In (H)Arm’s way:
A look into the Culture of the defense and security industry

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Notes on the Text

All formal informants to whom I personally spoke provided verbal consent to use their names, positions and company affiliations.

Mike Burke is my paternal uncle and Corey Brasel is a family friend. All other informants were met in the field while conducting participant observation.

The names of the persons speaking in their official capacities during the panel discussion in Prague in October 2018 and during exhibit presentations in Orlando 2018 have been anonymized, however their formal positions and affiliations remain.
Introduction

“Shirking and sharking, in all their many varieties, have been sown broadcast by the ill-fated cause; and even those who have contemplated its history from the outermost circle of such evil, have been insensibly tempted into a loose way of letting bad things alone to take their own bad course, and a loose belief that if the world goes wrong, it was, in some offhand manner, never meant to go right.”
— Charles Dickens, Bleak House, 1853

“The study of man is confronted with an unprecedented situation—never before have so few, by their actions and inactions, had the power of life and death over so many members of the species.”
— Laura Nader, “Up the Anthropologist”, 1972

To say that war affects every person on earth will sound like an overstatement to many, especially those living in Western societies where no armed conflict is visible or even proximate. However, what I will argue in this thesis is exactly that. War, in all its iterations, has had an irreversible effect on local cultures and global narratives, by way of normalizing its ever presence through a steady increase in the militarization of Western society. This has been especially true since the terrorist attacks on the United States in 2001 and the continued semi-regular attacks in Western, cosmopolitan cities around the world, and the seemingly sustained attacks in already war-torn locales, especially those in the Middle East. But more to the point, defense and security corporations, weapons technology manufacturers, and the people who work for them—the collective “defense and security industry” that I will reference throughout—operate in a version of reality in which ever-present war is assumed natural, and therefore the continuous production of military-grade weaponry is necessary to survival. This reality—this culture—has emerged through and been sustained by what Nader (1997) calls “controlling processes”, which are created and sustained through a combination of institutionalized insanity, organizational survival, and short-term self-interest (1989).

However, in speaking with people firmly entrenched in this culture in their capacities as marketers and salespeople for multi-national and small-shop weapons manufacturers and security companies, this culture reveals far more nuance than can neatly fit into any particular theoretical box. Although there were repeating hallmarks that appeared in my interactions with
informants and in other research venues, it was difficult to ignore the very human emotions that motivate this work, which are not so different from the human emotions that motivate anyone’s work, regardless of industry. What is interesting is to see how the controlling processes within this culture set boundaries around how individuals could feel and speak about their work. For an industry whose domain—war—is an inherently chaotic and unpredictable space, there is a lot of rigidity imposed upon the individual conduct of those helping to operate it and a feverish push to control conflict through increasingly technological solutions.

My focus here is not only on American companies within the defense and security industry; however, the culture of the defense and security industry is headquartered, if you will, in the United States. U.S.-based weapons manufacturers account for four of the top five in the world, with Lockheed Martin, Boeing, and Raytheon as the top three (Macias, 2019). The American imprint on the arms industry is large and easily detectable in the global context, whether their weapons are on display at an industry trade show in Prague or in the hands of fighting forces in Afghanistan. Because of this enormous foothold by American-based defense and security corporations, they necessarily set the tone of global security narratives around where and how the world’s militaries will spend their money. This gives them incredible power to define which threats—where and by whom—are counted as legitimate by world leaders. Their outsized power conversely diminishes the power of ordinary citizens to hold their leaders accountable, making those leaders beholden less to their constituent populations and more to their constituent corporations.

What emerges over the course of this thesis is how controlling processes operate on the ground within the culture of the defense and security industry. As a byproduct of revealing how controlling processes play out, I hope to illuminate the outsized impact the defense and security industry has on the safety and security of everyone on the planet. Even for those of us in Western democracies who live in relative safety, the defense and security industry threatens that safety daily, while trying to convince us of the opposite. So, while we may not live with the daily threat of physical violence wrought by Predator drones and Peacekeeper missiles, the citizens of Western societies live with a daily onslaught of psychic violence that is perpetuated via a world defined by “what-ifs” and the magical powers imbued upon foreign terrorists. This misplaced focus effectively ignores the everyday forms of physical and psychic violence for which the defense and security industry can offer no solutions: economic uncertainty, social insecurity, home-grown domestic terror ideologies, and the denigration of democratic institutions.
The Dickens quote above speaks to that sort of helpless feeling that ordinary people have little power to change the course of what they can clearly see is bad. It’s the surrender to the idea that if war is so frequent, like it has felt for the past twenty years, it must just be normal.

The arms business is one that defies state borders and makes subjects of every person on the planet. As such, it is impossible to study this industry without recognizing our own complicity in its success. We feel its influence—its omnipresence—from the battlefields of Syria to the streets of Ferguson, Missouri.
Theoretical Framework and Research To-Date

The U.S. security culture that Masco (2014) speaks of is, indeed, a culture, made up of interconnected individuals interacting according to rules and norms. This culture has a distinct language and world view, customs and deeply ingrained ideologies. It is insular with a “tendency to self-colonize—the opening/maintenance of a potentially endless conceptual space of worry and suspected dangers” (Masco, 2014, p. 14). While I find the amorphous conglomerate of corporations, politicians and state militaries making up the global arms industry fascinating, my main focus here will be on the individuals who make up that amorphous conglomerate. Specifically, I am interested in the individuals way down the totem pole—those in middle management and sales who toil in their specific niches of expertise. How do they feel and talk about their work, and what connections, if any, do they make between the work they do and the conflicts their work ultimately supports? How do their own personal perspectives on war and war technology get influenced by their participation in the culture? How do their own actions contribute to the perpetuation of this culture? How does the banality of business and the embrace of technological solutions to every conceivable problem work to distance those engaged in this business (and by extension the rest of us) and obscure the spectacularly destructive experience of those on their receiving end? While these are the questions I started out with, it was impossible to stay within this relatively narrow lane. In fact, these questions cannot be answered without understanding the processes at work inside and outside of the culture that, 1) made this culture possible in the first place, and 2) perpetuate its existence and influence to the detriment of the majority of people who encounter it and its products and technologies. As such, I will use the interactions I had with informants, observations made during fieldwork and additional research to draw larger conclusions about the direction of this industry and the consequences that direction will impose upon those whom are subjects to it, namely, all of us.

Much ethnographic energy has been dedicated to exploring the effects of the arms industry by way of studying the people whose lives have been touched, literally or figuratively, by the weapons it produces and the people it (h)arms. Since the dawn of the War on Terror there has been some ethnographic research conducted on exploring the ways in which soldiers interact with technology in the battlefield, and on counterterror or counterinsurgency weapons themselves. Chamayou (2015), in his deep-dive into the evolution of drone warfare, recounts...
in *Drone Theory* several ethically questionable scenarios involving American drone operators. Beyond that, Chamayou interrogates the new normal in which drones are the go-to weapon of the U.S. and foreign militaries, picking apart the questionable logic used by military commanders, politicians, and drone manufacturers who argue that drones are the ultimate precision weapon, “humanitarian” even. Instead, Chamayou asserts that “the drone is the weapon of an amnesiac postcolonial violence” (p. 95), which makes perfect sense when one considers where the vast majority of drone warfare strategies are used—in non-Western countries whose resources or placement on the world map are valuable to the “first world”, where governments are weak, corrupt, or both, and the citizenry is poor and virtually powerless to resist. Further, Chamayou asserts that “It would be a mistake to limit the question of weaponry solely to the sphere of external violence. What would the consequences of becoming the subjects of a drone-state be for that state’s own population?” (p. 18). Indeed, it has been impossible to ignore the ways in which we—Western society—are all to a certain extent “subjects of a drone state”. Chamyou’s focus is drone technology specifically, but his arguments and observations are well-suited to emerging military technologies generally, such as autonomous weapons systems, many of which were on display at the industry trade shows I attended as part of my field work.

Robben (2013) takes a comparative look at the changes in combat between the conflict in Vietnam and war in Iraq with the introduction of night vision technology. Similarly, Vasquez (2009) examines how night vision and other visual technologies have effectively altered the rules of engagement and created a situation in which: “the military’s reliance on visual technology solves tactical problems while ignoring humanitarian problems of dealing with civilians on the battlefield” (p. 96). Visual technologies give the soldier the ability to see in the dark, but also obscure the human cost of its use. In the case of night vision especially, it is difficult to miss the parallels between what a soldier sees through his night vision goggles and what a player sees on his screen when hunting terrorists in military-adapted video games. This obscuring of vision via technology was on prominent display at trade shows I attended in Orlando, Florida and Prague. The “fun” of “playing” with these technologies diminishes their real-life costs, in terms of human bodies but also to a soldier’s psyche.

Sluka (2013) examines the costs of “virtual war” in terms of civilian casualties from drone strikes in Afghanistan and Pakistan. He contends that these highly technological weapons have created such a “collateral disaster” that the initial intention to win the hearts and minds of the local populations has been effectively destroyed. Indeed, “the trees of a surgical strike conceal a forest of tombs” (Chamayou, 2015, p. 190).
Carol Cohn (1987) turned the feminist gaze toward the language “defense intellectuals” use when talking about nuclear weapons among themselves. Although her work took place at the tail end of the Cold War, her observations on how what she calls “technostrategic” language “allow[s] defense intellectuals to think and act as they do” (p. 688), provides some historical analysis to my own observations and interactions with sales people for the defense and security industry. Although this thesis will not use feminist studies as an entry point, I do find Cohn’s observations and analysis on the ways in which language and thinking among those situated within the defense and security industry useful and will therefore use them as a way to examine whether anything has changed in this respect since the dawn of the War on Terror.

“The failure to predict global events, let alone protect U.S. citizens and cities from violence, haunts U.S. security culture today, creating the constant drive for new technical capacities and the increasing militarization of American life” (Masco, 2014). In other words, Masco argues, we are living under a constant existential threat of our own making. Again, while much of the ethnographic literature focuses on the influence of U.S.-based corporations and U.S. war making policy, this phenomenon is not restricted to the American experience. A culture of surveillance permeates European cities, for example.

Clausewitz’s classic theory on war will also be used to question whether the conflicts in which the world’s militaries are currently engaged qualify as “war”. While this will be a slight detour from my main focus on the individual’s experience of defense and security industry culture, it is worth examining, even briefly, because of the concerted effort to develop and apply technological solutions to the human problem of conflict.

Other scholars from anthropology and adjacent disciplines will be cited throughout, as there is much insight to gain into how cultures adapt and change when confronted with existential questions and when the status quo becomes untenable.

What has been missing from these ethnographic accounts to date is the perspective of the people who work within the industry today who are not soldiers, but are marketers or salesmen or scientists or engineers, and in some cases, even entrepreneurs. It is these individuals with whom I am interested. How has Western ideology married with defense and security ideology to create a culture in which sustained conflict is the status quo? Laura Nader’s theory on controlling processes pulls the observations made by the anthropologists mentioned above together, unifying them under a sort of military-informed theoretical umbrella. Within the framework of controlling processes, elements of Bourdieu’s logic of practice and Foucault’s observations on self-government can be seen in how individuals’
participation in the defense and security industry continually reimposes their own subjugation to the defense and security culture.

This thesis will illuminate the ways in which the controlling processes of the defense and security industry, as defined by Nader (1997), gain and maintain power, normalize their own power, and reap the rewards from that power.
Methodology

Polymorphous Engagement

As an undergrad at Berkeley I was influenced immensely by my professor Laura Nader. I took several courses she was offering, staged in grand lecture halls with 200 of my classmates. Her lecture style was clear, and for a woman well into her seventies at the time, her voice was steady and her arguments passionate. In the course entitled “Controlling Processes” she exposed to us the sorts of structural controls at play in modern society that work to govern our behavior while at the same time making the average person think they were the ones in control. Sitting in that course, I thought to myself, “well this should be obvious to everyone, but it’s not”. And that was her point. The course was based on a 1995 paper she presented during the Sidney W. Mintz Lecture to the Department of Anthropology of The Johns Hopkins University, but also on the ethnographic work to which she had dedicated her anthropology career. She defines “controlling processes” quite simply as “the mechanisms by which ideas take hold and become institutional in relation to power” (p. 711).

In order to examine controlling processes, Nader advocates that anthropologists “study up”, which at the time she was proposing this in 1972 in her paper “Up the Anthropologist: Perspectives Gained from Studying Up”, the idea was antithetical to the way anthropology as a discipline saw itself. By “study up” Nader argues that anthropologists study the “banks, realtors, law firms, insurance companies, manufacturing corporations, the communications industry, and government regulatory agencies—institutions at the heart of capitalist processes of production and stratification” (Gusterson, 1997, p. 115). Professor Nader’s influence and call to action is one of the reasons I chose to study how the global arms industry markets itself and sells its wares, and her theories on how controlling processes work in the larger milieu of global neoliberal capitalism will play heavily in my analysis.

Other anthropologists, like Nancy Scheper-Hughes, advocate for a “public anthropology” in which the anthropologist “is ‘writing’ for the public – making our work more accessible and also more accountable” (Scheper-Huges, 2009). So many topics that anthropologists study have far reaching connections and consequences, meaning anthropologists are in a unique position to expose for the public the hidden or obscured forces influencing the world.
This thesis is motivated by and anchored to Nader’s (1972) call to “study up” by examining powerful structures that influence society, especially those at work within the anthropologist’s own society. Since gaining access to the inner workings of defense corporations and arms dealers in order to do “proper” participant observation was a no-go from the start, my research methods were scattered by necessity. In situations such as this, Gusterson (1997) suggests practicing “polymorphous engagement” which “means interacting with informants across a number of dispersed sites, not just in local communities, and sometimes in virtual form; and it means collecting data eclectically from a disparate array of sources in many different ways” (p. 116). In a closely related vein, Marcus (1995) advocates for multi-sited ethnography “in response to empirical changes in the world and therefore to transformed locations of cultural production” (p. 97). The defense and security industry’s culture is not contained to a specific geography or point in time. Rather, it is diffuse and has embedded parts of itself into larger cultures, making its presence, and its influence, difficult to detect. Its diffuse quality is also what gives it its power.

As such, my method for gaining access into a tiny sliver of this industry was to attend defense and security trade shows, where the culture of the global arms industry is created and sustained through professional networks, knowledge exchange, business deals, and reinforcement of shared ideologies. The challenge of conducting fieldwork in temporary spaces like trade shows is “both the necessity of ‘being there’”, engaging in many face-to-face interactions, while also placing those interactions and the trade shows themselves in the larger context of the global arms industry (cf. Høyer Leivestad & Nyqvist, 2017, p. 3).

Berkeley, my alma mater, serving as the genesis of my interest in the controlling processes of the global arms industry is almost poetic. The University of California, Berkeley is where the Manhattan Project, the group of scientists who would go on to develop the atomic bomb, was born.

Trade Shows: How Empty Halls Fuel Industries

Gaining access to the companies dominating the global arms industry is challenging given that one cannot simply walk into the headquarters of Lockheed Martin, the world’s largest arms manufacturer, and ask to speak to their marketing department. My credentials as a student of cultural anthropology would not have gotten me far, unfortunately. However, in my own professional life I have attended a number of trade shows and professional conferences wherein people working in a given industry gather to network, sell products or services, and share
information. The defense and security industry has various professional groups that organize trade shows around the world, some of which make their exhibition spaces, wherein they display their latest products and technologies, open to the public.

Trade shows in particular provided a relatively easy entry point into the field because the employees who are exhibiting for their companies are there expecting to engage in conversation about the products or technologies on display. Høyer Leivestad and Nyqvist describe trade shows as: “…a place where collaborative ties are constructed; these provide means for trust to develop and mutual values and beliefs to become shared and institutionalized” (2017, p. 10). I was especially keen to see this institutionalization in action. These spaces are where industry professionals are with their people. This is the distinct culture that I wanted to observe; one with its own language, rules, norms, and structures.

Furthermore, Høyer Leivestad and Nyqvist “hold that the presentation and communication, marketing and negotiation of new industry-specific products and ideas at gatherings such as trade fairs and conferences are key moments in the formation of industries” (p. 2). To this I would add that these trade shows also serve to reinforce the structures that perpetuate this industry: chiefly among them is ideology and language. Additionally, the trade show space is the opportunity for the companies exhibiting to “show off” their latest products and technologies, not just to potential buyers, but to competitors as well. This “showing off” is inextricably linked to the elevation of scientific and technological innovation that is so prized among defense and security professionals. The “cool factor” of so many of these weapons and technologies was frequently part-and-parcel of the sales pitch.

Something else that stood out to me at the Orlando and Prague tradeshows was their banality. If it weren’t for the tanks, lasers and automatic weapons, I could have mistaken these spaces for any other large, professional industry gathering. The exhibit halls are cavernous, the ID badges ubiquitous, the booth swag abundant, the polite small talk predictable. But this made it all the more unsettling; that this sort of technology, weaponry, and capability was on display the same as wedding dresses, or Tupperware, or recreational vehicles. The mundanity of it all was eerie. More than once at the Orlando show while standing at a booth watching the application of surveillance equipment or laser technology, I heard passerby say under their breath “that’s some scary shit.”
Struggles in the Field

“Participant observation does not travel well up the social structure.”
–Hugh Gusterson

While accessing the physical space of these trade shows was relatively simple, navigating interactions with potential informants was less so. The obvious downside to engaging with people at their company booths was the fact that I was not a buyer for what they were selling. I also provided no useful connection within their industry network. This fact, once revealed, shut down conversation with a number of exhibitors from a variety of companies.

This was especially true at the trade show I attended in Orlando, Florida in April of 2018 whose focus was defense and commercial applications for the optics industry (cameras, crystals, lasers, etc.). There were many, many booths that displayed highly technical and scientific products that were completely foreign to me, making introductions and conversation difficult. There were many blank and confused stares exchanged. In other words, I could not speak their language.

