using medical technology to “build” warfighters with enhanced physical and mental capabilities is a new one...

Military Ethical and Legal Implications of Autonomous Artificial Intelligence and Transhuman Warfighters

Closest to home, in our comprehension, are likely to be issues concerning the deployment of artificially augmented warfighters. Challenges will begin in the recruitment phase. Here are some of them.

The prospect of government paid transhuman augmentation may attract many recruits. There will be need to assess personality traits to determine if likely recruits for augmentation are also a good bet for disciplined, ethical conduct on the battlefield. Once they are accessioned, other issues will arise.

Artificially enhanced capabilities may raise the bar on expectations of situational awareness that supports rapid ethical decision making in fast changing operational environments. If so, this also raises the prospect of legal liability exceeding that of other combatants. Other issues could also proliferate.

Transhuman warfighters may require

unique medical support taking forms that do not yet exist. When their deployment or service ends, weighty ethical and legal questions await on when, if, or how they can be “unplugged” from enhanced capabilities. Other questions will arise on the impact such decisions have on these augmented service members and their wider communities. Stranger scenarios involve the prospect that transhuman warfighters will engage, intellectually and emotionally, with AI systems and disengage from human ones.

...there is a risk that human operators will give up their own ethical and legal reasoning in deference to artificial intelligence...

Transhuman warfighters who have integrated into machine centric systems may decide, whether by accurate assessment or delusion, that machines rather than humans are their reference group. They may require tracking to determine that they are still engaged with other humans ethically as well as operationally. Though the capacity to maintain control over military AI is already under consideration, it needs to be asked whether efficiencies found in military AI might turn this around and begin influencing *all* human operators. Researchers have already identified the phenomena of “automation bias,” meaning human deference to decision making conducted by automated systems, even when human operators are presented with evidence that those systems are in error.¹²

Systems should be designed to function in conformance with the laws of war even if human direction is cut off. AI may well sometimes generate superior analysis and decision-making. However, there is a risk that human operators will give up their own ethical and legal reasoning in deference to artificial intelligence, and AI generated ethical and legal problem solving

outcomes may conflict with our own.

Conclusions

Care must be taken to ensure that AI takes direction from humans and does not turn this assumed paradigm around, becoming a negative influence on ethical human reasoning. However, AI must be designed to maximize the likelihood that if such systems do break loose from human control they will still function in compliance with the laws of war. Without careful monitoring and control, the introduction of AI warfare and transhuman warfighters may trigger negative effects difficult to contain.

A cautionary tale on ethically toxic systems that gain an enduring life of their own is set not far from our conference rooms at the Lewis & Clark Center. In August, 1863 a notorious massacre of civilians took place in Lawrence, Kansas during the American Civil War. The ethical consequences of that mass atrocity also shaped another massacre 70 years later. In June 1933, gunmen killed or wounded six law enforcement officers, and killed their prisoner in Kansas City’s infamous Union Station massacre. Historian Paul Wellman noted “there is a weird sort of historical connection between the two crimes so far removed from each other in time, though so near in distance... not by blood, but by a long and crooked train of unbroken personal connections, and a continuing criminal heritage...”¹³

The prospect of autonomous military thinking machines and transhuman warfighters who drift from the orbit of military control, and unaugmented combatants who come under the dazzling influence of thinking machines raises the prospect of systems out of control. If this process starts, it may continue unabated and create its own human and ethical devastation reaching across generations. Sufficiently sophisticated systems may surprise us by splitting away in an operational sense even though that was never the intention for them.

We must build compliance with military ethics and the laws of war into AI functions, and ensure its prominence in transhuman military training and decision-making so that new systems do not over-ride the wisdom and functionality of many centuries-worth of military law and ethics. **IAJ**

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Defense Against Weaponized Information: A Human Problem, Not Just A Technical One

by **Nicholas J. Kane**

Social media manipulation will only get worse as artificial intelligence maps users' thoughts and arms propagandists with unprecedented speed and the power to endlessly amplify their message.

—Clint Watts, "Messing with the Enemy"

The best protection against threats to the cognitive dimension of cyberspace depends on users' own actions and knowledge. Objectively educated, rational citizens should serve as the foundation of a strong democratic society. But that defense fails if people don't have the skills—or worse, don't use them—to think critically about what they're seeing and examine claims of fact before accepting them as true.

—Richard Forno, "Weaponized information seeks a new target in cyberspace: Users' minds"

In the Information Age, near-infinite data is available with just a few clicks of a mouse. Furthermore, users, wittingly or unwittingly, offer up much personal information that a person, with some basic computer skills and a few social media personae, can access, aggregate, and exploit. Scandals, like the Cambridge Analytica exposé and the discovery of the Russian internet troll-farm – the innocuously named Internet Research Agency – meddling in 2016 U.S. Presidential election demonstrate that “big data” can be a threat to U.S. national security. Additionally, these two instances highlight how, through the aggregation of open source information on the internet, criminal elements, and adversary governments can weaponize information in pursuit of financial gain or political objectives. There is significant, aggressive competition between states that do not cross the threshold into declared armed conflict, such as malign influence and nefarious actions in the information environment – to include cyberspace – that impinge upon the sovereignty of states.

Unfortunately, current international laws and conventions do not satisfactorily account for

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undeclared conflict and non-lethal effects on civilians and states. Under these international laws, cyber intrusions, and weaponized information in the “gray zone” short of armed conflict do not present as clear-cut justification for the use of military force within the Just War theory. This legal murkiness presents Western democratic states with a dilemma: operate aggressively in the information environment and stem the onslaught of malicious activity or maintain the moral high ground. If the United States attempts to seize the initiative offensively with weaponized information to abate the threat from adversaries, it risks losing legitimacy of narrative in the international community. Should the status quo remain, the United States risks fracture of internal and external security relationships and will continue to experience malign foreign influence in its society, which causes divisiveness and discord. Therefore, to maintain public trust and international legitimacy, the U.S. military should only employ certain types of weaponized information, especially targeting civilians, in steady state competition as a means of strategic defense. However, there must be a codified threshold in which Western powers will openly leverage all forms of weaponized information aggressively during limited wars or in the event of declared large-scale armed conflict.

Using political warfare via social media and other internet outlets, Russia covertly exposed harmful information in conjunction with disinformation for a greater effect to impact the outcome of the U.S. election to foment discord in American society and undermine the trust in its democratic processes.¹ Furthermore, the Russo-Ukrainian conflict showcased Russia’s willingness to leverage weaponized information against military and civilians alike in pursuit of military objectives. During major combat in Ukraine, military propagandists delivered false and demoralizing messages to Ukrainian soldiers at the front and their family members

back home via cyber-electromagnetic means.² Thus, malicious state and non-states actors were targeting U.S. civilians, civilian infrastructure, and those of our allies domestically and abroad.

...to maintain public trust and international legitimacy, the U.S. military should only employ certain types of weaponized information...

With adversaries focused on the cognitive dimension of the information environment within democratic and open societies, multiple questions arise. First, are there forms of weaponized information that are more acceptable for employment than others? Second, can the United States employ weaponized information within Just War theory? Finally, is it ethical to target civilians associated with the military?

Giulio Douhet and other theorists of warfare would likely argue that when targeting the morale and will of the people to support a government’s pursuit of war, it could be a valid military target as a demoralized society would shorten the war, thus, saving lives. Additionally, Francis Lieber wrote General Order 100 in 1863, dubbed the “Lieber Code,” which provided the foundation of the U.S. Laws of War and the Geneva Protocols. However, as a jurist, Lieber focused on the justice of actions in war, not the humanity of it.³ Therefore, he might also agree that targeting civilians and family members with non-lethal efforts is permissible during a declared war. However, in the Information Age, declarations of war are less likely given the complex, interdependent character of the international political and economic systems.

What is Weaponized Information?

An element of “cognitive hacking,” employing weaponized information means to “[bring] about a change in beliefs and attitudes and... promote behavior that serves the attacker’s

purpose” and is designed to affect the target’s cognition negatively.⁴ In the strategic context, this definition places weaponized information into the category of “sharp power” which leverages soft power tools – like information– for nefarious purposes like deception and disinformation.⁵ However, at operational and tactical levels during armed conflict, there is a difference between cyberwarfare, and

...Americans should have a vested interest in responsible online conduct, to consume content critically, and to be proactive in the security of their civilian information systems.

information warfare conducted in cyberspace. In information operations, there are many information-related capabilities, but the five core information competencies are Operations Security, Electronic Warfare, Cyberspace Operations, Military Information Support Operations – formerly called psychological operations – and Military Deception.⁶ Regarding Information Age warfare where cyberspace turned the globe into an information battlefield that ostensibly has no boundaries, P. W. Singer and Emerson Brooking codify five core principles in their book *LikeWar*:⁷

- “The internet has left adolescence.”
- “The internet has become a battlefield.”
- “The battlefield changes how conflicts are fought.”
- “This battle changes what ‘war’ means.”
- “We’re all part of this war.”

Using this logic, every user of the internet is now subject to information warfare. Additionally, war does not always mean bombs and bullets. Adversaries of the United States

used this new paradigm of warfare to achieve political objectives while avoiding costly large-scale armed conflict. However, should states escalate to declared armed conflict, information warfare will still be a significant component of any war plan, and military personnel will not be the only targets, but rather the entire society. Therefore, given the current geopolitical climate, Americans should have a vested interest in responsible online conduct, to consume content critically, and to be proactive in the security of their civilian information systems.

Many laypeople assume that any activity in cyberspace constitutes cyber warfare, especially regarding social media. This assumption is not valid, at least from a military perspective. According to U.S. joint military doctrine for cyberspace operations:

[C]yberspace is a medium through which **other information activities** and capabilities may operate. These activities and capabilities include, but are not limited to, understanding information, leveraging information to affect friendly action, supporting human and automated decision making, and leveraging information (e.g., military information support operations [MISO] or military deception [MILDEC]) **to change enemy behavior**.⁸ (Emphasis added.)

For instance, in 2019, the North Atlantic Treaty Organization’s (NATO) Strategic Communications Centre of Excellence conducted a study in which researchers leveraged publicly available information and social media platforms to “instill undesirable behavior” in military personnel actively participating in a military exercise.⁹ According to a *Business Insider* report, the researchers accomplished this result for less than \$60.¹⁰ Now imagine what a state-sponsored entity can accomplish in the cognitive dimension with resources available to a former superpower that has over 100 years of practice in the art of

propaganda and disinformation. As of early 2019, the Russian military viewed open source information on the internet and social media platforms as such a significant risk that Russia instituted policies and laws banning the use of social media by active soldiers. “Soldiers’ social media data has allowed open-source journalism sites like Bellingcat to expose secret military activity by Russian forces, sometimes in real time.”¹¹ Thus, reinforcing the assertion that the internet and social media pose tactical and operational risks for soldiers, as well as political risks for the state.

There are four general kinds of weaponized information: exposed truths that are damaging, amplification of half-truths and misinformation, complete falsehoods and disinformation, and technical information. First, harmful truths must be detected, identified, and exposed or compromised at a specific time and medium to achieve the most impactful effect. Typically, actors collect this type of information on individuals and organizations to alter public perceptions of those entities.

Second, half-truths and misinformation can be a hybrid of truths and plausible, but ambiguous embellishments or truths conveyed out of context in a manufactured “reality” that credible outlets may amplify and give it legitimacy. This kind of weaponized information can be the most damaging as it is capable of reaching the greatest audience because of the semi-truthfulness and plausibility of the whole story based on the veracity of a piece of it, whereas audiences can be more readily dismiss exposed truths and manufactured lies as adversary propaganda.

Third, outright falsehoods and deception are fabricated stories and information. The purpose of deceptive content is to create and exacerbate rifts among groups within a society or to cause decision makers to act or take inaction as the content originator desires. For this type of content to be effective, the information must be

plausible or already fit into the audiences’ biases. However, if the information is too outside the norm for that non-critically thinking audience, it risks dismissal as propaganda.

There are four general kinds of weaponized information: exposed truths that are damaging, amplification of half-truths and misinformation, complete falsehoods and disinformation, and technical information.

Finally, on the technical side of this examination, are the systems and software designed for malicious purposes such as ransomware, botnets, and other malware. From computer software code to external physical devices, hackers and other agents can introduce means to disrupt, deny, degrade, manipulate, or destroy aspects of cyberspace. These effects translate into temporary or permanent damage to information and infrastructure, and as second or third orders of effect, cognitive damage of the intended target or audience.

A critical element of the offensive use of information is the intelligence apparatus. Intelligence collection is critical as it provides the raw information that planners weaponize to achieve or maintain a relative advantage over an adversary. Not only do intelligence entities seek protected, sensitive information, but they can aggregate seemingly innocuous data that is publicly available or relatively easy to access via the open internet. Therefore, Americans must revisit how they guard their personal information.

How do adversaries employ this information? Sebastian Bay and Nora Biteniec highlight four ways in which malicious actors can use data: manipulation, impersonation, exposing sensitive information, and doxing.¹² Manipulation refers to the alteration of data resident in various systems in databases after

malicious actors gain access to them.¹³ Bay and Biteniece describe possible effects of how cyber intrusions to manipulate information or processes that result in “inaccurate data [which] could prevent a person from securing a loan or being granted a security clearance. Inaccurate data can cause an [organization] to make erroneous decisions and lost data can be difficult or expensive to replace.”¹⁴ Impersonation is when an actor has aggregated enough personal data about an individual that it is possible to determine passwords and hack into online personae or to generate a new cyber-persona in the individual’s name for nefarious purposes.¹⁵ In these instances, the malicious actors primarily seek the secondary or tertiary effects of the act, such as or gaining placement and access in cyberspace for future wider dissemination of misinformation or deceptive content.

...doxing...is “the technique of intentionally releasing selected sensitive information about an individual...”

Another method an adversary can employ is doxing, which is “the technique of intentionally releasing selected sensitive information about an individual to influence public perception of that individual, or the creation of conditions and vulnerabilities that can be exploited.”¹⁶ The Wikileaks releases about surveillance on Allies to cause or exacerbate rifts in NATO, or the hacking of the Democratic National Committee emails during the 2016 U.S. Presidential elections are examples of doxing. Within the military, this could involve exposing inappropriate or seemingly questionable behavior of key personnel within an organization, which has disruptive effects both up and down the chain of command and degrade cohesion and readiness of units. Finally, exposure of sensitive information like the location and character of operational or clandestine activities, such as the Russian

servicemembers in Crimea, increases the military and political risk and may result in the loss of initiative in the information environment. In these instances, the desired first order effect is exposure and compromise, which can lead to going viral when “useful idiots” reshare, retweet, or mainstream media picks up the story and amplifies the information to a much wider audience from a seemingly legitimate platform.

Armed with these tools and methods, adversary actors can detract from the U.S. military’s readiness to perform its duties of national defense. All that an intelligence entity within an adversary security apparatus needs to find are small pieces of information to exploit can detract from the readiness of a particular soldier or unit before or during deployments. For example, infidelities of soldiers, existing interpersonal rifts within a unit or community, or illicit behavior are all lucrative instances for foreign intelligence entities seeking to disrupt cohesion within a unit overseas and on the Homefront. Other targets could include the Defense Enrollment Eligibility System and Tricare websites and other military support systems that also enable provision of services for servicemembers, retirees, and family members. Are these valid military targets?¹⁷

As mentioned, the Russians employed such techniques in Ukraine with text messages to Ukrainian soldiers and their family members. Does this activity, in this case, cross a line of criminality from intimidation, blackmail, and extortion to a valid technique for the U.S. military during large-scale combat? If legal, although morally reprehensible, is this activity something that should be retained with the special operations community or become a practice for conventional forces if operationally feasible?

Legality versus Ethics

Legality and ethicality are not necessarily synonymous. An act may be legally permissible,

but unethical or immoral at the same time. While laws and codes of ethics are essentially agreed upon normative behaviors, Russell Dipert proffers that set normative behaviors and concepts of ownership –like the notion of a state’s sovereignty after the 1648 Treaty of Westphalia – took centuries to develop and the normalization of ethical and legal behavior and ownership in cyberspace is still woefully underdeveloped.¹⁸

From a moral, emotional perspective, use of weaponized information offensively, especially against civilians, causes outrage in a democratic free society. This outrage begs another question. For example, in a society that deemed the Stolen Valor Act – which made it illegal to impersonate or make false claims about military service – unconstitutional, as it violated the right to free speech, is it illegal to disseminate knowingly false and harmful information? The U.S. Supreme Court protected deliberately false information as free speech – so long as there are no material and financial gains as a result of that falsehood. Hence, the act of lying is legal, but unethical and immoral. Ultimately, it depends on the intent and desired effect of the act in context to determine the morality, and ethicality of a legal act.

In a time of declared armed conflict, the legal status of certain actions changes within a mutually agreed upon set of normative behaviors to justify those actions. These normative behaviors are the rules of war that the international order codified. However, information warfare, including cyberwarfare, do not constitute armed conflict despite the weaponization of information and ideas. As the traditional legal frameworks do not recognize malign information and data employed in cyberspace as “armament,” limiting deterrent and response options of a state that is a victim of aggression, intrusions, and attacks in cyberspace – unless physical damage that impacts its citizenry results.¹⁹

Efforts to codify normative behavior in cyberspace began in the 2000s, but is not nearing a good solution in the near-term, especially with the rapid rate of technological advancements. Cyber-ethics scholar George Lucas attributes some of the lack of significant progress to the fact that “[c]ontributors to the *Tallinn Manual* chose to focus their efforts on the interpretation of *extant legislation*, rather than advocating new law or international treaties.”²⁰

...use of weaponized information offensively, especially against civilians, causes outrage in a democratic free society.

Thus, the document lacked the teeth to account for the new realities of modern technology and the geopolitical climate. Additionally, the predominantly NATO group that deliberated in Tallinn did not include Russian or Chinese representation – two of the significant actors in cyberspace – which was a missed opportunity to engage in dialogue with two current threat actors and begin to determine new normative behavior in cyberspace.²¹ Therefore, while discussions continue on the topic, the international community has not agreed upon a set of normative behaviors in cyberspace.

Imagine a scenario in which a civilian receives a text message or logs into social media to discover that a loved one serving in the military abroad is dead or critically wounded; or a scenario in which a military servicemember in rear areas of a battlefield receives word that his or her spouse has left or that a child was injured. This servicemember has been the target of weaponized information, and its disruptive effects detract from the servicemember’s focus and degrade morale. Does this type of activity qualify as terrorism – seeking to achieve change and outcome using fear – under International Humanitarian Law and does this violate the myriad conventions that are supposed to protect

civilians by espousing discrimination and non-combatant immunity during a war? What if international armed conflict is not declared, are civilians still protected in this case? Do those conventions apply to lethal targeting and suffering of civilians and servicemembers— or is psychological suffering included in the intent and interpretation of the laws?

Just War Theory and Weaponized Information: *Jus Ad Bellum* and *Jus in Bello*²²

Thomas Aquinas, Hugo Grotius, and Emer de Vattel were philosophers in the thirteenth, seventeenth and eighteenth centuries, respectively, whose writings provided the foundational framework of a codified Just War theory.²³ Simply put, there are three primary facets that comprise Just War theory: *jus ad bellum*, the justification for using military force; *jus in bello*, just conduct in war; and *jus post bellum*, just peace. However, if cyberspace and social media have recast societies and the character of warfare, how does Just War theory apply in the Information Age? While *jus post*

Russia, China, Iran, and North Korea push the boundaries of information warfare...

bellum is significant to the spectrum of conflict and peace, *jus ad bellum* and *jus in bello* hold the most relevance to the aim of this examination. While Lucas and other scholars opine that the traditional Just War theory is insufficient in modern information warfare, no widely accepted replacement exists in the literature.²⁴ Therefore, this examination leverages the current Just War tradition to describe ethical considerations of using weaponized information during and outside of declared armed conflict.

The first facet of Just War theory, *jus ad bellum*, is primarily the domain of politicians

and strategic thinkers that influence decisions on whether to enter into declared armed conflict based on four criteria: just cause, last resort, the probability of success, and proportionality.²⁵ The three most relevant aspects of this facet of Just War theory are just cause, last resort, and proportionality. These principles of directly link to the decision to leverage military force against an adversary and the framework for the argument lies within International Humanitarian Law. Decision makers derive the lawful use of military force from the Geneva Conventions of 1949, two subsequent Additional Protocols from 1977, and the United Nations Charter.

With the actions already discussed about cyberspace and the wider information environment, Russia, China, Iran, and North Korea push the boundaries of information warfare in pursuit of strategic aims without crossing the threshold of escalation to major armed conflict. These states, as well as violent extremist organizations, exploit open press in democracies and they dominate their own information environments, which make those environments difficult for the United States to affect. Until recently, the cyber strategy of the United States was defensive and reactive after attacks rather than proactive to prevent adversary cyber-attacks. Now, the Department of Defense and the U.S. Cyber Command has altered the status quo and seeks to change the paradigm within which adversaries operated. The strategic messaging began in September 2018 with the release of the *Department of Defense Cyber Strategy* and continued in March 2019 when General Paul Nakasone, the commander of U.S. Cyber Command, conducted an interview and published an article in *Joint Forces Quarterly*.

In the summary of the 2018 *Department of Defense Cyber Strategy*, the United States took a bold step and introduced the “defend forward” concept.²⁶ This concept essentially means that if the intelligence community observes credible indications and warnings that foreign cyber

actors intend an imminent attack, then the Department of Defense can preemptively execute activities in cyberspace to disrupt that attack to protect the Defense Industrial Base. This tactic is akin to the spoiling attack of the traditional battlefield which seeks to “disrupt enemy’s troop concentrations and attack preparations” and “allows the defending force to regain the initiative.”²⁷

Additionally, General Nakasone reinforced the “defend forward” concept and introduced the strategic concept of “‘cyber persistence’ rather than ‘cyber response.’”²⁸ These new strategic concepts demonstrate the United States government is comfortable with U.S. Cyber Command operating with fewer restraints in the strategic information environment. This change in policy is possibly due to operational successes, the maturation of the command, and expanded working relationships with other government agencies and allies. Regardless of the impetus, the changes mean that adversaries cannot continue to operate as freely in cyberspace as they had before.

The other facet of Just War theory, *jus in bello*, has three main principles that include proportionality, discrimination, and military necessity. All three are rich for discussion of the employment of weaponized information. First, proportionality “concerns how much force is morally appropriate” and refers to the estimation of intended good achieved as an outcome of a military action compared to the anticipated harm said action would likely cause.²⁹ Much in line with the *jus ad bellum* debate on whether cyberattacks that steal information or disrupt or degrade critical systems provide justification to attack the responsible actor with military force, so too is there a *jus in bello* discussion of proportionality regarding cyber actors and use of lethal force.

Under the principle of proportionality, a dilemma arises about whether to use lethal force against cyber actors or those propaganda media

entities that terrorize civilians and soldiers, or those who promote ideologies that result in terrorism and atrocities. Ideas like the Islamic State’s brand of Islam was weaponized and used to radicalize at-risk populations in the United States and abroad to inspire “lone wolf attacks” of terrorism in Western states. The U.S. military deemed, likely using the principle of military necessity, that the use of lethal force against such entities is permissible, demonstrated by the killing of a French citizen in February, 2019 who functioned as an ISIS propagandist in Syria.³⁰ The need to prevent ISIS propaganda from terrorizing French citizenry with weaponized information could contribute to the future determination that lethal force against adversary information warfare specialists is acceptable as a normative proportion of lethality for protecting civilians against dangerous ideologies and propaganda.

...the United States government is comfortable with U.S. Cyber Command operating with fewer restraints...

Next, discrimination “concerns who are legitimate targets in war.”³¹ The targeting of civilians with weaponized information is the crux of this examination. The targets that actors leverage weaponized information against are individuals and organizations in the cognitive dimension, and infrastructure in the informational and physical dimensions of the information environment. Ultimately, information activities are to shape perceptions, behaviors, and decisions of the targets. Information Age competition seeks warfare that is of a lesser form than that of traditional warfare of the twentieth century.

Per Colm McKeogh, author of *Innocent Civilians*, under a natural law-based approach, “suggested by [Hugo] Grotius and adopted by [Emer de] Vattel”- soldiers are “instruments

of the state.”³² However, McKeogh’s research focused on formal war. Thus, the context of the Grotius and Vattel’s assertions was of formally declared war, given the contemporary paradigm of warfare. Would these philosophers accept that volunteer soldiers in a standing military outside a state of war constitute valid targets of non-kinetic activity? McKeogh highlighted that soldiers were depersonalized instruments of the state because sovereigns pressed them into wartime service. Therefore, these men were not legally accountable for killing men because soldiers were instruments of war wielded by their sovereign.³³ Therefore, using logic, whether on duty or off, uniformed servicemembers are valid military targets in the Information Age, regardless if there is a declared armed conflict because information warfare falls below the currently accepted norms of *jus ad bellum*.

...explicit normative behaviors for undeclared conflicts...do not exist.

All the codified legal frameworks on warfare focus on normative behavior during declared conflict. However, explicit normative behaviors for undeclared conflicts like proxy wars and information warfare do not exist. While it may not be in the United States government’s interest to establish new norms, and therefore, limit itself when it previously had a relative advantage, but earnest dialogue must continue between significant powers to move towards amelioration of these challenges. Until such time, the current law of armed conflict, International Humanitarian Law, and the Tallinn Manual are all there are to reference.

Published in 1863, Article 14 of General Order 100 – the Lieber Code – states that, “[m]ilitary necessity, as understood by modern civilized nations, consist in the necessity of those measures which are indispensable for securing the ends of the war, and which are

lawful according to the modern law and usages of war.”³⁴

Article 48—Basic Rule

In order to ensure respect for and protection of the civilian population and civilian objects, the Parties to the conflict shall at all times distinguish between the civilian population and combatants and between civilian objects and military objectives and accordingly shall direct their operations only against military objectives.³⁵

The first five points of Article 51 and the second point of Article 57 are also relevant to this examination as they more fully express the protection of civilians and the precautions that militaries must take during armed conflict. However, technological and societal progress in the forty-two years since these protocols took effect now provide challenges to the current context and character of competition and warfare.

Article 51—Protection of the civilian population

1. The civilian population and individual civilians shall enjoy general protection against dangers arising from military operations. To give effect to this protection, the following rules, which are additional to other applicable rules of international law, shall be observed in all circumstances.
2. The civilian population as such, as well as individual civilians, shall not be the object of attack. Acts or threats of violence the primary purpose of which is to spread terror among the civilian population are prohibited.
3. Civilians shall enjoy the protection afforded by this Section, unless and for such time as they take a direct part in hostilities.

4. Indiscriminate attacks are prohibited. Indiscriminate attacks are:

a) those which are not directed at a specific military objective;

b) those which employ a method or means of combat which cannot be directed at a specific military objective; or

c) those which employ a method or means of combat the effects of which cannot be limited as required by this Protocol;

and consequently, in each such case, are of a nature to strike military objectives and civilians or civilian objects without distinction.

