The Military Industrial Complex in Higher Education

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On my honor as a University Student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis-Related Assignments

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Introduction

Raheel Siddiqui was 20 years old when he joined the Marine Corps and ultimately lost his life (Reitman, 2017). Like many other college students, Raheel had been promised an alternative to college debt – it seemed like joining the military was his get-out-of-jail-free card (Reitman, 2017). Students were able to go to school for free, among other benefits. One student I interviewed at Virginia Commonwealth University (VCU) shed some light on this question. Being a Latino kid in a single-parent household, he dreamed of "buying his mom a house." He knew the only way to do this was to go through college, but there was no way he could afford it. This has been a common sentiment for many students, and the Armed forces present themselves as the solution. They have pamphlets that highlight higher education benefits when joining a branch. For the Marines, there is one that reads "Every Marine is a student," and it cites all the benefits available to those who serve (Reitman, 2017). On the surface, it sounds like a good deal; however, there was more to the story. The student from VCU said his recruiter had "told [him] everything [he] wanted to hear." He felt as if his recruiter knew what to say to draw him in. When it came time for him to serve, his process was nothing like it was promised. In some ways, he felt "lied to." Just like Raheel, the Army promised more than what he was given.

This experience has been shared by college students throughout Virginia, more specifically, engineering students. At the University of Virginia (UVA), the Navy, as well as other branches, remains heavily involved in engineering programs. From career fairs to school projects, students and professors are at the will of the military. Although their involvement is prevalent across campuses, students gripe with the morality of military work. Within the Aerospace engineering program at UVA, some of my peers make offhanded comments about

“making airplanes that will be used to bomb villages in the Middle East.” Even at conferences, actors such as Lockheed Martin have panel discussions in hotel ballrooms filled with students.

Contrary to this phenomenon, many students feel a moral obligation to use their engineering for good, and those who choose to work for the military or defense contractors often face ridicule for it. Professors also face judgment for researching projects funded by the military. Among these hesitations, how is the military still able to recruit? How is it possible for the military and defense contractors to entice these students who struggle to find morality in the work they do? In this paper, I explore the approaches the defense uses to recruit new college graduates to perpetrate the Military Industrial Complex.

Background

Since the end of World War II, President Dwight D. Eisenhower warned the country about the impacts of the Military Industrial Complex (MIC) and how it would affect us today. He emphasizes the balance of powers and how the lack of good judgment can lead to an imbalance. In his remarks, he states that “only an alert and knowledgeable” citizen can compel the meshing of military and industry (Eisenhower, 1961). However, in today’s world, they seem to be inseparable. Many critics explored in this paper argue about the strength of the MIC today and how it affects higher education. With recruiters such as Lockheed Martin and Northrup Grumman at every career fair, the presence of the MIC is apparent. Since the government is these companies' biggest customer, they primarily focus on military development. This setup makes it easier for these companies to recruit students, especially when students are promised to work on exciting projects. Even in projects at UVA, the military communicates to professors about projects they want students to develop for them. This phenomenon is extremely prevalent

in the engineering school experience, especially for mechanical and aerospace students. The Navy approached my professor, and they were looking to design a tensile test for a small piece of equipment, so they would know when it would break. The Navy emphasized that if the equipment failed, it could have detrimental impacts. However, how do incidents like this affect higher education?

One scholar in particular, Henry Giroux (2008), talks about how militarization, corporatism, and political fundamentalism "bears down on every aspect of individual and collective experience" and have shaped how we view higher education (p. 60). These themes are extremely prevalent in the engineering school experience, especially for mechanical and aerospace students. Even in school projects, military personnel ask students to develop prototypes that the military hopes to use in the future. This is especially seen in capstone projects. In its essence, Capstone serves to teach students "real" engineering in the sense of prepping students to handle life outside of college (*Bachelor of Interdisciplinary Studies Student Experience: UVA SCPS*).

Giroux (2008) continued to stress how there is no more open-minded thinking in schools and how the lack of critical thinking has been an attack on democracy. He even points out how post 9-11, American education has become increasingly militarized and policed. Many individuals nowadays are arguing to take out critical race theory and ban the knowledge of literature, which adds to his point of over-policing. He argues that patriotic correctness, consumerism, and militarization have become the most powerful forces shaping education. This is seen in many classes here at UVA. Engineers are taught to be completely unbiased machines that pump out new technological advancements. They're taught to be innovators of the future,

where each product is meant to be consumed. It leaves students feeling like they are detached from their work. However, these sentiments bleed into other parts of their careers.

Giroux further talks about how academia has "compromised its role as democratic public sphere" because of the aforementioned factors (2008, abstract). This statement rings true because it happens every day at the university. Students are constantly approached by military recruiters through career fairs or classes. Because of crippling student debt, many of their hands are forced to take careers that are less involved in public service. Giroux hits on this topic and argues that students are "indentured" by this debt. This becomes the perfect recipe to coerce students to take jobs within the military(Giroux, 2008). Other scholars, however, look at the MIC from a different lens.

Fallows (2002) tackles the MIC from the perspective of unnecessary wars. He touches on how the MIC changed from Vietnam to the Iraq and Afghanistan wars. Without unnecessary wars, there would be no MIC and vice versa. Fallows references Oliver Stone's movie *JFK* and points out that "Kennedy had to be killed because if he had lived, he would have pulled out of Vietnam and big industrialists wouldn't have made so much money" (2002, p. 46). Because war is so profitable, the US involvement in other countries becomes beneficial; however, beneficial to whom?