To add to some of the difficulty in these spaces was the fact that I am a woman. The attendees and exhibitors at these trade shows are overwhelmingly male. At the Orlando show, I estimated the split to be 95% male, 5% female. In Prague at the Future Forces Forum in October 2018, there were noticeably more women, however the majority of them were, well, decorative. With the exception of the women I saw in the uniform of the Czech military, most of the rest were dressed in short skirts and low-cut tops serving flutes of champagne or holding automatic weapons. The juxtaposition of champagne being served at the same booth that was displaying that company’s latest iteration of its drone technology was curious.

As a civilian, I was unable to gain access to the trade shows that were specifically staged for uniformed members of the military, high ranking industry professionals, and politicians. Unfortunately, I also happened to be conducting my fieldwork in off-cycle years—the world’s largest defense trade shows take place every two years in places I would have loved to visit: Jordan, Dubai and Saudi Arabia. I contemplated visiting EDEX, the Egyptian Defense Expo, in December 2018 but was deterred by one of my informants (and my advisor!) who expressed concern for my safety traveling alone given the political uncertainty on the ground at the time of the conference.
In addition to my own participant observation at two trade shows for the defense and security industry, I supplemented this research with video analysis of other trade shows made by journalists or industry groups. This was less for hard data and more for seeing where similarities and differences were between the videos of trade shows and the ones I attended in person. Although I did gain some scandalous insight from a Vice Media journalist at the Special Operations Forces Exhibition in Jordan, who exposed the open secret among arms salespeople of maneuvering around export agreements, which is a practice that was confirmed by some of my informants (more on that later).

In total, I conducted six extended interviews that started out in person and included follow-ups over the phone or via email. Another half dozen or so short interviews were conducted in person while stopping at exhibitor booths during participant observation over four days while at the trade shows in Orlando, Florida and Prague, Czech Republic. Half of my informants from the extended interviews had served in their country’s military, while the other half were civilians who ended up in the larger defense and security industry through a variety of paths.

The downside with email follow-up is the fact that informants were more measured and thoughtful in their responses to my questions, whereas during in-person interviews, the conversational style I used allowed for more relaxed and less guarded answers. Naturally, my in-person interviews were more revealing of my informants’ visceral emotions. Even so, the contrasts end up providing some insight into this culture and where my informants see themselves in the larger milieu.

Lastly, despite my efforts, I was unable to secure any outside funding to support my fieldwork, which minimized the amount of travel I was able to do, therefore minimizing direct access to potential informants in the field.
The Context of the Global Arms Industry in the Twenty-First Century

“Warfare is a system in which the unwilling and the unready are just as firmly enmeshed as are the willing and the ready.”
—Margaret Mead, “The Psychology of Warless Man”, 1962

Before diving into the murky abyss of the global arms industry, I would like to explain the context. If, like all of my informants, you believe that humans are naturally prone to violence and therefore war, then violent conflict is a natural part of human existence, like our need to sleep or eat. While this assertion seems to bear out over the course of recorded history, the focus of this thesis will rest almost entirely in the post-9/11 global War on Terror context, with the development and use of nuclear weapons during WWII providing some poignant historical comparisons, especially as they relate to the controlling processes at work in that effort.

Although this thesis and my research are not focused exclusively on the United States, the context of this thesis does reside within “the domestic hegemony of U.S. militarism” (Cunningham, 2004) given the outsized influence and footprint U.S.-based weapons manufacturers and defense contractors have on the global stage. That footprint is made even more visible given the political power the United States wields globally, which is profoundly influenced by the industry itself (Klein, 2007). The War on Terror is distinct from other global conflicts (WWI, WWII, Cold War) in its feverish expansion in terms of technology, market, and scale. Western countries no longer fight territorially bounded enemies. In the words of President George W. Bush in an address to Congress just ten days after the 2001 attacks on the U.S.: “We will come together to give law enforcement the additional tools it needs to track down terror here at home. We will come together to strengthen our intelligence capabilities to know the plans of terrorists before they act and to find them before they strike” (Bush, 2001). This speech was a mandate for the defense and security industry to expand into arenas historically occupied by domestic law enforcement, and to grow exponentially, no matter the cost. The words of George W. Bush in that speech created the counterterror policies that laid the groundwork for the market explosion of defense and security products, and is responsible for the ways in which we understand war and conflict in a global context today.

The enemy in the War on Terror is everywhere and nowhere. Therefore, “Counterterror sets no conceptual or territorial limit to defense, scaling its problems up to the ultimate spatial
unit—the earth—while offering an unlimited call for resources to secure life, from the species to the population to the individual to the microbe” (Masco, 2014, p. 19). Counterterror takes on a distinctly offensive posture. The U.S. and its allies do not defend against terrorism, rather, they seek out terror. As such, counterterrorism in all its iterations becomes the process by which the culture of the defense and security industry is organized. In other words, Western culture has become oriented around terrorism—identifying it, finding it, eliminating it. Counterterrorism is the controlling process of the defense and security culture, and Western democratic culture to a growing extent.

Klein (2007) calls this current state the “disaster capitalism complex”—a global war fought on every level by private companies whose involvement is paid for with public money, with the unending mandate of protecting the U.S. homeland in perpetuity while eliminating all ‘evil’ abroad” (p. 12). Klein wrote her book, The Shock Doctrine: The Rise of Disaster Capitalism, more than a decade ago when the War on Terror was raging at a fever pitch with U.S.-led military campaigns in Iraq and Afghanistan, and its public support was in precipitous decline. Today, the War on Terror feels far less discrete; its aims are less discriminate, and it has become hard to distinguish it from any other conflict the U.S. or its allies are engaged in. In other words, it’s normal. It has become the white noise in the background of everyday life; the low din of indistinguishable conversation in a crowded restaurant; the tick-tock of the clock that you do not notice unless you listen for it.

The disaster capitalism complex exists because the globe is assumed and understood, without question, to be an inherently fragmented space of markedly different countries, societies and cultures. However, paradoxically, the disaster capitalism complex (i.e. the defense and security industry) operates in a world in which it can simultaneously exploit borders and ignore them. To corporations that make up the defense and security industry, the globe is borderless for purposes of market, yet fully bordered for purposes of profit.
The focus of my research was not exclusively on the arms industry of the United States; however, because U.S.-based weapons manufacturers/exporters far outpace every other country’s arms exporters on the planet in sales of weapons and technology, the United States looms large in this sector and in my research and analysis. In 2018 the U.S. military budget reached $649 billion. The next largest military budget was China at $250 billion (Stockholm International Peace Research Institute, 2019).

Interestingly, while the total spending on defense has increased, especially in the past decade, the total number of personnel serving in all branches of the U.S. military has decreased. In 1990 at the start of the Gulf War, the active-duty force was 2,065,597 strong. As of March 2019, there were a total of 1,344,398 active-duty personnel, a decrease of nearly 35% (Defense Manpower Data Center, U.S. Department of Defense, 2019). In terms of numbers of soldiers, China has the largest standing army in the world with 2,138,000 soldiers, followed by India and the U.S., respectively (Global Fire Power, 2019).

As was confirmed by several of my informants, there has been a noticeable shift in focus within the industry, with more research and resources going toward developing technology that requires very few or no military personnel to operate.

Given this shift, it is no surprise that the industry that supports the U.S. military and other foreign militaries via arms sales, employs over 2.5 million people in the United States alone. The industry accounts for 20% of the total manufacturing jobs in the United States (Aerospace Industries Association, 2019).

Beginning with the development of nuclear weapons technology, especially, defense solutions have been burnished with a scientific patina, elevating and demarcating weapons development to the scientific realm. This demarcation was made visually clear at the defense and security trade shows, where soldiers were described as “systems” and the components that support weaponry are described in highly-technical and intricate language, therefore creating a knowledge barrier between the lay person and the scientists and engineers working within the industry.

Whereas the threat of nuclear annihilation during the Cold War that loomed large within the Western psyche was bounded by the physicality of a nuclear warhead and the stunning
visual of the mushroom cloud, the threat of terrorism is notably different. Terrorism and terrorist acts are ill-defined, seemingly coming out of nowhere and perpetuated by lone actors in many cases, making their destructive potential an imaginative pursuit (Whitehead & Finnström, 2013). In order to combat the often crude, rudimentary, “low-tech” weapons of terrorism, the defense and security industry “need to ensure military technological overmatch in order to maintain adequate deterrent capability” (Department of Defense, 2018). A general sense of insecurity permeates the space of the defense and security industry wherein arguments for increasing budgets, investments into ever more powerful and innovative weaponry, and inconvenient questions around the ethics of that weaponry inevitably lead back to: “if we don’t do it, the enemy will”.

At the trade shows I attended in Orlando, Florida and Prague, this industry that operates in a global context was shrunk to fit into the size of an event center. “Military technological overmatch” was on full display at both trade shows. The Prague show, which was titled “Future Forces Forum”, hosted displays of actual weaponry and on-the-ground machinery, such as tanks, armored vehicles and battle helicopters. The Orlando show, entitled “S.P.I.E. Defense & Commercial Sensing” was focused on the underlying technology, specifically the optical technology, being developed to support weapons systems and other military machinery, in addition to security technology used by commercial business and governments.

During my research and fieldwork, I saw primarily three controlling processes at work, which informed my analysis of what I witnessed:

- The industry’s culturally specific language; a barrier built with syntax, preventing both entry from outsiders and exit by insiders, allowing for institutionalized insanity to set in while also legitimizing the business pursuits of these companies as normal and acceptable.

- The scientific pursuit and technology itself, supported and maintained by the exalted position the pursuit of science holds in Western society, and the assumption that technological innovation is always an intellectual and noble pursuit, which is critical to the industry’s survival.

- The ideologies of Western liberal democracy that buttresses the industry; defined primarily by insecurity, assumed moral authority, and neoliberal capitalism/short-term self-interest (Nader, 1997).
The Language of the Defense & Security Industry

“The inflated style [of language] is itself a kind of euphemism. A mass of Latin words fall upon the facts like soft snow, blurring the outlines and covering up all the details.”

“The great enemy of clear language is insincerity. When there is a gap between one’s real and one’s declared aims, one turns as if it were instinctively to long words and exhausted idioms, like a cuttlefish squirting out ink.”

– George Orwell, “Politics and the English Language”, 1946

The Influence of Language on Thought, Perception and Behavior

A defining feature of any culture is its language. Anthropology has always been concerned with the ways in which cultures express themselves, so much so in the American tradition that linguistics is an entire subfield of anthropology. Joseph Sapir and Benjamin Whorf, linguistic anthropologists, developed the “The Sapir-Whorf Hypothesis”, a theory of linguistic determinism that says a person’s language (their culture’s language) determines the contours of their worldview. In other words, a person’s experience of their world is directly influenced by the syntax through which they can describe/think about it. Given that this hypothesis was developed in the first half of the twentieth century, there has been plenty of scholarly study conducted since to poke holes in it. However, there is some merit to this hypothesis, especially when applied to a highly structured and hierarchical culture like the defense and security industry. As Sapir argued, “the ‘real world’ is to a large extent unconsciously built up on the language habits of the group…We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation” (Hussein, 2012, p. 643).

Therefore, I begin my ethnographic analysis with one of the foundational features of the defense and security industry: its unique language. As I will show throughout, the language used to describe technology and conflict scenarios expresses a disconnect between the everyday lived experience of working in the industry, and the destructive and oftentimes gruesome end result of that work. No one I spoke to either during formal interviews or casual conversation, unless pressed, used language that plainly described the technology they were selling. Bombs do not kill people, they “eliminate targets”. The patterns on the earth left after
a bomb explodes are “footprints”. Bombs are not even bombs, but “reentry vehicles” or “RVs” for short; they are not dropped, but “delivered”. The death of an unintended “target” isn’t death at all, but “collateral damage”. Missiles are euphemistically named “Peacekeeper”, “Sparrow”, “Javelin”, and “Patriot”. The first atomic bomb was called “the gadget” by the scientists who built it. And perhaps one of the most upsetting and unsettling expressions in the industry and military is “friendly fire”, when a soldier is accidentally killed by his own fellow soldiers. Cohn (1987), in her study of the language of defense intellectuals, refers to this type of language as “‘technostrategic’ to represent the intertwined, inextricable nature of technological and nuclear strategic thinking” (p. 690). In other words, the language removes the human and focuses only on the technology.

Cohn was conducting her research during the tail end of the Cold War when nuclear war seemed imminent and Western powers had been stockpiling nuclear warheads for decades, like white-haired retirees stuffing their purses at a Las Vegas buffet. Based on my observations, the characterization of defense and security language as “technostrategic”, is even more applicable and the language even more euphemistic and convoluted, as the industry has been allowed to expand its reach well beyond defending the homeland, into the everyday lived experiences of people around the world.

Practically speaking, technology, whether guiding a “smart weapon” or driving your kids to soccer practice, must be described in broadly appealing terms because its applications are so varied. Or as one of my informants Mike Burke, former Director of Attack Helicopter Business Development at Boeing and retired Brigadier General U.S. Army, said “You don’t sell the technology; you sell the capability”. Mike is also my uncle on my father’s side, the eldest of six children, and the inspiration for this thesis.

Mike recounted his sales pitch to his Taiwanese counterpart in which he painted a picture of Chinese intimidation on the East China Sea. The apaches that Mike was selling allow for the pilots to view the “third dimension of the battlefield—air space” with onboard technology that allowed the pilots to “see” their targets before their targets would ever realize. The language of his sales pitch was compelling enough to net him a sale of twenty-one apaches. It’s worth noting that in 2014, the unit cost of one Apache, the AH-64 E, was $35 million.

On the one hand, this is practical from a purely business standpoint. If the technology has many applications, then of course salespeople want to speak in broadly appealing terms. Mike’s sales pitch was personalized to the unique political and security circumstances of Taiwan. However, in the exhibition halls of defense and security trade shows, the language used is far from personalized. In the marketing literature and in speaking to salespeople at their
conference booths, the language used is oblique. No one, at least to me, was speaking in plain language about what these weapons and technologies that support them actually do when deployed in conflict. The one exception was a conversation I heard as I slowly walked up and down the exhibitor aisles at the S.P.I.E. trade show in Orlando. This trade show was taking place in April 2018. The war in Syria was regularly in the news. As I passed by the II-VI Optical Systems booth, I overheard one of the men say, “The way I would solve this Syria thing is just get one of my sensors, stick it on a drone and fly it in there”.

At the L3 Technologies booth at the S.P.I.E. trade show large television screens played the marketing video for their sensor technology on a loop. Accompanied by images of helicopters, aircraft carriers, and drones, the voiceover declared that the sensors were at work “securing the world’s borders”, “protecting critical assets”, providing “continual situational awareness” and “long range persistent surveillance”, and last but not least, their sensing technology was “enhancing weapon effectiveness”.

Again, the relative vagueness of this language means that it can be applied to many different scenarios to meet a customer’s needs. The proliferation of defense and security technology into the civilian space is evidence of this fact. However, this language also serves to create vagary around what some of these tools will eventually be used for and serves to create distance between a mundane sales pitch and ultimate reality; it creates cover for those engaged in this business (Cohn, 1987). The marketing material and salespeople don’t have to say, “This laser guidance will help your missile kill more people”, rather they can say “This laser will enhance your weapon’s effectiveness”. The customer, whomever they are, are allowed to draw their own conclusions.

This sanitized language serves to filter or screen reality and influences the way in which the technology and the industry is perceived by the people within it (Cohn, 1987). Ultimately, as argued by Sapir and Whorf, language “is neutral but gets in the way, imposing habits of both looking and thinking” (Hussein, 2012, p. 644). Indeed, in Cohn’s fieldwork experience, she argues that “learning the language [of the defense industry] is a transformative, rather than an additive, process. When you choose to learn it, you enter a new mode of thinking—a mode of thinking not only about weapons but also, de facto, about military and political power and about the relationship between human ends and technological means” (p. 716). She goes on to lament this fact as it relates to countering the hegemony that exists in weapons and defense policymaking. “If we refuse to learn the language, we are virtually guaranteed that our voices will remain outside the ‘politically relevant’ spectrum of opinion. Yet, if we do learn and speak it, we not only severely limit what we can say but we also invite the transformation, the
militarization, of our own thinking” (p. 716). When inured in this space, military “solutions” come to mind first. An influx of asylum seekers at a border is not a humanitarian crisis, but a security crisis. Terrorist attacks at home do not spur calls for education and prevention, but for increased surveillance, fearmongering and othering. As such, those who are fully entrenched in this defense and security space “favor, or rely on, military responses to ‘solve’ the complex problems of the world,” thereby reinforcing the processes of control imposed on and by the culture (Cunningham, 2004, pp. 553-4) (Nader, 1997).

This language (and thought) barrier played itself out in one of two ways during my fieldwork: it either A) prevented me from connecting with potential informants because it was clear that I was not one of them, or B) it allowed for some frank conversations about the reality of the business in which my informants are engaged. “Most people don’t have these conversations,” Pat Lane, my informant who works as an engineer for AGM Container Controls in Arizona told me. He and his colleague had joined me at my lunch table, away from the exhibit hall, among the lush greenery of the Disney World-adjacent resort at which the trade show was taking place. The odd juxtaposition of Mickey Mouse and missiles was not lost on me as these men complained about the organization of the conference and the general annoyance of having to attend these functions in the first place. Listening to their complaints also reminded me of the banality of the industry—it’s virtually no different than if these men were at a conference to sell time shares or Tupperware.