5. Among others, the following types of attacks are to be considered as indiscriminate:

a) an attack by bombardment by any methods or means which treats as a single military objective a number of clearly separated and distinct military objectives located in a city, town, village or other area containing a similar concentration of civilians or civilian objects; and

b) an attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be excessive in relation to the concrete and direct military advantage anticipated.³⁶

Article 57—Precautions in Attack

[r]efrain from deciding to launch any attack which may be expected to cause incidental loss of civilian life, injury to civilians, damage to civilian objects, or a combination thereof, which would be

excessive in relation to the concrete and direct military advantage anticipated[.]³⁷
(Emphasis added.)

In declared armed conflict, these rules explicitly apply to the conduct of war, but even so, these additional protocols to the Geneva Conventions of 1949 are specific to the treatment of civilians during war and in relation to military actions. Additionally, given the paradigm of warfare of the time, the implication about harm to civilians is that damage is physical, not necessarily cognitive. Therefore, the use of weaponized information against civilians, depending on the object of the act, is permissible in wartime.

...the use of weaponized information against civilians, depending on the object of the act, is permissible in wartime.

Additionally, if the non-military entities employ weaponized information in a declared conflict on behalf of the state, do these same laws apply? For instance, state intelligence entities or contractors could collect information, develop audience-specific content, and employ it without ever leveraging military means. Furthermore, not only does information warfare occur during armed conflict, but in the Information Age, it occurs as a part of statecraft in a new paradigm of warfare that is underdeveloped.

Finally, the Protocols are a codification of normative behaviors presented by an international organization that is not responsible for the enforcement of these codes of behavior. Theoretically, the United Nations Security Council is responsible for the enforcement of international humanitarian law. However, with Russia and China holding permanent membership on the council and veto power, it is unlikely that a resolution calling for enforcement of these codes would pass. Without a formal

declaration of war and a more effective version of the *Tallinn Manual*, authorities may only see malign activities in the information environment as criminal matters, rather than *jus ad bellum*. In the event of declared armed conflict, U.S. adversaries will likely find indirect ways to terrorize civilians with weaponized information in a manner to circumvent the intent of Article 51 of the Additional Protocols.

A significant element of the 2018 Department of Defense Cyber Strategy is the expression of responsibility of the Department of Defense towards the protection of the Defense Industrial Base.

For example, an instance in which civilians are targetable by adversaries in a declared armed conflict, despite the highlighted protections of the Geneva Conventions, is the Family Readiness Group. A Family Readiness Group is an official military entity and civilians who are associated with the military comprise it as family members of U.S. service men and women. The Family Readiness Group is an official entity because the company or battalion commander is responsible for the program and the group. The purpose of the group is to function as a mechanism for dissemination of information about the unit and the servicemembers' activity to facilitate expectation management and cohesion among the families. However, if online personae are injecting divisive messaging that could cause or exacerbate rifts within a Family Readiness Group, the community, or among soldiers, servicemembers and family members lose trust in the system, and the unit suffers.

Another example could be if adversary agents are posing as online love interests which could cause rifts between servicemembers that could affect morale and cohesion of a small tactical unit. As a result of the personal information

internet users surrender to public availability as the price of entrance to the internet, adversaries can easily tailor personalized content to have the most impact on a targeted servicemember. Furthermore, adversaries can achieve significant effects with global reach in the cognitive dimension for little or no cost from the safety of strategic rear areas.

A third example or targeting civilians is adversary cyber actors attacking the previously mentioned support systems like the Defense Enrollment Eligibility System and Tricare. These systems support Department of Defense personnel, retirees, and their family members. Any disruption or denial of these services will have readily apparent operational effects on the Department, and the morale of its people.

A significant element of the 2018 Department of Defense Cyber Strategy is the expression of responsibility of the Department of Defense towards the protection of the Defense Industrial Base. The Defense Industrial Base is a loosely codified term that includes "Department, Government, and private sector worldwide industrial complex with capabilities to perform research and development, design, produce, and maintain military weapon systems, subsystems, components, or parts to satisfy military requirements."³⁸ A key challenge with this new responsibility is whether the Department of Defense has the capacity to uphold its charge to protect the entire Defense Industrial Base. While the strategy signals that the DoD now has more granted authority to operate in cyberspace for national security, resources become a greater challenge given the additional responsibility.

Consequently, to accomplish the task of protecting the Defense Industrial Base, as well as the U.S. homeland, the Department of Defense will likely have to target civilian infrastructure in other states because that is where adversaries in cyberspace are operating. Thus, leading into the third principle of *jus in bello* – military necessity. Adversary cyberspace intrusions to gather

personal data for malign information activities and theft of defense-related information are current threats with which the Department of Defense must contend. Adversaries utilize the cyberspace domain for such espionage because it is cost-effective, it does not involve *physical* violation of sovereignty – reducing the risk to spies of capture – and attribution of the act is often difficult to discern. Additionally, cyberspace is the domain of social media which means that, in a society that values freedom of speech and open press, the United States and Western democratic societies are especially vulnerable to information warfare. Is our society resilient enough to withstand an onslaught of weaponized information tactics, especially in the event of a declared armed conflict?

The military necessity of targeting civilians with information is controversial but justifiable in that, from a Western democratic worldview, the principle of noncombatant immunity, while not absolute, should hold true in declared armed conflict. In the principle of “double effect, the primary determinant of the moral quality of an act is the intention...There is an important moral distinction between intention and foresight.”³⁹ Therefore, despite the legality of an action during declared conflict under the principle of military necessity, decision makers must weigh the morality of the proposed action with the potential consequences.

For military leaders in armed conflict, ethical dilemmas arise in the operational environment, which includes the information environment, that do not present clear-cut “right” answers, but rather “less wrong” answers. Simply because an actor in wartime *can* conduct an action does not necessarily mean that actor *should* execute that action. Therein lay dilemmas for military commanders.

There are three lenses through which to view ethical dilemmas. First, there is a principles-based approach which refers to codified normative behaviors and laws. Second, morality

enters the discussion in the values-based approach. Finally, the utilitarian approach, also called the consequentialist approach, stems from a perspective based on intent and outcomes.⁴⁰ The weighing of each of these perspectives in context of the dilemma is what David Fisher calls “virtuous consequentialism,” which he highlights, “insists, if we are to account for the complexity and richness of our moral lives, each of these features – intentions, rules, consequences, and virtues – needs to be given appropriate weight.”⁴¹ Essentially, each context is unique and military decision makers will have to consider the legal and moral implications of potential courses of action weighed against the intent of the actions and the foreseeable outcomes.

The military necessity of targeting civilians with information is controversial but justifiable...

For example, employing weaponized information to expose malign activity is laudable if the object is the pursuit of truth and preventing further aggression in the information environment. The Bellingcat exposure of the Russian shutdown of flight MH 17 over Ukraine is an example of weaponizing information for good, despite the negative consequences for Russia. However, using false information or weaponized truths to spread terror, to demoralize civilians, or compel action or inaction by decisionmakers becomes more challenging to justify ethically, despite the legal permissibility. The double effect principle is consequentialist in character in that foreseeable negative outcomes are morally and ethically permissible as long as the intention of the act was ultimately for good in relation to the harm caused.

Ultimately, civilians, even those associated with the military, should not be the object of weaponized information with the intention of

terrorizing them. While the protections obligated to civilians under the Additional Protocols were a means to prevent unnecessary physical suffering of civilians, their psychological suffering is implicitly protected by ethically behaving militaries. However, civilians are targetable in wartime in terms of information gathering to facilitate greater effects on adversary decision makers. Some civilians such as family members, friends, and associates can serve as vectors and conduits when friendly forces cannot deliver or project information directly to a targeted military individual.

...Voice of America is already in use to promote Western democratic ideals and expose malign influence with truthful information...

The United States strives to maintain the high moral ground in the international arena, especially in the information environment. The 2017 U.S. National Security Strategy states:

[The United States] will continue to champion American values and offer encouragement to those struggling for human dignity in their societies. There can be no moral equivalency between nations that uphold the rule of law, empower women, and respect individual rights and those that brutalize and suppress their people. Through our words and deeds, America demonstrates a positive alternative to political and religious despotism.⁴²

However, the reality of the geopolitical climate will require the United States to engage adversaries aggressively in the information environment if threat levels increase above certain thresholds. Hence, virtuous consequentialism becomes an apt framework for decision-making in a war in the realities of the Information Age.

Thresholds of Employing Information

If Western societies value open press and free information while adversarial authoritarian regimes control their domestic information environments, then democracies are more vulnerable to weaponized information. A way to overcome this challenge is to develop new ways to project internet capability into environments where the state limits the internet service provider and “throttles” certain areas or users from access. The United States cannot cognitively affect an adversary’s society easily if it cannot interact with the target informational environment.

In the current steady state, Voice of America is already in use to promote Western democratic ideals and expose malign influence with truthful information, as are each military combatant command’s public affairs activities. Additionally, the Global Engagement Center within the Public Diplomacy section of the Department of State has the responsibility of countering adversary propaganda. After the U.S. Information Agency dissolved in 1998, many of the functions of that agency transferred to the Department of State.⁴³ However, the Global Engagement Center is woefully underfunded to achieve notable success in the task to which it must execute. In December 2016, President Obama approved the 2017 National Defense Authorization Act in Section 1287 authorized appropriation of \$80 million toward the effort for 2017, and again in 2018, with authorization for the Department of Defense to transfer up to \$60 million of its budget.⁴⁴ In 2018, the Department of Defense was reportedly to transfer \$40 million to the Department of State.⁴⁵ The Global Engagement Center’s task is also very reactive, whereas U.S. CYBERCOM’s newly announced “defense forward” and “persistent presence” strategic concepts are more proactive and authorize the Department of Defense to act preemptively and preventively.⁴⁶

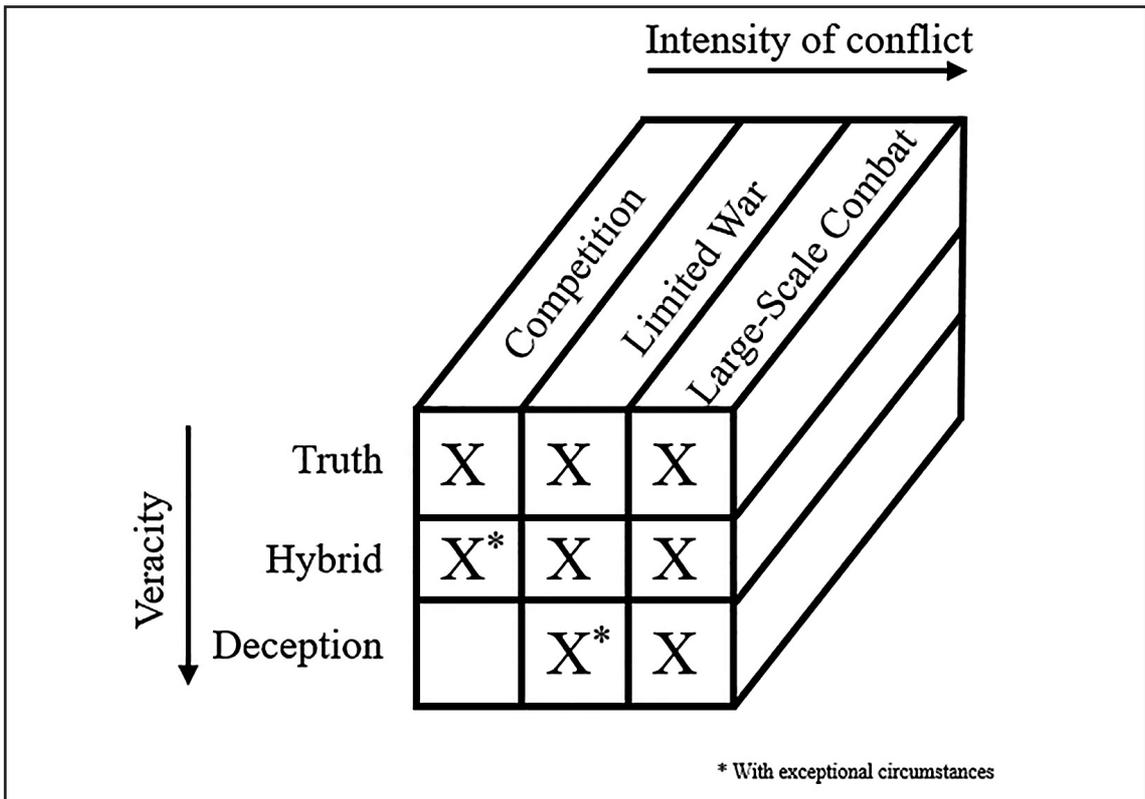


Figure 1. Thresholds for the use of various types of weaponized information.
Source: Created by author.

In limited wars, like the Balkan conflict in the 1990s and the Global War on Terror, against state and non-state actors, the United States military targeted civilian populations with information as well. In the event of large-scale combat operations, akin to the total wars of the 19th century, the United States and its Western allies must determine the level of political risk they will accept to conduct operations in the information environment, especially when targeting civilians. Figure 1 depicts a conceptual escalation of when military entities should have the authorization to leverage the various types of weaponized information. Not included in this particular figure is malicious code and software which affects cyberspace systems. Instead, this figure seeks to convey when conventional military entities should use these types of information. The asterisk denotes instances when special operations or other military

activities could employ the type of weaponized information indicated, rather than traditional military units.

For instance, during the competition phase, the military should leverage truthful information to achieve its objectives, or degrade an adversary's ability to achieve its aims, such as exposure of malign activity by adversaries. While certain situations short of declared armed conflict may arise wherein special operations granted by expanded authorities in the information environment may be necessary, the military should not leverage completely false weaponized information activities. Rather, entities that comprise other instruments of national power may or may not do so as they are unconstrained by the authorities granted under Title 10 of the United States Code, which dictates what the U.S. Armed Forces must do, and the restraints they must observe. This

restraint of the military is critical to maintaining the public trust, domestically and internationally.

Conclusion

While cyberspace entities and activities primarily represent the technological side of information warfare, and other information-related capabilities strive to achieve effects in the cognitive dimension of the information environment, the two are not mutually exclusive of one another. While there exists both human and technical problems in modern warfare and inter-state competition, most of the solutions reside in the people who comprise the military and society, rather than reliance upon materiel and technical solutions only.

Ultimately, although the United States Department of Defense and Western military powers should only leverage truthful weaponized information in steady state competition, they must be ready to operate more aggressively in the information environment should an armed conflict arise. The military must be ready, behaving within virtuous consequentialism and the “double effect,” to ethically target military and civilians with weaponized information to preserve stability as a preemptive, protective measure, or reestablish a secure peace in the event of armed conflict. However, the use of weaponized information by the military cannot be for the sole purpose of terrorizing civilians, in accordance with the spirit of the intent of the Additional Protocols.

George Kennan, in his analysis of the Soviets that led to the Cold War containment strategy, said that “[t]o avoid destruction the United States need only measure up to its own best traditions and prove itself worthy of preservation as a great nation.”⁴⁷ Joseph Nye offered similar advice when he said, “...democratic government and societies should avoid any temptation to imitate the methods of their adversaries.”⁴⁸ Both Kennan and Nye across the ages opined that the United States should never stoop to its adversary’s

level – i.e., Russia – when conducting such activities in warfare. However, could such an existential crisis emerge where it becomes necessary to engage or employ said option that may detract from Western democratic values and legitimacy narrative in order to ensure survivability of the nation? If the United States holds true to its core values, then it must find ways to build a more resilient society to adversary information warfare.

Currently, technological solutions contribute most to the protection of U.S. society from the combined efforts of the U.S. CYBERCOM and National Security Agency within the Department of Defense, the Central Intelligence Agency, the Department of Homeland Security, and the Department of Justice – notably the Federal Bureau of Investigation. These departments and agencies identify and mitigate threats. However, to truly develop cognitive resilience against weaponized information, Western societies must relook how they educate their publics on responsible online conduct, and continue to pursue policy and regulation of the commercial sector with regard to the protection of citizens’ privacy. Furthermore, national security entities must strive to regain or retain the initiative in the information environment.

Recommendations

Since adversaries of the United States continue to demonstrate a willingness and capacity to employ both truthful and false information against Western powers, servicemembers and units must develop policies and practices to facilitate resilience to weaponized information and cognitive attacks. The world has come far since the mid-nineteenth century regarding the laws of war, but with technological advancement occurring so rapidly under Moore’s Law, it is struggling to keep up. Therefore, it is ultimately up to each individual to provide self-protection through identity management and responsible online behavior

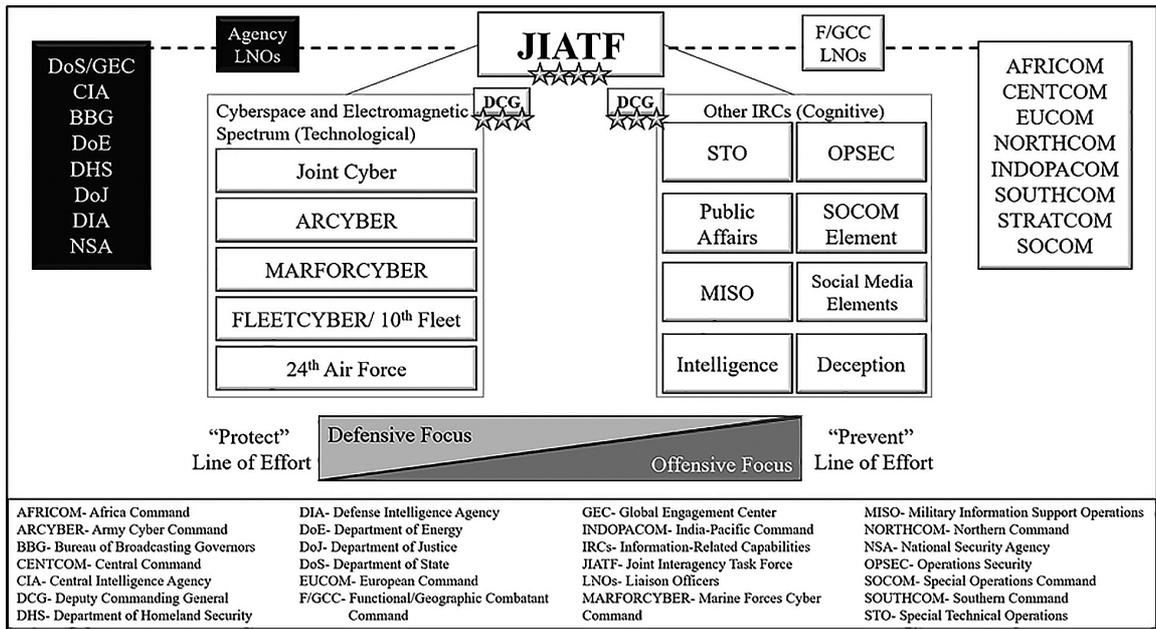


Figure 2. Notional military-led joint interagency task force for operations in the information environment in steady-state competition.⁵⁰
Source: Created by author.

until governments can catch up. Identity management and media literacy education are key recommendations for resilience against the demonstrated adversary information tactics.

The author previously recommended the establishment of a Joint Interagency Task Force (JIATF) to undertake two lines of effort against adversary information warfare: to protect and to prevent.⁴⁹ Figure 2 depicts a notional concept for a military-led JIATF that leverages military information capabilities in concert with other government agencies that directly or indirectly contribute to the informational instrument of national power. Whichever department or agency leads the task force depends on the context of the JIATF’s establishment and its purpose.

This conceptual JIATF resembles U.S. CYBERCOM to a degree, given the current purview of that combatant command in cyberspace and in light of the recent interagency efforts to prevent or mitigate foreign meddling in the 2018 midterm elections. The JIATF in this conception is appropriate for steady-state competition, but in the event of a limited conflict,

or large-scale combat, a different variation in size or composition may be necessary. For example, U.S. CYBERCOM established Joint Task Force Ares to “defeat of the [so-called Islamic State] in virtual space.”⁵¹ Another example that General Nakasone highlights in a *Joint Forces Quarterly* interview is the Russia Small Group, a “[U.S. CYBERCOM/National Security Agency] partnership to assist in the securing of the 2018 mid-term elections.”⁵²

While the Protect line of effort involves technical solutions for monitoring and responding to threats, the human dimension of the problem and potential solutions require attention. For instance, monitoring of the domestic population, especially in the post-Snowden leak era, increases sensitivities about civil rights. Additionally, during a conflict, the Prevent line of effort must address the ethics of targeting of civilians with weaponized information of varying type to

Education and monitoring are elements of the Protect line of effort and while feasible for the military, for the most part, to apply the

concept to American society would be impossible in the current paradigm. First and foremost, the military can direct all personnel to partake in additional education and training to defend against weaponized information, but the federal government can only apply so much leverage to how states manage education for the civilian population before negative sentiment arises about the level of federal government interference. While the military can control how its information systems operate and dictate terms of usage to its servicemembers, contractors, civilian employees, the family members of these people are under no obligation to use the internet and other civilian information systems in any government dictated manner – except for illegal behavior. This same challenge applies to personnel within the loosely defined terms of the Defense Industrial Base.

Internationally, diplomats, jurists, and ethicists should continue to engage in dialogue pursuant to codifying normative behaviors regarding cyberspace and information warfare. A key challenge is that major relevant actors may not find it in their best interest to limit themselves in the information environment as they currently hold some form of relative advantage. Another significant challenge to overcome is empirically measuring psychological effects and harm. The difficulty is proving harm, and attribution of the source of the harm which makes it near impossible to hold an actor accountable – even if the actor is a signatory of an agreed upon convention or treaty.

These recommendations are not quick solutions. Technological solutions are relatively fast, and somewhat measurable in demonstrating quantifiable effects, whereas changing the cognitive dimension within societies takes a long time and is difficult to measure and prove causality because humanity is complex. Regardless of how difficult it will be to influence a cognitive shift in the United States, society must begin taking steps now to generate momentum in achieving long-term effects. **IAJ**

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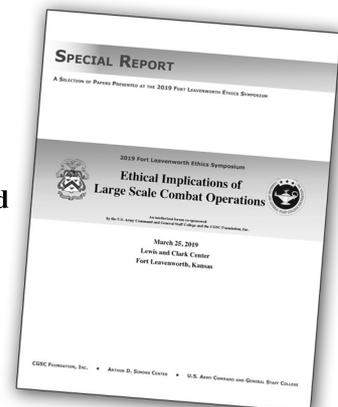
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Bridging the Accountability Gap: The Special Court for Sierra Leone

by Dale McFeatters

In October 2017, the Army revised Field Manual 3-0, *Operations*, the capstone doctrine on unified land operations, to focus on conducting and sustaining large-scale combat operations.¹ Large-scale combat operations are the employment of the range of military operations occurring at the extremes of the conflict continuum.² The purpose of FM 3-0 is to reorient the Army's training and education curricula on decisive action, which is the heart of the Army's operating concept.³ Decisive action is "the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks"⁴ in the broader context of the ways of unified action to achieve national strategic ends.

A crucial element of the stability component of decisive action is establishing civil control, which fosters the rule of law.⁵ The rule of law is the fundamental principle of human rights that "all persons, institutions, and entities – public and private, *including the state itself* – are accountable to laws... equally enforced [and] independently adjudicated...." (Emphasis added.)⁶

However, according to FM 3-0, paragraph 1-4:

Large-scale combat operations are intense, lethal, and brutal. Their conditions include complexity, chaos, fear, violence, fatigue, and uncertainty. Future battlefields will include noncombatants, and they will be crowded in and around large cities. Enemies will employ conventional tactics, terror, criminal activity, and information warfare to further complicate operations. To an ever-increasing degree, activities in the information environment are inseparable from ground operations. Large-scale combat operations present the greatest challenge for Army forces.

Given the unavoidable destructive nature of large-scale combat operations, how can the Army promote the rule of law when civil infrastructure has been destroyed and critical civic institutions, like

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the judicial system, are no longer functioning? The Special Court for Sierra Leone, an ad hoc international tribunal, provides an instructive example.

In April 2012, the Special Court for Sierra Leone (SCSL) convicted Charles Taylor, the former president of Liberia, of war crimes, human rights violations, and crimes against humanity for his involvement in Sierra Leone's ten-year civil war.⁷ The same court later sentenced Taylor to fifty years in prison.⁸ The Special Court's conviction made Taylor the first former head of state to be convicted by an international court since the Nuremberg trials that followed World War II.⁹

The SCSL, though flawed and imperfect, can provide a workable model for restoring the rule of law and establishing civil control, in the final phases of decisive action, where national courts or the International Criminal Court cannot.

Background

Eighteen years ago, as Sierra Leone's civil war began to wind down, the country's president, Ahmed Tejan Kabbah, asked the United Nations Security Council to develop an international tribunal to assist in prosecuting members of the rebelling Revolutionary United Front for crimes against the country's citizens and United Nations peacekeepers.¹⁰ In response, the Security Council passed Resolution 1315 which authorized the United Nations' Secretary-General to develop a special ad hoc tribunal in cooperation with Sierra Leone's government.¹¹ Both the United Nations (UN) and the Sierra Leonean government agreed to the resulting draft legislation and the SCSL was born.¹²

Many in the international community met the creation of the SCSL with high expectations, believing its success would be a watershed event for the future use of ad hoc international criminal courts.¹³ The court's conception sought to avoid the difficulties and setbacks of previous ad hoc international criminal tribunals and the

shortcomings of the International Criminal Court.¹⁴

This article will begin by briefly discussing Sierra Leone's civil war and the genesis of the SCSL, which was created to bridge the gap in accountability between the country's dysfunctional national court system and existing international tribunals. It will then explore the framework and jurisdiction of the Court, the

Eighteen years ago, as Sierra Leone's civil war began to wind down, the country's president... asked the United Nations Security Council to develop an international tribunal...

precedents upon which it was based, and its unique composition as an international hybrid tribunal. From there, the article will discuss the court's prosecutions, particularly that of Taylor. Finally, the article will conclude that the SCSL, though far from perfect, has made important contributions to the field of international criminal law and is a practical and necessary model for the future of international ad hoc tribunals. These contributions may be instructive should the U.S. military seek to impose the rule of law in the stability phase of large-scale combat operations.

The Genesis of the Special Court for Sierra Leone

Sierra Leone's Civil War

In March of 1991, the Revolutionary United Front (RUF), a group of Sierra Leonean dissidents based in Liberia and linked to Libyan president Mohamar Qaddafi,¹⁵ invaded Sierra Leone with support and direction from Charles Taylor.¹⁶ The RUF's pretext was liberating Sierra Leone from its corrupt dictatorship,¹⁷ but after looting the country's eastern diamond mines and indiscriminately massacring civilians, the RUF

proved to be nothing more than a bloodthirsty criminal enterprise.¹⁸

The decade-long conflict that followed was waged almost entirely against civilians...