At the Leonardo booth, an Italian defense company among the top ten in the world, in Prague, I spotted their newest UAV that was developed in coordination with LIAZ, a Czech aerospace company. Called “Skyspotter” it was perched ominously atop its command center, which was a metal box about half the size of a train car, containing the drone’s control station. It is noticeably smaller than other drones, like the Predator or Reaper. As I sat at the control station, joystick in hand, I experienced a simulation of the Skyspotter in action. The joystick controlled the travel of the drone which was represented by crosshairs on the screen. I was “flying” above the conference center at which the Future Forces Forum was taking place. The main feature of this particular drone is that it is “fully autonomous and self-sufficient”. The marketing literature at the booth provided examples of its “applications”. Under its
“Rescue Application”, the Skyspotter’s capabilities could provide: “Monitoring/tracking of collective events (demonstrations, sports events); Disconnect/interrupt the mobile signal; Police control; Identification and search or persons, registration/monitoring of foreigners/immigrants”.

The salesman hovered curiously asking questions about my industry, which I tried my best to avoid answering. At one point he asked, “What is your business?”, to which I answered, “Can the Skyspotter be weaponized?” Without missing a beat, he answered “Yes, whatever the customer needs.”

The drone is characterized as a humanitarian weapon; one of surgical precision that, while killing also minimizes killing. So then destructive weapons are sold both for their ability to destroy life and property, and ability to preserve life and property, and ability to surveil life and property. Referring to the drone operations in foreign countries that began after 9/11, the Bush administration named them “overseas contingency operations”. This name has stuck and is memorialized as a budget line item in the annual United States defense budget.

The oblique nature of this language smooths the rougher, sharper edges of the end results of technology and weaponry; it becomes completely normalized in the spaces of trade shows and entirely undramatic (Nader, 1997). The language also serves another function: to remove its speakers from the position of victim. Technostrategic language, as Cohn (1987) calls it, only speaks to the user perspective. “Thus, speaking the expert language not only offers distance, a feeling of control, and an alternative focus for one’s energies; it also offers escape—escape from thinking of oneself as a victim of…war” (p. 706). To not use the language of this culture while speaking to its members would be a jarring experience for those entrenched within it.
And that’s the point of controlling processes; they are not recognized as such. The control and influence is diffuse rather than singularly recognizable, as in the form of a military command, government directive, or boot on your neck. “It enters the minds of participants across temporal and spatial boundaries” (p. 702) therefore taking on the characteristics of a natural order. However, as an outsider, one whom had never served in the military and was wholly unfamiliar with the business of weapons, I was able to point out the obvious oddness at work.

This is a main feature of culture though, right? When you are part of it, fully entrenched in its rules and norms and language, none of it feels off or out of the ordinary. Rather, it is ordinary. It is not until a person or circumstance rattles you off of your cultural foundation that you are, sometimes, able to adjust your perspective. The intersubjective nature of fieldwork allowed for this to play out during some of my interactions with informants.

In these interactions one can see Bourdieu’s “logic of practice” play out: “the ways in which people interacting in social settings co-construct the realities they inhabit by means of habituated and socially ratified modes of thought and action adjust to specific social fields” (Blommaert, 2015, p. 5). Especially in the space of the trade show, participants are very much aware and bound to the predetermined rules of engagement. While these trade shows are gatherings of industry professionals, they are also social spaces wherein “participants share information, establish patterns of domination, and create mutual awareness of a common enterprise” (Høyer Leivestad & Nyqvist, 2017, p. 6). By adhering to these rules, everyone at once is constantly reproducing established hierarchies and thereby reifying the culture.

The co-constructed realities, Bourdieu argues are made possible, and perpetuated, through the use of language: “…although it is legitimate to treat social relations—even relations of domination—as symbolic interactions, that is, as relations of communication implying cognition and recognition, one must not forget that relations of communication par excellence—linguistic exchanges—are also relations of symbolic power in which the power relations between speakers or their respective groups are actualized” (1991, p. 37).

The language of the defense and security industry is a language of power, both figuratively and quite literally. The people entrenched in this culture are also entrenched in a complicated hierarchy of power relations that is reflected in their use of language, by the simple fact that they speak its language. Even more to the point, tangible, rather than symbolic, power is displayed at defense and security trade shows. The two full-sized tanks on display at the BAE Systems booth in Prague were a literal show of power. As such, the defense and security
industry within the space of trade shows, are arenas in which both symbolic power and tangible power converge to reaffirm the influence of the industry itself.

Further, the carefully coded and obscured words used to describe the weapons, their purposes and their results, precludes everyone in this industry from speaking in frank terms. A particularly stomach-churning example of the language of the defense industry’s ability to sanitize the horrors it imposes is illustrated in Masco’s (2006) description of a scene from a Department of Defense video documenting nuclear blast tests in the Nevada desert in 1957. The Department of Defense, in order to test blast injuries and radiation burns, placed

710 pigs in open pens and in small open-faced boxes placed at various distances behind sheets of glass. The experiment exposed one group of pigs to radiation effects, while creating shrapnel injuries in others, of the kind soldiers might experience in a nuclear strike. Shot Priscilla [the name of the experiment] was a failure in the biomedical arena due to the nearly 100 percent fatality rate caused by ‘mechanical injury to the organism’ and ‘massive radiation’ exposure (p. 309).

Out of morbid fascination, I searched “Shot Priscilla” on YouTube. The emotionally void and scientific language of the video’s narrator, in which the pigs are described as “instruments”, belies the actual chaos of nuclear experiments, which is to say nothing of the actual chaos of nuclear war (or war in general, for that matter). The narrator’s clinical language is a sort of absurd juxtaposition to the “post-explosion scenes of technicians in white anticontamination suits and ventilators trying to round up the visibly wounded and dying animals” (p. 309).

As we can see from the example in Masco’s work, the obscuring of language by the defense community has been around for quite some time. For those working within the industry, the process of learning the language is itself part of the controlling processes that abstract the speaker from the reality of their work (Nader, 1997; Cohn, 1987).

In a contemporary example, Ben Rhodes, former Deputy National Security Advisor during the Obama administration spoke about the problem of using vague language when talking about conflict:

There’s a danger to this. You sit in the Situation Room and this jargon is thrown around: ‘limited military strike’, ‘kinetic military action’, that does kind of obscure the human consequences of this, and we do fall prey to it…We all need to change the way we talk about this because there’s something sanitizing about, ya know, ‘limited strike’, ‘targeted strike’,
‘limited kinetic military action’—no—you’re either engaged in an act of war or you’re not (Rhodes, 2019).

The Sapir-Whorf Hypothesis states that reality is a construction shaped by language. Whichever language is available to you inevitably influences the reality you experience.

“Ya know what, if you’re using euphemism, you’re wrong, you’re standing on unsolid ground. It’s a war. If you’re going to take a strike that kills people, you’re engaging in an act of war, and that’s what we should call it” (Rhodes, 2019).

**Autonomous Is as Autonomous Does**

At the Future Forces Forum in Prague I attended a panel discussion on the ethics of drone warfare and the ethical implications of using autonomous weapons systems, which are a fast-emerging sector within the defense and security industry.

The panel discussion took place in a separate building from the exhibition hall where the companies were displaying their products, but on the same sprawling, non-descript property at the last metro stop on Prague city’s transit line. The building was a large warehouse with concrete floors. There were a number of panels taking place simultaneously. Groups were separated by green and brown camouflage netting hanging from what appeared to be curtain rods. The smell inside the building was overwhelming, a mixture of gasoline fumes and freshly-made rubber. We were all given headphones with handheld radio receivers and were instructed to tune to the specific channel on which the audio of the panel discussion would be broadcast. For a solid ten minutes, the panel moderator, a Czech television journalist, was berating the audio guy in Czech while he was trying to overcome the technical difficulties of this decidedly low-tech listening instrument.

The discussion finally started, and as I sat quietly in the back row listening to a dozen panelists argue over each other about the importance of proper programming in autonomous weapons, a participant on the panel stated that there was no clear and accepted definition of what “autonomous” means and no international law regulating the use of drones or similar autonomous systems. Panel speaker Commander William Straus, U.S. Navy, Concept Development Branch of NATO SACT, explained that NATO was not developing laws on the use of drones, but instead simply monitoring what countries were doing at the local level. The Head of Dispute Resolution (i.e. lawyer) at Kinstellar’s, an international law firm, raised the question of liability. Who is liable for the action taken by an autonomous system? In the use
of drones, liability is distributed because there exists a command structure through which the decision to engage in a drone strike flows. However, to whom should liability be assigned when the actions are taken by a robot? Kučera was raising the issue of responsibility and the need for international law to be established, but at the heart of his question is the urgency to define exactly what an autonomous weapons system even is. If there are no laws to define the weapons and how they can and cannot be used, there is the risk of current and future warzones becoming a sort of Wild West of combat. Although, there has been anecdotal evidence revealed in interviews with former drone operators that this is already very much the reality in the case of drone warfare at least.

General Matyáš Novák, former Chairman of the NATO Military Committee, who resembled the 1980s Hollywood interpretation of a 1950s Soviet general, sort of glossed over this fact to instead impress upon the audience the urgency of developing autonomous weapons: “If Amazon can deliver door-to-door, then the enemies can, too”.

Novák’s comment reveals the fundamental insecurity at the heart of weapons development and the defense industry generally. To be clear, the defense industry is highly motivated by the ever-increasing revenue streams guaranteed by regular and sustained conflict, but Novák gets at the outward-facing motivation. No marketing literature or competent salesman would ever say: the company is developing such-and-such technology because it will make us boatloads of money in defense contracts, however true it might be. Rather, the existence of the defense and security industry and all the smaller industries that crop up to support it, rely heavily on emotional appeals and the maintenance of insecure society. It’s an interesting paradox: the defense and security industry exists to defend and secure, but also needs “us” to always feel insecure to justify its existence, therefore never fulfilling its defend-and-secure mandate.

This was illustrated in a literal illustration at a booth in Orlando. The background of the booth was a picture of soldiers in nondescript fatigues charging toward an awaiting helicopter, weapons in hand. The text that was overlaying the image stated, simply “We protect our troops”. As an American I reflexively made the assumption that “our troops” meant American troops. However, when I approached the booth and started speaking to the salesman, I learned that the company was based in France. I sarcastically asked, “So do you protect anyone else’s troops?” He laughed and said, “We will protect anyone’s troops.”

I walked past another booth in Orlando whose backdrop featured a desert landscape with tall mountains. In the scene there was a soldier standing next to a tank. In the distance was a man in traditional Afghan dress wearing a turban and holding a rifle. The company was
Pranalytica, which makes quantum cascade lasers and trace gas sensors. The salesman, a sixty-something heavy set man with white hair, tried explaining the technology to me. I nodded like I understood, but I really had no idea what he was talking about. It all sounded rather abstract to me. I think he could sense my ignorance and so demonstrated the laser’s capability by placing his business card in front of the device, burning a hole through the card. I then asked him how he felt about the work he does and the technology he helps make and sell, to which he responded: “If it keeps the soldiers safe, then it’s good.” He followed up his comment by telling me that the founder of the company, invented the carbon dioxide laser in the early 1960s, which also has applications in the surgical field. Additionally, he is the recipient of the National Medal of Science and is Professor Emeritus of Experimental Condensed Matter in the Physics and Astronomy department at University of California, Los Angeles. While the gentleman did not explicitly say this, I got the impression that his telling me of all of the founder’s accolades was to ground their company and its pursuits in the name of science. Science as a force for good, if you will. Science that will “keep the soldiers safe”. Meanwhile, the founder was also at the booth engaged in a conversation of which I only understood the adverbs.

I heard similar refrains in Prague and throughout marketing literature and interviews. Keeping soldiers, and by extension “us”, safe through technology and scientific innovation is always a worthy cause—worthy of scientific focus and certainly worthy of investment by governments, i.e. taxpayers. These ideas repeat throughout the culture because of their staying power; their ability to imbed themselves into the professional consciousness of the people working in this industry, but also their ability to become normal for “us”. These refrains are controlling processes in themselves in that they combine the “problem” of dead soldiers (and by extension “us”) with the “solution” of whatever it is they’re selling and/or developing (Nader, 1997).

At the Prague discussion panel, most participants kept returning to the same basic argument in favor of the use of drones and the development of autonomous weapons systems, which can be summed up thusly: If we don’t develop these weapons, the enemy will. This is not new or unique to this particular historical moment. This same rationale was used during WWII to develop the atomic bomb in the United States under the Defense Department’s Manhattan Project.

The imminent threat—the insecurity—embedded in “if we don’t do it, they will” pushes the industry to seek out novel and creative ways of killing the enemy. It also serves as the sometimes unsubstantiated or overly-massaged justification that legitimizes continual
investment in defense and security by governments, persuading the public to “know” that it is paramount to all other pursuits—presents “a potentially eternal project for the security state” (Masco, 2014, p. 14).

So, the lack of definition around autonomous weapons, and even drones, presents an opportunity for industry. Without a clear definition, the industry can define it for its own benefit. Sitting in a Pei Wei restaurant in Orlando, I ask Mike Burke about the seeming inevitability of using robots in conflicts. Mike explained that using robots to support a mission, as in for example a mule capacity wherein the robot would carry necessary equipment for soldiers, is acceptable and, in fact, would make soldiers in the field more agile. However, he stated emphatically that “robots should not be used to actually fight wars”. Further, he said that if a conflict is not worth using real, live human soldiers, it would be “immoral” to use autonomous soldiers. If there is a soldier sitting in an air-conditioned building outside of Las Vegas controlling a robot soldier in Pakistan or Yemen that is regularly adjusting and updating its movements via machine learning, is that an autonomous weapon? It’s anybody’s definition at this point.

A Discourse of Legitimation

What has not been mentioned yet but is essential to remember when listening to panel discussions or interfacing with salesmen at these trade shows, is that the language being used, while often vague and opaque, is also a language of legitimation. The trade shows are primarily held to market products and services of the specified industry, but they are also spaces in which industries are made real and legitimate (Høyer Leivestad & Nyqvist, 2017). That I was able to enter these spaces with no affiliation to any of the companies or their customers speaks to their success in legitimizing the business of war as normal. The language with which many of these products and technologies are marketed—“applications”, “solutions”, “efficient”, “cost-effective”—can be applied to any other product, service or technology as far removed from the defense and security industry as kitchen appliances or dog toys. Which is the point. The language enters the discursive lathe and gets spit out the other side with its sharp edges smoothed over.

Business deals and sales between companies and customers are done mostly out in the open, and often with much fanfare as has been the case with recent high-priced weapons sales to Saudi Arabia. Weapons agreements and contracts are announced to the public in newspapers, industry journals, and press releases. The United States Department of Defense
officially announces its strategies in terms of weapons acquisition, research and development, budget, and security focus, in a public document available for anyone with an internet connection to read. When these acts are presented to the public, they take on an objective and altruistic patina, with the resulting assumption by the public that their government and the businesses with which they engage to ensure “security”, have nothing to hide. The extension of this legitimation is the production of certain truths—Western democracies require a robust security apparatus (weapons manufacturers + military + government) to maintain security. Underlying this truth is another—that Western democracies are fundamentally insecure. Nader calls this the “controlling processes of empire” (2012, p. 117).

Chamayou (2015) argues that the language used by arms manufacturers, sales people and military personnel is part of a “discourse of legitimation”, in which their words are “recycled, through the crude process of discursive alchemy, into the guiding principles of an ethical philosophy of a new kind: necro-ethics” (2015, p. 17).

In the space of the trade shows, this discourse of legitimation is made visible. The ritualization and decorations that are hallmarks of all trade shows—the attendee badges, booth swag, networking cocktail mixers, cavernous event halls at sprawling hotels and resorts, middle-aged men in dark blue business suits, polite small talk—serve to legitimate the industry in such a way that these gatherings, if it weren’t for the guns, tanks, and lasers on display, could be any other legitimate gathering of professionals. Høyer Leivestad and Nyqvist (2017) note that the repeating hallmarks of trade shows mentioned above are not so much rituals as ritualizations. The badges, the swag, the mixers are performing as rituals without being rituals in the strict sense. As such, the defense and security industry becomes folded in with every other legitimate capitalistic enterprise, legitimizing its own capitalistic pursuits through standardized ritualizations seen in the overall business world. By extension, the industry’s products become socially and politically acceptable—legitimized (Chamayou, 2015).

As I was leaving the last day of the Orlando trade show, I passed by one last exhibitor booth. The company was Thermal Matrix. Its booth was small and just one person was sitting patiently behind its table, DeAngelo Adams, the company’s Technical Support Manager. I decided to stop at this booth because the display caught my attention. In the expansive space of the event hall full of booths featuring background displays of soldiers and weapons, or crystals and lasers, the Thermal Matrix booth was altogether bland, with the exception of its one image prominently on display: a school-aged child carrying a backpack illuminated by the red, yellow and orange psychedelic glow of a thermal imaging camera. The thermal image showed the outline of a gun.
“Wow”, I said. “That’s a bit startling.” DeAngelo chuckled. “That’s the world we live in” he said with a shrug in his voice, the verbalized version of the \_(_\(\,\)\)/\ emoticon. I ask if Thermal Matrix sells primarily to schools as security surveillance. He explains that no, not primarily to schools, however there is a market need for enhanced security in American schools given the depressing regularity of school-based shootings. He explains further that the company’s first customer was the United States Army in 2005 as part of its Operation Iraqi Freedom mission.

“That’s quite a leap isn’t it? U.S. Army to U.S. schools?” I ask. DeAngelo says, “We’re thinking about things no one else wants to think about.” He’s not wrong. The apparent uptick in violence generally in a global context is unsettling and upsetting to think about. Devising solutions for curbing violence is a monumental task, one involving self-reflection, collaboration and the acceptance of evidence that might be contradictory to one’s accepted worldview. Which is exactly where the culture of the defense and security industry does not live, rather this world is lacking in self-reflection and openness to contradictory facts. In this world, no matter the question, the answer is always a military-based solution. The technology and products Thermal Matrix sell got their start in the setting of a maximum show of force and violence in response to “terrorism”. The response to the threat of social violence in the “homeland” is treating the violence quite similarly to the threat of “terrorist” violence: as a truth whose only solution is elimination through more violence.