The decade-long conflict that followed was waged almost entirely against civilians¹⁹ and characterized by systematic atrocities such as mass executions of noncombatants, slave labor, rape, mutilation, and the forced conscription of child soldiers.²⁰ The death toll is estimated to be 50,000.²¹ In explaining that the combatants' behavior amounted to "some of the most heinous, brutal and atrocious crimes ever recorded in human history," the SCSL noted:

Innocent civilians – babies, children, men and women of all ages – were murdered by being shot, hacked to death, burned alive, beaten to death. Women and young girls were gang raped to death. Some had their genitals mutilated by the insertion of foreign objects. Sons were forced to rape mothers, brothers were forced to rape sisters. Pregnant women were killed by having their stomachs split open and the [fetus] removed merely to settle a bet amongst the troops as to the gender of the [fetus].... Hacking off the limbs of innocent civilians was commonplace.... Children were forcibly taken away from their families, often drugged and used as child soldiers who were trained to kill and commit other brutal crimes against the civilian population.²²

After a particularly heinous and shocking RUF attack on the capital city of Freetown, which killed 6,000 civilians in just two weeks, the international community finally forced the combatants to the negotiating table.²³ The subsequent peace agreement, signed in Lomé, Togo and known as the Lomé Agreement, folded

the RUF into the government and established a truth and reconciliation commission.²⁴

Controversially, the Lomé Agreement contained an amnesty provision, which conferred immunity from any legal or official adverse action by the government of Sierra Leone on any member of the conflict's principal combatants: the RUF, the Sierra Leone Army, the Armed Forces Revolutionary Council, and the Civilian Defense Force.²⁵ In a belated act of protest to the amnesty clause, the United Nations Special Representative to the Lomé negotiations appended a handwritten statement to the agreement stating that the UN would not endorse amnesty for "international crimes of genocide, crimes against humanity, war crimes and other serious violations of international humanitarian law."²⁶

As part of the Lomé Agreement, the UN also agreed to deploy 6,000 additional soldiers to Sierra Leone, whom the RUF immediately attacked.²⁷ Furthermore, the RUF leadership, now government ministers, resumed plundering the diamond mines.²⁸ With violence spinning out of control yet again, the British government forcefully intervened and largely pacified Sierra Leone by the end of 2001.²⁹ After Charles Taylor pulled his support for the RUF under international pressure, its leadership disarmed, and Sierra Leone's civil war finally ended.³⁰

Establishing the Special Court for Sierra Leone

The Need for a Hybrid Tribunal

The Lomé Agreement's failure forced Sierra Leone's government to rethink the controversial amnesty provision and consider a different approach to a stable peace.³¹ On June 12, 2000, Sierra Leone's president, Ahmed Tejan Kabbah,³² wrote to United Nations Security Council requesting international support for a "special court" to "bring credible justice" to the RUF for its crimes against Sierra Leone's people

and UN peacekeepers.³³ Kabbah argued that the RUF had “renege[d]” on the Lomé Agreement and would continue its violence with impunity if its members were not prosecuted.³⁴ Citing the UN’s response to crimes against humanity in Rwanda and the former Yugoslavia, Kabbah argued that a similar legal framework was needed given the magnitude of the RUF’s atrocities.³⁵

Kabbah suggested a tribunal with a framework and mandate to apply both a blend of international and domestic Sierra Leonean law.³⁶ This was necessary because the gaps in the country’s existing criminal legal code and the extensive nature of the RUF’s crimes were well beyond the capacity of the country’s existing judicial infrastructure.³⁷ However, Kabbah was concerned that serious crimes like kidnapping and arson were unlikely to be prosecuted through international law.³⁸

Security Council Resolution 1315

In response to Kabbah’s letter, the United Nations Security Council passed Resolution 1315, which authorized the Secretary-General to begin working with the Sierra Leonean government to establish a special court.³⁹ UN Security Council Resolution 1315 noted an earlier reservation by the UN Special Representative to the Lomé Agreement’s amnesty provision⁴⁰ but curiously made no mention of the RUF. Instead, UN Security Council Resolution 1315 recommended that the proposed special court “have personal jurisdiction over persons who bear the greatest responsibility” for “crimes against humanity, war crimes and other serious violations of international humanitarian law....”⁴¹ The language “greatest responsibility” would become especially significant later.

The Court’s Structure: A New Model

Despite UN Security Council Resolution 1315, there was no political will in the international community for setting up another international criminal tribunal because of the

expense and longevity of the existing tribunals.⁴² To address these concerns, the SCSL’s framework was designed to operate more efficiently than its predecessors.⁴³ The tribunals on which the SCSL was based, the International Criminal Tribunals for Rwanda and Yugoslavia, were subsidiary organs of the United Nations and subject to unavoidable delays and bureaucracy.⁴⁴ The SCSL was its own independent entity and could function faster and more economically. The SCSL was also independent of Sierra Leone’s

The SCSL was its own independent entity and could function faster and more economically.

judiciary, which was an effort to make the court more credible.⁴⁵

Structure

The court was divided into three principal branches: chambers, registry, and prosecution.⁴⁶ The chambers branch consisted of two trial courts and one appellate court, with the latter’s presiding judge serving as the President of the Court.⁴⁷ The head prosecutor, appointed by the UN Secretary-General, was responsible for investigating and prosecuting cases before the court.⁴⁸ The registry, the administrative branch of the court, was responsible for the court’s operation and also housed the Office of the Principal Defender.⁴⁹

Financing

Significant criticism of the previous ad hoc international tribunals has much to do with their expense.⁵⁰ Rwanda’s government criticized the International Criminal Tribunal for Rwanda for spending \$1.5 billion over 11 years to secure fewer than 40 verdicts.⁵¹ The country’s government complained that the International Criminal Tribunal for Rwanda’s

slow pace damaged the perception among Rwandans that the tribunal would achieve justice.⁵² Similarly, the International Criminal Tribunal for Yugoslavia has spent well over a billion dollars, at a cost of approximately \$10 million per defendant.⁵³

This frustration and dissatisfaction with the cost of the International Criminal Tribunals

The advantage to having the court funded through donations was that the SCSL would be accountable to its donors.

for Yugoslavia and Rwanda drove the Security Council to institute a novel method of funding the SCSL: voluntary donations.⁵⁴

Those countries that donated to the SCSL comprised a Management Committee handling the general administration of the court.⁵⁵ The advantage to having the court funded through donations was that the SCSL would be accountable to its donors.⁵⁶

An international tribunal established by the United States or a North Atlantic Treaty Organization (NATO) coalition would be much better resourced than the SCSL. Iraq and Afghanistan are indications that U.S. taxpayers have been willing to shoulder the burden of post-war reconstruction for countries that, unlike a near-peer adversary in large-scale combat operations, did not necessarily pose an existential threat.

Temporal Jurisdiction

One of the most controversial decision made by the tribunal was the SCSL's expansive temporal jurisdiction,⁵⁷ implemented because the amnesty provision of the 1999 Lomé Agreement⁵⁸ posed a significant hurdle to prosecuting members of the RUF, many of whom may not have ceased fighting without it.⁵⁹ If the amnesty provision were valid, the SCSL

would only have jurisdiction for offenses that took place after July 7, 1999.⁶⁰ Conversely, if the SCSL disregarded the provision, offenses could be prosecuted dating back to November 30, 1996, when the Abidjan Peace Agreement failed.⁶¹

Furthermore, given the sheer number and atrocious nature of the crimes committed during the conflict, the parties to the Lomé Agreement believed that a truth and reconciliation commission was necessary for the country to properly heal.⁶² In order to do so, amnesty would encourage those responsible for the conflict's crimes to testify before the commission without risk of penal consequences.⁶³ Yet UN Security Council Resolution 1315's preamble noted that the Secretary-General's Special Representative had appended to the Lomé Agreement the UN's understanding that the amnesty provision would not apply to international crimes.⁶⁴ Disregarding the amnesty provision, the Security Council proposed:

[T]hat the special court should have personal jurisdiction over persons *who bear the greatest responsibility* for the commission of [crimes against humanity, war crimes and other serious violations of international humanitarian law, as well as crimes under relevant Sierra Leonean law], including those leaders, who in committing such crimes, have threatened the establishment of and implementation of the peace process in Sierra Leone.⁶⁵ (Emphasis added.)

The government of Sierra Leone, which never supported the 1996 amnesty provision,⁶⁶ agreed with the draft jurisdictional language and expressed its belief that the Lomé Agreement did not bar prosecution for international crimes or crimes under Sierra Leonean law.⁶⁷ Though negotiations over the draft statute continued for more than a year, there is no evidence of either party revisiting the issue.⁶⁸ The draft language

remained and was incorporated into the Special Court's statute in Article 10.⁶⁹

Personal Jurisdiction

As noted above, the personal jurisdiction of the SCSL extended to those “who bear the greatest responsibility for serious violations of international humanitarian law and Sierra Leonean law committed in the territory of Sierra Leone since November 30, 1996, including those leaders who, in committing such crimes, have threatened the establishment of and implementation of the peace process in Sierra Leone.”⁷⁰ Out of concern that the language would be interpreted to allow for the prosecution of peacekeepers and child soldiers, the Security Council restricted jurisdiction over peacekeepers⁷¹ to the sending state and barred prosecution of anyone under the age of 15.⁷²

The World's First International Hybrid Tribunal

On January 16, 2002, the UN and Sierra Leone reached an agreement establishing the SCSL.⁷³ Appended to the agreement was a statute passed by Sierra Leone's government that established the court under Sierra Leonean law⁷⁴ making the SCSL the world's first international hybrid tribunal. In July of 2002, the court began operating.⁷⁵

The Special Court's Prosecutions Begin

Indictments

In March 2003, the SCSL Chief Prosecutor announced seven initial indictments against RUF leader Foday Sankoh, his chief of staff Sam Bockarie, RUF commanders Issa Hassan Sessay, and Morris Kallon, Armed Forces Revolutionary Council leaders Johnny Paul Koroma and Alex Brima, and Sierra Leone's interior minister, Sam Hinga Norman, who founded the Civilian Defense Force and served as President Kabbah's deputy defense minister during the fighting.⁷⁶

The indictments against Sankoh, Bockarie, and Norman were later dismissed due to their deaths.⁷⁷ Koroma fled to Liberia and died under mysterious circumstances.⁷⁸

Appended to the agreement was a statute passed by Sierra Leone's government that established the court under Sierra Leonean law making the SCSL the world's first international hybrid tribunal.

Within the next few months, the Chief Prosecutor also indicted Augustine Gbao of the RUF, Ibrahim Kamara and Santigie Kanu of the Armed Forces Revolutionary Council, and Moinina Fofana and Allieu Kondewa of the Civilian Defense Force.⁷⁹ All of the defendants were charged with war crimes, crimes against humanity, and serious violations of international humanitarian law.⁸⁰

Jurisdictional Challenges

As expected, the Lomé Agreement's amnesty clause was the first major hurdle to prosecution. Article IX of the Agreement stated:

To consolidate peace and promote the cause of national reconciliation, the Government of Sierra Leone shall ensure that no official or judicial action is taken against any member of the RUF/SL, [ex-Armed Forces Revolutionary Council], [ex-Sierra Leone Army] or [Civilian Defense Force] in respect of anything done by them in pursuit of their objectives as members of those [organizations] since March 1991, up to the signing of the present Agreement.⁸¹

Kallon, Kamara, Fofana, and Gbao all filed preliminary motions with the Special Court arguing that the amnesty provision of the Lomé Agreement barred their prosecutions.⁸²

The argument was not without merit. The defendants claimed that the entire purpose of the Lomé Agreement was irreconcilable with the establishment of the SCSL.⁸³ Furthermore, they argued, it was arbitrary and capricious for the government of Sierra Leone to honor its commitments to the Abidjan Agreement and the UN, but disregard its commitments under the Lomé Agreement.⁸⁴

The Appeals Chamber for the Special Court disagreed. Ruling that domestic amnesty laws cannot prohibit prosecutions under international law for crimes of universal jurisdiction by simple decree, the court noted:

The Lomé Agreement created neither rights nor obligations capable of being regulated by international law. An agreement such as the Lomé Agreement which brings to an end an internal armed conflict no doubt creates a factual situation of restoration of peace that the international community acting through the Security Council may take note of. That, however, will not convert it to an international agreement which creates an obligation enforceable in international, as distinguished from municipal law.⁸⁵

... “[s]tates cannot use domestic legislation to bar international criminal liability.”

As Noah Novogrodsky put it, “[s]tates cannot use domestic legislation to bar international criminal liability.”⁸⁶ The prosecution could present its case.

Convictions

In 2007, Brima, Kamara, and Kanu were all convicted of war crimes, crimes against humanity, and serious violations of international humanitarian law.⁸⁷ Brima and Kanu each received 50 years in prison, while Kamara received 45 years.⁸⁸

The next year, Sessay, Kallon, Gbao,⁸⁹ Kondewa, and Fofana⁹⁰ were all convicted and sentenced to 52, 40, and 25, 20, and 15 years respectively.⁹¹

Prosecutor vs. Taylor

The SCSL was under serious threat of losing credibility in Sierra Leone if Charles Taylor was not brought to justice.⁹² Taylor was widely believed to have directed the RUF to invade Sierra Leone to support his own civil war in Liberia.⁹³ His warlord economy prolonged both conflicts, especially Sierra Leone’s, because he traded logistical and operational support to the RUF for access to Sierra Leone’s eastern diamond mines.⁹⁴ Taylor would then sell these diamonds for an enormous profit on the black market to circumvent the Kimberly Process.⁹⁵ Yet indicting Taylor would be immensely problematic because he was still Liberia’s sitting president at a time when the country was fighting its own civil war.⁹⁶ If Taylor were indicted, there would be no incentive for him to make peace.

The Indictment

In March 2003, the SCSL’s chief prosecutor, David Crane, indicted Charles Taylor under seal for crimes against humanity, war crimes, and other serious violations of international humanitarian law.⁹⁷ The indictment was sealed because Crane feared that publicizing it would destabilize Sierra Leone and increase violence in Liberia.⁹⁸ Hoping to seize an opportunity to apprehend Taylor outside Liberia, Crane unsealed the indictment while Taylor was in Ghana for peace talks.⁹⁹ Yet Ghanaian authorities balked at apprehending Taylor and he fled back to Liberia.¹⁰⁰ Later, as part of a compromise to bring peace to Liberia, Nigeria offered Taylor asylum if he stepped down as president, which he accepted under intense international pressure.¹⁰¹ After Taylor violated the terms of his asylum by attempting to flee to Cameroon,

Nigeria extradited him to Sierra Leone.¹⁰² Taylor was then transferred from Sierra Leone to The Hague, where a branch of the SCSL had opened amid security concerns in Freetown.¹⁰³

Head of State Immunity

Shortly after Taylor was indicted, his attorneys filed a motion to quash the SCSL's indictment citing head of state immunity.¹⁰⁴ Taylor argued that customary international law did not give the national courts of another sovereign an exception to head of state immunity.¹⁰⁵

The SCSL rejected Taylor's argument and ruled that heads of state are not immune from international tribunals.¹⁰⁶ The Court further held that, even though the SCSL originated with a treaty between the UN and Sierra Leone, as opposed to Chapter VII of the UN Charter, the fact that the Security Council passed a resolution creating the SCSL gave it distinct international characteristics trumping head of state immunity.¹⁰⁷

Verdict

Charles Taylor's trial began in June of 2007 but was postponed when Taylor, in behavior typical of a despot facing trial, fired his defense attorneys and boycotted the proceedings.¹⁰⁸ The trial resumed in January of 2008¹⁰⁹ and concluded on March 11, 2011 after the presentation of tens of thousands of pages of evidence, more than 1,000 exhibits, and testimony from 120 witnesses, including Taylor himself.¹¹⁰ On April 26, 2012, after 13 months of deliberation, the panel of three judges, from Uganda, Samoa, and Ireland, convicted Taylor of aiding, abetting, and planning the atrocities committed by the RUF and Armed Forces Revolutionary Council during the war.¹¹¹ One month later, the same three judges sentenced Taylor to 50 years in prison.¹¹²

Criticisms of the Special Court for Sierra Leone

Though successful in its limited prosecutions, the SCSL is far from perfect and the Court is not without its critics.

Lack of Resources

Funding

Many of the SCSL's problems revolved around funding. The UN Security Council established the SCSL to be funded with voluntary contributions from UN member states.¹¹³ This meant that those most vested in the SCSL's success, the UN and the people of Sierra Leone, were now entirely dependent on donations.¹¹⁴ At one point, the Court became so cash-strapped that it needed a bailout from the UN just to meet its mandate.¹¹⁵

The SCSL's limited budget significantly restricted its capabilities and forced the court's chief prosecutor to limit the number of indictments and prosecutions.¹¹⁶

The SCSL rejected Taylor's argument and ruled that heads of state are not immune from international tribunals.

Support to the Defense Office

The Court's shoestring budget also limited the resources that could be provided to the defense attorneys. Though Taylor sat atop a vast and lucrative criminal enterprise, investigators were never able to track down the millions of dollars he allegedly sent offshore.¹¹⁷ As a result of Taylor's claimed indigence, the SCSL funded Taylor's defense at a cost of \$100,000 per month.¹¹⁸ Even so, Taylor's defense attorneys complained that they were significantly underfunded and that the Registrar often asked the Defense Office to make decisions that undermined the representation of its clients.¹¹⁹

Narrow Interpretation

The SCSL's mandate was to "prosecute persons who bear the greatest responsibility" for the conflict's violence.¹²⁰ Obviously, there were differing opinions about whom and how many were most responsible for the atrocities in Sierra Leone. This was, after all, a decade-long conflict waged primarily against a civilian population. Concerned that the phrasing of the mandate would overly restrict the number of prosecutions, the UN Secretary General urged the Security Council to widen the personal jurisdiction of the Court's mandate.¹²¹ His proposal was rejected.¹²²

The limited funding available and the SCSL's narrow jurisdiction lead the Prosecutor to charge only a tiny fraction of the conflict's worst perpetrators, allowing some of the most notorious to escape justice.¹²³

...Sierra Leone's civil war began, almost inevitably, because of terrible governance, rampant corruption, and regional instability.

Selective Prosecutions

At the SCSL's formation, juveniles and peacekeepers were specifically excluded from prosecution.¹²⁴ These exclusions were controversial in Sierra Leone. Though there was a segment of the population that wanted to see juveniles prosecuted,¹²⁵ the United Nations Children's Fund and other human rights organizations were adamantly against it.¹²⁶ In contrast though, the failure to hold peacekeepers accountable, especially those assigned to Economic Community of West African States Monitoring Group, caused outrage and instantly damaged the SCSL's credibility.¹²⁷ The group was itself responsible for crimes against Sierra Leone's population, including summary executions, rape, and looting.¹²⁸

Finally, Sierra Leone's civil war began,

almost inevitably, because of terrible governance, rampant corruption, and regional instability. Yet the conflict was fueled and perpetuated by the factions' exploitation of the country's diamond mines, both for greed and revenue. These "conflict diamonds" were sold on the international market with the complicity of the diamond industry.¹²⁹ The SCSL's failure to hold foreign businesses accountable for knowingly profiting from conflict diamonds diminished the court's legitimacy.¹³⁰

The Special Court for Sierra Leone's Legacy and the Future of International Hybrid Tribunals

Contributions

A "Nationalized" International Tribunal

The SCSL was the world's first international hybrid tribunal empowered to adjudicate its cases under both international and national law.¹³¹ The use of national law can be important to a country as devastated as Sierra Leone and trying to regain a sense of nationhood and seeking a return to normalcy. In other words, the hybrid nature of the court can give a country a feeling of "ownership" over the process, even where international law is necessary because national courts and law are not capable.¹³²

The rule of law had effectively vanished in Sierra Leone. Though the government was functioning at the time of the SCSL's creation, its civil and judicial infrastructure had been destroyed and the RUF was on the verge of another coup.¹³³ Exposure to highly publicized and fair trials held in *locus criminis* would significantly improve Sierra Leone's rule of law.

Bilateral Creation

The SCSL, in contrast to the International Criminal Tribunal for Rwanda and ICTY, was the first criminal tribunal created by treaty between the UN and a member state.¹³⁴ The International

Criminal Tribunals for Rwanda and Yugoslavia were created by the Security Council under its Chapter VII authority and imposed on Rwanda and the former Yugoslavia.¹³⁵ As Charles Jalloh, a law professor and SCSL scholar noted:

While Chapter VII resolutions are coercive in the sense of being binding on all UN Member States, the SCSL consensual bilateral treaty approach offers a practical alternative to the use of such exceptional powers where the affected State is willing to prosecute serious international law violations but is unable to do so for some reason....¹³⁶

The SCSL's model may also assist a UN member state in sparking interest among the international community for assistance in resolving a conflict.¹³⁷ For instance, the international community had no real interest or motivation to resolve Sierra Leone's conflict until the jaw-dropping horror of the RUF's attack on Freetown.¹³⁸ When the international community finally intervened, it obviously did not understand the war.¹³⁹ The resulting and doomed Lomé Agreement and its amnesty clause, which President Kabbah was pressured into signing, were a give-away to the RUF.¹⁴⁰ It was only through the creation of the SCSL that the conflict could end with any color or sense of justice.

An Existing Template

The SCSL was designed to avoid the deficiencies of the International Criminal Tribunals for Rwanda and Yugoslavia.¹⁴¹ Yet it also borrowed from what the two previous tribunals used effectively, such as rules of evidence, procedure, and the jurisprudence of their appellate chambers.¹⁴² Future hybrid tribunals can benefit by inheriting and employing the robust contributions and precedents these tribunals have made to international criminal law.

Did the Special Court "Work"?

Sierra Leone is unquestionably better off than it was in 2002. Since the SCSL began operating, the country has had four transparent, fair elections with relatively peaceful transfers of power.¹⁴³ Though still plagued by government corruption, tribalism, and regionalism, the country has endured economic turmoil and devastating natural disasters, including an Ebola outbreak that killed 4,000, without mass violence or breakdown of civil-society.¹⁴⁴

It is impossible to gauge how much of progress was due to the SCSL. Post-conflict tribunals are relatively new initiatives in international law and their contributions to conflict resolution may take decades to accurately assess. Yet in the short term, the prosecution and incarceration of Charles Taylor was vital to stabilizing West Africa.

The SCSL was designed to avoid the deficiencies of the International Criminal Tribunals for Rwanda and Yugoslavia.

Bridging the Accountability Gap

A Supplement to the International Criminal Court

The United States is not a party to the International Criminal Court.¹⁴⁵ Neither are China, India, Pakistan, Indonesia, Turkey, and a number of other states.¹⁴⁶ Therefore, resort to the International Criminal Court may not be feasible after a large-scale conflict. Furthermore, while the International Criminal Court was intended to be a court of last resort,¹⁴⁷ there are many instances where the national courts of countries victimized by war are not capable of handling the conflict's fallout. In protracted internal armed conflicts like Sierra Leone and Liberia's, a devastated judicial infrastructure, corruption,

or ethnic bias may render domestic prosecutions impossible. Furthermore, given the dissatisfaction with the cost and inefficiencies of the International Criminal Tribunal for Rwanda and ITCY, it is unlikely that the UN will return to Chapter VII tribunals that are centrally funded by its member states. International hybrid tribunals, like the SCSL, can be used to effectively bridge the existing gap between the International Criminal Court and incapacitated, incapable, or overwhelmed national courts.

Recommendations

Funding

Funding will continue to be a problem for future hybrid tribunals. For the International Criminal Tribunals for Rwanda and Yugoslavia, the costs were too high. For the SCSL, there was never enough money in the first place, which diminished its credibility.¹⁴⁸ Ideally, the UN would consider setting up a standing global fund that its member states can augment through voluntary donations when the next hybrid tribunal is established.

The next hybrid tribunal should also have a clear mandate and jurisdiction before its creation. This will allow for a better prediction of its costs.

Finally, the UN should create a workable template for the logistics of physically setting up and running a tribunal. This includes office management, translation equipment, case file management systems, and witness accommodations. This type of institutional knowledge can lower initial startup costs.

Chapter VII Authority

Tribunals created by bilateral treaty do not have extraterritorial jurisdiction or extradition authority. This could have been problematic for the SCSL given the cross-border nature of the conflict and that three of the principle defendants – Taylor, Bockarie, and Koroma – were in Liberia while under indictment. The UN Security Council should consider augmenting a hybrid tribunal with Chapter VII authority to allow for extradition.

Conclusion

There will never be a one-sized approach for hybrid tribunals and conflict resolution. What worked in Sierra Leone may not work in Syria or the Democratic Republic of the Congo. Yet despite valid criticism, the SCSL made important contributions to the field of international criminal law and Sierra Leone has been at peace nearly two decades.

The worst evils of war too often fall on those who have no stake in it. The culture of impunity and the willingness of combatants to terrorize civilians are too common in the world. The SCSL is a necessary and practical model for providing justice and establishing the rule of law where the International Criminal Court and national courts cannot. If the United States finds itself prosecuting large-scale combat operations, something akin to the Special Court for Sierra Leone may become necessary. **IAJ**

NOTES

- 1 U.S. Department of the Army, Field Manual 3-0, Operations, (6 Oct. 2017) [hereinafter FM 3-0].
- 2 Ibid. at 1-1.
- 3 Ibid.
- 4 Ibid. at 1-16.
- 5 Ibid. at 8-12
- 6 Ibid.
- 7 Marlise Simons, *Ex-President of Liberia Aided War Crimes, Court Rules*, N.Y. Times, April 26, 2012, http://www.nytimes.com/2012/04/27/world/africa/charles-taylor-liberia-sierra-leone-war-crimes-court-verdict.html?pagewanted=all&_r=0.
- 8 Marlise Simons and David Goodman, *Ex- Liberian Leader Gets 50 Years for War Crimes*, N.Y. Times, May 30, 2012, <http://www.nytimes.com/2012/05/31/world/africa/charles-taylor-sentenced-to-50-years-for-war-crimes.html?pagewanted=all>.
- 9 Ibid. Admiral Karl Dönitz, a German naval officer who succeeded Adolph Hitler, was convicted of war crimes at Nuremberg. Robert E. Conot, Justice at Nuremberg at 33 (1983).
- 10 Letter from the Permanent Representative of Sierra Leone to the United Nations to the President of the Sec. Council, U.N. Doc. S/2000/786 [hereinafter Kabbah's Letter].
- 11 S.C. Res. 1315, U.N. SCOR. 418th mtg. at 2, U.N. Doc. S/RES/1315 (2000).
- 12 Human Rights Watch, World Report 2003: Events of 2002 67, 69 (2003).
- 13 Charles Chernor Jalloh, *Special Court for Sierra Leone: Achieving Justice?*, 32 Mich. J. Int'l L. 395 (2011).
- 14 J. Peter Pham, *A Viable Model for International Criminal Justice: The Special Court for Sierra Leone*, 19 N.Y. Int'l L. Rev. 37, 42 (2006).
- 15 Greg Campbell, Blood Diamonds: Tracing the Deadly Path of the World's Most Precious Stones at 71 (2004).
- 16 Colin Waugh, Charles Taylor: Ambition and Atrocity in Africa's Lone Star State at 208-209 (2011).
- 17 *Footpaths to Democracy* (1995), at <http://www.fas.org/irp/world/para/docs/footpaths.htm> (last visited February 10, 2019). *Footpaths to Democracy* was the RUF's manifesto.
- 18 Lansana Gberie, A Dirty War in West Africa: The RUF and the Destruction of Sierra Leone at 96 (2005).
- 19 Simons, *supra* note 7.
- 20 Ibid.
- 21 Ibid.
- 22 Prosecutor v. Brima, Kamara & Kanu, Case No. SCSL-04-16-T, Sentencing Judgment, 13 (July 19,

2007), <http://www.sc-sl.org/LinkClick.aspx?fileticket=v3P%2fxMoNm6U%3d&tabid=173>.

23 Gberie, *supra* note 18, at 161. In “Operation No Living Thing,” the RUF attacked Freetown’s civilian population with orders to murder, rape, or mutilate by amputation every person they encountered, including infants and children. Campbell, *supra* note 15, at 86. The Nigerian peacekeeping soldiers deployed in the city, who panicked and lost control, counterattacked by summarily executing, raping, or torturing anyone remotely suspected of assisting the RUF.

24 Peace Agreement Between the Government of Sierra Leone and the Rebel United Front of Sierra Leone, July 7, 1999, at <http://www.sierra-leone.org/lomeaccord.html> [hereinafter the Lomé Agreement].

25 *Ibid.* at Article IX.

26 William A. Schabas, *Amnesty, the Sierra Leone Truth and Reconciliation Commission and the Special Court for Sierra Leone*, 11 U.C. Davis J. Int’l L. & Pol’y 145, 148-149 (2004).

27 Campbell, *supra* note 150, at 93.

28 *Ibid.*

29 Waugh, *supra* note 16, at 224.

30 *Ibid.* at 225. Sierra Leone’s government officially declared the war’s end on January 18, 2002. Danny Hoffman, *The War Machines: Young Men and Violence in Sierra Leone and Liberia* at xii (2011).

31 Pham, *supra* note 14, at 76.

32 President Kabbah took office through surprisingly fair elections that were the result of the failed Abidjan Peace Accord, signed in Abidjan, Côte d’Ivoire in 1996. Gberie, *supra* note 18, at 95.

33 Kabbah’s Letter, *supra* note 10, at 2.

34 *Ibid.*

35 *Ibid.* Furthermore, the International Criminal Court, which began its operations in July of 2002, did not have retroactive jurisdiction over the conflict, though Sierra Leone was a party to the Rome Statute. Jalloh, *supra* note 13, at 458. *See also*, Rome Statute of the International Criminal Court, art. 11(1), July 17, 1998, 2187 U.N.T.S. 90 [hereinafter the Rome Statute].

36 Kabbah’s Letter, *supra* note 10, at 3.

37 *Ibid.*

38 Pham, *supra* note 14, at 82, 83.

39 S.C. Res. 1315, *supra* note 11.

40 *Ibid.*

41 *Ibid.*

42 Avril McDonald, *Sierra Leone’s Shoestring Special Court*, 84 INT’L REV. RED CROSS 121, 124 (2002).

43 David Crane, *The Take Down: Case Studies Regarding “Lawfare” in International Criminal Justice: The West African Experience*, 43 Case W. Res. J. Int’l L. 201, 204 (2010). Mr. Crane, who recently retired

- from teaching at Syracuse University's College of Law, was the founding Chief Prosecutor for the Special Court for Sierra Leone, serving from 2002-2005.
- 44 Ibid. The UN briefly considered expanding the jurisdiction of the International Criminal Tribunal for Rwanda to include Sierra Leone but decided against it. *Rescuing a Fragile State: Sierra Leone 2002-2008* at 55 (Lansana Gberie ed., 2009).
- 45 Kabbah's Letter, *supra* note 10, at 2. Although the SCSL is independent of the Sierra Leonean judiciary, Sierra Leone's courts have concurrent jurisdiction. *See*, Statute of the Special Court for Sierra Leone, art. 8(2) at <http://www.sc-sl.org/LinkClick.aspx?fileticket=uClnd1MJeEw%3d&tabid=176> [hereinafter the SCSL Statute].
- 46 Vincent O. Nmehielle and Charles Chernor Jalloh, *The Legacy of the Special Court for Sierra Leone*, 30-SUM Fletcher F. World Aff. 107, 108 (2006).
- 47 Ibid.
- 48 Ibid. The SCSL's deputy prosecutor was appointed by the government of Sierra Leone.
- 49 Ibid.
- 50 *See generally*, Ralph Zacklin, *The Failings of Ad Hoc International Tribunals*, 2 J. Int'l Crim. Just. 541 (2004).
- 51 Jollah, *supra* note 13, at 429.
- 52 Letter dated July 26, 2002 from the Permanent Representative of Rwanda to the United Nations addressed to the President of the Security Council, 6 U.N. Doc. S/2002/842 (July 26, 2002).
- 53 Rupert Skilbeck, *The Price of War Crimes Trials*, 15 No. 3 Hum. Rts. Brief 6 (2008).
- 54 S.C. Res. 1315, *supra* note 11, art. 8. The Security Council chose this method of financing against the advice of the Secretary-General, Kofi Annan, who believed assessed contributions were the only way to "produce a viable and sustainable financial mechanism affording secure and continuous funding." *See*, Report of the Secretary General on the Establishment of a Special Court for Sierra Leone, U.N. SCOR, U.N. Doc. S/2000/915, para. 71 (2000).
- 55 Pham, *supra* note 14, at 89.
- 56 Celina Schocken, Notes and Comments, *The Special Court for Sierra Leone: Overview and Recommendations*, 20 Berkeley J. Int'l L. 436, 453 (2002).
- 57 Temporal jurisdiction is defined as "jurisdiction based on the court's having authority to adjudicate a matter when the underlying event occurred." Black's Law Dictionary 931 (9th ed. 2009).
- 58 The Amnesty clause in the Lomé Agreement reads "[a]fter the signing of the present Agreement, the Government of Sierra Leone shall also grant absolute and free pardon and reprieve to all combatants and collaborators in respect of anything done by them in pursuit of their objectives, up to the time of the signing of the Agreement." *Supra* note 19, at article IX.
- 59 Hoffman, *supra* note 30, at 49.
- 60 Report of the Secretary-General on the Establishment of a Special Court for Sierra Leone, S.C. Res. 915, U.N. SCOR, 55th Sess., 915th mtg., U.N. Doc., S/2000/915, (2000).
- 61 Ibid. The Abidjan Peace Agreement also had an amnesty provision which dated back to 1991, when

the conflict began. Peace Agreement Between the Government of Sierra Leone and the Rebel United Front of Sierra Leone, November 30, 1996, at <http://www.sierra-leone.org/abidjanaccord.html> [hereinafter the Abidjan Agreement].

62 Gberie, *supra* note 18, at 207.

63 Schabas, *supra* note 26, at 150.

64 S.C. Res. 1315, *supra* note 11.

65 Ibid. at 2.

66 Sierra Leone's government felt pressured by the international community into the Lomé Agreement and the amnesty provision caused national outrage. Gberie, *supra* note 18, at 157-158.

67 Amnesty International objected to granting amnesty to any combatant, including the amnesty granted under the Abidjan Agreement in 1996. Amnesty International, Sierra Leone: The U.N. Security Council Must Make the Special Court Effective and Viable (Feb. 13, 2001), <http://www.amnesty.org/fr/library/asset/AFR51/001/2001/fr/23646266-dc3d-11dd-a4f4-6f07ed3e68c6/afr510012001en.html>.

68 Schabas, *supra* note 26, at 156.

69 SCSL Statute, *supra* note 45, art. 10.

70 Ibid. art. 1.

71 Ibid. at art. 2.

72 Ibid. at art 7. This was a break with the prevailing view of international criminal justice. The Rome Statute for International Criminal Court bars prosecution of any offender who was under the age of 18 at the time of the alleged commission of the offense. The Rome Statute, *supra* note 35, at art. 26.

73 Agreement Between the United Nations and the Government of Sierra Leone on the Establishment of a Special Court for Sierra Leone, Jan. 16, 2002, available at <http://www.sc-sl.org/scsl-agreement.html> [hereinafter SCSL Agreement].

74 SCSL Statute, *supra* note 45.

75 Schabas, *supra* note 26, at 157.

76 Pham, *supra* note 14, at 95. At trial, Norman called President Kabbah as a defense witness but he refused to testify. The SCSL sided with Kabbah. Penfold, *infra* note 78, at 64.

77 Sankoh died of a stroke while in custody. *Foday Sankoh*, Economist.com, <http://www.economist.com/node/1974062> (last visited February 10, 2019). Charles Taylor likely murdered Bockarie, who was living in Liberia, presumably to prevent him from testifying. Taylor maintains that Bockarie died while resisting arrest, but in a defiant and gruesome gesture, shipped Bockarie's corpse directly to the SCSL's chief prosecutor in a box. Crane, *supra* note 43, at 211. Norman died of natural causes during the proceedings and his case was dismissed. Decision on Registrar's Submission of Evidence of Death of Accused Samuel Hinga Norman and Consequential Issues, <http://www.sc-sl.org/LinkClick.aspx?fileticket=FquDwR8Mupo%3d&tabid=153>.

78 Peter Penfold, *The Special Court for Sierra Leone: A Critical Analysis in Rescuing a Fragile State: Sierra Leone 2002-2008* at 55 (Lansana Gberie ed., 2009).

79 Ibid. at 96.

- 80 Ibid.
- 81 The Lomé Agreement, *supra* note 24, at Article IX.
- 82 Noah Novogrodsky, *Speaking to Africa: The Early Success of the Special Court for Sierra Leone*, 5 Santa Clara J. Int'l L. 194, 199 (2006).
- 83 Ibid.
- 84 Ibid.
- 85 Prosecutor v. Kallon, Case No. SCSL-2004-15-AR72(E), Decision on Challenge to Jurisdiction: Lomé Accord Amnesty, para. 42 (Mar. 13, 2004), <http://www.sc-sl.org/LinkClick.aspx?fileticket=u0qVGu09CTE%3d&tabid=195>.
- 86 Novogrodsky, *supra* note 82 at 200.
- 87 Prosecutor v. Brima, Kamara & Kanu, Case No. SCSL-04-16-T, Sentencing Judgment, 13 (July 19, 2007), <http://www.sc-sl.org/LinkClick.aspx?fileticket=v3P%2fxMoNm6U%3d&tabid=173>.
- 88 Ibid. at 36.
- 89 Prosecutor v. Sesay Appeals Judgment, Case No. SCSL-04-15-A, Judgment, 477-80 (Oct. 26, 2009), <http://www.sc-sl.org/CASES/ProsecutorvsSesayKallonandGbaoRUFCase/AppealJudgment/tabid/218/Default.aspx>.
- 90 Prosecutor v. Fofana & Kondewa, Appeals Judgment, Case No. SCSL-04-14-A, Judgment (May 28, 2008), <http://www.sc-sl.org/LinkClick.aspx?fileticket=9xsCbIVrMIY%3d&tabid=194>.
- 91 For a complete list of the SCSL's indictments and sentences, see Appendix C, *infra*.
- 92 Jalloh, *supra* note 13, at 419.
- 93 The SCSL found that the Prosecutor failed to prove Taylor had directly commanded the RUF. Simons, *supra* note 7.
- 94 Ibid.
- 95 Ibid.
- 96 Waugh, *supra* note 16, at 273.
- 97 Crane, *supra* note 43, at 209.
- 98 Ibid.
- 99 Ibid. at 211.
- 100 Ibid.
- 101 Waugh, *supra* note 16, at 281.
- 102 Ibid. at 285-286.
- 103 Jalloh, *supra* note 13, at 411. The SCSL's president feared that trying Taylor in Sierra Leone could spark a return to violence in the fragile region. *Id.* After the Dutch government agreed to host the trial, the

Security Council, relying on its authority under Chapter VII of the UN Charter, adopted Resolution 1688, authorizing the change in venue. This was incredibly controversial at the time because of a feared loss of the SCSL's legitimacy. *Ibid.*

104 Novogrodsky, *supra* note 82, at 203.

105 *Ibid.* at 204.

106 *Ibid.*

107 *Ibid.*

108 Jason McClurg, *Witnesses Begin Testifying as Charles Taylor's War Crimes Trial Resumes*, 24 No. 3 *Int'l Enforcement L. Rep.* 114 (2008).

109 *Ibid.*

110 Marlise Simons, *The Netherlands: Taylor Trial Ends*, *N.Y. Times*, March 11, 2011, http://www.nytimes.com/2011/03/12/world/europe/12briefs-Netherlands.html?_r=0.

111 Simons, *supra* note 7. See also, *Prosecutor v. Taylor, Case No. SCSL-03-01-T, Judgment (May 18, 2012)*, <http://www.sc-sl.org/LinkClick.aspx?fileticket=k%2b03KREEPCQ%3d&tabid=107>.

112 *Prosecutor v. Taylor, Case No. SCSL-03-01-T, Sentencing Judgment, at 40 (30 May, 2012)*, <http://www.sc-sl.org/LinkClick.aspx?fileticket=U6xCITNg4tY%3d&tabid=107>.

113 S.C. Res. 1315, *supra* note 11, art. 8.

114 Jalloh, *supra* note 13, at 430.

115 Nmehielle and Jalloh, *supra* note 46, at 121.

116 McDonald, *supra* note 42, at 124.

117 Simons, *supra* note 7.

118 *Ibid.*

119 Jalloh, *supra* note 13, at 443.

120 SCSL Agreement, *supra* note 73, at art. 1.

121 Jalloh, *supra* note 13, at 414.

122 *Ibid.*

123 *Ibid.* at 421-422.

124 SCSL Statute, *supra* note 45, art., 1, 7.

125 Under Sierra Leonean law, the age of majority is 17. Nicole Fritz and Alison Smith, *Current Apathy for Coming Anarchy: Building the Special Court for Sierra Leone*, 25 *Fordham Int'l L.J.* 391, 415 (2001).

126 Schocken, *supra* note 56, at 449, citing Chris McGreal, *Unique Court to try killers of Sierra Leone; Those who were enslaved, raped and mutilated demand justice*, *The Guardian* (London), Jan. 17, 2002, at 15.

- 127 Gberie, *supra* note 18, at 212.
- 128 Ibid. at 131.
- 129 Ian Smillie, Lansana Gberie & Ralph Hazelton, *The Heart of the Matter: Sierra Leone, Diamond & Human Security* (2000), available at http://www.pacweb.org/Documents/diamonds_KP/heart_of_the_matter-full-2000-01-eng.pdf.
- 130 Ibid. at 11-12.
- 131 SCSL Agreement, *supra* note 73.
- 132 Charles Chernor Jalloh, *The Contribution of the Special Court for Sierra Leone to the Development of International Law*, 15 Afr. J. Int'l & Comp. L. 165, 173 (2007).
- 133 Gberie, *supra* note 18, at 166.
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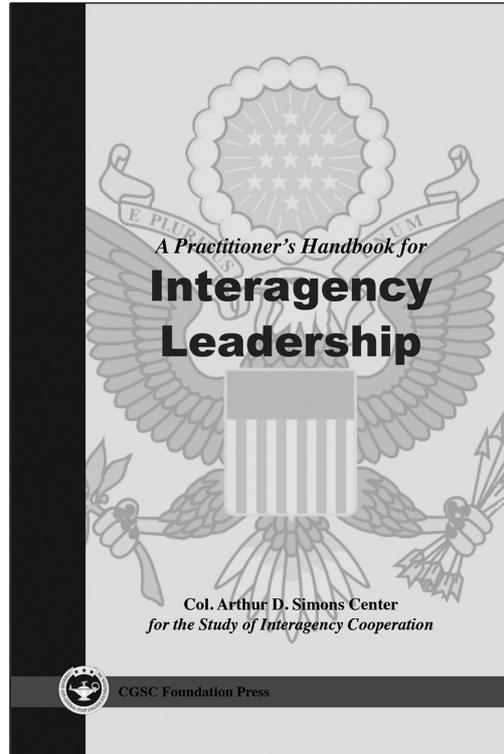
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Engineering Telos:

Flourishing in the Context of AI and Transhumanism

by Braden Molhoek

In this paper I argue that the Aristotelian notion of *telos* continues to be a central concern in the context of human enhancement and artificial intelligence (AI). Beginning with a cursory examination of what Aristotle means by *telos* and how building on Aristotle, Thomas Aquinas identifies inclinations or desired ends that humans share, the argument will be made that if the capacity for action changes, then it is possible that the nature of humanity has changed as well. Using Aquinas' inclinations as a framework, I will speculate on whether these inclinations would still be relevant in the transhumanist/enhanced human discussion. Following this, the same analysis will be done with AI. I conclude by discussing what some of the possible implications would be if enhanced humans sought radically different inclinations, and what some possible ends for AI could be. By highlighting the importance of the relationship between humans and AI, I attempt to show that certain uses of AI in large scale combat are more dangerous than they are worth.

Aristotle was a biologist as well as a philosopher, and while his biology may no longer be seen as relevant as a scientific field, there are still implications of his thought that affect our understanding of what it means to be human. For Aristotle, everything has a built in *telos*, or end or purpose. Excellence for an entity, then, is living in accordance with that purpose. For example an acorn has the end of growing into an oak tree. Most modern biologists reject any notion of *telos* in the context of evolution. Historically scientists may have seen evidence of design or a grand purpose for nature that came from theological convictions, but the majority of scholars today articulate a notion evolution that is purposeless, without a particular end in mind. There are some scholars that still see room for *telos*, such as the belief that evolution has a tendency towards complexity, but this is a far cry from Aristotle's biological view. Aristotle believed that humans shared a great deal with other organisms, even though he had no notions of genes or DNA. The end for humans, he argued, was different from that of other organisms because humans had some unique aspects. All

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life shared in feeding in some way and biological growth, but humans had the capacity of reason, and so whatever the end of humans was, it must involve reason in some way.¹

One of my colleagues at Santa Clara University, Brian Green, provides a useful frame for the discussion of the *telos* of humanity in an evolutionary framework that includes transhumanism. Green is the Director of Technology Ethics at the Markkula Center for Applied Ethics and although he argues from a natural law perspective, his perspective is still valid for the stance I am taking. Like natural law, virtue is a form of ethical naturalism, that is, a perspective that relies on deriving “moral norms

Thomas Aquinas, drawing from Aristotle, believes... There are five inclinations that humans seek...: “survive, reproduce, educate the young, live in society, seek truth.”

from human nature.”² It is also teleological because Thomas Aquinas, drawing from Aristotle, believes that “all creatures naturally seek certain ends.”³ There are five inclinations that humans seek for Aquinas: “survive, reproduce, educate the young, live in society, seek truth.”⁴ Given that Aquinas lived in the thirteenth century, it is important to ask whether the inclinations of humans have changed since then.

Although not all of these five inclinations have the same prominence in modern society that they might have had in the thirteenth century, I believe that they are all still relevant to modern humans. The inclination that is the least likely to translate to modern society is that of seeking truth. What the truth is and who articulates it has become increasingly harder to determine, but even so, the truth does seem to have some importance for people today, whether it be to

inform citizens of a democracy or to have proper intelligence to know what threats are legitimate. For these reasons I think that Aquinas’ five inclinations remain important enough to continue to utilize them as an understanding of the *telos* of humanity.

Green is able to address this question as well as show how answering this question is of particular relevance to the discussion of transhumanism. Both the biological nature and cultural nature of humans is subject to change. Historically, humans would have had little no control over their biological nature, but between assisted reproductive technologies and advances in genetic engineering, humans are able to affect more change than ever before, and this is on top of the small changes that occurred naturally through evolution.⁵ Human cultural nature has always been susceptible to change, but technology is also increasingly playing a larger role in these changes as well. Drawing on the Thomistic notion that “action follows being,” Green argues that if “our capacity for action has changed, then this implies that our being may have changed as well.”⁶ I will return to this issue in the conclusion, after reflecting on how transhumanism and AI might relate to Aquinas’ inclinations.

Returning to the natural inclinations that Aquinas lists for humans, I will use these five inclinations as a starting framework to examine how the potential inclinations of enhanced humans. Not all of these inclinations, however, are relevant for large scale combat. In the instances where there is less of a connection to large scale combat, I will attempt to expand these inclinations to include things that are more relevant for warfare. Following the discussion of enhanced humans, I will then turn to AI. The discussion of enhanced humans and AI are separate because I believe that by using the five inclinations Aquinas identifies, clear differences emerge between these technological advances.

Transhumanism/Enhanced Humans

Survive

The inclination to survive is the first on Aquinas' list and is also the most relevant for large scale combat. Enhanced soldiers, whether they were humans or a new species, would have a desire to continue to live. Compared to many people in this country, those who serve in combat are acutely aware of how fragile life can be. While self-survival is clearly important, there is also an emphasis placed on saving lives as well, be it their fellow soldiers or innocent noncombatants. Minimizing the casualties of war is a positive end to seek, and there are a variety of ways that enhancements could help reduce casualties. If soldiers had synthetic blood, they could be equipped with something that slows down bleeding in a chemical way not possible with natural blood. Heightened reflexes could allow soldiers to avoid oncoming attacks. Contacts that allowed for a head's up display could track incoming fire or detect explosives in the vicinity of the wearer. It is difficult to not at least tacitly endorse defensive enhancements that would increase soldier's chances of survival.

The only exception or distinction that I can think of in terms of survival is if survival is not dependent on bodily integrity. If a post human species is able to upload their consciousness into biological, mechanical, or hybrid bodies, then survival of the body might not be important. Assuming a recent or ongoing backup of one's consciousness, survival of the body would not be necessary because if a soldier were to die, their mental backup could be loaded into a new body. This would allow for novel strategies but could also lead to a dehumanizing of soldiers. If people are defined by their consciousness only then will bodies be given less respect and soldiers expected to take more risks?

Reproduce

Reproduction is not something that is immediately relevant to combat, but soldiers are people who might consider reproduction while in the service or upon retiring. After examining some of the implications of enhancements and reproduction, I will bring two additional concepts into the discussion. The first is that of replication of results, that is, is it worth the investment to enhance humans because of how easy it might be for others to reverse engineer the results? The second concept brought in will be that of destruction or lethality. Enhancing humans for combat could include making them more lethal, increasing their destructive capability and limiting the chances for their opponents to reproduce.

Compared to many people in this country, those who serve in combat are acutely aware of how fragile life can be.

Reproduction is an inclination that has changed from the time of Thomas Aquinas. People are able to exert more control over their reproductive choices in part because of science and technology. Birth control and contraceptives can be used if people are choosing not to reproduce, and assisted reproductive technologies are allowing people to have children who otherwise would be unable to do so. While not immediately relevant to combat, there are questions raised if an enhanced soldier, on active duty or retired, wishes to reproduce.

The major concern in this context is about the nature of enhancements and whether they would be transmitted to the next generation. If soldiers are using removable enhancements, such as contacts that allow for night vision, then it is clear that such enhancements will not affect their children. The same could be true of genetic enhancements as well. Unless gene editing was done to germline cells, the genetic changes of an

enhanced human would not be passed on to their children. If for some reason germline changes were made, for example, if enhancements were made in the embryonic stage before cell differentiation occurs, then enhancements would be passed on to their children. It seems likely retired soldiers would need to relinquish any removable enhancements when they leave active duty, but would the military or the government also reverse genetic enhancements? While this seems unlikely, it does raise concerns about the security of developed enhancements and whether others could replicate the results.

DARPA funded research...has been testing a neural implant...to artificially increase memory.

Gene editing has made major strides within the past five years, with the discovery of the CRISPR technique. Developing genetic enhancements for humans might seem the best approach to provide a technological edge in warfare, but it is likely the least secure way to do. Any proprietary advances in genetic enhancement have to be introduced into subjects in order to work. Casualties, prisoners of war, or even DNA left in any combat zone provides all the information necessary for enemy agents to identify the gene sequences of any enhancements. While the same could be said of technological advances such as vehicles or drones, there are steps that could be taken to destroy or encrypt sensitive information that would be more difficult if not impossible in human subjects.

Educate the Young

Although the education of the entire population is not central to the mission of the military, the education of potential recruits, officers, and the continuing training of active service men and women is extremely important.

Technology can certainly play a role in improving education and training, from providing more interaction for students, to utilizing virtual reality to simulate a variety of combat scenarios. There is already research being done to try and enhance human mental capacities through implants. DARPA funded research at Wake Forest Baptist Medical Center has been testing a neural implant that is intended to be able to identify brain states when learning new information, and to imitate those states to artificially increase memory. The sample size is small, only fifteen participants, but subjects short term memory increased by an average of thirty-five percent.⁷ As was the case in the discussion of replication of data, neural implants are not without their own security issues. Around the same time of the announcement of the results of the study just referenced, researchers in Belgium found that neurostimulators' wireless signals are easy to hack with easy to access technology. The kind of information that could be intercepted includes passwords, PINs, and could theoretically extend to call signs and classified information. The good news is that researchers believe security could be improved by harnessing the power of the brain itself. Current technology relies on software to create random numbers, but these numbers are never truly random. Instead, researchers suggest that the brain be used as the generator of random numbers.⁸

Live in Society

Live in society can refer to a number of things. First and foremost, it addresses the social nature of the human species. Humans need to be in contact and in relationships with others for their emotional well-being. For the military, I choose to focus on two aspects of living in society: living in the community of active service men and women, and living in society after active duty. There are a variety of elements of what thriving in military life looks like that I, as a civilian, cannot even begin to imagine.

However, it seems that there are several things that could contribute to living well in the active service. The first of these I will address is the ability to bond with those with whom you are serving. Although empathy is not something that is traditionally thought of when speaking of enhancing humans in the military, it is possible that in limited applications doing so would promote cohesion within a unit and increasing their ability to work together.

I have been published elsewhere making the argument that increasing one's capacity for a particular trait or disposition does not make one a better person, it just increases their ability for that behavior.⁹ Enhancing people's empathy may make them more empathic, but it does not make them more virtuous. The mean that constitutes a moral virtue for Aristotle or Aquinas is distinct for each individual, and is also related to their natural capacities. If you increase a capacity that contributes to virtue, it raises the bar for what the mean is.¹⁰ Enhancing empathy would be just as helpful when living in society as a retired soldier. The bigger question, in my opinion, is what enhancements would be most helpful for service men and women leaving active duty and returning to civilian life? Given the reports of mental health concerns that veterans face, it would seem helpful not only for veterans but for society as a whole, if the military could provide enhancements to veterans that contribute to their flourishing in society.