What is witnessed at trade shows like S.P.I.E. and the Futur or Forces Forum is the production of that truth. Foucault (1984) calls this “‘alethurgy’, the forms and rituals in which truth is manifested as part of the technique of government”. Of course, Foucault doesn’t only mean state government when he uses the term “government”, but also how we as subjects govern ourselves. Psychic violence delivered through constant surveillance, physical violence through an overreactive civilian police force, and of course, the uniquely American phenomena of weapons specifically made for war finding a home in the homeland. The harbinger of “terror” floats over Western society, sometimes made visible by actual acts of terrorist violence, but more often invisible in the feeling of generalized insecurity and fear. The highly-charged and conspiratorial rhetoric of terrorism has led to what Nader (2012) calls a “kind of political pathology and fantasy” that influences the behavior of those hearing its Siren Song.

So, while this research and my interactions were focused primarily on the defense and security industry, specifically as it relates to conflict in military settings, the Thermal Matrix booth was one of the countless reminders that the disaster capitalism complex is not bound to
historical concepts and understandings of war. Rather, it has reached its sticky grip into traditionally civilian spaces, thereby normalizing and legitimizing its presence as a reasonable solution to a growing list of social ills.
Science & Technology

The marketing of weapons systems and ancillary technologies takes on a contradictory quality: *These products are “cost-effective”*, but the companies promoting them and the governments purchasing them do not explain how they are cost-effective or as opposed to what. This is an especially curious claim when considering the breathtaking amount of money that countries allocate to their defense budgets. The United States alone spends more on defense than China, Russia, Saudi Arabia, India, France, United Kingdom, and Japan combined (Stockholm International Peace Research Institute, 2018). The United States Congress approved a defense budget for 2019 to the tune of $717 billion, $69 billion of which is allocated to “overseas contingency operations” (Congress of the United States Congressional Budget Office, 2019). In the course of my research, the only time I heard “cost-effective” framed, was when at the top of the panel discussion in Prague, the gentleman introducing the panel was talking about the benefits of using robots in place of soldiers, and ended with “Robots don’t have pensions; that’s good because you don’t have to support them for the rest of their lives.” There was an audible chuckle in the crowd. But “free wars”—free from costly interventions, free from costly bodily harm, “are more likely to be dumb wars. We should worry about how the absence of discernable consequences at home makes us more likely to casually bomb people” (Chamayou, 2015, p. 191).

There is also an assumption permeating the industry that technological advances will save lives. The unspoken yet understood meaning of *whose* lives is of course *our* lives, not *their* lives. This is often coupled with descriptions of weapons systems as “smart” and drones that carry out “surgical strikes”. Professor Axel reminded the panel discussants that “missing from these discussions is that we are not talking about casualties, collateral damage.”

The rhetoric of drone warfare, as discussed in the previous chapter, is framed in technological terms, again what Cohn (1987) calls “technostrategic”. Drone strikes are “surgical”. Drone warfare is presented to the public as precise, discriminate, even
“humanitarian” in that it simply targets and takes out “terrorists”. The defense and security industry “frequently suffer from ‘conventionalization’—the tendency of planners to think in the old, familiar terms of ‘conventional’ warfare” rather than recognizing and adjusting to the ways in which technology has changed warfare (Cohn, 1987, p. 619). Indeed, Professor Axel declared that “fundamentally [the use of drones] is revolutionary to warfighting.”

However, within the industry drones and emerging autonomous technologies are rarely framed this way and instead are framed as incredible innovations by the scientific and engineering communities. Each new weapon or technology is simply the next step in the natural, linear progression “to gain competitive military advantages” (Department of Defense, 2018).

A key feature of trade shows generally is to give the exhibitor the opportunity to show off, to brag about their product or service. As such, some of the booth displays were eye-catching, to say the least, like the BAE Systems booth in Prague displaying two full-sized camouflaged tanks, or CZ BR booth displaying of their line of automatic “battle rifles”. Or, in the words of my informant Bob Simon of Raytheon, “cool, cool stuff.”

The defense and security industry relies heavily on investment by governments into scientific research—especially in universities—to research and develop the highly technological platforms that support weapons and weapons systems (Lutz, 2010). The weapons and technologies on display are the fruits of much scientific imagination and engineering labor.

Western democracies put their faith in the intellectual pursuits of their smartest scientists to beat back the specter of fascism during WWII. Those scientists, operating on the same motivations at work today—fear and self-interest—produced the deadliest weapon in the history of mankind. Even after its arrival into the global consciousness, the West, at least, could rest a little easier (at least until the Cold War) knowing that “we” had the weapon, but the “enemy” didn’t (Else, 1980).
“In holding scientific research and discovery in respect, as we should, we must also be alert to the equal and opposite danger that public policy could itself become the captive of a scientific-technological elite” warned President Eisenhower in his farewell address to the American people (1961).

Science and the technology it produces is held in high respect at these trade shows and by corporations, governments and the public. Science is seen as the answer to so many troubling questions: cancer, climate change, obesity, AIDS, depression; the list goes on. “The excellence of science” and its ability to solve virtually any problem, “is assumed” (Feyerabend, 1982).

Nancy Scheper-Hughes (2014) argues that weapons are often ascribed magical powers. The stockpiling of automatic weapons, nuclear warheads, or autonomous weapons systems is the modern iteration of people throughout history using “magical clothing or salves or incantations” to protect themselves by fully investing their belief in the weapons’ “magical efficacy and invulnerability” (p. 647).

In the rhetoric of weapons manufacturers and the policymaking of Western democracies, we see the convergence of a faith in science to produce magical weapons and technologies to assuage our insecurities. The Department of Defense’s stated policy is to trust the capabilities of technology; favoring rapid deployment of new technologies without the drag produced by “risk-averse” behaviors like careful testing and reflection. However, as Thomas S. Kuhn, scientist-turned-philosopher warned, there are limits to scientific enterprise—“including the self-deceptions of scientific reasoning and the transience of seemingly eternal scientific belief systems” (Davidson, 2008).
“Terminator-style technology. It’s a little scary.”

My primary informant, retired Brigadier General (Army) Mike Burke, who after serving 33 years in the United States Army, went on to work for Lockheed Martin and Boeing, two of the world’s largest defense contractors, has strong opinions on the use of autonomous weapons (i.e. robots) in battle scenarios. “If it’s not worth putting soldiers on the ground, it would be immoral to use robots” in their place. In fact, my informants who had themselves been soldiers, all agreed with this sentiment.

Nearly all of my informants, when asked about the possibility of autonomous weapons in the field, said that human soldiers would never be completely replaced. However, the companies for which my informants work are actively pushing toward this future, steadily developing technologies and weapons systems that require less and less human input. Jean-François Magnan, Instructor/Field Service Representative for Rheinmettal, a Germany-based defense contractor marketing autonomous ground vehicles, told me flat out: “That’s what scares me—autonomous robots.” When I sat down with him and his colleague Artem Azbukin for an extended interview, they both framed their work in the defense industry as gatekeepers. They both lamented the fact that the engineers developing the weapons aren’t thinking about the long-range consequences of the technology they’re producing. I asked them why they thought this was the case. They both explained that they weren’t aware of any of the engineers working on emerging technologies having a military background, which means none of them were able to visualize the reality of a particular weapons’ use in the context of actual war. The closest these guys have ever gotten to war is through a video game, they lamented.

I asked what they thought their role was in this larger industry, especially as it relates to the development and deployment of fully-autonomous weapons. I pointed out the fact that we were seated right next to the company’s newest autonomous ground vehicle. “We prevent it from getting too far”. When I asked what would happen if they weren’t there, they just sort of shrugged their shoulders.

I asked one of my informants, Corey Brasel who currently works for Boeing in their Apache helicopter division and is also former military, about the developments of weapons and technologies that often sound like the indulgent imaginations of a science fiction writer. Corey explained:

With the advancements we see at a user or public level there are many layers of work being done that nobody will ever see or hear about. Even if or when we see what is possible to come
within the next decade of warfare, *we will already be accustomed by what we are seeing in the advancements on nearly a daily basis that it won’t seem too far-fetched*. Our military, especially the special forces units that aren’t normally publicized, is leading the way in battle testing new ideas, platforms, and techniques to keep the U.S. secure (emphasis mine).

According to Brasel, by the time robot soldiers are a reality, we will have already become accustomed to their presence in our lives and so their use in the battlefield will seem like a logical extension of the technology with which we are already familiar. Autonomous soldiers will be *normalized* parts of the larger military fighting force, and that ushers in a new floor of the hegemonic structures upon which the military and its ancillaries build the next generation of warfighting technologies. Christopher Lach (1977) calls this “the social transformation implicit in technological change”. In other words, the society, the culture, adjusts itself to new technological realities. It’s why people older than thirty-five have a difficult time remembering life *before* the advent of the internet and cell phones. What did everyone do before they could “Google it”?

For many of the participants on the panel in Prague, we are already living in a world where robots are a normal part of our lives. A participant on the panel referred to our cell phones as “tiny robots” that control our behavior. Another imagined the advantage of allies having access to and use of the data on “25 billion connected devices to simulate the future” and defend against those simulated threats. The unlimited collection of unlimited data is the emerging frontier in counterterrorism efforts; looking to machine learning to predict the behaviors of potential future “bad guys”.

In the 2018 summary of the U.S.’s National Defense Strategy, a key objective of the Joint Force (all military branches) is to “build a more lethal force”. One specific strategy to achieve this objective is through the use of “advanced autonomous systems. The Department will invest broadly in military application of autonomy, artificial intelligence, and machine learning, *including rapid application of commercial breakthroughs*, to gain competitive military advantages” (emphasis mine) (Department of Defense, 2018, p. 7).

The implication in the Summary and the comments by the panel participants is that the rapid deployment of new technology and scientific innovation is always a good thing. It is a sign of *progress*. More technology = progress. More technology = safe. More technology = strategic advantage over enemies. “We must not accept cumbersome approval chains, wasteful application of resources in uncompetitive spaces, or overly risk-averse thinking that impedes change” (Department of Defense, 2018, p. 10).
The Summary advocates for the rapid deployment of new technologies without the historical—“cumbersome”—process through which weapons or technologies have been tested and assessed before their use in the battlefield. This begs the question: what are the implications of not assessing these technologies? Or more broadly, what is the end game here? The assumptions made in the Summary and by the industry more generally is that scientific development of newer and “cooler” technology is always moving in a desirable direction. But this is impossible to know (Bury, 1932).

At the Orlando trade show, I attended a presentation given by Mike Robinson of JENOPTIK Optical Systems entitled “Emerging Applications of LiDAR”, which stands for Light Detection and Ranging. The best ways I’ve heard LiDAR described is like echolocation, but with lasers. After giving a brief history of the company, noting that it was in 1975 that the company first developed a “laser range finder for the military to locate man-sized targets”, Mr. Robinson started going through a list of “emerging markets” for the use of LiDAR. Among them were its use in conjunction with drones to monitor power and oil lines, in robotics for materials handling, in automation for things like railyard train sorting, for tracking productivity in construction, for land surveying in agriculture, for archaeological research with its “canopy penetrating laser”, and lastly for border protection to surveil large areas and provide vehicle scans at border crossings. In other words, there are a lot of applications for LiDAR in civilian, commercial and military settings.

He also spoke to its challenges. LiDAR is being used in the testing of autonomous driving vehicles in collaboration with Uber, the ridesharing app. Mr. Robinson explained that, even though this technology has so much potential, there are still some kinks to work out, most importantly “object classification”. In its testing phase, the Uber car that was autonomously driving using LiDAR struck and killed a bicyclist.

The Department of Defense is already assuming that these new technologies, whatever they might be, are valid, useful, and safe to the user in the battlefield (however they define that). The assumption in the Department of Defense Summary is that the companies creating the technology will also take care of the “cumbersome” process of testing the safety of their products. They are effectively outsourcing responsibility for ensuring the applicability and safety of the products and technologies that are being produced. Given the extensive list of applications for just this one example of a technology that will surely be deployed, is this a reasonable assumption?

The panel discussion in Prague was ostensibly about the ethics of autonomous weapons; one could be forgiven for assuming this discussion was happening before their deployment in
conflict scenarios. However, drones and similar technologies have been in use for nearly twenty years; the first use by the United States being in Afghanistan in 2001 in a botched attempt to “eliminate” then-Taliban leader Mullah Omar (Woods, 2015).

An attendee at the panel discussion in Prague, a lawyer in humanitarian law, asked during the question and answer portion, “Where do the ethics [of autonomous weapons use] come from and who should be engaged—the stakeholders or the end users?” Bill Axel, Professor in Integrative Computing at the Georgia Institute of Technology in the United States, suggested an international commission to address the ethics of autonomous weapons use, citing drones as a good test case of the Martens Clause, which states: “in cases not covered by the law in force, the human person remains under the protection of the principles of humanity and the dictates of the public conscience” (Geneva Academy of International Humanitarian Law and Human Rights, 2017). The lawyer reminded the panel that the Geneva Conventions as we recognize them today, of which the Martens Clause is a part, came after WWII. There was not even an agreed-upon definition of autonomous weapon; how could their ethical use be interrogated?

At the start of the panel discussion the person introducing the topic began by talking about how we have already accepted robots into our daily lives, citing the Roomba vacuum cleaners in our living rooms and super computers in our pockets. There were very few moments during the panel wherein the people on the receiving end of autonomous weapons, drones especially, were given consideration. In every case, the problems of “collateral damage” or other unintended consequences were used as proof points for the need for further investment into making these weapons more advanced; the lack of “precision” of these drones that are emphatically characterized as “precision weapons” was used as evidence that more technological innovation was needed.

Even while espousing the need to consider the casualties caused by weapons like drones, Professor Azel said, “Fear underlies much of the discussion [about autonomous weapons]. Lethal autonomous weapons are inevitable. Can we reduce the frailty associated with human decision-making? This technology should move forward.”

The assumption in the Department of Defense Summary and of the participants on the panel discussion is that scientific and technological progress is linear and therefore gets better regardless of context. This assumption is reminiscent of early anthropological arguments, that culture and society develop linearly; progressing on a set scale from primitive to civilized. Progress in defense and security culture, and Western culture by extension, is a controlling process. We must progress in our warfighting methods because we are civilized. The assumed
opposite is atrophy. Or as Liam O’Sullivan, the Chief Scientist of the Science and Technology Organization within NATO put it: “There’s a greater risk if we don’t develop this technology. If we don’t, then our enemies will, then we’ll be behind”.

It is worth remembering is that this is not a new phenomenon. The same sort of rhetoric was present during the development of the first nuclear weapon. The rush to stay ahead of Germany required the convergence of hundreds of incredibly intelligent physicists and engineers, paired with the near-limitless budget of a United States government convinced that the Western world was facing an existential threat.

Robert Wilson, an American physicist who worked on the Manhattan Project recalled:

I would like to think now that I, at the time of the German defeat, that I would have stopped and thought it all over very carefully, and that I would have walked away from Los Alamos at that time, and in terms of everything that I believe in, before and during and after the war, I cannot understand why I did not take that and make that act. On the other hand, it simply was not in the air. I do not know of a single instance of anyone who made that suggestion or who did leave at the time…it was just something that was not part of our lives. Our life was directed to do one thing, as though we had been programmed to do that and we, as automatons, were doing it (Else, 1980).

Reliance on scientific endeavors to solve the problems of Nazi Germany, Soviet Russia, terrorism or other “enemies” becomes a mindset that controls the parameters by which the defense and security industry frame its solutions and organize its thoughts (Nader, 1996). It is groupthink at its most basic level. After all, for the defense and security industry to advocate for diplomacy or bilateral arms reductions to reach peace does not make sense from their ideological or business perspective. As such, the people at work within these industries must also think within these prescribed parameters, otherwise they would be out of a job.
The Department of Defense Summary, the panel discussion, and all the companies displaying their latest innovations, reflects a faith in science as it relates to the production of complex technology. The Summary argues against reflection and thorough product assessment, which takes time, in favor of rapid deployment, thereby demarcating the technology from the real-life experiences of its use; in other words, the rush removes the technology from its ultimate context. As such, this decontextualized technology becomes elevated: “privileged, dressed up, understood by ideology rather than its practice, lacking in reflexivity” (Nader, 1996, p. 3).

At both trade shows the majority of technology on display was intended to operate either independent of human control or with the human at a great distance. However, there were some exhibitors displaying products and technology intended to integrate technology into/onto the soldier. The Source Tactical Gear booth in Prague was displaying its latest product the “Soldier System”, or as the booth display read “Soldier as a System”. On their display, the component parts of the human were identified as: “Head Subsystem”, “Extremities Subsystem”, “Torso Protection Subsystem”, among others.

The Mawashi Science & Technology booth, a company based in France, is “augment[ing] human performance” with their exoskeleton product designed to be worn by the soldier in the field. The human soldier in these “systems” is reduced to an input.
I approach the man at the Mawashi booth who is wearing the exoskeleton product over his military fatigues. I ask him to run through his sales pitch to me and he abides, explaining how the exoskeleton helps reduce fatigue for soldiers wearing it in the field by distributing the weight they carry more evenly. He explained that the company is in the process of trying to get a contract with NATO to sell the exoskeletons for use with NATO forces. He opens a tactical box while we are talking and there are dozens of little embroidered name badges that read, “FORGET”. I ask,

“What’s the significance of Forget?”

“It’s my last name.”

“Ohhh! Haha, sorry.”

“Yeah, but I could see out of context it could seem like some subconscious message.”

He invites me to watch the demonstration the company has planned at the trade show the next morning and then a NATO representative interrupts us. I do my best to fade into the background and move on noting to myself to definitely watch the demonstration the next day.

Since the beginning of the twentieth century, Western culture has been heavily influenced by scientific and technological breakthroughs. We increasingly turn to its innovations to “fix” the problems of our modern world, instilling a sort of blind faith in the scientific pursuit. The somewhat quaint refrain—“there’s an app for that”—embodies this faith and injects into everyday life the belief that science, and the technology it creates, makes life better, easier, more efficient.
In an article for *Physics Today*, Laura Nader (1981) reflects on her interactions with scientists during a conference on developing more efficient energy systems. She observed that none of the scientists were talking about solar energy, rather they were heavily focused on nuclear energy. When she voiced this observation, “somebody piped up. ‘Solar? Solar’s not very intellectually challenging’” (p. 99). Especially in my observations at the trade show in Orlando, *science* was on display, much of which could be classified, at least to the lay person, as “intellectually challenging”. The majority of the companies exhibiting in Orlando had products that had very specific military applications, yet that fact seemed to be secondary to the display of the cutting-edge, highly technical, scientific innovations and inventions. For many of the products and technologies on display in Orlando, they and the people who work on them are many steps removed from where those products actually end up. As such, workers in these areas are not working with people—or soldiers—they’re working with objects; one part among many component parts. It’s not so dissimilar to standing in the packaged meat section of the grocery store. Does the chicken breast or flank steak that has been neatly trimmed and packaged remotely resemble a chicken or a cow? Is it clear by looking at the BitFlow, Inc. display pictured here, that their “Frame Grabbers” can be used in conjunction with video cameras attached to drones or tank vehicles to pull singular frames from analog video?

When I spoke with Bob Simon of Raytheon, I asked him about the workers he oversaw in Raytheon’s manufacturing warehouse just outside of Dallas, Texas. Did they recognize that the tiny component parts they were fabricating would end up on one of the most powerful missile systems ever made, the Patriot missile system? “Not really” he said. He told me he did try to make them see the connection that their work had to the broader mission of protecting the United States and its soldiers, but alas, many of them were just there to “collect their paychecks”.

BitFlow, Inc. booth. S.P.I.E. Defense and Commercial Sensing, Orlando 2018
At a presentation on FLIR technology in Orlando, Austin Richards, a Senior Research Scientist at FLIR Systems, described his company’s research and development projects as “Terminator-style technology”, even quipping that “it’s a little scary”. It’s a curious reference to make. The movie was released in 1984 and was premised on a cyborg traveling back in time to kill the mother who would birth the human that would bring down the autonomous, self-aware computerized defense system in the future. So, calling a technology “Terminator-style” isn’t exactly a compliment; it sounds more like a warning.

By the time Mawashi no longer needs the input of the human soldier for its exoskeleton, the technology “won’t seem too far-fetched”, rather it will simply be the next great innovation born of the marriage between military and the scientific pursuit.

**Electronic War’s Refractory Enemy**

In all interviews with informants, I asked if they thought these new and emerging technologies—and even comparatively “old” technologies like drones—were creating a distancing effect between the user and the recipient. “Oh yeah, it’s a problem”, Artem Azbukin of Rheinmettal says. It’s not only the connection of the worker making the small component part to the larger Patriot Missile System that gets lost in the supply chain; this distancing, this loss of connection happens for soldiers, too.

Physical contact between opposing soldiers makes conflict an intimate experience; one steeped in human emotion; one that requires the soldier to confront and overcome his natural aversion to killing another human. However, when one soldier is sitting in an air-conditioned trailer in the Nevada desert and his opponent is a grainy black-and-white human-shaped figure on a screen who fits no traditional definition of a soldier, what sort of justifications and rationalizations, what sort of mindset must be created and maintained in order to carry out this “combat”? Baudrillard argues that in the case of “electronic war”, one which was ushered in on the television screens during the Gulf War and has only grown since, “there is no longer any enemy, there is only a refractory element which must be neutralized and consensualised” (Baudrillard, 1995, p. 84). It is war out of its critical physical context. Like the engineers and physicists working on the Manhattan Project before them, and the robot soldiers who will come after them, they are automatons following their informational inputs.

The bulk of America’s drone program is operated out of Creech Air Force Base in Nevada, less than an hour’s drive from the glitz and alcohol-fueled fun of the Las Vegas Strip. Michael Haas, a former United States Air Force Sensor Operator and Drone Instructor in the
drone program from 2005-2011 said: “The less they can get you to think of what you’re shooting at is human, the easier it becomes for you to just follow through with these shots when they come down [the chain of command].” He further explained that euphemisms are used, like “cutting the grass before it grows too long” or “fun-size terrorist”, to “somehow rationalize the possibility, or perhaps deal with the reality, that you have possibly killed children” (Haas, 2015).

In Carl von Clausewitz’s polemic “On War” (2004), he lays out his ultimate theory of war. Having his definitions in my mind while doing my fieldwork and research made me wonder what he might think of the ways in which conflicts have evolved over the centuries. Would he recognize any of it as “war”?

If we find civilized nations do not put their prisoners to death, do not devastate towns and countries, this is because their intelligence exercises greater influence than their mode of carrying on War, and has taught them more effectual means of applying force than these rude acts of mere instinct. The invention of gunpowder, the constant progress of improvements in the construction of firearms, are sufficient proofs that the tendency to destroy the adversary which lies at the bottom of the conception of War is in no way changed or modified through the progress of civilisation (p. 3).

For Clausewitz we simply become more sophisticated in our methods of war, because we are smart. “Smart” was on full display at the Prague and Orlando trade shows. General Novák recalled a recent incident involving two drones engaged in combat: “a Predator took out another drone. The future is already here; they are fighting each other.”

It’s important to note that creating a certain amount of distance between combatants has been a trend in warfighting since well before Clausewitz formed his theories. Innovations such as the bow and arrow, the gun, the cannon, the combat airplane, and even chemical weapons, like mustard and nerve gas used during WWI and WWII, have all served as mechanisms to distance one side from the other; to reduce, even if only slightly, the likelihood of a fatal encounter.

Vasquez (2009) explored the impact that the use of night vision technology has on the experiences of soldiers in the battlefield and the spectators of war (both civilians and the recipients of aggression). The distancing effect that night vision provides is achieved through the images the technology produces. “FLIR (Forward-Looking Infrared Radar) produces a grayscale image in which objects that emit heat appear white. They are particularly useful in
locating personnel and equipment at night or in concealed positions” (p. 95). The latest in FLIR technology was a major centerpiece at the trade show in Orlando. I sat through a TED Talk-style presentation given by Austin Richards a Senior Research Scientist at FLIR Systems, a physicist and fellow Berkeley graduate, during which he referred to FLIR as “the world’s sixth sense” and spoke about his company’s work on developing a counter-sniper technology. “The dream is to build a counter-sniper system that will trace the bullet back to the sniper and shoot before he can take cover”. A system like this could be outfitted to a tank or other vehicle deployed in the battlefield. It wouldn’t even require human controls beyond activated the system. In fact, the goal is for it to react with such speed and accuracy that the sniper is killed before a combat unit even realizes it is under attack.

This is, admittedly, really fascinating. I caught myself with mouth agape in awe of this technology. What Vasquez argues directly and what Bourdieu and Foucault provide insight to, is that we (Western society) have been programmed, or pre-conditioned, to be enchanted by the potentiality of technology generally, but especially in combat scenarios. Vasquez traces this to the Gulf War’s Operation Desert Storm, which could be described as a made-for-TV war. The operation was broadcast live to an international audience by CNN, an American cable news network. “Watching bombs splashing on the green (night vision) or gray (infrared) screens as they pulverized bridges, bunkers, and tank berms, tele-spectators were drawn closer to the awesome violence of war while distancing themselves from the reality of the human carnage happening right before their eyes” (p. 92). Indeed, this footage was bloodless and showcased the awesome technology the United States had at its disposal. Mike Burke participated in several missions during the Gulf War and reflected that the Gulf War was the last war in which America was properly equipped for the missions it carried out. The Gulf War may have been the last American-led conflict that would fall under the definitions of a traditional war, one Clausewitz might recognize, in which a state engages another state in conflict over resources or territory, or in defense of an ally. However, Baudrillard (1995) argued that “the Gulf War did not take place.”

If we go back to Clausewitz’s theory of war, it assumes a reasonably even battlefield in which adversaries are equipped with roughly the same weaponry and sit in distinct opposition to each other. Disarming the enemy is priority number one in war. However, in the modern conflicts led by the West, the “enemy” is not armed like the aggressor if he is armed at all. Beginning with the Gulf War, asymmetrical warfare was ushered into the public’s eyeballs via CNN’s live feed of the initial strikes in Iraq. The Gulf War was “an asexual surgical war, a matter of war-processing in which the enemy only appears as a computerized target”
Drone warfare in particular is one-sided, with the attack advantage lying entirely with the drone operator. This scenario turns Clausewitz’s theory of war utterly on its head, because the basis on which war and conflict take place assumes reciprocal action by the recipient of the first act of aggression. Instead, the optics of drone warfare or televised warfare look as though the aggressor is simply playing at war. In Prague, Simon Forget, the Mawashi exoskeleton salesman, was wearing full military fatigues—combat boots, camouflage-print pants and shirt, helmet. I asked him what branch of military he had served in. “Oh, I wasn’t in the military. I’m a competitive skier.” Simon was playing at being a soldier in order to market a product—a necessary performance of war.

Käihkö (2018) borrows from Holsti who contends that war is an institutionalized endeavor based on norms that “build on four distinctions: that between combatants and civilians, between combatants and neutrals, between government and military, and between war and peace.

All of these distinctions incorporate norms about the limits of human behavior in war. They assign specific roles, responsibilities, status, and rights to the main actors involved in war. They define both the permissible and at least implicitly, the impermissible. War is then no longer a random, anarchic activity, but a highly regulated domain with a normative core (p. 8).

In the actions taken against “terrorists” by the United States, the distinctions that Holsti names lose their bright lines and therefore the norms that are supposed to define the “permissible and...impermissible” behavior in war are equally smudged. The result of this can be seen in spurious labeling of individuals as “terrorists”, when in fact, that label carries no clear definition and can therefore take on any definition that is convenient and beneficial to the ends sought by the aggressor. Likewise, the distinctions between war and peace become difficult to distinguish when the vast majority of the aggressor’s population is shielded from the brutality of wars being fought, ostensibly, on their behalf. This is further confused when much of the population is unsure of where and why its country’s military is engaged. And in the case of the United States and its allies still engaged in fighting in Afghanistan, the war has been going on for so long, it simply loses its shock and becomes background noise occasionally making itself seen when a soldier dies.

Furthermore, Clausewitz contends that the purpose of war is to put the adversary in a “situation which is more oppressive to him than the sacrifice which we demand…” (2004, p. 3). However, in the wars and conflicts we see today that are led by the West, especially those
involving regular and sustained drone operations, what exactly is being demanded from the enemy? The methods and the purpose of the War of Terror preclude any satisfactory outcome if we define war according to Clausewitz’s rules. If the entire point of the War on Terror is to eradicate terror, then there is nothing for the enemy to sacrifice but his life. Instead, the War on Terror fought with technological weapons like drones “degenerates into slaughter or hunting. One no longer fights the enemy; one eliminates him, as one shoots rabbits” (Chamayou, 2015, p. 91).

What is perhaps most striking in the discussions and presentations of new and emerging defense and security technology is what these systems can do. The focus is on the positive capability, just like Mike Burke said, “You don’t sell the technology, you sell the capability”. But that means the discussion also, by design, eliminates any discussion of what the negative capabilities might be; the unforeseen consequences for both operator of technology and the recipient of its power.

During the panel discussion on the ethics of autonomous weapons use in Prague, the negative aspects of these technologies were quickly glossed over by louder voices impressing upon the urgency of developing and deploying them before “the enemy” does. Asgostino Bruzzone, professor at the University of Genova, offered an amusing anecdote about the importance of programming out any human frailty in these weapons. He said: if we develop a fleet of robot soldiers and tell them, via their programming, to eliminate the cause of global warming, they would immediately kill all humans, since humans are, objectively speaking, the cause of global warming. The audience chuckled and the panel discussants used this anecdote as a proof point in the importance of proper programming. Even in a discussion on the ethics of their use, not one person actually spoke directly to this issue; no ruminations on the potential for negative consequences were raised aside from “the enemy” using them against “us”.

This panel discussion reveals the controlling processes of self-interest and organizational survival at work within the industry. Without universal definitions and rules for the use of autonomous weapons, the onus is on the companies to create their own. However, the incentive structure is all wrong, given that defense policy in weapons deployment often focuses on the weapons’ “lethality”; as such, weapons manufacturers are motivated to create weapons that are the most lethal.

Liam O’Sullivan, the Chief Scientist of the Science and Technology Organization within NATO proposed to the panel in Prague: “It’s easy to imagine what unmanned autonomous systems can do for us in the future, but how can we use them in ways we don’t imagine manned systems?” He then presents the possibility of “swarms of UAVs, for instance”
finding specific “targets” with the “precision” to “take out” one man in a room full of people. O’Sullivan was not referring to drones like the Predator or the Reaper, which are quite large; he was referencing micro drones. When I relayed this scenario to Artem and Jean-François, Artem asked if I had seen “the drone swarm video on YouTube.” I hadn’t; he told me to watch it.

Artem and Jean-Francois implied that most of the weapons systems engineers they were referring to were relatively young, had never been to war, and had grown up playing video games. Armed forces around the world are very much interested in young people who grew up playing video games. The U.S. Army long ago sponsored the development of a video game as a recruiting tool, the first of which was released in 2002. The latest iteration of the game is called “America’s Army: Proving Grounds” and is what you might expect from a first-person shooter game: guns, grenades, urban warfare, lots and lots of killing.

The, “gamification” of warfare, is on full display at these trade shows. In Orlando I was able to try out Lockheed Martin’s latest virtual reality equipment called “CHIL: Collaborative Human Immersive Laboratory” that is used for training and design collaboration across great distances. In Prague I played a drone operator using a joystick and a simple finger trigger that was reminiscent of old Nintendo games I used to play with my siblings. The most blatant appeal to the gaming aspect of the world’s armed forces was at a booth in Prague, staffed by a woman in a revealing dress, that allowed attendees to stop by and shoot at targets on a green screen with automatic weapons. No product was being sold; it was just for fun.
While I stood watching two men in suits and ties holding automatic weapons shooting at tombstone-like targets, I was jolted by the disconnect between standing in a conference hall full of neat, clean, shiny weapons with well-dressed business men extolling the capabilities of these weapons, and where they would eventually end up: in a messy war zone under the control of young men doing their best not to die. In that moment I recalled the time, in 2006, when I watched a Marine unit prepare for deployment. A good friend at the time was a corpsman (medic) in the Marines and he was set to leave on his third deployment to Afghanistan (or Iraq, he wasn’t allowed to say). I accompanied his wife to Camp Pendleton, a Marine base situated on the coast of California just north of San Diego, to provide her some emotional support as she dealt with the reality that this could be the last time she saw her husband. The mood among the unit was tense and somber, with the exception of one young Marine who kept yelling about how many terrorists he was going to kill. Another member of their unit hadn’t reported for deployment. I recall my friend being disappointed in this person, explaining that very few people actually want to go to war, and that they were all scared, even the guy screaming about killing terrorists.

There is something to be said for the fascination with the technology on display at these trade shows and used in the battlefield, especially when it’s removed from the context of a life-or-death scenario. Bob Simon of Raytheon talking at length about the “cool, cool stuff” his work contributed to and how he “would hate to be on the receiving end of any American-made weapons system” speaks to the awe these technologies rouse in people. Even Artem and Jean-François admitted that they entered the Canadian military because they “like to blow stuff up”.

I sensed in Mike Burke’s telling of his war stories a respect, or reverence even, for weapons systems and technologies that are tasked with doing a critical job in a critical moment. In Mike’s home in Orlando he keeps most of his military memorabilia confined to an upstairs room that also hosts his billiards table and wine collection. In that room is a spent bullet—one that is misshapen as if it struck something equal and opposite to its own destructive power, but
also sort of resembling a smushed Dots gumdrop. While on one of his countless missions during the Vietnam War, Mike was piloting his Apache into the dense South Pacific jungle where Viet-Cong lurked just out of sight. During the course of a mission, he was attacked. All at once the fuel gauge on his instrument panel begins descending far faster than it should and he realizes he’s quickly spilling the vital elixir that keeps his Apache in the air. He manages to get back to relative safety, and as he was starting to touch his Apache down, his engines stop, and the battle helicopter landed with an unceremonious thud. He inspects his fuel tank and finds this errant bullet. That bullet should have exploded his Apache once it struck that fuel tank, but it didn’t. His God, his guardian angel, his *Apache*, saved him.
Defense & Security Ideology

The defense and security industry culture is supported at its base by deeply rooted ideologies that serve as the rationalizing structures upon which uninterrupted war and conflict are supported. In “The Drift to War”, Nader (1989) argues that the fundamental structures of the nation-state are built “on the basis of modern militarized science”, which prefigures the drift to war. “In this view, what, independently considered, may appear to be relatively unimportant tendencies developing in systems, will be seen as a set of continuous chances increasing the likelihood of war” (p. 79). She notes that in order to understand this drift, we cannot look to single incidents for understanding and analysis, because the motivating forces are far more amorphous and almost imperceptible; not living in a single policy or politician, but seeped deep into the culture, like the creeping spill of red wine on a crisp white table cloth. Nader was writing in reflection of nuclear war and the ideological structures (like that nuclear war can be “won”) that had been allowed to marinate for decades in the defense and security culture, eventually becoming so commonplace that they were assumed rational, even “normal”. The War on Terror prevented any opportunity for self-reflection and reified the existing ideologies, only slightly changing inputs—like that “terror” can be defeated; that drone warfare is “humanitarian”; that terrorist groups can be defeated through military action; all of which are attached to a neoliberal capitalist worldview in which profit can and should be extracted from everywhere.

Buttressing the “messy inertia” (Nader, 1989) of the defense and security industry is the assumed moral authority of Western liberal democracies. When Western countries engage in war and conflict, they are defending democratic values. Or as Mike Burke put it: “War finds us.”