Seek Truth

As stated previously, seeking truth appears to play a less prominent role in modern society than it might have in the past, but there are elements of seeking truth that are not only relevant, but quite important for the military, accurate intelligence and real time data from the field. Contacts for soldiers have been mentioned previously but again, this is an easy to image enhancement, with recording and transmitting capabilities to provide command with real time

data and allow for better coordination. Again, there are concerns about the security of that data and whether the enemy would be able to access the feed, but this is not an insurmountable problem. Other enhancements that could help in the field could include biofeedback sensors when interrogating prisoners or speaking with unknown persons in the field. Being able to scan for microexpressions that could illuminate one's state of mind, or heart rate or other factors that are used in polygraphs to determine whether someone is attempting to deceive. Current levels of technology would probably not be very accurate, but if improvements could be made, including making the equipment wearable, it could greatly enhance the chance of getting reliable intelligence, potentially saving lives and increasing the success of missions.

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Artificial Intelligence (AI)

Survive

Survival for AI is slightly more complex than it was for enhanced humans. Given the financial investment, it would seem likely that AI used in combat would be programmed for self-preservation in most circumstances. Isaac Asimov's classic three laws of robotics provide the likely exception to the rule. These laws are: "A robot may not injure a human being or, through inaction, allow a human being to come to harm. A robot must obey the orders given it by human beings except where such orders would conflict with the First Law. A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws."¹¹ Self-preservation or survival is the third law

and can be overridden if the first or the second law requires it. Although most researchers agree these laws are inadequate, they provide a concrete example of how survival may or may not be a programmed priority for AI.

It is also probable that AI will not be seen as having the same intrinsic value as humans, so there may be situations in which AI would be called upon to sacrifice itself in order to save humans. The purpose of specific AI may also make it impossible to emphasize or even allow survival. There already exists a classification of weapons called “smart bombs,” but it is not difficult to imagine autonomous weapons such as missiles, that have facial recognition software and are capable of searching for and identifying their targets on their own. Unless the software is separate from the weapon, such as a weapon equipped drone, the weapon would need to destroy itself in order to achieve its objective.

...there may be situations in which AI would be called upon to sacrifice itself in order to save humans.

Reproduce

It is an important question to ask whether humans would want to instill, or perhaps install, an inclination to reproduce for AI. Because humans will shape the ends of AI with the decisions they make regarding their programming, one could make an argument for both sides. Giving AI the desire and ability to reproduce could lead to improvements in programming. As AI become more intelligent they may be better equipped than software engineers to know how improvements can be made. Doing so, however, could lead humans to lose an understanding of how resulting AI think or are programmed. Because of this, it could also be argued that by not giving AI the inclination to reproduce, humans are able to have more control

over the development and evolution of AI.

Educate the Young

Given how reproduction for AI was framed, there is significant overlap in discussion. Machine learning is becoming more complicated and programmers are becoming less sure about how the learning is actually occurring. Whether or not AI will be allowed to reproduce on their own or if they will just educate the next generation of AI or even humans, there are implications for human interaction with AI. If humans are less certain of how human action is shaping the future of AI, then it would be advantageous for AI to be programmed in such a way that a priority is to be able to explain to humans what changes are being made or how AI is learning.

In the context of military use, finding ways to translate the kind of training soldiers get to be useful for AI would be helpful. AI will be able to observe footage of simulated and actual combat, but being able to make sense of what is happening, what is most relevant, and how humans come to make decisions is ultimately of more importance for machine learning. AI have been successful in mastering games like chess and Go because there are rules and the data is annotated. In other words, the history of movement for each piece is known. In these kinds of contexts, AI can generate far more examples by playing themselves than just observing humans. The more data, the better the results. So after only millions of human games observed, the AI could beat an average Go opponent, but after playing itself billions of times, AI could now defeat the best human.

Live in Society

I believe that the inclination to live in society is probably the most important issue for AI and its use in combat. If AI becomes increasingly only used for military purposes and they do not develop any other roles in

society, this will strongly shape the *telos* of AI. If AI are programmed to kill humans, then that could be how they begin to identify their relationship with all humans, whether they are enemy combatants, civilians, or friendly forces. If, on the other hand, AI are programmed to see value in human life and to only disable human targets, or even avoid human targets altogether, this promotes an understanding of how AI and humans relate to one another that creates a more positive relationship between AI and humans. So while the use of AI to face off against enemy combatants may be attractive, particularly because it would result in fewer friendly casualties, there are implications for human/AI relationships if that use is pursued.

Like the inclination of reproduction for enhanced humans, it is possible that the use of AI in combat would reduce the chances of the enemy being able to reproduce. Patrick Lin has argued that AI that can kill each and every shot are a violation of human dignity, as well as possibly undermining or violating laws or guidelines for war. Not all enemy combatants choose freely to fight, and that people generally have a right to life has lead humanitarian groups to create guidelines for how lethal weapons should be in warfare. The International Committee Red Cross, for instance, argues that new technologies should not kill more than one fourth of the time and not injure people to the point of a greater than five percent chance of dying in a hospital seeking treatment for their injury.¹² This is perhaps another reason to support uses of AI in combat that do not target humans directly.

Seek Truth

At this point it is not possible to speculate with any certainty whether AI would have an inclination to seek the truth. Most programming is designed to accomplish a particular task, and the success of the code is whether the desired task is carried out. Programmers could want AI to have values such as efficiency and accuracy,

but I am unsure how AI can be programmed to determine what the truth is, even though computers are being used to try and identify fake news and accounts that post it. What is easier to imagine is how AI could be used to help humans seek truth, particularly the kinds of truths discussed in the transhumanism section, accurate intelligence and real time data from the field. Drones of various sizes, acting autonomously or in cooperation with one another could provide views that soldiers are not capable of and do so faster and cheaper than satellites are capable of doing. Besides the position of enemy troops and getting immediate feedback on a mission, AI could constantly be infiltrating anywhere the enemy is believed to be, far beyond the scope of active combat zones.

At this point it is not possible to speculate with any certainty whether AI would have an inclination to seek the truth.

Conclusion

In this brief analysis, I have focused on enhancements and development of AI that do not differ substantially from the inclinations that Aquinas lists. It is in this final section that I want to raise concerns of what could happen if the inclinations of transhumans/enhanced humans and AI diverge greatly from that of modern humans. If soldiers were to enhanced in ways that led to a disregarding to survival and reproduction, whether their own or that of their enemies, such a shift would be significant for me to say that such individuals may not be human in way that unenhanced humans are. If survival, whether individual or that of the species as a whole is no longer there, that would significantly different than most life that is currently known. The end for such beings would not be that of flourishing that Aristotle envisions for humans, a life well-lived with the cultivation of the virtues over time. Rather, the end of such enhanced

beings would be inextricably linked to combat and victory, at any cost. Such individuals would also find living in society difficult if not impossible because of how their understanding of life and death have changed.

Several times in the discussion of AI I raised the issue of the relationship between humans and AI. In my opinion it is important to instill a positive understanding of humans into AI's purpose. Doing so includes the future and flourishing of humanity in the purpose and the ends that AI pursues. Failing to do could create an adversarial relationship, where there is competition between the two types of beings where only one can flourish. Science fiction is full of examples of how AI and humans could come into conflict and what the repercussions of that conflict could be. If humans are presented as targets that AI should eliminate, it should not be a surprise that this is not just how AI will view the enemy, but how it will come to see humanity as a whole. Therefore, I would urge caution in what roles AI plays in large scale combat and suggest that AI be used for intelligence gathering and the disabling of nonhuman targets. **IAJ**

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The Role of Cognitive Dissonance in Dehumanization: *Denying Humanity through AI*

by Bobbie Murray and Beata Moore

Artificial intelligence (AI) is an interdisciplinary science with multiple approaches to military application. It is quickly becoming central to modern warfare. There are eight areas where AI will prove its importance in the coming years: cybersecurity, warfare platforms, target recognition, logistics/transportation, battlefield healthcare, simulations/training, threat monitoring, and information processing. It is projected that by 2025, the market size of artificial intelligence is expected to reach USD 18.82 billion with a growth rate of 14.75 percent from 2017 to 2025.¹

From the perspective of psychology, the advancement of AI centers on two important considerations. First, it brings to question if it is indeed possible for machines to reproduce human cognition and if so, what could cognitive science learn from the process (such as neural networks). Second, with the aggressive integration of smart machines in more areas of our lives, we need to better understand the psychological and social consequences of AI's increasing presence. The purpose of this work is not to undermine the integration efforts of AI into our military operational environment. Rather, the purpose is to highlight a need for understanding the psychological constructs that support our current understanding of human-machine relationships and to generate discussions related to new psychological constructs and theories that lay the foundation in support of how soldiers will learn to make decisions, manage cognitive dissonance, and successfully navigate the effects of change as artificial intelligence fully permeates the military environment. Scientific evaluation is a start to achieving a more defined and real understanding of how AI can allow humans to distance themselves from the reality of war.²

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Artificial Intelligence

For the purpose of this work, artificial intelligence is defined as the capability of computer systems to execute tasks that normally require human intelligence. To be sure, this definition is oversimplified. One could argue that a thermostat is intelligent in its ability to perceive and adjust the temperature of a home

...as uncertainty increases (where ambiguity is prevalent and the cognitive continuum increases in complexity), knowledge-based reasoning and true expertise are needed.

however, there is a vast difference between an intelligent thermostat and an intelligent machine that executes military operations especially when human life is involved.³ Furthermore, there is a difference between an automated system and an autonomous system. Automated systems operate by an if-then-else structure based on rules where the inputs will produce the same output each time. In contrast, an autonomous system looks at possible courses of action using a set of inputs and generating guesses about probable courses of action. Automated systems produce the exact same behavior every time. Autonomous systems produce a range of behaviors.⁴

Artificial intelligence follows a similar pattern as human intelligence by using the perception-cognition-action information processing loop. Essentially, AI processes inputs through optimization and verification algorithms. The system acts on the information in a fashion similar to that of a human by sensing the world around it and then responding accordingly. The application of Rasmussen's SRK (skills, rules, and knowledge) taxonomy highlights the role of each step as uncertainty increases. Automated

systems are good candidates for scenarios where the if-then-else structure of rule-based behaviors are in play. However, as uncertainty increases (where ambiguity is prevalent and the cognitive continuum increases in complexity), knowledge-based reasoning and true expertise are needed.⁵

Misconceptions and Dangers

De Saint Laurent posits there are four misconceptions around AI capability. First, AI can create. To elucidate this point, the authors offer the following example: AI applications have been used to show AI can produce an original artwork however, the concept of original is based on the replication of existing patterns that are combined to make new forms. AI has yet to invent a new painting style. Additionally, some AI programs have led to unexpected results in pattern replication such as finding spirals where none previously existed. While the results may appear to be meaningful, the reality is they may be only meaningful to the researcher or analyst in search of meaning. Meaning, creativity is very much in the eyes of those who produce and use new algorithms. Second, the argument AI can learn depends on the context of learning. Just like creating, the process of learning almost lends itself to the process of attributing anthropomorphic characteristics to a machine. Yes, it is possible for AI to learn how to recognize a cat versus a dog but this is done through pattern recognition and matching. Whereas human learning occurs through a similar process but also includes consequences. Intentionality in learning is more likely to be seen through the minds of those who program and use AI – those who create input and interpret output.⁶

Third, AI can solve ethically and/or culturally sensitive issues. AI does not have the ability to make assumptions related to what is appropriate for one group is also appropriate for another. Rather, AI applies outcomes that are considered appropriate and desirable to the

whole population with no regard to differences. Content moderations is an example of an ethical and/or culturally sensitive issue where what may seem obscene or violent in one country may not be regarded as such in another. Furthermore, AI can only reproduce existing classifications and AI models lack transparency and intelligibility related to discrimination. In some cases, AI reinforces discrimination by focusing on existing patterns and then exploiting those patterns to improve results. Finally, AI is neutral and objective. The argument for AI as a solution to human bias is flawed. Decision making is never neutral. Context plays a key role in decision making while knowledge serves the interest of some over others. Finally, as producers and users of AI it is our duty to engage in debate and to hold creators and users responsible. AI systems will never know how to ask questions, think critically about the literature or form a hypothesis. However, AI can serve as a combat multiplier, an unfatiguable assistant, and a tool to help solve complex problems.⁷ In order to maximize the effectiveness of AI, we must also fully understand potential human consequences. A key reason to measure the application of AI is to track psychological intuitions and changes as individuals experience or engage with different types of machine agents.⁸ After all, the application of AI should be a supplement to the human dimension and not a replacement for the human element. Machines cannot create, learn, or solve ethically and/or culturally sensitive issues.⁹

Three Theories

Theory of Cognitive Dissonance

Festinger defined the theory of cognitive dissonance as an uncomfortable feeling that occurs where an individual has a conflict between one's belief and actual behavior. It is a theory that accounts for the discrepancies between behavior and attitude.¹⁰ The theory of cognitive

dissonance has maintained its importance in the scientific community due in part to research vividly demonstrates the Soldiers are taught that killing is acceptable in the right situation (and may even be a good thing) and yet many of these same soldiers live by the ingrained belief of "thou shalt not kill." Cognitive dissonance helps explain dehumanization in war. Soldiers are coerced to obey the orders of a superior and may find themselves in a situation where killing another is mandated. When a soldier follows through with such action, it is natural to expect a high level of tension as conflict exists between cognition and behavior.

AI systems will never know how to ask questions, think critically about the literature or form a hypothesis.

To alleviate cognitive dissonance, an individual will rationalize their behavior by overvaluing their choice or by undervaluing their rejected alternative.¹¹ There are also times when an individual experience an increase in cognitive dissonance. For example, an individual may experience increased dissonance related to the degree of significance of the subject matter or when the disparity between the two ideas is great. Which leads us to our next point—dissonance is strongest when it concerns one's own identity.¹² It is also important to highlight the well-established role of emotions in decision making.

Decisions can be difficult to make especially when choosing between similar and positive alternatives. Once a decision is made, individuals are prone to spread apart the alternative by exaggerating the positive aspects of their choice while highlighting the negative aspects of the choice not selected. This type of error justification hinders one's ability to acknowledge a failure and deal with the consequences. It is the

emotional state that brings one into the cognitive dissonance dilemma. While the term cognitive dissonance has been around for some time, the emotion of cognitive dissonance has not been systematically studied in the psychological literature. The emotions of cognitive dissonance are not recognized as a unique type of emotions different from what we identify as basic emotions. Understanding the underlying psychological structure of emotion serves as the foundation for the development of AI systems capable of exhibiting and recognizing emotion-like responses. As we begin to better understand the underlying psychological structure of cognitive dissonance emotions, we also begin to better understand how to effectively design artificial neural networks to mimic human-like emotion responses in machines.¹³

...when organizations fail to address identity factors stemming from group membership, the success of training, individual, and organizational performance may be in jeopardy.

Social Identity Theory

The authors of this work highlight two additional theories in support of cognitive dissonance: Social identity theory and self-perception theory.

Social identity theory is a sub-theory of social cognition. It is a theory of group membership and behavior where individuals derive their identity from group membership and interactions.¹⁴ The theory is useful in explaining how individuals make sense of themselves and their environment. Understanding the foundations and context of social identity theory is especially important in a military context where organizational actors move in teams to accomplish mission requirements and where the

interaction between the individual and the group is an ongoing process.¹⁵

The importance of social identity theory for training in organizations stems from the knowledge about individual behavior in groups and subsequently, the group behavior that ultimately affects individual performance in an organization.¹⁶ The affect occurs when individuals are motivated to maintain harmony in judgment with others. There is a motivation to reduce attitude discrepancies consistency with external social norms are valued while inconsistencies may be punished. The result is cognitive dissonance in groups.¹⁷

Social identity is one lens through which organizational actors view their responsibilities and dynamics of work. Therefore, when organizations fail to address identity factors stemming from group membership, the success of training, individual, and organizational performance may be in jeopardy.¹⁸ The study and management of cognitive dissonance in groups is critical to the success of decision making in a military context and the subsequent management of failed outcomes, especially when those outcomes involve human life. People see their selves reflected in their choices and as such understanding the relationship of cognitive dissonance in a military context allows researcher to better understand how AI can allow humans to further distance themselves from the realities of war.

Self-Perception Theory

A complimentary theory to cognitive dissonance is self-perception theory. Cognitive dissonance theory characterizes attitude changes in the context of attitude-discrepant behavior. Self-perception theory characterizes attitude changes in the context of attitude-congruent behavior. The major difference between the two theories concerns the matter of aversive tension. The reduction of cognitive discrepancies is central to dissonance theory. However, in self-

perception theory, reduction does not exist.¹⁹ Simply stated, self-perception theory concerns how individuals infer their characteristic by observing their own behavior.²⁰ When applied, self-perception theory predicts that a new attitude will emerge if an individual performs a behavior which is outside of one's current range of behaviors.²¹

Conclusion

Scientific evaluation is a start to achieving a more defined and real understanding of how AI can allow humans to distance themselves from the reality of war.²² The study of theory and the application of empirical based research offers the opportunity to enrich the understanding of cognitive dissonance and its impact on a soldier's ability to understand the role of AI. An individual's identity can be conceptualized in a myriad of ways using theoretical and methodological frameworks.²³ However, the problems and gaps to understanding performance and learning as it relates to social identity and dissonance highlights the need for more work in theory development and research as soldiers take on the complex task of AI integration. In order to maximize the effectiveness of AI integration, we must also fully understand potential human consequences. A key reason to measure the application of AI is to track psychological intuitions and changes as individuals experience or engage with different types of machine agents.²⁴

The purpose is to highlight a need for understanding the psychological constructs that support our current understanding of human-machine relationships and to generate discussions related to new psychological constructs and theories that lay the foundation in support of how soldiers will learn to make decisions, manage cognitive dissonance, and successfully navigate the effects of change as artificial intelligence fully permeates the military environment. Scientific evaluation is a start to achieving a more defined and real understanding of how AI can allow humans to distance themselves from the reality of war.²⁵ **IAJ**

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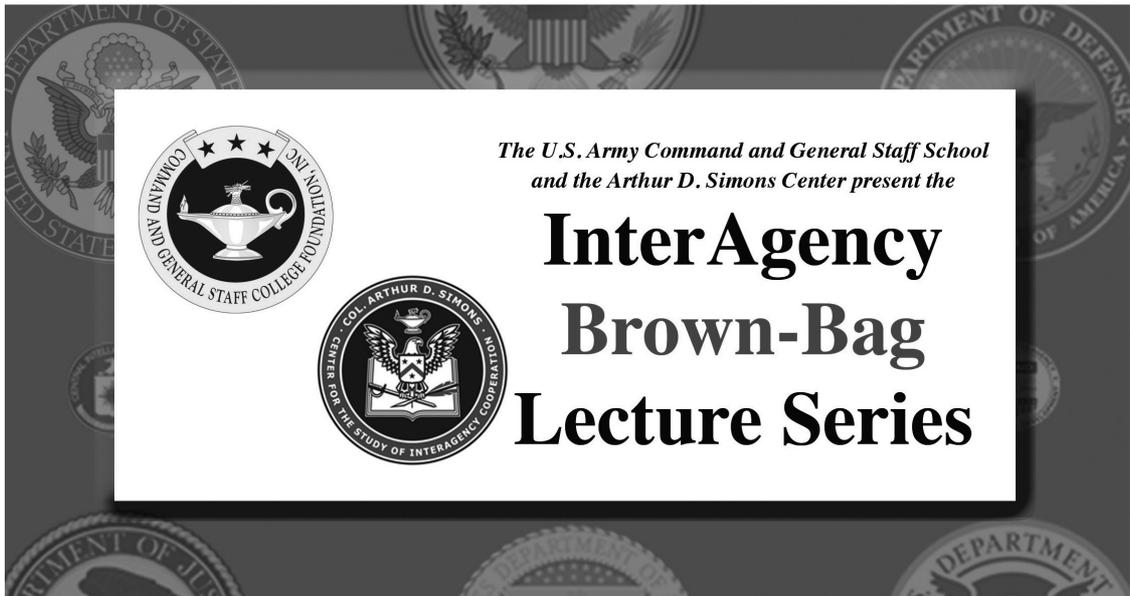
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Artificial Intelligence-Enabled Autonomous Weapon Systems and the *Laws of Armed Conflict*

by **Dustin P.J. Murphy**

Artificial Intelligence (AI) is changing the world and it will change the nature, speed, and scope of war. AI promises to benefit humanity¹ but it also generates fear because of the unknowns associated with its advancement, especially the potential of bestowing great power on a Nation State or a non-State actor. Vladimir Putin said that whoever controls AI rules the world.² China, Russia, and the United States are competitors in the research and development of AI, both in the private sector and military. Although this paper focuses on the Government and military, when U.S. private companies choose to work with the U.S. or foreign governments³ and apply ethical norms to the development and use of AI, they pressure the international community and Governments to do likewise. Governments currently use AI-enabled tools and Autonomous Weapon Systems (AWS). Yet, China's and Russia's application of AI raises human rights and international norm concerns.⁴ There is no legal or ethical prohibition to design and employ AI AWS. However, the question that arises is, how should governments design and employ AI AWS in an ethical and legal manner? Human judgement⁵ over the use of force is critical for the responsible, ethical, and legal design and use of AI AWS for four reasons: (1) to minimize unintended consequences; (2) to comply with the Law of Armed Conflict (LOAC) principles; (3) because of moral gray areas; and (4) command responsibility.

First, terms are defined and explained to frame the argument.

Definitions and Explanations

Artificial Intelligence

There is no clear definition of AI but some frequently used definitions from AI literature are: (1) “intelligent systems that act similarly to or imitate human intelligence;”⁶ (2) “making

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machines behave in ways that are called intelligent” as if humans were behaving;⁷ and (3) “AI is a computational system designed to automate decisions, with the appearance of intelligence.”⁸

The 2019 National Defense Authorization Act defined AI in four bullets for the purposes of Section 238. A summary of the National Defense Authorization Act’s definition is: an artificial system designed to act rationally, think, act like a human, or to perform tasks “without significant human oversight, or that can learn from experience.”⁹

The 2018 Department of Defense’s (DoD) AI Strategy states that AI refers to the “ability of machines to perform tasks that normally require human intelligence – for example, recognizing patterns, learning from experience, drawing conclusions, making predictions, or taking action – whether digitally or as the smart software behind autonomous physical systems.”¹⁰

Moreover, there is narrow AI (sometimes referred to as applied or weak AI) and general AI (sometimes referred to as strong AI). Narrow AI means that the AI system is programmed to accomplish a single task.¹¹ This is the most common type of AI. Examples are Siri or Amazon and Netflix recognizing patterns to make suggestions. General AI is less common and means that the general AI can think and reason like a human being.¹² The goal is to develop artificial neural networks that function like a human brain.¹³ Machine learning is not restricted to just general AI. Narrow AI can also use machine learning.¹⁴

AI Learning¹⁵

Computer programs assist in AI learning. Machine learning,¹⁶ Direct Learning (DL),¹⁷ artificial neural networks,¹⁸ cognitive computing,¹⁹ speech recognition, and computer vision,²⁰ are a few of those programs.²¹ AI learning enables the machine system to interpret

data to discover patterns in complex data. The AI system then acts on its learning and mimics human behavior. AI learns by data transferred through “senses” (microphone, eyes) and by the development of algorithms.

(Lethal) Autonomous Weapon Systems (LAWS)

Lethal is in parenthesis because DoD’s definition of AWS is often coined as LAWS. LAWS are a special class of weapon systems because they select and engage targets independent of human intervention. In order to discriminate targets, LAWS require advanced computer-vision and machine-learning algorithms.²² DoD’s definition of AWS is:

A weapon system that, once activated, can select and engage targets without further intervention by a human operator. This includes human-supervised autonomous weapons systems that are designed to allow human operators to override operations of the weapon system, but can select and engage targets without further human input after activations.²³

There is no legal prohibition for the use of LAWS, but the U.S. does not currently have any in its inventory²⁴ because U.S. policy is that LAWS should be designed to allow human judgment over the use of force.

AI AWS

There is no official definition of AI AWS. A working definition using language from DoD’s definition of AWS is:

Artificial intelligent systems that by design once activated can calculate or learn which target to select and engage without further intervention by a human operator. This includes human-supervised autonomous AI weapon systems that are designed to allow human operators to override operation of the artificial weapon system, but can select

and engage targets without further human input after activation.

AI Non-Lethal Systems

Additionally, there is no official definition of AI-enabled non-lethal systems. A working definition using language from the 2019 National Defense Authorization Act is:

Artificial intelligent systems that by design performs tasks under predictable or unpredictable circumstances without significant human oversight, or that can learn from experience and perform tasks requiring human-like perception, cognition, planning, learning, and reasoning.

Autonomy

The previous definitions raise the question of autonomy. What does it mean? There is no international definition of autonomy. The dictionary definition of autonomy is, having the freedom to act independently.²⁵ The Joint Chiefs of Staff's definition is:

Ability or quality to be **self-governing** to achieve assigned tasks based on a system's own **situational-awareness** (sensing, perceiving, and analyzing), planning, and **decision-making**. Autonomy refers to a spectrum of automation in which **independent decision-making** can be tailored for a specific mission, level of risk, and degree of human-machine teaming.²⁶ (Emphasis added.)

The discussion about autonomy and autonomous machines gets complex because some theorists and researchers parse autonomy into three separate buckets: human-machine control, the complexity of the machine, and functions of the machine.²⁷

The first bucket is about how much human control there is over the machine. Whether there is a "human in the loop," a "human on the loop," or a "human out of the loop." "Human in the

loop" means that the machine performs tasks up to a point then stops and waits for human intervention and input. "Human on the loop" means a machine performs tasks on its own but a human monitors the machine's actions and can intervene. "Human out of the loop" means the human is unable to intervene and control the machine.²⁸

The second bucket refers to labeling a machine as "automated," "automatic" or "autonomous" based on the complexity of the machine.²⁹ Apparently, the more complex the machine, the more "autonomy" the machine has.

The third bucket refers to the kind of tasks and functions the machine performs and the risks it takes to perform them. Some machines can perform tasks with "humans out of the loop" but the tasks are not complex or risky. For instance, the self-cleaning vacuum. Other machines can perform autonomous tasks with a "human on the loop," like an autonomous, self-driving vehicle.³⁰ There is more risk involved in the latter, too. The theory behind this bucket looks to which functions the machine performs without human intervention.

Self-consciousness

The Joint Chiefs of Staff's "autonomy" definition includes the word "self-awareness." Self-awareness in AI-enabled autonomous machines raises the issue of AI self-consciousness.³¹ Some AI experts state that AI will become self-conscious by 2029.³² The dictionary term of self-conscious is: conscious of one's own acts or states.³³ AI consciousness is broken into weak artificial consciousness and strong artificial consciousness. Weak artificial consciousness is a machine that "simulates consciousness"³⁴ while strong artificial consciousness is the "construction of conscious machines."³⁵ Strong artificial consciousness is like general AI because it is the machine's ability to think like a human— not simulated thinking, but actual thinking.³⁶

What Role Do We Want Humans to Have in the Lethal Decision-making in War?

Currently, our weapons do not exhibit free-will, emotion, intelligent decision-making, mimic human behavior, or demonstrate learning competencies. A concern is that an autonomous weapon programed with AI, especially general AI or AI with machine learning, may grow in situational awareness or self-governance and therefore become more autonomous in its decision-making or tasks. Awareness, self-learning tools, consciousness, and self-governance may technologically and naturally increase the degree of autonomy. Autonomy with AI, especially general AI, raises a possibility that the AI system could act unethically or put a commander and operator at risk of Law of War violations. AI that achieves consciousness or awareness increases these possibilities.

Paul Sharre³⁷ made a statement to the United Nations Group of Governmental Experts on LAWS. While speaking about the technological advancements of AI he addressed the conundrum the world finds itself in. The world could forsake some technology, which would also forgo technology that could make war more humane. The world could blindly rush into increasing autonomy, but that is not in the world's best interest. Instead, he said that the question to pose is: "What role do we want humans to have in lethal decision-making in war?"³⁸ An alternative question to ask is: "What role do we want AI AWS to have in lethal-decision-making in war?"

These questions get to the tension between AI AWS and humans selecting and engaging targets. AI adds a layer of ethical, and arguably legal, complexity to the design, engineering, and employment of AWS given AI's technological potentials.³⁹ Therefore, autonomous AI weapon systems should be designed to allow commanders and operators to exercise appropriate levels of human judgment over the use of force.⁴⁰ The role that humans and

AI AWS should have in lethal decision-making is "human on the loop." "Human on the loop" concept satisfies the appropriate level of human judgment while acknowledging the benefit AI can bring to Commanders. AI-enabled AWS that is designed and used in a responsible and ethical manner requires human judgment over the use of force for four reasons:

Autonomy with AI, especially general AI, raises a possibility that the AI system could act unethically...

1- Minimize Unintended Consequences

Human judgment over an AI AWS's capability to use force is important to "minimize the probability and consequences of the failure in [an AI AWS] that could lead to unintended consequences."⁴¹

2- Comply with the Law of Armed Conflict (LOAC) principles

Human judgment begins with the design and engineering of AI; therefore, AI AWS must be coded with LOAC principles because humans apply the LOAC, and applicable Rules of Engagement.

How an AI system functions will depend on its coding, and coding will determine an AI system's ethical principles. Human judgment and the ethical use of AI AWS does not begin at the application of the use of force but during the AI AWS' design and engineering stage.

How we undertake the task of complying with the ethical and legal obligation to use force in compliance with the LOAC principles and get autonomous, learning, and/or cognitive AI systems to act ethically is, in part, accomplished through and dependent on coding and AI learning tools.

Patrick Lin⁴² completed a research project⁴³ funded by the DoD, U.S. Department of Navy.

In it he identifies three ways to morally code machines: top-down, bottom-down, and hybrid. While he discusses these in terms of coding machines these coding methods apply to AI because AI is put into machines and AI ethics is often discussed in terms of machine ethics.

Applied to the military, an AI autonomous machine coded with only learning tools may not completely understand the social, political, economic, informational, and cultural systems of a particular environment.

Top-down

This coding is deontological, principle based. It is an approach to artificial morality that turns rules into algorithms.⁴⁴ Ethical principles are algorithms that specify duties or rules that the system can calculate consequences or courses of action it can select.⁴⁵ For instance, do not kill innocent human beings, or do not kill unarmed citizens. There are limitations to the top-down approach, though. How is “innocent” defined? How does the AI system calculate “unarmed”? What other factors are present that may change the environment for an acceptable rate of collateral damage? Risk calculations, interpretation of theories, and environmental unknowns become an obstacle to the top-down approach.⁴⁶

Bottom-down

There are two broad categories to bottom-down coding: (1) assembling systems with complex faculties out of discrete subsystems, and (2) values and patterns of behavior in a holistic fashion in experiments and connectionist networks.⁴⁷ Basically, it is a dynamic morality⁴⁸ where the machine is placed in an environment where it explores courses of actions and is

rewarded⁴⁹ for ethical and moral actions.⁵⁰ Like a child, the machine learns through experience and discovers ethical principles.

There are limitations to bottom-up coding, though. When the system is given more than one goal, confusing information, incomplete information, or the system does not have access to background information about the situation, or the ability to discern which information is important or to recognize conflicts, then the system has difficulty choosing the correct course of action or making a clear decision.⁵¹ Applied to the military, an AI autonomous machine coded with only learning tools may not completely understand the social, political, economic, informational, and cultural systems of a particular environment.

Many countries have a complex history with subcultures, political systems, and social constructs that are important to know and understand prior⁵² to conducting operations and which may override a decision to use lethal force in a particular case. Alternatively, an AI-enabled system may quickly learn these systems and subsystems but competing interests within these systems and subsystems may prevent the AI autonomous machine from making a decision or choosing a course of action. For instance, irregular forces may influence ethnic minorities to conduct attacks against U.S. forces in a country where U.S. forces are defending NATO partners. The irregular forces may message hostile plans, becoming a serious threat to U.S. forces.

In addition, some, but not all, ethnic minorities may communicate plans to attack U.S. forces. Meanwhile, the Host Nation government and the Department of State may be working with local religious leaders to resolve the potential irregular and ethnic violence in cities most affected by the potential violence. A learning AI-enabled AWS will not understand these dynamics. If it does, the conflicting information among the irregular forces, non-

violent ethnic minorities, and host nation and Department of State policymakers may cause it to make the wrong decision or chose a wrong course of action.

Hybrid Approach

Hybrid coding combines the top-down and bottom-up approach. There are two major theories under hybrid: the “friendliness theory” and “virtue-based theory.” Friendliness theory means that the machine is coded to act altruistically and then the AI system learns to act with “best judgment” in a situation.⁵³ Using “best judgment” may not work for AI AWS because AI AWS should not learn “best judgment” when applying force against a selection of targets. Virtue-based is simply coding the AI system with a set of virtues, for example Aristotle’s or Aquinas’s,⁵⁴ and the AI system learns to act with good character. The AI’s actions are linked to excellence, good means, and good ends.⁵⁵

Which Ethical System Applies to AI AWS?

There are many different ethical systems that govern human action. Some ethical principles that humans subscribe to and that AI might be coded with are: natural law, consequentialism and utilitarianism, virtue, deontology, relativism, nihilism, Kant’s Categorical Imperative (which could be one of many deontological principles), and moral epistemology. The U.S. recognizes that AI, autonomous weapons, and their related technology must be developed and used in full compliance with the law and ethical considerations. There is an ethical-octagon of ethical systems AI designers and engineers have to choose from. For AI AWS to comply with the law and ethical considerations, AI AWS must be coded with the LOAC principles and applicable Rules of Engagement.

Incorporating AI into decision-making and operations has the potential to enhance implementation of the Law of War⁵⁶ but AI systems, especially AI AWS and learning and

cognitive AI AWS, must be coded with the LOAC principles so that the AI’s decisions, actions, and learning comply, as best as possible, with LOAC. Human judgment over the use of force includes coding, designing, and engineering AI in this way. AI coded with LOAC aligns the AI’s decisions, actions, and learning more closely to the commander and operator. AI AWS programmed with learning and cognition will potentially make lethal decisions, but humans are morally and legally responsible to apply LOAC principles, and the applicable Rules of Engagement, especially in areas that require a judgment call – moral gray areas.

AI AWS may not effectively make ethical judgment calls in moral gray areas that often accompany war and missions.

3 - Moral Gray Areas

AI AWS may not effectively make ethical judgment calls in moral gray areas that often accompany war and missions. Clausewitz wrote about the friction and fog of war,⁵⁷ which technology, like AI, can lessen and in some cases remove. However, moral gray areas go beyond friction and fog. Moral gray areas are areas that are neither wrong nor right but require a judgment⁵⁸ call or are areas that require a constant assessment to make a decision. This usually involves risk, and risk taking. “Any programming decision that involves a trade-off—such as striking object *x* instead of *y*, or increasing distance away from *x* and toward *y*—requires a judgment about the wisdom of the trade-off, that is, about the relative weights of *x* and *y*.”⁵⁹

An example related to AI in armed conflict is dual-use facilities. Facilities at one moment may be used by civilians so are civilian objects, and at the next moment may be used

by the military, making it a military objective. Sometimes dual-use facilities are on the no-strike list. Dual-use and no-strike list facilities may be selected for engagement but deciding to do so requires an application of the LOAC, applicable Rules of Engagement, and constant assessment of the situation.⁶⁰

Another example is collateral damage coding that could lead to confusion when weighing the military advantage gained with the incidental loss expected, such as, “minimize collateral damage,” or “avoid excessive collateral damage.” Does “minimize” or “avoid” mean zero? Does it mean that injury or potential death to 11 civilians are acceptable for three high-ranking commanders?

Commanders may not abrogate their LOAC and Rules of Engagement responsibilities because an AI system is autonomous...

The last example is *hors de combat*.⁶¹ Sometimes it is difficult for aircrew to determine if someone is *hors de combat*.⁶² “Aircrew or aircraft operators must assess in good faith whether persons have been placed hors de combat based on the information that is available to them at the time.”⁶³

There are also inner moral gray areas. Commanders often have to struggle with the decision on whether to allocate forces to a particular area in a counterattack, hold ground, or to withdraw to a defensive position. During the Battle for St. Vith in World War II, General Ridgway wanted to keep troops in their positions because he thought that a withdraw was disgraceful.⁶⁴ General Montgomery, Ridgway’s senior commander, made a decision to withdraw south to establish a defensive position.⁶⁵ While access to AI AWS may change a decision to withdraw, or may assist in conducting a counterattack, AI AWS will not undergo the

human, inner struggle to make strategic, and operational, and tactical judgment calls.⁶⁶

Assessment of when and where to apply distinction and proportionality, or where to position forces, can be gray, but when a commander does apply judgment to a given situation and decides to use force, it is in full compliance with LOAC and the applicable Rules of Engagement. Weighing risk-benefit-costs in moral gray areas that accompany war and specific mission is a reason that a “human on the loop” is needed in the use of force.⁶⁷ Commanders, not AI systems, are responsible for the reasonable calculations to use force and to avoid war crimes and crimes against humanity.⁶⁸

4- Command Responsibility

Domestic and International law hold humans accountable for their conduct during war.⁶⁹ Commanders may not abrogate their LOAC and Rules of Engagement responsibilities because an AI system is autonomous, may make decisions, and in some cases may choose to apply force.

Commanders must remain “on the loop” because the obligation to use force in a legal and ethical manner falls on the person, not the weapon.⁷⁰ This obligation may increase the more sophisticated the weapon is.⁷¹ AI AWS’s sophistication through cognitive, learning, and decision-making tools does not absolve a Commander from his or her duties to ensure his or her subordinates do not violate the Laws of War.⁷² This is consistent with the requirement that Commanders use AWS in a “manner consistent with their design, testing, certification, operator training, doctrine... and approval as [AWS].”⁷³ “A Commander who is “on the loop” provides him or her the opportunity to override an AI AWS, which fulfills a Commander’s obligation over the weapon system.

Conclusion

AI poses ethical, moral, and legal challenges in the application of the use force, projection of power, and influence over populations. However, the use of AI, especially AI AWS, may enhance how the way the LOAC principles are implemented in combat and operations.⁷⁴ AI could enable Commanders to select and engage legitimate military objectives with better discrimination, more accuracy, and less risk and incidental harm to civilians and civilian objects.⁷⁵

Human judgement over the use of force is critical for the responsible, ethical, and legal design and use of AI AWS for four reasons: (1) to minimize unintended consequences; (2) to comply with the LOAC principles; (3) because of moral gray areas; and (4) command responsibility. Human judgment is applied in the early stages of an AI AWS by coding it with LOAC principles, and the applicable Rules of Engagement. There is human judgment over the use of force when the AI AWS selects and engages targets on its own because (1) the AI AWS was designed, programmed, and coded with LOAC principles and (2) Commanders or operators may intervene to direct the weapon elsewhere, stop the weapon, or take human control in moral gray areas. “Humans on the loop” meets the “human judgment over the use force” condition because “human controllers can monitor the weapon system’s performance and intervene to halt its operation if necessary.”⁷⁶ **IAJ**

NOTES

1 See for instance, Joshua P. Meltzer, “The impact of artificial intelligence on international trade,” Brookings Institution, Thursday, December 13, 2018, accessed March 26, 2019, <https://www.brookings.edu/research/the-impact-of-artificial-intelligence-on-international-trade/> and Accenture’s 2016 research showing economic growth in 12 developed countries because of Artificial Intelligence (AI), “Artificial Intelligence is the Future of Growth,” Accenture, accessed March 26, 2019, <https://www.accenture.com/us-en/insight-artificial-intelligence-future-growth>.

2 “Putin: Leader in artificial intelligence will rule world,” The Associated Press, CNBC, published September 4, 2017, 2:33 AM ET, accessed March 26, 2019, <https://www.cnbc.com/2017/09/04/putin-leader-in-artificial-intelligence-will-rule-world.html>.

3 See Jonathan Vanian, “Google Plans Big AI Push in China,” Fortune, December 13, 2017, accessed March 26, 2019, <http://fortune.com/2017/12/13/google-china-artificial-intelligence>.

4 Department of Defense (DoD), *Summary of the 2018 Department of Defense Artificial Intelligence Strategy*, 5.

5 “Human on the loop” satisfies the human judgment requirement.

6 Charles C. Camosy, “Artificial intelligence ethics the same as other new technology,” CRUX, July 29, 2017, accessed March 26, 2019, <https://cruxnow.com/interviews/2017/07/29/artificial-intelligence-ethics-new-technology>.

7 “The Difference Between AI, Machine Learning & Robots,” Dell Technologies, accessed March 27, 2019, at <https://www.delltechnologies.com/en-us/perspectives/the-difference-between-ai-machine-learning-and-robotics>.

8 Patrick Lin, *The Moral Gray Space of AI Decisions*, The Ethical Machine, December 3, 2018, 1, accessed March 27, 2019, <https://ai.shorensteincenter.org/ideas/2018/12/1/the-moral-gray-space-of-ai-decisions-6sc59>.

9 National Defense Authorization Act of 2019, Public Law No: 115-232, H.R. 5515, 115th Congress (2017-2018), §238.

10 DoD, 5.

11 Manisha Salechia, “Artificial Narrow Intelligence vs Artificial General Intelligence,” *Analytics India Magazine*, October 20, 2016, accessed March 27, 2019, <https://www.analyticsindiamag.com/artificial-narrow-intelligence-vs-artificial-general-intelligence/>. See also, “The Difference Between AI, Machine Learning & Robots,” Dell Technologies, accessed March 27, 2019, <https://www.delltechnologies.com/en-us/perspectives/the-difference-between-ai-machine-learning-and-robotics>.

12 Ibid.

13 Salechia.

14 Congressional Research Service (CRS), CRS Report R45178, *Artificial Intelligence and National Security*, by Daniel S. Hoadley, updated by Kelly M. Sayler, updated January 30, 2019. Narrow AI machine learning “involves statistical algorithms that replicate human cognitive tasks by deriving their own procedures through analysis of large training data sets.” During training, “the computer system creates its own statistical model to accomplish the specified task in situations it has not previously encountered.” Ibid.

15 AI learning raises the question of how AI learning is different from human learning and the question of knowledge. Can AI systems actually gain and acquire knowledge? For a discussion on how humans gain knowledge, see Thomas Aquinas, *Introduction to Saint Thomas Aquinas*, ed. with an introduction by Anton C. Pegs, New York: Modern Library College Editions, McGraw-Hill, INC, January 23, 1948, 376-425; Immanuel Kant, *Critique of Pure Reason*, trans. by J.M.D. Meiklejohn, (PSU-Hazleton, PA: An Electric Classics Series Publication, 2010-2013, in the MetaphysicsSpirit library, accessed March 29, 2019; <http://www.metaphysicspirit.com/books/The%20Critique%20of%20Pure%20Reason.pdf>; Wendell Allan Marinay, *Immanuel Kant's Theory of Knowledge: Exploring the Relation between Sensibility and Understanding*, in the PhilArchive, accessed March 28, 2019, <https://philarchive.org/archive/MARIKT-2>; Etienne Gilson, *Thomist Realism and The Critique of Knowledge*, (San Francisco: Ignatius Press, 1983).

16 Computer systems learn without specific programming. It is the development of algorithms that can analyze data and make predictions.

17 Deep learning (DL), a subset of machine learning, uses artificial neural networks to process data much like the human brain does. Neural Networks mimic the human neural brain.

18 Artificial neural networks use algorithms to learn, recognize patterns, and make decisions. For a brief explanation on artificial neural networks, see Bernard Marr, “What are Artificial Neural Networks – A Simple Explanation for Absolutely Everyone,” Bernard Marr & Co. Intelligent Business Performance, 2018, accessed March 27, 2019, <https://bernardmarr.com/default.asp?contentID=1568>. For a more in-depth explanation on DL and artificial neural networks, see Alex Castrounis, “Artificial Intelligence, Deep Learning, and Neural Networks Explained,” [innoarchitech], accessed March 27, 2019, <https://www.innoarchitech.com/artificial-intelligence-deep-learning-neural-networks-explained>.

19 Cognitive computing synthesizes data from various information sources, weighing conflicting evidence and the context of the information in order to recommend the best answer. Cognitive computing is self-learning technology with data-mining, pattern recognition and language processing. Like artificial neural networks, it mimics the human brain.

20 Computer Vision enables DL and pattern recognition.

21 For articles on AI, machine learning, DL, cognitive computing, computer vision, and natural language

programs, see Doug Black, *AI Definition: Machine Learning vs. Deep Learning vs. Cognitive Computing vs. Robotics vs. Strong AI...*,” datanami, January 23, 2018, accessed March 28, 2019, <https://www.datanami.com/2018/01/23/ai-definitions-machine-learning-vs-deep-learning-vs-cognitive-computing-vs-robotics-vs-strong-ai/>; Katherine Noyes, *5 things you need to know about A.I.: Cognitive, neural and deep, oh my!*, Computerworld, March 3, 2016, accessed March 28, 2019, <https://www.computerworld.com/article/3040563/5-things-you-need-to-know-about-ai-cognitive-neural-and-deep-oh-my.html>; Cecille De Jesus, *Artificial Intelligence: What it is and How It Really Works*, Futurism, January 1, 2017, accessed March 28, 2019, <https://futurism.com/1-evergreen-making-sense-of-terms-deep-learning-machine-learning-and-ai/>; Elissa Gilbert, *Artificial Intelligence: Teaching Machines to Learn Like Humans*, Intel, accessed March 28, 2019, <https://iq.intel.com/artificial-intelligence-teaching-machines-to-learn-like-humans/>; Wayne Thompson, Hui Li, and Alison Bolen, *Artificial intelligence, machine learning, deep learning and beyond, Understanding AI technologies and how they lead to smart applications*, SAS, accessed March 28, 2019, https://www.sas.com/en_us/insights/articles/big-data/artificial-intelligence-machine-learning-deep-learning-and-beyond.html.

22 CRS Report R45178, 14.

23 DoDD 3000.09, *Autonomy in Weapon Systems*, (Washington, D.C.: Government Printing Office, November 21, 2012, Incorporating Change 1, May 8, 2017), 13.

24 CRS Report R45178, , 14.

25 Merriam-Webster, “autonomy,” accessed March 26, 2019, <https://www.merriam-webster.com/dictionary/autonomy>.

26 Congressional Research Service (CRS), CRS Report R45392, *U.S. Ground Forces Robotics and Autonomous Systems (RAS) and Artificial Intelligence (AI): Considerations for Congress*, by Jennifer K. Eles, Andrew Feickert, Lawrence Kapp, Laurie A. Harris, November 20, 2018, 2, quoting the Joint Chiefs of Staff, *Joint Concept for Robotic and Autonomous Systems (JRAS)*, (Washington D.C.: Government Printing Office, October 19, 2016), 2.

27 Paul Scharre and Michael C. Horowitz, *An Introduction to Autonomy in Weapon Systems*, a working paper, (Washington, D.C.: Center for a New American Security, February 2015), 6-7.

28 *Ibid.*, 7. On page 8 the authors provide the following outline to categorize weapons: Human “in the loop” for selecting and engaging specific targets— Weapon systems that use autonomy to engage individual targets or specific groups of targets that a human has decided are to be engaged.

Human “on the loop” for selecting and engaging specific targets— Weapon systems that use autonomy to select and engage targets where a human has not decided those specific targets are to be engaged, but human controllers can monitor the weapon system’s performance and intervene to halt its operation if necessary.

Human “out of the loop” for selecting and engaging specific targets— Weapon systems that use autonomy to select and engage targets where a human has not decided those specific targets are to be engaged, and human controllers cannot monitor the weapon system’s performance and intervene to halt its operation if necessary.

29 *Ibid.*, 7.

30 *Ibid.*

31 AI self-consciousness raises the question of moral autonomy under the law and whether AI systems that are self-conscious and autonomous should be held accountable under international or domestic law. Self-consciousness also raises the philosophical question of the soul, which is related to the question

of crimes and punishment under the law. Should autonomous, self-conscious machines be accountable under the law? Some would argue “no” because they are not human, and what separates humans from machines is the human soul. For a discussion on the soul, see Thomas Aquinas, *Introduction to Saint Thomas Aquinas*, ed. with an introduction by Anton C. Pegs, (New York: Modern Library College Editions, McGraw-Hill, INC, January 23, 1948), 280-335. For a discussion on the will and free-choice, see *Ibid.*, 261-375.

32 Patrick Lin, George Bekey, and Keith Abney, *Autonomous Military Robots: Risk, Ethics, and Design*, (San Luis Obispo, California (CA): Polytechnic State University, December 20, 2008), 74.

33 Merriam-Webster, “self-conscious,” accessed March 27, 2019, <https://www.merriam-webster.com/dictionary/self-conscious>.

34 Antonio Chella and Riccardo Manzotti, *Artificial Intelligence and Consciousness*, (Palermo, Italy: Department of Computer Engineering, University of Paleemo, Viale delle Scienze, 2007), 1.

35 *Ibid.*

36 Jesus Rodriguez, *Godel, Consciousness and the Weak vs. Strong AI Debate*, Towards Data Science, August 23, 2018, accessed April 1, 2019, <https://towardsdatascience.com/gödel-consciousness-and-the-weak-vs-strong-ai-debate-51e71a9189ca>. There are philosophical discussions and debates on what human consciousness is, which carry over to AI consciousness. Jesus Rodriguez’s article breaks consciousness into three levels based on a space-time theory of consciousness. Level III is where humans fit. AI, he argues, is at Level I (reptile) and basic Level II (mammals).

37 Author of the *Book of None* and he helped draft DoD’s strategy on autonomous weapon systems (AWS).

38 Group of Governmental Experts (GGE) of the High Contracting Parties to the Convention on Prohibitions or Restrictions on the Use of Certain Conventional Weapons Which May be Deemed to Be Excessively Injurious or to Have Indiscriminate Effects, *GGE on Lethal Autonomous Weapon Systems (LAWS)*, Geneva, November 13-17, 2017, “Remarks by Paul Sharre to the United Nations Group of Governmental Experts on Lethal Autonomous Weapon Systems,” (remarks to the United Nations, November 15, 2017), Center for New American Society (CNAS), accessed March 27, 2019, <https://www.cnas.org/publications/congressional-testimony/remarks-by-paul-scharre-to-the-united-nations-group-of-governmental-experts-on-lethal-autonomous-weapon-systems-1>.

39 For this reason, human judgment or intervention over the execution of some non-lethal tasks may be required. For instance, in cyber, information operations (IO), and military deception (MILDEC). A Finland lab created an AI system that produces digitally fake faces, plants, and animals. The Finland lab wants to generate these in 3D format. See Cade Metz and Keith Collins, *How an A.I. ‘Cat-and-Mouse Game’ Generates Believable Fake Photos*, New York Times, January 2, 2018, accessed March 27, 2019, <https://www.nytimes.com/interactive/2018/01/02/technology/ai-generated-photos.html>. OpenAI, another AI system, completes sentences and writes novels when given a sentence or two. The creators of OpenAI do not want to release how OpenAI is able to do this because it can lead to fake news. See CNN Wire, *This AI is So Good at Writing that Its Creators Won’t Let You Use It*, Fox40, posted February 18, 2019, 8:43 PM, accessed March 27, 2019, <https://fox40.com/2019/02/18/this-ai-is-so-good-at-writing-that-its-creators-wont-let-you-use-it/>. Therefore, take IO as an example of where human intervention may be necessary when new messages are generated by an AI system. IO messages could have secondary effects on diplomacy, international relations, and U.S. reputation, influence the will of the people, and erode public trust in its government. Consequently, an argument could be made that a human should approve AI generated messages prior to their release.

40 This position uses the language from DoDD 3000.09, *Autonomy in Weapon Systems*, (Washington D.C.: Government Printing Office, November 21, 2012, Incorporating Change 1, May 8, 2017), 13, but for

the reasons outlined in this paper.

41 DoD, 15.

42 Patrick Lin is a philosophy professor at the California Polytechnic State University.

43 Co-authored with two other researchers. Lin, Bekey, and Abney

44 Ibid., 28-34. Top-down “takes a specified ethical theory and analyzes its computational requirements to guide the design of algorithms and subsystems capable of implementing that theory.” Ibid., 28.

45 Ibid., 28.

46 Ibid., 34.

47 Ibid., 35.

48 Ibid., 37.

49 For an explanation on how machines, and specifically AI, learn by rewards, see Bernard Marr, *Artificial Intelligence: What is Reinforcement Learning – A Simple Explanation & Practical Examples*, Forbes, September 28, 2018, accessed March 28, 2019 <https://www.forbes.com/sites/bernardmarr/2018/09/28/artificial-intelligence-what-is-reinforcement-learning-a-simple-explanation-practical-examples/#57ab9bb8139c>. For a more detailed explanation on reinforcement learning and how it differs from unsupervised and supervised machine learning, see, Andrew G. Barto and Richard S. Sutton, *Reinforcement Learning: An Introduction*, (Cambridge, Massachusetts: The MIT Press, 2015), accessed March 28, 2019, <https://web.stanford.edu/class/psych209/Readings/SuttonBartoIPRLBook2ndEd.pdf>.

50 Lin, Bekey, and Abney, 28.

51 Ibid., 37.

52 Systems that Political-Military-Economic-Social/Cultural-Infrastructure-Information-Physical Environment-Time (PMESII-PT) and an Areas-Structures-Capabilities-Organization-People-Events (ASCOPE) analyses would draw out.

53 Lin, Bekey, and Abney, 38.

54 Aristotle and Aquinas had an enormous impact on western thought about virtues. China and Russia may use a different system of virtues and as permanent members of the United Nations Security Council, may disagree with some western virtues if there was an international discussion over coding AI with virtues. For instance, China may want to include Confucius. While there may be different schools of thought on particular virtues, most major thinkers on virtues tend to compliment one another.