“American Arrogance is a Problem”

The Florida heat and humidity are legendary, but luckily the trade show and visit with my uncle are in April when neither have set in. I am sitting with Mike Burke on his backyard patio. It’s mid-afternoon and we are enjoying our first of several beers—Stella Artois, his favorite. The geckos skitter across the screened in patio that envelopes the seating area and the saltwater swimming pool. The screen is a necessity due to the aforementioned humidity which produces
frighteningly large winged insects that, in my opinion, should have gone the way of the
dinosaur, but here they are. The screen also serves as the first line of defense for wayward
alligators. They come out of their nearby swamps and lagoons to sun themselves on well-
manicured neighborhood lawns and golf courses.

My uncle is a wealth of knowledge on the history of the modern military, having been
drafted into the United States Army in 1966 as a Private First Class at 22-years-old. He served
in the Vietnam War as an Apache helicopter pilot and as a Colonel in Desert Storm in 1990
before retiring as Brigadier General on July 1, 1999. He flew Apaches throughout his career
and oversaw thousands of soldiers, many in the midst of battle. In his capacity he also served
at U.S. military bases in Germany (twice) and Italy. In his post-retirement career at Lockheed
Martin and Boeing, Mike interfaced with dozens of foreign military leaders and politicians,
including a Saudi Prince (more on that later).

During my first interview with him I wasn’t entirely sure what information I wanted to
get from him, so I conducted it in an informal, conversational manner. His memory is
excellent, as is his storytelling. As such, I would ask a general sort of question and simply
listen while enjoying my beer, much to the chagrin of my aunt Kathy, his wife of 51 years, who
has surely heard every single iteration of every single story.

One of my many fascinations in attending these trade shows was simply how this world
came into existence and has been able to flourish to such a massive extent. I had long wondered
why such important work—building weapons, maintaining weaponry, ensuring the safety of
soldiers in battle, and the like—was outsourced to private industry. Perhaps naively, I was
under the impression that this work would be done by the actual military. However, as it turns
out, my impression was not entirely naïve.
The private defense and security industry that is now so enmeshed with most of the world’s militaries was born in the early 1990s, “driven by three dynamics: the end of the Cold War, transformations in the nature of warfare that blurred the lines between soldiers and civilians, and a general trend toward privatization and outsourcing of government functions around the world” (Singer, 2005, p. 2).

“The U.S. military was as strong as it ever was in Desert Storm” which was the “culmination of getting ready for the Cold War”, says Mike. It was obvious that Desert Storm holds a special place in my uncle’s heart. It was the last war in which he participated prior to his retirement and one he speaks of fondly. In Mike’s garage stands a pair of binoculars. At first, I thought nothing of them; over his extensive career Mike has collected a lot of military memorabilia. However, when I look closer, I realize the writing on the binoculars is in Arabic. I ask Mike where he got them. He explained that during a mission in the Gulf War, he had ordered his unit to level a series of buildings presumed to be in use by Saddam Hussein’s fighting forces. After they carried out his orders, he said these binoculars were the only thing that survived the bombing and he ordered one of his men to collect them for a keepsake. Once in the midst of a warzone in the Middle East, these binoculars now sit securely in a garage in suburban central Florida.

I asked Mike to expound on what he saw as the reasons for the rapid increase in the use of private military firms, or “PMFs” in industry parlance. “Because the up-tempo [post 9/11] was so high” it was far more practical to have “pre-positioned equipment in the war zone instead of taking it all with you”, so contractors were brought in to perform maintenance in the field. I asked him if he saw any issues, in his experience in the military and on the private industry side, with this exponential increase in the use of PMFs. “American arrogance is a problem”, he said, intimating that U.S. perhaps sped into the wars in Iraq and Afghanistan before it was truly ready. As such, the rapid deployment of U.S. military forces created a scenario in which using contractors was a necessity to keep up with the pace of the conflicts. While he was in uniform, he says “we were ready for anything; we’re not ready for anything now”.
I asked him what he thought about the infamous Blackwater incident, to which he said: it “could have been avoided with more oversight”. Based on our conversation on the patio that afternoon, I gathered that Mike did not see anything inherently wrong with the use of PMFs, which I supposed was not surprising given his post-military career at Lockheed Martin and Boeing. In fact, during his business travels to Iraq, just under a dozen private security contractors would serve as his bodyguards and drivers, ensuring his safe passage in and out of the Green Zone. His insight that oversight is crucial in these arrangements is critical; it is also what is critically lacking, from accounting for the money spent on these contracts and for the behavior of PMF employees. The Blackwater incident stands out for its brazen cruelty in which private military contractors were tasked with escorting an American convoy traveling through Nisour Square in Iraq on September 16, 2007, but instead killed and injured thirty-one people. During the 2014 murder trial in U.S. court for four of the contractors, witnesses “described a scene of horror and confusion as they took cover from the machine-gun fire coming from American armored trucks. An Iraqi traffic officer described watching a woman cradle her dead son’s head on her shoulder, shortly before her own death. A father sobbed uncontrollably as he testified about his 9-year-old son’s death. And witnesses from inside the Blackwater convoy described their former colleagues as firing recklessly on innocent people” (Apuzzo, 2014). A jury convicted the four defendants, but in 2017 a judge overturned three of the convictions and ordered a new trial for the fourth (Apuzzo, 2017).

This incident is illustrative of not just a lack of oversight on the part of the U.S. government and Blackwater, the company that employed these contractors, it is an example of how outsourcing warfighting also outsources responsibility. At the discussion panel in Prague, when the lawyer raised concern about where the liability lays for action taken by autonomous weapons, he wasn’t asking rhetorically; it’s an open question. The men involved in the Blackwater incident were tried in U.S. criminal court because they are civilians, not military, which has its own separate court system. None of them so far has faced any true consequences for their actions, and the company that employed them simply re-named itself and continues to win Department of Defense contracts (the owner of the company, Eric Prince, is the sister of Betsy DeVos, the U.S. Secretary of Education).

There are other stories of questionable behavior by PMFs, including what amounts to the looting of federal tax dollars via no-bid or questionably-arranged contracts. At the start of the wars in Iraq and Afghanistan in 2003, it was apparent that PMFs were reaping the rewards of colossal defense contracts, some of which drew accusations of war profiteering. In a 2005 report, the Brookings Institute’s Peter Singer reported the following:
Halliburton’s Kellogg, Brown & Root division, the largest corporate PMF in Iraq (and then-Vice President Dick Cheney’s former employer), currently provides supplies for troops and maintenance for equipment under a contract thought to be worth as much as $13 billion. This figure, in current dollars, is roughly two and a half times what the United States paid to fight the entire 1991 Persian Gulf War, and roughly the same as what was spent to fight the American Revolution, the War of 1812, the Mexican-American War, and the Spanish-American War combined (pp. 3-4).

My point in including these illustrations is to highlight the fact that the oversight which Mike said should be provided, isn’t. As the wars in Iraq and Afghanistan drag on into their eighteenth year, they themselves have become normalized, which means the oversight is likely even lower than at the height of combat operations. This is also true for other seemingly intractable conflicts, like Syria and Yemen. The U.S. is “actively engaged in countering terrorism in 80 nations on six continents” (Savell, 2019). Put another way, the U.S. is engaged in counterterror activities in 40% of the world’s countries. While the U.S. certainly stands out in terms of its military presence around the world, it’s worth remembering that they partner with many other Western democracies to coordinate counterterror efforts, including Australia, Canada, Germany, France, and Britain, among others. Couple this reality with the stated policy of “rapid deployment of commercial innovations” and with the reliance on private industry to supply those innovations, the incentive structure sets up a scenario wherein the faith in the technology and the expanding “free market” of counterterrorism trumps any pause for reflection, let alone drawdown of conflict engagements.

The trade shows I attended are staged to perpetuate a poorly regulated industry that reaps staggering profits off the backs of taxpayers worldwide, because while the U.S. certainly dominates the defense and security industry, corporations around the world have seen the great potential to make money hand-over-fist in this war-as-the-status-quo market.

**Assumed Moral Authority**

I first approach the Rheinmettal booth in Prague to eavesdrop on a sales pitch in progress. The product is a UGV, an unmanned ground vehicle, called the Mission Master. It is prominently displayed at the company’s booth as it’s the newest iteration of their autonomous offering. The company’s marketing materials describe it thusly:
The Rheinmetall Mission Master, a multimission Unmanned Ground Vehicle (UGV) allowed to perform various mission profiles, from mule to force protection and surveillance, using a variety of modular payloads. Capable of performing in dangerous or hard-to-reach areas, the Rheinmetall Mission Master provides safety and security to the mounted and dismounted forces, increases their operational effectiveness, and keeps them out of harm’s way (Rheinmettal Defence, 2019).

This particular iteration of the vehicle had it set up in its “mule” capacity, camouflaged bags affixed to its flanks. The salesman, Jean-François Magnan who works as an Instructor/Field Service Representative for Rheinmettal Defence in Canada, approached me as I awkwardly stood there trying to appear as if I was assessing the product. I explained that I was at this trade show learning about the future of warfighting technology and its ethical and moral implications for the people tasked with selling these products. He nodded politely. I told him that in the course of my research thus far there seemed to be a lot of chatter, both excited and concerned, about the development of autonomous weapons. “That’s what scares me most, autonomous robots,” he says, but then quickly reassures me that would not become a reality because “we are bound by Geneva”.

Jean-François was referring in shorthand to the Geneva Conventions, a series of conventions and protocols developed and agreed to by major military powers over the course of more than 150 years, in which rules and norms are imposed on the conduct of countries and their respective soldiers during conflict and war. While it might seem logical that Geneva would prevent the use of something as concerning as a fully autonomous weapon, the reality is the opposite. This trade show, the Future Forces Forum, was taking place in October 2018. Just a few weeks prior to the show, the United States, Russia, South Korea, Israel and Australia “blocked progress towards a new international treaty to ban fully autonomous weapons systems following a week of talks in Geneva involving the United Nations” (Busby & Cuthbertson, 2018).

After listening to the panel discussion the next day, I wasn’t exactly surprised by these countries’ resistance. To them, autonomous weapons are a foregone conclusion. Their concern going forward is, as Commander Joseph Strassberger put it: “How can we embrace it for the warfighter and defend against it”.

The following day at the conference in Prague, I approached Jean-François of Rheinmettal again to ask for his reaction to what I had heard during the panel discussion. He starts again to reiterate that the Geneva Conventions will prevent the use of fully autonomous
weapons. I interrupt him and ask, “But what happens when it doesn’t? What are the moral implications [of autonomous weapons]?” His colleague is sitting at a table within ear shot and starts laughing. I look over at him and ask, “Is morality funny?” “Not at all,” he says and invites me to sit down.

Artem Azbukin is a Project Coordinator at Rheinmettal. Affable and sarcastic, he asked me to explain my interest, noting that I didn’t exactly fit the “look” of the typical attendee at trade shows like this. I ask him what he means by that and jokingly accuses me of working undercover for the CIA. The three of us end up speaking for just over an hour. My initial questions were centered around the ethical implications of drone warfare and autonomous weapons, which their company was at least peripherally involved in. Like my other informants, Artem and Jean-François agreed that “you’ll never get soldiers off the ground”, meaning human soldiers would always play some part in close combat missions. This sentiment was certainly reflected in the variety of products and technologies on display at the trade show that would specifically protect a soldier’s body: bullet-proof vests, reinforced helmets, and exoskeletons, to name a few. Even the unmanned ground vehicle on display at their booth promised to protect soldiers in the field with its ability to scout for dangers ahead.

In relation to unmanned systems generally, whether that be drones or ground vehicles, I wondered aloud what the moral implications were when a soldier is put at a great distance from danger, such a distance, in fact, that there is zero risk of bodily harm. Artem responded “The morality issue isn’t even being considered by the higher-ups”, meaning those in management and above. They both agreed with me that there is some moral leakage for a drone operator sitting in an air-conditioned command center outside of Las Vegas flying a drone that is dropping Hellfire missiles in Afghanistan, for instance.

However, there is a tacit assumption among many people in this industry, as evidenced by the morally-tinged rhetoric that repeats in marketing materials and sales pitches, that their underlying motivations are driven by altruistic efforts to keep the world, or at least Western democratic allies, safe from harm. Mike Burke wrote to me that “The U.S. may no longer be the only Superpower, but it is still a bastion of freedom and hope. The U.S. needs to clearly define its role as an enlightened, judicious and reasoned leader of the free world.”

Speaking of morals, this conference was taking place while news was breaking about the suspicious disappearance of Jamal Khashoggi, the Washington Post journalist and United States resident. There was immediate speculation in the press about the involvement of Saudi Crown Prince Mohammad bin Salman. As it became clear that the Saudi Arabian government had ordered his kidnapping and gruesome execution, there was collective wonderment about
what the United States would do in response. While not always in its actions, at least in its words the United States has long asserted a moral standard on human rights. When asked whether these revelations would affect the very public arms deal the United States had made the year prior with Saudi Arabia, President Trump responded: “We have a country that’s doing probably better economically than it’s ever done before. A part of that is what we are doing with our defense systems and everybody is wanting them and, frankly, I think that would be a very, very tough pill to swallow for our country” (Griffiths, 2018).

This instance is just one of many that has made me wonder over the course of my research about why countries that ostensibly support and promote democracy, “freedom and hope” around the world are comfortable selling technology and weaponry to a country with a truly abhorrent record of human rights abuses, that stands in distinct opposition to the ideals that democracies supposedly stand for. As such, I asked my informants about their personal feelings relating to doing business with countries like this and how that conflicts—or does not—with their obligations as employees of major defense and security companies.

When I asked Mike Burke if he ever had reservations about any country he did business with during his career at Lockheed Martin and Boeing, he named Saudi Arabia without hesitation. He then relayed this story to me: he was in London on September 11, 2001 having dinner with a Saudi Prince (which one, he said, is “classified”), to whom he was trying to sell an undisclosed number of Apache helicopters, when news came to them that the United States was under attack from what appeared to be terrorists. While Mike expressed concern for the events that were unfolding, his dinner partner replied “America has terrorists, too.” Mike said this was the only moment in his professional career during which he “lost [his] composure”. He stood, said some choice words to the Prince (which he would not repeat to me) and abruptly left the dinner. However, over the course of his career, Mike would sell billions of dollars-worth of technology and weaponry to Saudi Arabia. Despite his moral reservations, he still did his job. In fact, during his tenure at Boeing, the company built factories in Saudi Arabia to produce weaponry and tasked its employees to train Saudis to build and operate the weapons.

Although at the conference in Prague it wasn’t yet clear that the Crown Prince had ordered the journalist’s execution, I asked Artem and Jean-François how they would feel if Rheinmettal were to do business with Saudi Arabia. As it turns out, the company does, however at that moment politics had stalled a recent sale. They explained that there was a diplomatic kerfuffle over a tweet sent by Canada’s Foreign Minister expressing concerns about the detention of Saudi women’s rights activists. Backlash from the Arab state ensued and, among other things, a contract that Rheinmettal had negotiated with the Arab state was
“shitcanned”, in Artem’s words. Germany, where Rheinmettal is headquartered, imposed an arms export embargo on Saudi Arabia once it became clear that the Crown Prince had ordered the kidnapping and execution of the journalist. In January 2019, Rheinmettal threatened to sue Germany in response so they could proceed with their sale of trucks to the Arab state, worth more than $153 billion. The German government relented, and the sale was allowed to proceed.

This example serves as a good illustration of the importance of export licenses between countries. Export licenses essentially amount to little blessings granted by a country’s government that allows business and goods to flow across state borders. Without approved export licenses, companies are not allowed to export their products to other countries. At least that’s the rule on paper. I wondered aloud how American- or British- or German-made weapons still regularly end up in the hands of Isis fighters in Syria or soldiers in war-torn African countries. Artem explained that it’s an open secret that weapons manufacturers skirt these rules in order to make sales to countries for which export licenses are restricted—like Iran, Syria, Republic of the Sudan, Yemen, Democratic Republic of the Congo, among others.

“Germany has restrictions, but [the company] will make a sister company in a country without restrictions so they can sell” to countries that are, at least on paper, banned from doing business with the primary country, like Germany or the United States, Artem explained. In the 2012 Vice documentary “SOFEX: The Business of War”, journalist Shane Smith travels to Aman, Jordan to attend SOFEX, the Special Operations Forces Exhibition. SOFEX is one of several large defense and security trade shows that take place every two years whose attendance is restricted to the companies that are exhibiting, uniformed military, political dignitaries and the occasional journalist. In it, Smith is accompanied by a former United States Marine who completed two combat tours in Iraq and Afghanistan. His face is blurred in the video to avoid recognition. While wandering the exhibitor space, Smith and the former Marine speak to a Chinese company that makes “kits” to outfit commercial equipment, like helicopters and airplanes so they can be used in combat scenarios. This is another way that some companies skirt export license restrictions; rather than selling military equipment, they’ll sell a “commercial” version that can then be easily modified with a “kit” for military use. Upon walking away from the Chinese company’s booth, the Marine says to Smith:

You know, it’s weird man. It’s like everybody’s real cordial with each other. But like, at the end of the day, we’re like, buying weapons to destroy each other with. I don’t want to sound
too, like, liberal or anything. It’s really not glamorous. This shit fucking kills people. It’s like, they don’t discriminate. They’ll sell to anybody who has fucking money.

This Marine sums up rather bluntly, the entire business model of the defense and security industry. It’s less interesting why this business has flourished; that fact is pretty clear—money, and lots of it. What’s more interesting is how this business has flourished. No single person or country created this industry or even controls this industry. Although it’s tempting to imagine, there is no Dr. Evil character forcing everyone under him to do his evil deeds. Rather, the “messy inertia” is made up of millions of individuals voluntarily participating in making, marketing, and selling machines and technology whose sole mission is to “fucking kill people”.

My conversation with Artem and Jean-Francois continued as we moved into their perceptions of their work. They are both former soldiers themselves, each having served in Canada’s armed forces. As former soldiers, I asked them what they thought about the increase in the technology that is used by armed forces around the world, which was on prominent display all around us in the exhibit hall. They each agreed that it has its drawbacks, especially considering that the people who are developing the technology generally do not have combat training, much less actual combat experience. To which Artem says, “Engineers are geniuses, but they don’t ask ‘What will my machine do?’” He went on to say that “Most people in the industry don’t consider the morality. They push that button but don’t consider the consequences of those actions.” I pressed, asking what consequences he thought that may have in relation to drone warfare, for example. In drone warfare, he says, “You take out the head of the serpent, but several other monsters grow.”

I heard the same sentiment in Orlando. Sitting at lunch with Pat Lane and Rob Beasley, Pat, says, “Most people don’t have these conversations.” He lamented the fact that he used to work for IBM and Medtronic, “Ya know, stuff you could feel good about,” but now he is contributing his expertise to “building stuff that will destroy life, not preserve it”.

Rob Beasley, in a separate conversation at their company booth in the exhibit hall talked to me about the distancing effect of using so many contractors and subcontractors in this business. There are “layers and layers of people and companies involved; there’s a loss of knowledge” and ultimately a necessary distancing between what a sub-sub-sub-contractor might work on and the end user in the field, i.e. the soldier. Former Manufacturing Operations Manager at Raytheon, Bob Simon, explained that many of the workers under his charge had little understanding of where the tiny part they were fabricating would end up. In Bob’s case, it would end up on a missile system. He said probably half of his workers didn’t have any
interest in learning about the end product, and that perhaps it was difficult for many of them to make the connection between the small disembodied parts moving through their manufacturing plant on the outskirts of Dallas every day, and the larger “mission” of contributing to a useful and “necessary” weapon. More than once, he said, he tried to pique their interests, stir their sense of contributing to a greater good—protecting U.S. soldiers—which is what he felt was so important in the work he did for nearly his entire career. But, he said, most of the workers “were just there to do a job”.

He spoke at length about his background and education, suggesting that even though he himself hadn’t served in the military, he was *serving* the military with his expertise in engineering and management. “I’d hate to be the unlucky one on the receiving end of American-made weapons systems,” he said. It was abundantly clear that Bob took a lot of pride in his work. He is on the side of the “good guys”. He said he often gave tours of the manufacturing warehouse to politicians and military officials. He excitedly told me that he was *this* close to being scheduled to lead a tour of his warehouse for Ivanka Trump—“the first daughter”—but the plans fell through at the last minute.

Jean-François and Artem agreed that there is a disconnect between the engineers tasked with developing the latest weapons system and the soldiers who have to use them in the field. I asked them if Rheinmettal were to develop a fully autonomous weapon, would they sell it? They were both steadfast in their reply that they would not allow that to happen. However, I am not sure that two former Canadian infantrymen would be enough to pump the brakes on that reality. We are already in it.

The general sense that I got from all my informants who had served in combat scenarios was that so many people, not just in this industry but in their communities generally, do not have a full appreciation for what it is like to be a soldier. The normalization of war coupled with the low participation rate in the armed services of Western countries creates a “hygienic distance” for the civilian population (Lutz, 2010). With the responsibility to defend their country also comes the responsibility to bear witness to the damage sustained on all sides of conflict. Our conversation shifts to the disconnect of the general public to the conflicts endured and witnessed by soldiers. Jean-Francois expresses his disgust at growing nationalism in Canada and the hatred directed at refugees fleeing from violence: “Some 20-year-old kid who has never seen conflict is judging and pissed that the refugees are in Canada”. I wonder to myself about what conflicts might be avoided if we were all more closely connected to conflicts perpetuated in our names, whether that be in the name of American, Canadian, Swedish,
British, or German democracy and ideals. I ask them if they were motivated by patriotism to enlist in Canada’s military. They both laughed. “We like to blow stuff up”.

I finally reached the point in our conversation where I felt comfortable asking why, exactly, were they in this business. They both clearly had some moral hang-ups about the trajectory of war technology generally, so why did they continue to contribute to this industry? To put their response succinctly: what else were they going to do? The conversation moves into the practical aspects of simply maintaining a comfortable life. They explain that it would be impossible to retire from the military and survive on the pension. “The military does everything they can to pay the least amount of money to vets,” says Artem. This sentiment was also echoed by Kathy Burke, Mike Burke’s wife. There was simply no way to live comfortably unless Mike entered the private sector after retiring from the Army.

As it turns out, this is not unique to the U.S. or Canada. The expectation is that former military will enter the private sector to work for the corporations that supply those same militaries. As Shane Smith, the Vice journalist observed during his attendance at SOFEX:

I witnessed representatives from almost every nation spending millions of dollars on heavy munitions; I was wondering if the transactions were padded by foreign aid from the U.S. and other countries. I heard high-ranking soldiers say things like, ‘When I retire, I’m going to be on the other side of the table—ha ha ha ha.’ What this means is that it’s not uncommon for generals with government-controlled salaries around $100,000 a year, to spend the twilight of their careers purchasing billions worth of munitions from arms companies who, in turn, offer these same senior officers state-side ‘consulting’ gigs with multimillion-dollar salaries. It’s blatant payola, the whole thing is so corrupt it borders on absurd. Absurdity, as it turned out, was a running theme of the conference.

Indeed, the average wage of a worker in the defense and security industry is “87% higher than the national average salary of an American worker” (Aerospace Industries Association, 2019). While I cannot say with certainty that any of my informants are pulling down multi-million-dollar salaries, it’s still a great deal for both parties—the former soldier gets a stable job with good pay and benefits, and the companies get an experienced employee who is already integrated into the hierarchy and structure of a military-like setting. In other words, they are already part of the culture.

Additionally, my former soldier informants could attribute at least some of their post-military professional careers to the draw of a higher calling, much like the calling that drew
them to serve their countries in uniform in the first place. Mike Burke and Corey Brasel hold the military and its mission as defenders of “hope and freedom” around the world in high regard. Their work in the private sector is an extension of that mission. Even when Artem and Jean-François are critical of the military and the defense industry, they too are guided by their own moral compass to ensure their company’s weapons do not get out of hand.

In a recent conversation with Mike Burke, I told him about the U.S. military official at the trade show in Prague excitedly telling the audience about the cost-effective nature of robot soldiers and not needing to pay their pensions for the rest of their lives. Mike was as taken aback by the remark as I was. With a slight disgust in his voice, he assured me that the guy, given that comment and underlying mentality, would not have any actual say in the development or deployment of autonomous weapons. However, neither of us—me or Mike—actually know that. Mike’s reaction was a reflection of his ideals and the ideals that shaped his military and post-military career. They are the same ideals that are on display at trade shows and in the gesticulations of patriotism in everyday life, especially in the United States. However, given the state of the disaster capitalism complex as it is today, Mike might be an outlier in his disgust at the man’s casual dismissal of the duty a country has to the men and women who literally give their lives in service. The ideals that inform market capitalism simply do not align with the ideals of heartfelt patriotism.
Institutionalized Insanity:
“The Homeland is No Longer a Sanctuary”

“If you do something for long enough, the world will accept it…International law progresses through violations.”
– Daniel Reisner, former head of the Israeli Defense Forces Legal Department

Masco (2014) refers to the tendency of the defense and security industry to “self-colonize” through an “opening/maintenance of a potentially endless conceptual space of worry and suspected dangers” (p. 14). In the process of self-colonization outside perspectives are prevented from entering the cultural consciousness and instead a constant state of insecurity proliferates, and the space becomes an echo chamber, a “parabolic mirror”, wherein the only solutions to any problem is more powerful technology, more powerful weapons. Again, in Prague the panel’s topic was the ethics of autonomous weapons use, however none of the participants ever questioned the ethics of actually developing and using autonomous weapons. The discussion was all about how to control them since, from their perspective, their use was inevitable. The opinions of the panel members ranged from full deployment of autonomous robots as soldiers in the battlefield to using various kinds of autonomous systems as “supports” for human soldiers in the battlefield (“man-machine partnering”). The ethics of this technology’s existence was never questioned, let alone whether actually deploying them was ethical. The discussions were all about control – over the development, who had them, their definition, and the chain of liability.

During one of my interviews with Mike Burke, he said “You can’t have a strong diplomacy without a strong military.” But, why? What I witnessed during the panel in Prague is what Nader defines as “institutionalized insanity: isolated groups with institutional power whose members are immune from the heavy social sanctions imposed on insane individuals without such power” (Nader, 2013). Within the space of the defense and security industry, “this behavior goes undetected and undebated” because the behavior of those within the industry is governed and controlled by the process of creating a reality in which insecurity is the base operating level and “war is the natural state of man”. As such, the defense and security industry is caught “hallucinating those opposite to be a threat of comparable size to themselves” (Baudrillard, 1995, p. 65). It’s the only way the industry can justify its existence. The constant
feeding of the terrorist boogeyman that needs “shock and awe” in the form of technologically advanced weapons systems. But of course, when terrorists use “low-tech” methods to inflict terror in cities against ordinary people, the technologically advanced weapons system simply becomes a decoy, a way to deceive the industry and Western society to believe the technology is necessary and effective.

Although some of my informants could see the potential for disastrous outcomes caused by the steady march toward fully autonomous weapons and expressed discomfort with the highly charged rhetoric with which they are being promoted, they are still party to the culture that promotes their development and use. They are still at these trade shows extolling the valuable strategic advantages that their products and technologies will give to a buyer. “Most people don’t have these conversations”, says Pat Lane, because these conversations are outside the realm of acceptable discourse within the defense and security industry’s culture. As such, self-reflection is tacitly discouraged and the industry’s “very survival depends on the continuance of policies arising from this insanity” (Nader, 2013). In my capacity as an anthropologist conducting research, I was seated outside the industry and was therefore treated to unfiltered reflections—“some things said off the tops of people’s heads, [which] have much deeper meaning” than in their more measured responses to my email follow-ups, for example (Nader, 1981). Not entirely unlike Simon Forget, they are playing a part.

In the case of the United States in particular, the value of strong diplomacy takes a back seat to the value of a strong military. Currently, the State Department, which is the governmental department that operates the American diplomatic core, is woefully understaffed, with a 13% vacancy rate for overseas foreign service positions. President Trump also instated a hiring freeze in 2017 for the State Department, meaning those vacancies will remain unfilled for the foreseeable future and those who leave will not be replaced (Gramer, 2019). If there is no option for diplomacy because it has been systematically disassembled, then the only option is a military option.

The morbid irony of a world defined by terrorism and conflict is that the defense and security industry need terrorism and conflict to justify its existence, which in turn becomes a controlling process, something that all thought and behavior, conscious or not, is organized around. If the industry ever achieved its implied goal, then its relevance would immediately disintegrate. Furthermore, there is a necessity for the culture to encourage doublethink; its survival rests on its success. We keep [insert Western country] secure; [insert Western country] is insecure. Further, the culture accepts that imposing terror in faraway locales, especially through the methods of drone warfare, is somehow an act of counterterrorism or
counterinsurgency. Even if individuals within the culture can point out the illogic in this assertion—“You take out the head of the serpent, but several other monsters grow”—their singular voice cannot possibly rise above the manic shouts of weapons manufacturers insisting upon the existential importance of their products and technologies. Inherent in this cultural thought process is the idea of exceptionalism. “We” can never be considered terrorists, despite our actions, despite what that Saudi prince said, despite the exponentially uneven casualty count. As such, what Chomsky (1985) calls “the bounds of thinkable thought” are reinforced within the culture, preventing a meaningful resistance to the status quo. Within these bounds of thinkable thought, “it becomes increasingly difficult to see connections between centralization of power, a permanent war economy, reductions in civil liberties, lawlessness of national security state, and other consequences of controlling processes of empire” (Nader, 2012, p. 117).

As stated in the U.S. Department of Defense’s Summary: “It is now undeniable that the homeland is no longer a sanctuary. America is a target…” (2018)(emphasis in original). Americans can no longer feel safe in their own country; it is an “undeniable” “fact”. Simply stating this ahead of a litany of potential threats (terrorism, cyber, “political and information subversion”, Iran, North Korea) frames the world as one of inherent insecurity, under which pursuing security whatever the cost is justifiable and necessary for survival, for sanctuary. The repeating variation of the phrase “if we don’t develop these weapons, the enemy will” at trade shows, in marketing materials, and official government reports presents an enduring opportunity for the defense and security industry to make money hand-over-fist. The market just in drone supply to the military—U.S. and its approved allies—was at USD 12.1 billion in 2018; it is projected to grow, by 2025, to USD 26.8 billion (Aerospace and Defense Reports, 2018). This growth is not only attributed to the sustaining “threat” of terrorism, but also by the proliferation of the use of drones in domestic settings. The report from which I pulled that figure specifically states that there is anticipated market growth in Latin America. It’s not an alarmist leap to think that dictatorial regimes in places like Venezuela might make use of these technologies against their own people.

The controlling processes of institutionalized insanity allows those caught within it to ignore or discount any evidence that threatens their core assumptions. In 2008, the RAND Corporation published a study entitled: “How Terrorist Groups End: Lessons for Countering al Qa’ida”. In it, the authors studied 648 “terror groups” that operated between 1968 and 2006. They found that 40% were defeated by local police forces arresting or killing members. However, the majority, 43%, were ended because “they joined the political process”; in other
words, they were ended through diplomacy (Jones & Libicki, 2008). Only 7%, the authors found, were destroyed by military force. Key to the defense and security industry’s survival is the maintenance of its “foundational logic”, which “recognizes those threats that allow it to produce a militarized counterformation and ignore everyday forms of violence that require other, nonmilitarized forms of governance” (Masco, 2014, p. 27).

Furthermore, the ability to define or classify a thing, person or situation as a threat is an incredibly powerful tool that contributes to the growth and maintenance of this industry. Analogies can be found in areas like the pharmaceutical industry, in which efforts over the past thirty years to redefine normal mood variations as disorders have contributed to a stunning increase in the use of powerful psychotropic drugs (Martin, 2009). Or the “Beauty-Industrial Complex and organized plastic surgery…forming a matrix of controlling processes to which women are subject” (Coco, 2005). Foucault was privy to this power when he spoke to the state’s unilateral ability to classify undesirable citizens as “delinquents” worthy of imprisonment, punishment, or both. In the global political climate in which this thesis exists, it seems beneficial for both governments and industry to leave “terrorist” and “terrorism” as ill-defined descriptors, easily malleable to the most politically beneficial or profitable circumstance. This is made pretty obvious by exhibitor booths at trade shows displaying desert-scapes with vaguely Middle Eastern-looking men holding guns.

Likewise, the lack of definition for “autonomous weapon” leaves it open to lose interpretation. This is why the language of the defense and security industry so matters. When Mike Burke says, “you don’t sell the technology, you sell the capability” it is because of the incredible power of narrative; even more so, the power to create official narrative. Mike was able to sell over a billion dollars a year in Boeing weapons technology in the course of his post-military career because he could build a narrative around that technology’s capability. The Apache helicopters wouldn’t just stay out of Chinese radar distance, they would take advantage of the “third dimension of the battlefield”, using the Earth’s curvature to stay under the detection of radar until gunner support vessels were within striking distance. While no one would argue that Apaches are autonomous, is the counter-sniper system being developed by FLIR Systems that uses laser technology to return sniper fire before anyone—sniper or target—realizes? Imagine the power of a counter-sniper system narrative. What about drone swarms?

If you type “drone swarm” into a YouTube search the first result is titled: “MICRO DRONES KILLER ARMS ROBOTS – AUTONOMOUS ARTIFICIAL INTELLIGENCE – WARNING !!” This is the video Artem and Jean-François told me to watch. It begins with a man on a stage, reminiscent of the style of a TED Talk. The presenter is wowing the crowd
with the technology at first, but then all hell breaks loose and the drones, through their machine learning, begin targeting “terrorists” who in reality are American college students protesting the use of these drones. The video’s depiction may seem over the top, but the point it makes is something to consider. The power of technology like this and the technology that is currently in development to which civilians are not yet aware, is far greater than we expect. It’s not just critics of the defense and security industry who are concerned about this technology; Lockheed Martin, in partnership with U.S.-based technology company Dynetics, won a USD 130 million United States Army contract in late 2018 to develop a 100 kW “laser weapon capable of shooting down mortars and small drones” (SPIE Europe, 2019). If they are not worried, they at least see a market opportunity in this technology. In other words, the dystopian future the YouTube depicts is not science fiction doomsday fantasy run amok, it’s a reality that militaries and weapons manufacturers are expecting and for which they are preparing.

One of the implications in the controlling process of institutionalized insanity at play in the rhetoric “if we don’t develop this technology, the enemy will” is a consistent push for more lethality in weapons development. The Defense Summary says as much: “We must anticipate how competitors and adversaries will employ new operational concepts and technologies to attempt to defeat us, while developing operational concepts to sharpen our competitive advantages and enhance our lethality” (2018, p. 7).

I will refer again to my informant Corey Brasel who currently works for Boeing in the Apache helicopter division, who says, “Our military, especially the special forces units that aren’t normally publicized, is leading the way in battle testing new ideas, platforms, and techniques to keep the U.S. secure.” The rhetoric of keeping the U.S. and other Western democracies secure implies the threat of its opposite—insecurity. When taken together—the marketing of weapons systems, the rhetoric used to sell them, the mandate from U.S. and foreign militaries to be in a constant state of research and development—impose a sense of urgency. The sense of urgency is reinforced continuously because these groups are all talking to each other; the communication is a closed loop.

When I asked Corey Brasel how he feels about the work he does, he said “In doing what I do, even here stateside, there is always a sense of urgency to keep these guys flying and ready for their next fight. It’s a little more fulfilling when deployed with the military unit as I get to see their urgency in keeping the ground troops supported and able to head home to their families after the missions of keeping the threats on the ground eliminated or minimized.” The Western world is always trying to stay one step ahead of whatever threat, real or imagined.
This frenetic pace at which the industry races to stay ahead of the enemy gives that enemy incredible power.