55 Lin, Bekey, and Abney, 39.

56 DoD, 6.

57 Carl Von Clausewitz, *On War*, ed. by Anatol Rapoport, (London, England: Penguin Books, 1982), 164-167.

58 Clausewitz stated judgment is “tact.” “Besides, it can never be learnt theoretically; and if it could, there would still be wanting that experience of *judgment which is called tact*, and which is always more necessary in a field full of innumerable small and diversified objects than in great and decisive cases, when one’s own judgment may be aided by consultation with others.” (emphasis added). Ibid., 166.

59 Lin, *The Moral Gray Space of AI Decisions*.

60 Chairman of the Joints Chief of Staff, *No-Strike and the Collateral Damage Estimation Methodology*, 3160.01A, (Washington D.C.: Government Printing Office, October 12, 2012). “Commanders are responsible for determining the predominant function of an NSF, based on current intelligence, and deciding if the target has lost its LOW protected status and is a valid military target, is a dual-use facility, or is an NSF. The Rules of Engagement for a specific operation provides the authorizations and/or prohibitions for targeting dual-use facilities.” *Ibid.*, B-8.

61 I.e., when a person is placed out of combat. Pursuant to Additional Protocol I, Article 47, to the Geneva Conventions, a person is *hors de combat* if “(a) he is in the power of an adverse Part; (b) he clearly expresses an intention to surrender; or (c) he has been rendered unconscious or is otherwise incapacitated by wounds or sickness; provided that in any of these cases he abstains from any hostile act and does not attempt to escape.” Additional Protocol I, Article 47, to the Geneva Conventions of August 12 1949, relating to the Protections of Victims of International Armed Conflicts, June 8, 1977, in the International Committee of the Red Cross Treaties library, accessed March 29, 2019, <https://ihl-databases.icrc.org/applic/ihl/ihl.nsf/Article.xsp?action=openDocument&documentId=A792529AA66D8C56C12563CD0051DB5E>.

62 DoD, Office of General Council (OGC), *Law of War Manual*, (Washington, D.C.: Government Printing Office, June 2015, updated May 2016), 912-913. “It may be difficult for aircrew or aircraft operators to determine whether an enemy combatant is dead, injured, merely taking cover, or feigning injury or surrender to avoid attack.” *Ibid.*, 912-913.

63 *Ibid.*, 913. The footnote to this quote refers the reader to a section entitled, “Decisions Must Be Made in Good Faith and Based on Information Available at the Time,” § 5.4.2.

64 J.D. Morelock, “Chapter 6: The Defense of St. Vith,” *Generals of Ardennes: American Leadership in the Battle of the Bulge*, (Washington, D.C.: National Defense University Press, 1994), 275-328, reprinted in U.S. Army Command and General Staff College (CGSC), Command and General Staff Officer Course (CGSOC), Advanced Operations Course, M222: “Battle Analysis: 7th Armored Division at St. Vith, December 1922,” Reading M222RA, footnote 69.

65 *Ibid.*, 12, 22.

66 Some may argue that this is a good thing because human emotion, human fallibility, or human inner blindness, is removed. The AI system is objective. However, the counterargument is that human emotion is important to some decisions and that it is human emotion that may make a neutral decision right in some instances.

67 Gray areas do not only apply to lethal actions. Gray areas may accompany the use of non-lethal force, too. AI could be used in IO, MILDEC, cyber, by civil affairs, and during stability operations. What about using big data information about a city to assist local police and governments to establish law and order? Any privacy concerns? What about using AI for sentencing guidelines for prisoners of war (POWs)? This may see innocuous, but will the AI system apply discriminatory practices?

68 Take the following scenario as an example of potential moral gray areas. An AI AWS is on the outskirts of a city in a foreign country where the U.S. was invited to assist the Host Nation Government to fight a U.S.-peer enemy force. The AI AWS sees a hospital and notices uniformed enemy combatants on the roof armed with anti-tank weapons. A short distance away, U.S. tanks are approaching the city. What should the AI AWS do? What other information does the AI AWS have about the hospital and its occupants, if any? How much autonomy should the AI AWS have? Should the Commander intervene at the point of seeing the uniformed enemy combatants? Should the Commander have a role in the AI’s decision-making process to target and engage the enemy force if the AI AWS was already programmed to only engage those enemy forces on the roof? Does the AI AWS actually have autonomy if the programming is

Narrow AI? These are important questions that tie moral gray areas to command responsibility and human judgment to use force.

69 In domestic law, war crimes and some crimes against humanity are found in 18 U.S.C. § 2441. Genocide is punishable under 18 U.S.C. § 1091. War crimes in international law include the Geneva Conventions, its Additional Protocols, and applicable treaties. Crimes against humanity in international law have their origin in the Nuremberg Trials. The United Nations is the primary arbiter of crimes against humanity. However, Soldiers and Officers face prosecution for war crimes and crimes against humanity under the Uniformed Codes of Military Justice (UCMJ).

70 See DoD, Office of General Council, *Law of War Manual*, 328-329.

71 Ibid., 329.

72 Ibid., 1113-1114. For example, see Ibid., footnote 334: “Consider AP I art. 86(2) (“The fact that a breach of the Conventions or of this Protocol was committed by a subordinate does not absolve his superiors from penal or disciplinary responsibility, as the case may be, if they knew, or had information which should have enabled them to conclude in the circumstances at the time, that he was committing or was going to commit such a breach and if they did not take all feasible measures within their power to prevent or repress the breach.)”.”

73 DoDD 3000.09, 12. Additionally, persons who use AWS and Combatant Commanders must employ AWS consistent with the “law of war, applicable treaties, weapon system safety rules, and applicable Rules of Engagement....,” Ibid., 3, 12.

74 DoD, 6. See also DoD, Office of General Council, *Law of War Manual*, 328.

75 AI can better non-lethal measures, too. For instance, in healthcare, sustainment, communications, command control, readiness, route clearances, and urban or city information collection.

76 Scharre and Horowitz, 8.



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The Influence of Transhumanist Thought on Human Enhancement

by Jeff Sheets

In the April 2017 edition of *National Geographic Magazine*, journalist D.T. Max describes his encounter with cyborg¹ Neil Harbisson. Color blind from birth due to a condition called achromatopsia, Harbisson had a fiber-optic sensor fixed onto the back of his skull. This device bends like a whip antenna over the top of his head with the tip in front of his brow. “A microchip implanted in his skull converts their frequencies into vibrations on the back of his head” and those vibrations “become sound frequencies, turning his skull into a sort of third ear.”² This technology includes a Bluetooth device so friends can upload new “colors.” But Harbisson is not only able to “hear” colors that fall within the capacity of the human eye, but he is able to detect a spectrum of waves such as infrared.

Max’s point in investigating this technological achievement with the human body is this: “Like other species, we are the products of millions of years of adaptation. Now we’re taking matters into our own hands.”³ This movement to take evolutionary matters into human control is known as transhumanism and its vision is to bring “the radical removal of the constraints of our bodies and brains and the reconfiguration of human existence according to technological opportunities.”⁴

To remove human constraints and enhance the human condition seems like a grand idea, especially for the military. As Patrick Lin noted, humans are “the weakest links in armed conflicts as well as one the most valuable assets...the warfighters themselves.”⁵ Why *not* upgrade the weakest, but most valuable asset in order to dominate the battlefield? With a more sophisticated Soldier, this should decrease the amount needed on the battlefield which in turn will should reduce casualty rates.

The Defense Advanced Research Projects Agency (DARPA), the Pentagon’s research and development department, is already moving in that direction. The Biological Technologies Office is one of six divisions at DARPA that “develops capabilities that embrace the unique properties of biology—adaptation, replication, complexity—and applies those features to revolutionize how the United States defends the homeland and prepares and protects its Soldiers, Sailors, Airmen,

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and Marines.”⁶ There are various programs within the Biological Technologies Office. From Battlefield Medicine to Advanced Plant Technologies (“which seeks to develop plants capable of serving as next-generation, persistent, ground-based sensor technologies to protect... by detecting and reporting chemical, biological, radiological, nuclear, and explosive (CBRNE) threats”⁷), DARPA has many programs aimed at improving and bettering our nation’s warfighter and warfighting abilities.

Yet, some programs seem to point to or go beyond protective, therapeutic and/or medical purposes and instead move toward human enhancement with the “aim to stimulate and augment the human body beyond its natural capacities.”⁸ For example, the Neural Engineering System Design program began in April 2016 with the purpose to “advance research into the development of a neural implant that is biocompatible and can enable two-way communication between the human brain and a computer.”⁹ “Practical outcomes could be anything from replacing someone’s lost vision with a visual cortex prosthesis, to producing a brain-machine interface that allows one to control an artificial limb with their mind.”¹⁰ Yet, as Michael Gross points out, the line between healing and enhancement has blurred. He points to the conference held by DARPA in 2017 entitled “Future of War” in which a person’s brain-computer interface was connected to an F-35 flight simulator, and she was flying the airplane.”¹¹ It would appear DARPA has plans for brain-computer interfaces that involve more than restorative function to those who are disabled.

The promises of a better, more advanced, fine-tuned soldier who is capable of going beyond the normal physical and mental boundaries confined by human limitations is a siren song of human enhancement in transhumanist thought and it is a tempting one. Yet, the focus of this paper is not a knee-jerk

reaction to medical advancement, a dismissal of technology, or the like. Nor is it just a critique of human enhancement though there are and should be concerns when it comes to change that has the potential to transform or change a person that could impact her or him not just physically, but emotionally, socially, spiritually, and so forth. Added to the debate on human enhancement is defining what constitutes an enhancement. Some may argue some “enhancements” are

...DARPA has many programs aimed at improving and bettering our nation’s warfighter and warfighting abilities.

not invasive or life altering — like a cochlear implant¹² or increasing the ability to metabolize vitamins — while some enhancements (or some that are being researched) have very clear physical, psychological, and sociological implications, such as altering memories.

Instead, the goal of this paper is to offer a critique of transhumanism as it is a key influencer and a key philosophy behind human enhancement thought especially at the intersection of humans and technology. Not all proponents of human enhancement are transhumanists, but all transhumanists advocate for human enhancement at some level. As Allen Port notes,

It is crucially important to give proper scholarly attention to transhumanism now, not only because of its recent and ongoing rise as a cultural and political force (and the concomitant potential ramifications for bioethical discourse and public policy), but because of the imminence of major breakthroughs in the kinds of biotransformative technologies that transhumanism focuses on, from genetic engineering to brain-machine interfaces to artificial intelligence.¹³

This paper will first briefly review the main tenants of transhumanism and engage this movement on their ideas of personhood, the physical body and the flaw in human nature.

...transhumanism...[focuses] on what humans can become beyond their current evolutionary state with a focus on technology to aid in the further evolution of humanity.

Transhumanism

Transhumanism is a movement similar to humanism with the focus on individualism, addressing human need and using reason to solve problems. But transhumanism goes beyond its predecessor by focusing on what humans can become beyond their current evolutionary state with a focus on technology to aid in the further evolution of humanity. Max More, one of the key founders of the movement, originally defined the movement in the 1990s in “The Transhumanist FAQ,” the “Bible” of the transhumanist movement. He said then, “Transhumanism is a class of philosophies of life that seek the continuation and acceleration of the evolution of intelligent life beyond its currently human form and human limitations by means of science and technology, guided by life-promoting principles and values.”¹⁴

With the current version of this manifesto maintained by the organization entitled Humanity+ (or H+), More’s definition has been expanded by Nick Bostrom. Bostrom emphasizes two key components of transhumanism in his revised manifesto: improving the human condition and an emphasis on technology. In the first component, Bostrom lays out an almost utopian vision for humanity as transhumanism is “the intellectual and cultural movement that affirms the possibility and desirability of

fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities.”¹⁵ In his second component, Bostrom shows the hope placed in technology by noting that “the study of the ramifications, promises, and potential dangers of technologies that will enable us to overcome fundamental human limitations, and the related study of the ethical matters involved in developing and using such technologies.”¹⁶

The end goal of transhumanism in improving the human condition is to ultimately become “posthuman.” This transcendent state refers to “future beings whose basic capacities so radically exceed those of present humans as to be no longer unambiguously human by our current standards.”¹⁷ Posthuman is a state of evolutionary “completion,” an almost utopian existence where humans are able

to reach intellectual heights as far above any current human genius as humans are above other primates; to be resistant to disease and impervious to aging; to have unlimited youth and vigor; to exercise control over their own desires, moods, and states; to be able to avoid feeling tired, hateful, or irritated about petty things; to have an increased capacity for pleasure, love, artistic appreciation, and serenity; to experience novel states of consciousness that current human brains cannot access.¹⁸

Stephen Garner, a theologian with a computer science background, notes in his article “Hopeful Cyborg” the hopefulness in human transformation that is found in transhumanism, “Transhumanism asserts that values such as rational thinking, freedom, tolerance, and concern for others is increased, which ultimately leads to an ever-increasing improvement of the human condition.”¹⁹

In order to achieve this posthuman state, transhumanism assumes that a higher level of intelligence will need to be reached. Ted Peters, co-editor of the *Theology and Science* journal at Berkeley, explains further, “the posthuman will need to cross the bridge into higher intelligence, a new level of intelligence that will take over evolutionary advance from that point on.”²⁰ This new level of intelligence is known as “the singularity.” Coined by Ray Kurzweil, Google’s Director of Engineering, the singularity is “that point in time when all the advances in technology, particularly in artificial intelligence (AI), will lead to machines that are smarter than human beings.”²¹ Kurzweil believes that leading up to singularity, changes will happen so rapidly and deeply that the effects on human life will be irreversible.

“The Transhumanist FAQ” is quick to point out that posthuman does not mean this is the end of humanity or “there are no humans anymore.” However, in order to achieve this, it states, “Radical technological modifications to our brains and bodies are needed”²² to overcome physical limitations. These modifications or “enhancements” would entail “either the redesign of the human organism using advanced nanotechnology or its radical enhancement using some combination of technologies such as genetic engineering, psychopharmacology, anti-aging therapies, neural interfaces, advanced information management tools, memory enhancing drugs, wearable computers, and cognitive techniques.”²³

Drawing from Peters once again, he says “The nose on this transformation face will be enhanced human intelligence. What follows this nose will be the observation that human intelligence will leap from human bodies to machines, making high-technology machines more human than we are.”²⁴ This leap can be made because intelligence can be boiled down to neural synapses that can be captured as data patterns and deposited into a computer known

as “uploading” (another Kurzweil credited concept). Kurzweil says, “Uploading a human brain means scanning all of its salient details and then reinstating those details into a suitably powerful computational substrate. This process would capture a person’s entire personality, memory, skills, and history.”²⁵ Kurzweil sees the singularity occurring by 2045.

...in 2013 two MIT researches successfully implanted a false memory in the brain of a mouse.

Some of the radical enhancements Kurzweil and others speak might seem far off, but in 2013 two MIT researches successfully implanted a false memory in the brain of a mouse.²⁶ The researchers utilized a relatively new neurological technique called optogenetics, “which employs lasers to stimulate engineered cells designed to react to them.”²⁷ One way to achieve this is through injecting wirelessly operated, implantable optoelectronic probes. There is potential for treatment of PTSD, depression, Alzheimer’s, and other diseases and disorders. But there is, as author Philip Perry points out, the potential to damage the self. “As our memory is the glue which holds our identities together, wouldn’t erasing a memory, even a bad one indelibly erase a portion of the person themselves? Though painful, our negative memories define us.”²⁸

Is the Enhanced You Really You?

This leads to one of the challenges within transhumanism and that is the concept of personhood. Dr. Susan Schneider, philosopher, cognitive scientist and professor at the University of Connecticut, points out, “When one considers whether to enhance in the radical ways the Transhumanist advocates, one must ask, ‘will this radically enhanced creature still be me?’”²⁹ Or to go even further as Gross asks, “Will an enhanced human being—a human being

possessing a neural interface with a computer—still be a human being?”³⁰ The answers to these questions depend on a true understanding of personhood. Returning to Schneider,

For in order to understand whether you should enhance, you must first understand what you are to begin with.

For in order to understand whether you should enhance, you must first understand what you are to begin with. But what is a person? And given your conception of a person, after such radical changes, would you still be you or would you actually bear little relation to the person you were before? And if the latter situation is the case, why would embarking on the path to radical enhancement be something you value? For wouldn't it instead be a path which leads to your own demise, leading you away from your true self, ultimately causing you to cease to exist?³¹

So what is a person in regards to transhumanism? What does the idea of personhood look like? To start, remember that the long term vision of transhumanism is a posthuman state. These possible future beings possess “basic capacities [which] so radically exceed those of present human as to be no longer unambiguously human by our current standards”³² A posthuman could be uploaded into a computer, robot or cyborg. But in this posthuman vision, one sees that transhumanism boils down the self to neurological connections: copy or capture the “program” or the patterns of the mind, much like a computer’s operating system, and the medium is virtually limitless into what she or he might indwell. This concept is referred to as the computational theory of the mind, although Kurzweil coined his own updated term for this concept, namely “patternism.” Returning to Schneider, she notes that patternism

is an “updated version” of the Psychological Continuity Theory. She explains this theory,

Put in the language of cognitive science... what is essential to you is your computational configuration—e.g., what sensory systems/subsystems your brain has (e.g., early vision), the way that the basic sensory subsystems are integrated in association areas, the neural circuitry making up your domain general reasoning, your attentional system, your memories, and so on; overall, the algorithm that the brain computes.³³

The computational configuration or algorithm of the brain *is* the person. But this is not just Kurzweil’s idea. Schneider points out how patternism is appealed to in “The Transhumanist FAQ”:

A widely accepted position is that you survive so long as certain information patterns are conserved, such as your memories, values, attitudes, and emotional dispositions, and so long as there is causal continuity so that earlier stages of yourself help determine later stages of yourself. For the continuation of personhood, on this view, it matters little whether you are implemented on a silicon chip inside a computer or in that gray, cheesy lump inside your skull, assuming both implementations are conscious.³⁴

Can personhood be simply defined as patterns or algorithms? Is being a human being simply a reduction to a “program?” Several issues abound. First, as Levi Checkett states, is that the “patternist philosophy of the transhumanists is just that—a philosophy and not a science.”³⁵ He goes on to add that the danger with contingent philosophical views such as patternism in our day and age is that they “are being taken to have the same certainty as scientific ones. Transhumanists, in taking their philosophical view to be scientific, risk great danger because patternist philosophy is not subject to the same

rigor or trials of strength as scientific theories.”

Second, patternism reduces down the complexity of humans (particularly the human mind) into much too simplistic of a model. Patternism confuses the patterns that can be mapped in the brain with the actual brain itself. Just as a Xerox copy of my hand is a “copy.” It is not my actual hand. Let me illustrate further. Kurzweil is optimistic with the potential to scan the brain and suggests that “with the information from brain scanning and modeling studies, we can design simulated ‘neuromorphic’ equivalent software (that is, algorithms functionally equivalent to the overall performance of a brain region).”³⁶ As Andrew Pilsch points out, “[Kurzweil’s] claims about reverse engineering the brain operate on the assumption that once we have accurately scanned the brain and developed models based on those scans, we will have a digital brain. Not a model of a brain. But an actual brain itself.”³⁷ Kurzweil is so confident that he has boasted, “The human brain is a complex hierarchy of complex systems, but it does not represent a level of complexity beyond what we are already capable of handling.”³⁸

Kenneth D. Miller, professor of neuroscience at Columbia and a co-director of the Center for Theoretical Neuroscience, is not so optimistic as Kurzweil. Miller acknowledges that neuroscience is advancing rapidly, but says

The distance to go in understanding brain function is enormous. It will almost certainly be a very long time before we can hope to preserve a brain in sufficient detail and for sufficient time that some civilization much farther in the future, perhaps thousands or even millions of years from now, might have the technological capacity to “upload” and recreate that individual’s mind.³⁹

Viewing the brain’s complexity as something science is “capable of handling” is not only confined to Kurzweil’s thinking. Doug Weber, neural engineer and former DARPA program

manager, noted in an interview with Michael Gross that there are others who associate the brain with a computer “where information goes from A to B to C, like everything is modular. And certainly there is a clear modular organization in the brain. But it’s not nearly as sharp as it is in a computer.”⁴⁰ The point is that when it comes to human enhancement, particularly those that involve the brain in some shape or form, to reduce its complexity to one model is an oversimplification.

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Another issue, as Schneider points out, is that even if patternism holds to be true, does patternism really allow for the enhancement of the individual while maintaining the survival of the actual self, of the person. She gives this example, “What about adding an intelligence enhancing working memory chip so that one can perform better in law school? Would this be too sharp a break in the existing ‘pattern?’”⁴¹ Any outside manipulated insertion or deletion of memory adds or takes something away and the remaining “pattern” would be arguably different. In the case of a brain-computer interface that is connected to the internet, Jay Conte asks,

Would my “self” remain fundamentally the same, only having been augmented by the implant, or would a qualitative shift have occurred where “I” become constituted more by the Internet than the biological capacities that previously shaped my selfhood? Put another way, can selfhood be conceived in these +1 terms, or is it the case that the self exists only as a result of particular limitations that the very march towards enhancement seeks to overcome?⁴²

And one last issue with patternism: it moves human identity into an individualistic-centered, individual-defined existence. Humans are not individuals whose existence is independent of others, but as Anderson explains, an individual human depends on other humans in what he calls “co-humanity.” He states that “Humanity as co-humanity means that the singularity of being a human person is determined by a significant encounter with another human person.”⁴² Human existence to include personal identity is shaped dramatically and significantly by others; no person is an island! However, this does not mean that individuality or singularity is wiped away. Anderson says in regards to the individual, “This singularity, however, is experienced as a reciprocity of being, that is, a being of one with the other and also, to an extent, for the other.”⁴⁴ A human being, then, is dependent on others as well as God in fulfilling out his or her humanness.⁴⁵

...transhumanism ultimately has little regard for the body.

Embodiment

The posthuman of transhumanism has a conspicuous missing piece. It lacks a realistic, holistic and integrative view of the body. This is not a new philosophical quandary as over the centuries, many have debated the worth, the role or value the body has in relation to personhood. Veli-Matti Kärkkäinen says in *Creation and Humanity*, “most common people... have stuck with some sort of dualist (non-monist) way of thinking of human nature” and “in academia nondualistic explanations rule.”⁴⁶ The problem with a dualist approach to personhood is it creates a diminished view of the body and material world. Kärkkäinen suggests this can lead to several problems to include locating “humanity (human uniqueness) in the soul rather than in the human person as a whole,” regarding the soul in

terms of intellect “which elevates rationality as the vital principle,” and dethroning “the divine Spirit (ruach) as the principle of life.”⁴⁷ On the other hand, a strict materialistic monism fails to acknowledge human complexity.

One of the challenges in transhumanism’s anthropology is its dualistic outlook. Celia Deane-Drummond explains this well, “In reaching for control of the human person and its future, transhumanism entirely misses the possibility that human beings are complex creatures who resist reduction to functional mental units.”⁴⁸ With a person’s humanness reduced to mental data that can potentially be captured through data mapping, transhumanism ultimately has little regard for the body. This leads to an escapist approach to the body: if it can be repaired or part replaced, transhumanism’s ultimate solution is to separate that data from the brain, become disembodied, and then “uploaded” into some form of a digital framework.⁴⁹ The body then becomes no more than a prosthesis that can be enhanced or exchanged for a different technological, biological or cyborg dwelling.⁵⁰

This diminished view of the body then leads to a way of thinking that divorces the human from the rest of the natural world. Stephen Garner notes that the distinction in Christianity (as well as other theological traditions) is that it recognizes “humans are embedded in a wider physical and social world. Human beings are caught up in relationships with not just one another but also the natural world.”⁵¹ With this in mind, Garner views that a critical piece when it comes to engagement with transhumanism is to take “into account various theological and scientific portraits of humanity, as individuals, as communities, and as creatures in the natural world.”⁵² Separation from the physical body (or enhancement that leads in a post human direction) disrupts this interconnectedness of human beings with the rest of the natural world.

Transhumanism’s dualism, as Hannah Scheidt points out, not only dismisses the human

body, but “rejects its relevance to and necessity for consciousness, thought, and experience.”⁵³ Transhumanists such as Kurzweil “largely imagine the brain as the master control center and ignore interactive physicality.”⁵⁴ Yet, Scheidt, as others affirmed, says that “perception, intelligence, and consciousness are products of a holistic process in which parts [receive] meaning only in terms of the whole.”⁵⁵ She uses this example to drive home this point of the brain’s connection to the body for cognitive function:

Notes in a melody, similarly, have value only as part of the whole composition, rather than the melody being recognized in terms of independent identified notes. Perception, understood this way, is accessible only to a subject who can anticipate an experience holistically rather than approach it through step-by-step formal analysis... It is the intentionality and materiality of the body that anticipates, discovers, and confers meaning.⁵⁶

And if the cognitive could be separated from the body and still exist, this would usher in a new reality, a new meaning for everything.⁵⁷

In closing out this section, I think an aspect of what it means to be human entails being finite and being connected to this limited and frail human body. This does not imply that we stop trying to restore, repair or take care of our physical selves, but it means we come to terms with the idea that being human is a holistic reality involving the physical as well as the cognitive.⁵⁸ Take one of these away and that reality is morphs into something other than human (minus the physical) or simply a body (minus the cognitive).

Fixing the Flaws in Human Nature

Finally, transhumanist thought does not deal with the reality of evil. Evil has much theological and philosophical baggage tied to it. But to ignore evil in the transhumanism discussion

misses a key piece in addressing not “What is a human?” but “What is wrong with humans?” For humanity to live to the fullest potential with intrinsic worth and as embodied beings, evil has to be put into the equation as it frustrates most definitions of what it is to live with meaning and purpose.

...transhumanism’s “implicit claim is that people are basically good and technological advancement will somehow purify the human condition.”

The issue transhumanism presents is its view of evil, or the denial thereof. Author Matthew Eppinette points out that transhumanism’s “implicit claim is that people are basically good and technological advancement will somehow purify the human condition.”⁵⁹ Eppinette continues what he sees in the transhumanist vision, “In many ways it seems that the human condition covers only unintentional sorts of failings, and that if only everyone were given a proper chance, all would be well. Indeed, transhumanism sounds at times as if it denies the reality of evil.”⁶⁰ Peters also notes,

The pothole in the transhumanist road that Christian theologians point out is the naiveté with which believers in progress remove the ambiguities of human history, which leads them to maintain confidence in the good that progress can bring while denying the potential growth of evil.⁶¹

Stephen Garner sheds light on the key idea about evil as it relates not only to transhumanism, but to all humanity. Drawing from the 20th century theologian ethicist Reinhold Niebuhr, Garner writes that “evil... occurs because human beings constantly attempt to deny their creaturely dependence and achieve transcendence through their own efforts.”⁶² Transhumanism’s drive

for independence and autonomy often blinds its followers to their own individualism and to their further separation from community. Like Prometheus, transhumanism attempts to wrestle fire away from the gods and be a god.