Western militaries are at once the most technologically advanced, prepared, equipped ever in history, yet also believe that they can be bested by a lone “terrorist” with a makeshift bomb, a hacker teenager in his mother’s basement, or even more simply, someone with a car to drive into a crowd of people. The ability for the lone terrorist to wreak havoc on the world’s strongest and best equipped militaries shrouds them in a sort of magical mystery. Finnström and Whitehead (2013) argue in their collection of essays, *Virtual War and Magical Death*, the magical qualities of terrorists mean they can permeate the imaginaries of everyone on earth, thereby creating a psychic foundation on which to build and maintain continual growth and reach of the defense and security industry. In other words, we are all drawn into the institutionalized insanity.

When the United States was attacked by “low-tech” terrorists on September 11, 2001, a fissure in Western psychic security was split open, like a raw, exposed wound. If the most powerful country and military on the planet could be bested by some hijackers with ordinary commercial airplanes, then what couldn’t the terrorists do. The homeland is no longer a sanctuary. The remedy for this new world of “what-ifs” was offered, and gleefully accepted, in the form of a “conceptual remaking of ‘security’, but also a new global apparatus to achieve it” (Masco, 2014). The defense and security industry packed this open wound with weapons and worry.

The Ouroboros & The “Continuum of Violence”

The sheer volume of money flowing into and through the global arms industry cannot be ignored; rather it is the shadowy specter looming over every conversation I conducted with my informants, and is a strong motivator for the industry, one that wraps its arms around the other motivators: patriotism, morality. It is why my informants explained that entering the private sector of weapons manufacturers was the only way to guarantee a comfortable life once they left military service. It is why export licenses are so easy to get around and why no one seems to mind talking about their obfuscating tactics. It is why Rheinmettal sued the German government in order to sell their ground vehicles to Saudi Arabia. It is why President Trump, without the faintest hint of shame, declares the importance of a weapons deal with Saudi Arabia paramount to the moral obligation of denouncing their brutality in the monstrous murder of an
American resident and journalist. It is why funding the military is seen as far more important to U.S. politicians than funding the efforts of diplomacy.

To be clear, this is not a uniquely American phenomenon. While U.S.-based weapons manufacturers unabashedly dominate the global arms market, other companies based in countries with historically peaceful and/or neutral foreign policies have stepped up their game in recent years. Sweden-based weapons manufacturer Saab boosted the country’s weapons exports to 11.3 billion kronor (USD 1.38 billion) with its sale of JAS 39 Gripen fighter jets to Brazil in 2017 (Nordström, 2018). The companies that make up Canada’s 3-billion-dollar defense sector export the majority of their products and technology to countries in the Middle East and Africa. (Government of Canada, 2018).

Artem and Jean-François of Rheinmettal’s Canadian office openly spoke about the industry’s corruption. When I asked how they thought Western-developed weapons end up in the hands of terrorist groups like ISIS, Artem looked at me like, “seriously? Don’t you know?” He spoke further about the industry’s open secret of skirting around the restrictions of export licenses. Basically, he said, it comes down to plausible deniability. As long as the politicians at home can say “not it”, then they look the other way. Artem and Jean-François both seem to have some level of internal conflict about the paradigm under which their industry operates. They see the absurdity of the laws preventing sales to bad state actors—“it’s a game of words”. “As long as the media is happy”, says Artem, then everything is fine. In other words, as long as there’s a lack of moral scrutiny coupled with a “legitimate” narrative, businesses can deny their culpability and they and the politicians who support them are “off the hook legally and public relations wise”.

Listening to Artem and François, and Pat and Rob speak so casually and openly with me about their own contributions to an industry that exists to destroy life while reaping as much profit as possible, made me sad and confused. If they can articulate all of this then why are they contributing their expertise and energy to it? The only conclusion that makes sense; the only variable that trumps all others, is money. But of course, even that cut-and-dry steely motivator is muddied by an assumed moral authority on the part of Western democracies and the patriotism that is necessarily embedded in the motivations of my informants who served in their country’s militaries.

This thesis is about the unnoticed forces—the controlling processes—that motivate us to behave in ways that contradict our stated morals and ethics, and even act in ways that are antithetical to our collective interests. I started out wondering how people in the defense and security industry feel about working for companies that have incredible influence over the lives
of virtually every person on the globe. Do they make connections between the work they do, work that is often mundane and rife with all the annoyances that come with being an employee of a corporation, and how their relatively small role contributes to the larger disaster capitalism complex that normalizes war and conflict? Thus far I have argued that the defense and security industry is a culture in and of itself, with its own language, rules, norms, hierarchies; all the hallmarks of what we recognize as culture. The unique language of the culture works to insulate insiders and deflect outsiders; the exaltation of its scientific pursuits serves to legitimize and distance the scientists and engineers who contribute their knowledge, from the deadly technologies they produce; the institutionalized insanity of its members allows them to participate in discussions of ethics without actually discussing ethics, all while enjoying a moral veneer to their work. But none of this really makes sense without the money. More to the point, none of this would be possible without the foremost controlling process within the culture that brings this all together, that influences virtually every decision up and down the defense and security industry hierarchy: the principles of neo-liberal capitalism.

But for my informants, and I suspect many people placed in similar situations within the industry, the defense and security industry also offer another comfort: familiarity and purpose. For my informants who had served in their country’s militaries, entering the industry felt like a natural next step in their careers. Mike Burke served in the United States Army for 33 years. When Boeing approached him to sell Apache helicopters—the same Apache helicopters he had been flying for his entire career and with which he was intimately familiar—why would he say no? When Artem and Jean-François had the opportunity, in their eyes, to serve as backstops to the engineers’ most troubling technology, how could they say no? The familiarity and purpose felt by some of my informants acts as a salve to cool and calm the less palatable aspects of their work, like striking deals with Saudi Arabia.

What makes neo-liberal capitalism a controlling process is how its principles have become embedded in the global marketplace over time. “Cultural control is often the result of incremental, not abrupt, change, and when it is achieved incrementally it is powerful indeed because it slides in rather unnoticed and comes to be considered natural” (Nader, 1997, p. 722). The concept of choice within neo-liberal capitalism is an illusion, Nader argues. Choices are “presented as free, [but] are constrained and coerced”; they are controlled within a prescribed set of options determined by neo-liberal principles (1997, p. 727). When my informants spoke about the bleak reality of life after the military, they were speaking in economic terms. It would be impossible to be “comfortable” on a veteran’s retirement, so they chose to enter the private sector of the defense and security industry. Their choices were constrained by what it costs to
live a comfortable life. They were coerced to enter the industry by the self-interest inherent in capitalism vis-à-vis the wages they could earn in the industry, compared to the wages they would earn if they were not in the industry. Again, the average wage of a worker in the defense and security industry is “87% higher than the national average salary of an American worker” (Aerospace Industries Association, 2019).

The power of neo-liberal capitalism as a controlling process is that we are all subjects to its dictates. Its strength as an organizing force for the global economy means that the collective “we” feel its influence intuitively and thereby conduct our behavior according to its principles.

In the early days of capitalism, resources—land, raw materials—were plentiful, it was the capital that was scarce. As such, the pursuit of capital regardless of the cost to resources, including people, was paramount to all else. The industrial revolution that began in Britain in the mid-18th century transformed the culture’s organization of life. Almost at once, life became demarcated—work life/home life. As the industrial revolution spread around Europe and eventually crossed the Atlantic into north America, this demarcation spread. As capitalism became an organizing principle, everyone must then necessarily conduct themselves according to its principles, the ultimate of which is the pursuit of capital (in America we also call this “individualism”). Again, when my informants speak about living a comfortable life after serving in the military, they are pursuing a comfortable home life. The inherent demarcation of life within a culture defined by capitalist principles creates a distancing effect between one’s conduct and the results of that conduct, that is not so dissimilar to the distancing effects of a soldier’s conduct when engaging in drone warfare or using night vision or building autonomous weapons systems. The cognitive separation between how behavior is conducted at home and how behavior is conducted at work in the necessary pursuit of capital, is the cornerstone on which capitalism is supported. Humanity has existed for millennia, whereas capitalism is an incredibly infantile system of economic organization in comparison. Therefore, this demarcation within capitalism is necessary because the relentless pursuit of capital is not a natural pursuit, rather it must be conjured. In a similar vein, the assertion that “war is man’s natural state” is not true. There has always been a problem within fighting forces of deserters and people who could not bring themselves to kill another person. This aversion had to be overcome through sustained training and “othering” of the opposition. Sure, there has always been violence in human history, however over that long arc, cooperation has outpaced violence.
Nader’s observations on controlling processes are in conversation with Foucault’s observations on power. Power does not have to express itself in overt ways, like physical violence, rather it is inherent in the systems, the structures, in which we all live our lives. In other words, the systems that develop us as cultural beings—the school system, the justice system, the economic system—do not physically force us to behave in certain ways. Rather, their omnipresence, their surveillance, teach us what is expected, and we therefore act accordingly by disciplining and conducting ourselves.

The defense and security industry is comprised of corporations engaged in capitalistic pursuit. With the rise of the disaster capitalism complex ushered in by the War on Terror, these corporations were provided with a renewed mandate to create a market for their products and services. As was apparent at the trade shows focused on this industry, these corporations’ “manic focus” is on selling the products to be used under the conditions that are sustained by the products they are selling. It’s an incredible ouroboros of a situation. The problem for corporations is not how many of their products they can produce, that is virtually limitless; the problem is securing buyers. This is where the marketing culture of the industry becomes essential to its survival. Because at its heart, marketing is about creating a need where one did not previously exist, while simultaneously creating the illusion that their marketing did not influence the behavior of the consumer; i.e. maintaining within the buyer a sense of free will while also influencing that free will to turn a profit (Ewen, 2001 [1976]). “Anthropologists witness and experience the construction of culture for financial gain. We are a marketing society” (Nader, 1997, p. 721).

The corporations that comprise the defense and security industry must construct enemies for which their products and services can protect against or eliminate. This is not to say that the world is devoid of real threats. There are certainly dangerous individuals, groups and states that seek to do others harm in pretty horrifying ways. But terrorist acts are so rare in comparison to other everyday potentials for death and injury, “they must be conjured to be countered” (Masco, 2014, p. 30). Indeed, none of the marketing literature at the trade shows I attended or on defense and security corporations’ websites name the “enemy”. The closest any of the marketing gets to identifying the enemy is “terrorist”, “rogue state”, and even more generally, “threat”. This is deliberate, from what I observed. Practically speaking, it would be expensive for these companies to reproduce their marketing materials to reflect “ISIS” instead of “terrorist”, or “Iran” instead of “rogue state”, so the generalization remains. However, even in the panel discussion in Prague, I never heard the participants say “ISIS” or “Al Qaeda” or “North Korea”; only “enemy”. There is power in the authority to define a thing, as Foucault
so convincingly argued. But equally powerful is no definition at all. The mutability of “enemy” has been the greatest power the defense industry, governments and militaries have ever wielded. It presents a never-ending market opportunity to create and recreate the legitimacy of the industry. In an effort to please customers (governments and their militaries), the companies that make up the industry produce more weapons, more technology, and more lethality. What is rarely noticed is that these companies are not competing against the enemy, rather, they are competing with each other. In this space, “enemy” is the ultimate product; missiles, drones, armored tanks, Apache helicopters, autonomous soldiers, are the accessories that support “enemy”.

As mentioned previously, the assumed solution to defeating terrorism (a military solution) does not produce the ostensibly desired result. Rather, the evidence shows that diplomacy is the magic bullet, if you will. However, there are no accessories for the defense industry to sell to diplomacy, as such there is no profit to be made in diplomacy. Mike Burke argues that you cannot have strong diplomacy without a strong military. Perhaps that would be true if all things were equal, however nothing is equal in this scenario. In the instance of the United States especially, there is no strong diplomacy, only a strong military. As such, all “solutions” are created in the military imaginary.
Conclusion

“Shirking and sharking, in all their many varieties, have been sown broadcast by the ill-fated cause; and even those who have contemplated its history from the outermost circle of such evil, have been insensibly tempted into a loose way of letting bad things alone to take their own bad course, and a loose belief that if the world goes wrong, it was, in some offhand manner, never meant to go right.”

— Charles Dickens, Bleak House

The motivation behind this thesis was to follow the path forged by Laura Nader in her studies of powerful institutions. In my efforts to “study up”, I wanted to see if there exists a cognitive dissonance in the people who develop and sell the products and technologies of the defense and security industry. What I witnessed, via the tiniest pin prick of a view into this world, is something altogether more depressing and far more nuanced. Several of my informants actually do recognize the tragic ends of their work; some even recognize the counterintuitive nature of the technology their expertise supports. The depressing part is that they feel helpless—or worse, indifferent—to stop it. The helplessness felt by the unrelenting pace of technological progress was made visible in the facial expressions and body language of some of my informants. When interviewing Mike Burke, he was unwavering in his opinion that replacing humans with autonomous weapons in the battlefield would be wholly unethical. The sacrifice required in battle, and in military service generally, must not be wasted or supplanted by machines. The sacrifice is what makes the war worth fighting. In other words—you have to have some skin in the game. Of course, the absence of real, live human skin is the key selling feature of autonomous weapons.

Artem and Jean-François had similar views to Mike Burke but were also quite aware of the rapid clip at which the industry is investing in the research and development of autonomous weapons. Their mission was to prevent the development of fully autonomous soldiers, something akin to everyone’s dystopian nightmare, The Terminator. However, the creeping nature of technology and the pace at which it becomes normalized, as Corey Brasel noted, means we are the fabled frog in the cauldron—we won’t realize the water is boiling until we are boiling, too.
As has been shown throughout, the defense and security industry is not constrained to military defense and security. The boundary that once existed between military and civilian applications of defense technology has been almost entirely erased by the specter of terrorism. And terrorism’s lack of a stringent definition means that military-style responses to all manner of unrest will only become more commonplace. The deployment of tank vehicles during protests or Black Hawk helicopters running “urban training exercises” in American cities is the new normal (Stewart, 2014). When the Department of Defense states that “the homeland is no longer a sanctuary” it sets the stage for militarized responses to everything from terror attacks to school shootings to civil disobedience. Again, the infrared image of a child’s backpack at the Thermal Matrix booth in Orlando reminds us of that we are awash in this industry regardless of our explicit consent. The capitalist values by which we think about and respond to social problems mean that we predetermine those responses to product solutions. There must be some thing or some technology that some Silicon Valley tech bro can invent that we can buy that will fix whatever new problem we are facing.

Through much of my research I kept coming back to the mountains of money that flow in and out of the defense and security industry. It would have been fairly simple to argue that money—the pursuit of it, the possession of it—is the motivator for everyone within the industry. It would have also been a lazy argument. Instead what I found were individuals with complicated ideological motivations behind their work. Yes, money was a factor, one of many. The slurry of patriotism, self-perception, duty, purpose, and morality swirling within my human informants reminded me that, no matter how much I may have tried, I would never be able to cram them all into a neat and tidy theoretical box. Doing that would have made the industry as a whole feel separate and apart from the larger culture—a global one—in which it exists. This thesis has been so hard to contain because it examines an industry that will not be contained.

I have stated several times in the course of this thesis that the collective “we” are complicit in this culture even if we are not directly embedded within it. The excerpt from Bleak House by Charles Dickens has served as the opening and closing quote of this thesis because it beautifully, if not depressingly, describes our surrender to the forces—the controlling processes—that feel out of our control, but do in fact, maintain their control through our own complicity. It’s society’s collective shrug of the shoulders; it’s conceding to an industry that tells us that we are, deep down, just violent animals.
Thoughts on (or Warnings of) the Future

In the space of defense and security trade shows one cannot help but be mesmerized by the imaginative pursuit behind so many new and emerging technologies. Simultaneously, one cannot help but wonder if there is an event horizon, if you will, to the technology. At what point is there no turning back from the technology that human imagination builds? Even more concerning is whether “we” will ever be able to dictate its applications.

At the start of this thesis I said that everyone on the planet is affected by the global arms industry. Based on my observations at trade shows, reviews of the literature, and in conversations with informants, that affect will only become more pronounced considering the challenges facing earth’s population. Concerns over how countries will respond to the effects of climate change rest within a militarized context. If civilian police forces use tanks and tear gas to quash unarmed protestors fighting for democracy and justice, is it alarmist to think they might respond in a similar—or even more aggressive—fashion to people seeking out shrinking resources like drinkable water?

Chamayou (2015) argues that a civilian population loses an important component part of its relationship to its government when wars are fought in their names by faceless, silent machines. With drone warfare currently, and autonomous warfare shortly, the consequences of war made most visible by dead soldiers, are eliminated. When that emotional and human consequence is removed from the battlefield, how is the populace supposed to feel about war? Equally important, how are institutions—democratic governments and militaries—held accountable when they have effectively removed the need for accountability?

Etienne de La Boétie, a sixteenth century French judge, asked, “the master for whom you go bravely to war, for whose greatness you do not refuse to offer your own bodies unto death...where does he acquire enough eyes to spy upon you, if you do not provide them yourselves? How can he have so many arms to beat you with, if he does not borrow them from you?” (2015, p. 219). Necessary to the government-military relationship is a willing population. Especially for militaries that rely on voluntary conscripts, there is an assumption that the volunteer who is willing to sacrifice his life, will get something in return. There is an assumed morality in military service; that governments will not wantonly deploy their soldiers unless it is absolutely necessary. With the introduction of drones and autonomous weaponry as part of the normal course of military response, then the government becomes less accountable to those who are sacrificing their lives in service, and by extension, the greater population it is ostensibly in service to protect. If our “master” no longer requires our arms or
our eyes, if he no longer requires democracy, then he will enter us into a dystopian future without our permission.

During one of our interviews, my uncle reflected, “We’re going to be on this merry-go-round for a while.” I wonder, who will be the first with the courage to jump off?
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