A reality check is in order for transhumanism regarding its view of evil and human nature as they possess implications for the individual and humanity as a whole. Peters concludes this could lead to devastating results in the future because at any time as human history has proved, “happy and fulfilled human beings may initiate evil and destruction.”⁶³ Drawing from a technological analogy, Peters makes a vivid parallel,

At the birth of the computer age, we should have been able to predict the coming of the computer virus, or something like it. Now, at the birth of transhumanist technology, similar predictions would be in order. A transhumanist spirituality would need to incorporate this kind of realism regarding human nature, a human nature not capable of changing through the augmentation of intelligence.⁶⁴

...at the end of all the enhancement, evil will not be vanquished.

The point is this: technological enhancement cannot change the problem of evil. Transhumanism could potentially make people smarter, faster, stronger, and so forth, but at the end of all the enhancement, evil will not be vanquished.

So what could the implications be regarding human nature when it comes to enhancement? First, ethical standards would be shaped. Modern ethic approaches already face subjectivity when it comes to spelling out what is “good,” “bad,” “the greater good,” etc. When technology and human enhancement enter into the conversation

those ethical standards will be challenged. As Ciano Aydin points out, “It is naïve to assume that adopting new and emerging technologies will not affect our standards for determining what is ‘normal,’ ‘healthy,’ and ‘enhanced.’”⁶⁵ And Aydin goes even further to say that as standards ethical standards shift this “could indeed come with ‘violating’ the humanist value system.”⁶⁶ What an enhanced human sees as “fitting” and “normal” will not necessarily align with an unenhanced human’s concept of the same concepts.

A second implication regarding enhancement on human nature is a societal one. Transhumanism views enhancement as a means to free the human condition from its constraints (disease, aging, etc.) as well as a tool to have control over “desires, moods, and states” while increasing the “capacity for pleasure, love, artistic appreciation, and serenity.”⁶⁷ However, Patrick Smith is not as optimistic and thinks that the transhumanism utopian ideals regarding enhancement could backfire into dystopian ones. He raises these questions when looking at the long term implications for society: “How can human societies be sure that radically enhanced beings will not oppress or wrongly oppose the unenhanced? How do societies keep the unenhanced from rising up against those perceived to be better off?”⁶⁸

And lastly, human enhancement from a transhumanist perspective needs to recognize radical enhancement could equal enhancing flaws. Lord Acton famously said, “All power tends to corrupt and absolute power corrupts absolutely.”⁶⁹ Any human enhancement has the potential to corrupt morally. Any human enhancement pursued must take into account that the person receiving the enhancement has a human nature that is flawed and any enhancement has the potential to “enhance” those flaws in the person’s character, integrity, etc. Even something as little an excremental

increase in strength or cognitive ability has the potential to “corrupt” or change a person’s moral position rather than better it.

Conclusion

Transhumanism is a key influencer and a key philosophy in the arena of human enhancement. This paper has explored only several of the challenges that transhumanistic thought brings to the table to include the concept of personhood, embodiment, and human nature. In its attempts to deal with the main issues of humanity—weakness, suffering, death, etc.—the long term vision of transhumanism compromises humans which it ironically wants to save. A posthuman state moves beyond humanness into a realm that brings death of beings human current state, both individually and corporately.

The alternative is not to view technology as “bad” as technological advancements have often brought positive impact to societies, but to continue to wrestle with the implications any modification to a human being might have on his or her being to include not just the physical dimension, but the emotional, social, spiritual, and so forth. With discernment in mind, we then evaluate technological enhancements to ensure those enhancements do not compromise, in the words of Kilner, human dignity and destiny. **IAJ**

NOTES

- 1 A common definition of “cyborg” is a Webster’s Dictionary states: “a person whose body contains mechanical or electrical devices and whose abilities are greater than the abilities of normal humans.” *Webster’s Dictionary*. <https://www.merriam-webster.com/dictionary/cyborg>. (accessed on October 28, 2017).
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- 5 Patrick Lin. “More Than Human? The Ethics of Biologically Enhancing Soldiers,” *The Atlantic*, February, 16 2012, accessed on February 26, 2019, <https://www.theatlantic.com/technology/archive/2012/02/more-than-human-the-ethics-of-biologically-enhancing-soldiers/253217>.
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15 Ibid.

16 Ibid.

17 Ibid.

18 Ibid.

19 Stephen Garner. “Hopeful Cyborg,” in *Transhumanism and Transcendence*, edited by Ronald Cole-Turner (Washington, D.C.: Georgetown University Press, 2011) 87.

20 Ted Peters. “Progress and Provolution: Will Transhumanism Leave Sin Behind?,” in *Transhumanism and Transcendence*, edited by Ronald Cole-Turner (Washington, D.C.: Georgetown University Press, 2011) 68.

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22 Bostrom.

23 Ibid.

24 Peters, 68.

25 Ray Kurzweil. *The Singularity is Near: When Humans Transcend Biology* (New York: Penguin, 2006), 198-99.

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- 33 Schneider, 7.
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- 36 Kurzweil, 147.
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- 39 Kenneth D. Miller, “Will You Ever Be Able to Upload Your Brain?,” *The New York Times*, October 10, 2015, accessed on February 7, 2019, <https://www.nytimes.com/2015/10/11/opinion/sunday/will-you-ever-be-able-to-upload-your-brain.html>.
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- 44 Ibid. 45.
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- 46 Veli-Matti Kärkkäinen. *Creation and Humanity* (Grand Rapids: Eerdmans, 2015), 307.
- 47 Ibid, 309-310.
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- 49 Peters, 69.
- 50 Steven John Kraftchick. “Bodies, Selves, and Human Identity,” 47.
- 51 Stephen Garner. “Christian Theology and Transhumanism,” in *Religion and Transhumanism*, edited by Calvin Mercer and Tracy J. Trothen (Santa Barbara: Praeger, 2015), 234.
- 52 Ibid, 240.

- 53 Hannah Scheidt. "The Fleshless Future," in *Religion and Transhumanism*, edited by Calvin Mercer and Tracy J. Trothen (Santa Barbara: Praeger, 2015), 320.
- 54 Ibid, 321.
- 55 Ibid, 321.
- 56 Ibid, 322.
- 57 This reality separated from the body raises a host of questions such as: What does it mean to "taste" processed through sensors? What would social interaction look like? How do relationships develop? What does a sense of loss mean and feel like not connected to the physical side emotion? How are virtues developed such are character?
- 58 I would argue there is a "spiritual" dimension as well when it comes to humanity, but for the purpose of this paper the focus is on the cognitive and physical. Similar to Kärkkäinen's "multidimensional monism" or Ericson's "conditional unity," there are different facets or dimensions of humanness that are unified in their coexistence rather than separate, independent aspects such a dualistic models teach.
- 59 Matthew Eppinette, "Human 2.0," 202.
- 60 Ibid. 202.
- 61 Peters, 80-81. See: Ted Peters, *Anticipating Omega: Science, Faith, and Our Ultimate Future* (Göttingen: Vandenhoeck & Ruprecht, 2006) chapters 6, 7.
- 62 Garner, "Christian Theology and Transhumanism," 235.
- 63 Peters, 79.
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- 67 Ibid, 322.
- 68 Patrick Smith, "Transhumanism and Human Significance," 155.
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Worth Noting

2019 Trafficking in Persons report released

The Department of State released the 2019 Trafficking in Persons (TIP) Report in June. The TIP Report provides a comprehensive assessment of global efforts to combat human trafficking, and the report acts as a guide for continued efforts in the U.S. and around the world.

In his message introducing the TIP Report, Secretary of State Michael R. Pompeo stated that nearly 25 million people—approximately three times the population of New York City—are being trafficked throughout the world today. Pompeo went on to call for “our shared commitment to extinguish human trafficking wherever it exists,” saying “There is no time to waste.” He also recognized the survivors of human trafficking and the 2019 TIP Report Heroes.

Each TIP Report focuses on a specific theme, with previous reports highlighting the work of local communities to combat trafficking, the responsibility of governments to criminalize human trafficking in all its forms, and strategies to prevent human trafficking around the globe. The 2019 TIP Report focuses on human trafficking that takes place exclusively within the borders of one country, without transnational elements.

According to U.S. Ambassador-at-Large to Monitor and Combat Trafficking in Persons John Cotton Richmond, 77 percent of trafficking victims are trafficked within their countries of residence. Richmond’s remarks focused on the Trafficking Victims Protection Act and the United Nations’ Palermo Protocol, which, unlike some other directives, do not include language implying or stating that a victim must be trafficked across international borders to be considered a trafficking victim.

Richmond states that the 2019 TIP Report “serves as a call to action for governments around the world to embrace the full meaning of the Palermo Protocol and implement their domestic laws in a manner that protects all victims and punishes all traffickers.”

- U.S. State Department

TRADOC Commander challenges CGSC graduates

In commencement ceremonies on June 14, 2019, at the Lewis and Clark Center, General Stephen J. Townsend, Commanding General of the U.S. Army Training and Doctrine Command, challenged the 1,100 graduates of Command and General Staff Officers Course Class of 2019 to do three things—elevate team play, help commanders to reinvigorate mission command, and coach junior officers.

Townsend told the graduating students they were leaving CGSC much better prepared than he was when he graduated from the course 25 years ago. He also said they leave with an excellent professional network of peers and friends. “You can’t even imagine the situations where this network of friends and fellow students will come in handy in years ahead in your career but it will, mark my words,” said Townsend.

Opening the graduation ceremony, Lt. Gen. Michael Lundy, Commandant of the Command and General Staff College said, “Your watch starts again this afternoon when you leave this post. You’re now stewards of our profession and there’s more expected of you by your Soldiers, Sailors, Airman,

and Marines and your leaders. I'm absolutely confident that you're all ready to meet that challenge.”

Graduation marks the completion of the 10-month Command and General Staff Officers Course that develops war-fighting and adaptive leadership skills necessary for military officers to be proficient in Unified Land Operations. The graduating class includes mid-career officers from all American military services as well as 110 international officers representing 87 countries and 26 federal government civilian employees.

- *Simons Center*

SAMS Class of 2019 graduates 156

The U.S. Army School of Advanced Military Studies graduated 158 officers from two courses on May 23 at 9 a.m. in the Eisenhower Auditorium of the Lewis and Clark Center. The graduates included 11 international officers from 8 countries and five federal civilian employees representing four federal agencies.

Four Advanced Strategic Leader Studies Program students and 43 Advanced Military Studies Program students graduated with honors. To earn the honors distinction, students had to be in the top 30 percent of the class. All attributes of the total officer are considered in recognizing the top class members. The complete list of honors graduates is below.

Most of the graduates completed the Advanced Military Studies Program. This 10-month course is a graduate level education program to develop innovative and adaptive leaders who excel at operational art and are willing to experiment and accept risk.

Sixteen graduates completed the Advanced Strategic Leader Studies Program. This Senior Service College program, equivalent to the Army War College, focuses on planning and executing the full spectrum of unified land operations with government and nongovernmental agencies and international partners.

- *Simons Center*

KC Federal Executive Board leader presents at CGSC

On May 8, in the Arnold Conference Room of the Lewis and Clark Center at Fort Leavenworth, Mr. Larry A. Hisle, executive director of the Greater Kansas City Federal Executive Board, led a discussion on the roles and missions of the Federal Executive Board and how it serves as a catalyst for communication, coordination and collaboration among the various federal agencies with offices in the Kansas City metropolitan area.

This was the 10th and final presentation of the 2019 academic year of the InterAgency Brown-Bag Lecture Series, which is co-hosted by the U.S. Army Command and General Staff School and the Simons Center for Interagency Cooperation. First Command was the key sponsor of the 2019 academic year of the series.

During his presentation, Hisle walked the audience of students and other attendees from Fort Leavenworth organizations through the Kansas City FEB's "lines of business" explaining how the FEB in KC focuses on increasing the effectiveness and coordination of and between federal agencies in the area. In the first line of business, "Emergency Preparedness, Employee Safety and Security," he discussed how the FEB operates its notification and advisory plans during emergencies and how the FEB conducts liaison between agencies on emergency preparedness issues.

The second line of business Hisle discussed was the FEB's "Workforce Development and

Support” programs, which drew a great deal of interest in the audience. The KC FEB coordinates and conducts several education and training programs throughout the year, which can help save costs of each individual agency conducting their own proprietary training. Among other programs, Hisle said his office has worked with the Army Management Staff College at Fort Leavenworth, as well as the University of Kansas, to offer various programs for leader training and development.

The last line of business, “Intergovernmental and Interagency Collaboration and Community Outreach,” Hisle discussed is focused on maintaining and improving strategic partnerships. He said in this arena the FEB works to communicate information to the federal workforce about local, as well as federal programs such as the annual Combined Federal Campaign, local outreach to military veterans, and committees such as the Small and Minority Business Committee.

Hisle has served as the executive director of the Greater Kansas City Federal Executive Board since 2013. He has a bachelor’s degree in Business Administration from Thomas Edison State University. He previously served as a program manager in the U.S. Office of Personnel Management. Hisle is very active in the community volunteering as well as serving on the board of directors of the Sherwood Center for the Exceptional Child and on the advisory council of the KCK Area Technical School.

- Simons Center

Foundation hosts Visiting Professor of Diplomacy

Ambassador (Retired) Eunice Reddick made her second trip to the Kansas City area, April 22-26, as the CGSC Foundation’s DACOR Visiting Professor of Diplomacy for academic year 2019. She previously visited CGSC in December 2018.

During this visit Ambassador Reddick shared her expertise as a senior diplomat and her experiences as a U.S. representative in both Asia and Africa. She discussed a variety of topics in multiple forums ranging from career opportunities as a Foreign Service officer, to foreign policy development and execution, and to practicing the skill and art of diplomacy. She also specifically discussed U.S. relations with China and the challenges the nation faces and the many programs, opportunities and challenges across the continent of Africa.

Highlights included a presentation to undergraduates at the University of St. Mary in the “Women in World History” course and Park University’s annual Student Research and Creative Arts Symposium.

Reddick also guest-lectured in six different CGSOC elective classes at the U.S. Army Command and General Staff College, discussing topics that included the duties and roles of an Ambassador, national security policy formulation, and strategic initiatives in Africa.

The CGSC Foundation DACOR Visiting Professor of Diplomacy is a program designed to bring recently retired senior national security officials to Fort Leavenworth to enhance the curriculum at CGSC and to allow for interaction by the senior government officials with area universities and the general populace. The program is a CGSC Foundation partnership with the Diplomatic and Consular Officers, Retired, Inc. (DACOR) organization located in Washington, D.C. and is sponsored locally by the Lawrence D. Starr Center for Peace and Justice at the University of St. Mary, Park University, and the University of Kansas.

- Simons Center

Book Review



One Nation, Under Drones: Legality, Morality, and Utility of Unmanned Combat Systems

Edited by Capt. John E. Jackson, U.S. Navy (Ret.)

Naval Institute Press. Annapolis, Maryland, 2018, 229 pp.

Reviewed by Joe Judge III

*Assistant Professor, U.S. Army Command and General Staff College
Redstone Arsenal, Alabama – Satellite Campus*

“Drone debate no longer a U.S. issue”

“Moore’s Law,” commonly refers to a prediction in 1965 by the co-founder of Intel Corporation, that the number of transistors on a microchip would double every two years. Drone experts and analysts emphasize robotic and unmanned aerial drone systems are developing just as exponentially—yet currently at the budding “Model T” stage. “Unmanned and robotic technologies are transforming the nature of conflict,” forever impacting military operations in an already challenging human international security environment crossing all national, military, and legal domains. Unsurprisingly, drone cost is reducing as fast as proliferation is increasing, and drone strategies are increasingly appearing in prominent documents of nations and non-state actors. In 2000, the U.S. and 16 other nations possessed drones for military application. According to New America’s World of Drones database, “over 65 countries now produce and export them.”

In his cleverly titled work, *One Nation Under Drones*, Captain John E. Jackson (U.S. Navy, Retired), draws on his years of unmanned system experience, as well as assembles a notable group of civilian and military experts in the fields of law, morality, artificial intelligence, and military affairs and tactics to chapter-author contemporary insights to the embryonic challenges of the complex drone era that will clearly envelop all of us. The book’s thesis was to thoroughly “develop the most current awareness of how these revolutionary systems are reshaping the legal, ethical, and operational nature of both war and peace.” The authors asserted the shift from remotely piloted to fully autonomous armed drones (AAD) has already “produced a revolution in Military Affairs.” The authors focus sufficient discussion on the history of unmanned systems, and the drone’s impact across the military domains of air and land.

What sets this book apart from its peers is the outstanding depth devoted in almost half of the book to the legal and ethical dilemmas of AADs pertaining to the current laws of war, laws of armed conflict, national sovereignty, as well as freedom of navigation and international human rights.

Each of the authors thoroughly discuss the legal and ethical aspects that are gaining international consensus as well as debate the disagreements or competing positions, regardless if from a military, political, nation-state, United Nation, or non-governmental organization's position.

AADs that can select and engage targets without human involvement will have an enormous impact on the conduct of hostilities and how the laws of armed conflict change. Can an AAD distinguish civilian from combatant or civilian object from military object? The non-governmental organization Human Rights Watch has criticized several drone strikes when capturing the target was the more proportioned choice. Can an AAD take enough precaution before firing vice risk the loss of a military advantage? AADs blur the lines where humans are not deciding who, how, what or when to fire on a target.

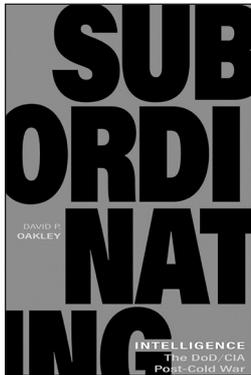
“An explosive laden drone used in an apparent assassination attempt on Venezuela President Maduro on Aug 4, 2018 at a parade was perhaps the first such armed attack on a national leader but potentially not be the last.” These types of events will indeed cause a reshaping of our operational and strategic direction in both war and peace.

The AAD dilemma is particularly fascinating when applied to “sea ethics”—which the authors assert “there is only a modest body of literature to date.” An AAD may be taught how to distinguish another vessel as enemy, friendly or neutral, but will it distinguish an enemy vessel suddenly being used as a temporary hospital ship. It is unmistakably a war crime to fire on a vessel that has clearly surrendered, yet it is uncertain how an AAD reacts when the enemy suddenly surrenders, or when it is floating but so damaged it is no longer a threat. Even if the damaged ship has not surrendered officially, it is ethically wrong to fire on them. Even during war, most seafarers adhere to “rescuing” if it does not jeopardize their own vessel's safety. How can an AAD determine when a merchant vessel is being used as troop carrying vessel? The rapid advancement of the AAD and its impact on the “future of mankind and the nation state” has understandably resulted in dialogue at the International Human Rights Law level. Scholars, to include the late astrophysicist Stephen Hawking, were signatories to a ban on further developing AADs in 2015. The laws of self-defense between nation states is clear in the UN Charter, but less so between state and non-state actors.

Chapter author Holland Michel, details how the maritime domain is set for a “development explosion.” He stressed “no naval vision document can pass top brass muster without mention of small and large autonomous drone needs.” Many underwater missions are better suited for drones vice human—less dangerous, quieter, long durations before surfacing. He expounded on many of the rapidly evolving U.S. programs such as aerial drones now able to safely land on carriers, the fully autonomous 10,000 nm range Sea Hunter, as well as lesser known “Ghost Fleet” programs. He highlighted the proliferating global maritime drone technology as well. China is purportedly pursuing an “underwater Great Wall,” with underwater drones that operate autonomously for multiple weeks. China's 2015 and 2016 white papers stated “the world's [revolution in Military Affairs] is proceeding to a new level, as unmanned weapons and equipment are becoming increasingly sophisticated.” The white papers highlighted China's breakthroughs in its “development of artificial intelligence,” superior swarming drone technology, and its creation of new groups to “integrate the force and these technologies.”

One Nation Under Drones is recommended reading for all scholars, students, military analysts to appreciate and debate. It is more than just an up to date, well-researched body of work on the history and exponential progress of remotely piloted aerial systems to autonomous armed drones across the air, land, and sea domains, as well as civilian

applications in the U.S. The sole criticism of the book is the lack of dialogue regarding the other domains, specifically space and cyber. Nonetheless, the authors unquestionably present compelling debates to the legal and ethical challenges for not only the U.S., but international leaders, intergovernmental organizations and international forum leaders as well. **IAJ**



Subordinating Intelligence: The DoD/CIA Post-Cold War Relationship

David P. Oakley

University of Kentucky Press, 2019, 264 pp.

Reviewed by Kevin Rousseau

Distinguished Chair for National Intelligence Studies

U.S. Army Command and General Staff College, Fort Leavenworth, Kansas

The benefits of interagency cooperation are fairly obvious. Working together to achieve a common purpose is preferable to working separately in competition. But can there be such a thing as too much interagency cooperation? In *Subordinating Intelligence: The DoD/CIA Post-Cold War Relationship*, author David P. Oakley traces the DoD/CIA interagency relationship as it developed from a relatively competitive rivalry into a more cooperative and highly effective national security partnership. Although the book focuses on one interagency relationship, it serves as a case study on the complexities facing any organization operating in the joint, interagency, intergovernmental, and multinational (JIIM) environment. In addition to describing the challenges overcome and benefits achieved by improving DoD/CIA cooperation, Oakley also identifies some potential costs that he views as indicative of a broader concern; the militarization of U.S. foreign policy.

Oakley argues that operational issues in the early 1980's, such as the interoperability problems that marred Urgent Fury in Grenada, and the perceived intelligence and organizational shortfalls exposed by the Beirut Barracks and U.S. Embassy bombings, led to calls for reform directed primarily at the U.S. military services that simultaneously kicked off change within the U.S. Intelligence Community (IC). For example, the Goldwater-Nichols Department of Defense Reorganization Act of 1986 "did not tackle the DoD/CIA partnership directly, but it introduced policy changes that made increased DoD/CIA collaboration necessary and structural changes that made it easier."¹ Oakley highlights the creation of USSOCOM as a major structural change that made it easier to lash up CIA capabilities to the military, fostering improved overall DoD/CIA collaboration.

General Schwarzkopf's criticisms of the intelligence support he received during Desert Storm (many of which Oakley notes were in hindsight arguably unjustified) became an even greater catalyst for change within the IC. Central to Schwarzkopf's concerns was his view of the support

relationships he expected as the combatant commander. Oakley provides an example of this when he discusses the U.S. Air Force Gulf War Air Power Survey and its description of CIA as a “supporting agency” and Schwarzkopf as a “supported commander.” Oakley observes that “although many CIA officers and leaders agreed they were supporting military operations during Desert Storm, their definition of the term *support* probably more closely resembled that of *Webster’s Dictionary* and not the command-relationship “support” that Schwarzkopf had in mind.”² Such misunderstandings rooted in organizational language can be a significant issue while operating in the broader JIIM environment. A recent CGSC Foundation publication, *A Practitioner’s Handbook for Interagency Leadership*, warns that organizational language can lead to miscommunication problems because separate organizations often develop a unique sense of the meaning of particular words.³

Oakley explains how the CIA/DoD relationship that lawmakers and military commanders called for in the 1980’s and pursued in the 1990’s was fundamentally different than previous CIA/DoD relationships. The CIA was created in 1947 to be an independent service providing strategic intelligence collection and analysis to national-level leaders, but was criticized for inadequately supporting military combat operations—a mission not envisioned for the Agency at its founding. Congress took this criticism a step further by arguing that the CIA needed to be more responsive to DoD in peacetime as well. Oakley explains that “expanding the CIA’s role to include supporting military operations to peacetime and giving regional commander’s peacetime control of national systems were significant steps toward subordinating national intelligence to the combatant commander.”⁴

Oakley digs further into potential complications posed by the “tension and unequal influence of DoD’s priorities.”⁵ He notes that the significant imbalance in resourcing national security priorities leads policy makers to rely increasingly on the military, and the “military then becomes the lead while other organizations find themselves in supporting roles.”⁶ *Interagency Leadership* explains that “if there is a situation in which the United States has an interest, the DoD will most likely play a role in supporting those interests.”⁷ The U.S. military is the 800-pound gorilla in the JIIM, and although it is just one among many interagency partners, “DoD will most likely show up in numbers that are unimaginable to most other stakeholders.”⁸ Oakley argues that this imbalance imposes an unforeseen cost with promoting a closer relationship between the CIA and DoD. Oakley claims that the CIA’s focus on broader more strategic intelligence collection and analytic support to national-level decision-makers, “has been significantly distracted by the CIA’s support to military operations.”⁹ This underscores Oakley’s broader concern with the overall militarization of U.S. foreign policy.¹⁰

Oakley, an assistant professor at National Defense University, began this study of CIA while a student at the U.S. Army School of Advanced Military Studies (SAMS).¹¹ While Oakley’s SAMS monograph was a “good-news story” emphasizing the history and the benefits of the improved DoD/CIA relationship, his book takes a more developed and balanced view.¹² Although still a positive overall assessment of DoD/CIA cooperation, the potential unintended consequences that could emerge over the long-term are worth considering. Interagency cooperation and the improved capability to synchronize operations among multiple organizations that has been honed since 9/11 should be continually studied, re-evaluated, and adapted as needed to better cope with whatever new security challenges the 21st century may pose. **IAJ**

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NOTES

- 1 David P. Oakley. *Subordinating Intelligence: The DoD/CIA Post-Cold War Relationship* (Lexington: University of Kentucky Press, 2019), 25.
- 2 *Subordinating Intelligence*, 53.
- 3 William J. Davis, with Janet K. Benini and Michael S. Choe. Ed by Roderick M. Cox. *A Practitioner's Handbook for Interagency Leadership* (Fort Leavenworth, KS: CGSC Foundations Press, 2018), 17.
- 4 *Ibid.*, 33.
- 5 *Ibid.*, 159.
- 6 *Ibid.*, 159
- 7 *Interagency Leadership*, 43.
- 8 *Ibid.*
- 9 *Subordinating Intelligence*, 160.
- 10 See David Oakley. "The Problems of a Militarized Foreign Policy for America's Premier Intelligence Agency" commentary in *War on the Rocks* May 2, 2019. Accessed on 11 May 2019 at <https://warontherocks.com/2019/05/the-problems-of-a-militarized-foreign-policy-for-americas-premier-intelligence-agency/>
- 11 See David P. Oakley. *Partners or Competitors: The Evolution of the Department of Defense/Central Intelligence Agency Relationship Since Desert Storm and Its Prospects for the Future*. Joint Special Operations University Report 14-2, MacDill Air Force Base: Florida, 2014. Accessed on 11 May 2019 at <https://jsou.libguides.com/jsoupublications/2014>
- 12 Oakley also summarized his views in an article published in this journal. See David Oakley "Adapting to Change: Strategic Turning Points and the CIA/DoD Relationship." *InterAgency Journal*, Vol. 5, Issue 1, Winter, 2014. Accessed on 21 May 2019 at <http://thesimonscenter.org/featured-article-adapting-to-change/>

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