The over-commitment to a strong military has left the federal government with enough room to "throw money around without a plan" (Fallows, 2002, p. 47). Fallow discusses this point to lead into the topic of the "distortion of the process of public choice" (2002, p.47). He then references Franklin Chick Spinney, who is the Pentagon's budget analyst, because of how he describes political engineering. He defines it as the "parceling out of defense subcontracts to the districts of influential members of Congress," which causes conflicts of interest within the

Senate and House (Fallows, 2002, p. 47). This goes to show how deeply connected everything is to each other. Having players in each facet of the MIC creates an unstoppable machine. He even points out how many soldiers will look towards defense contracting because they don't know what other jobs to take after retiring. This behavior leads to even more corruption when it comes to contracting.

Methodology

To further research how the military uses new technology to recruit new college graduates, I conducted interviews with students and professors from all over Virginia. The identities of each interviewee will remain anonymous. However, the demographics of the interviewees range from students and professors at Predominately White Institutions and at Historically Black Colleges and Universities in Virginia. Each student and professor had some tie to the military or defense contractor. It was important for the interviewees to come from different backgrounds, so I could get a better understanding of how recruitment might differ for various individuals.

I asked each student interviewee the following questions: What is your background? What made you interested in military or defense contracting? What was promised to you that encouraged you to accept their offer? How do you feel about being in your past, future, or current role with the military or defense contracting? For the professors, I asked the following: What involvement do you have with the military or defense contractors? Do you see students often turn to military jobs? If so, how does that make you feel as a professor? How do you feel about military involvement within academia? Do you think it causes disengagement among the students and faculty? By asking these questions, I can retrieve firsthand experiences from various

individuals within higher education and puzzle together the connection that technology has in recruitment. Interviews allow for a deeper analysis of the MIC in academia and how it frames the mindsets of new college graduates. They also reflect how the targeted demographic feels about military involvement.

Alongside interviews, I used my own experience with the matter. I observed military and defense contractor recruitment at conferences and career fairs to improve my understanding of how these entities approach a larger audience. These experiences allow me to resonate and be better equipped to analyze the interviewees' points of view to further connect them to the MIC.

From a sociotechnical standpoint, the technology the military and defense contractors use falls under the Social Construction of Technology (SCOT) framework. This is based on the idea that technology is not a neutral entity and is shaped by the values and beliefs of those who design it. For example, the development of planes can be used for transporting people to and from their destination, or it can be used to carry bombs over hospitals in the Middle East. A simple design can easily flip between two standpoints. These technologies can reinforce or challenge existing power relations. By looking at the problem through the SCOT lens, I can better understand the relationship between technology and recruitment and how the military uses it on new college graduates.

Literature Review:

Since President Eisenhower's farewell address, the budget for the military has remained the biggest portion of taxpayer spending. Hartung and Freeman (2023) discussed how, more specifically, the common taxpayer "spends $1,087 per year on weapons contractors compared to $270 for K-12 education" (para. 3). The argument for this type of spending harps on other countries' development of arms. The US is so afraid of China's developing military that they are

willing to spend countless dollars towards funding new technological innovations to remain the top dog. It also doesn't help that many of these contractors are retired military personnel who work for defense contractors such as Lockheed Martin. Some of these personals include high-ranking government officials who still hold influence in budget spending (Hartung and Freeman, 2023).

It is important to note, however, that even though these officials hold high power, the technological developments within these companies play a significant role. Weapons such as the F-35 from Lockheed Martin serve as a selling point for jobs within the company. As outsourcing, automation, and production of fewer units skew the workforce, it led to higher engineering salaries. This combined with excellent marketing of technology (such as using Lockheed Martin's fighter plane in Top Gun: Maverick) has created a new space for these powerhouse companies to recruit new college graduates.

On the other hand, one scholar, Charles Dunlap, is very pro-MIC. He focused on how the MIC is dying. Dunlap (2011) harps on the fact that military spending "as a percentage of the GDP has dropped strikingly since the Eisenhower era" (p. 137). As a retired Major General, it makes sense as to why he would have this take. However, his focus is less on the spending of arms and more on the development of them. Dunlap argues that most of the military spending goes towards manpower overseas (2011). Given the time (around 2010), sending troops to Afghanistan and Iraq was extremely common. He also notes the public's opinions on said wars. "A majority of Americans also said in 2010 that they do not believe the United States will be the top military power in twenty years" (Dunlap, 2011, p. 141). Along with this statement, he brings up the fact that, in the November 2010 midterm elections, most of the congressional candidates who were Iraq and Afghanistan veterans lost their bids. This point was supposed to show "an

electorate that readily distinguishes between the qualifications of uniformed military personnel and those of political leaders." However, he doesn't touch on the likability of these personnel. It seemed like if someone had a high ranking in the military or if they served, then they were someone to be trusted. This is not the case because of scandals such as Watergate.

Dunlap (2011) then switches gears to talk about the stagnation in the arms industry. He argues that additional cuts to defense spending could "erode the technological edge that America has," which is very interesting given that we have not had a direct attack on US soil by another country in decades (p. 143). He then furthers the argument by quoting a political commentator who believes the US is unrivaled in terms of weaponry but still believes that "conventional threats are real and growing" (Dunlap, 2011, p. 143). Nevertheless, no potential threats were mentioned, which makes it hard to believe this is not a fearmongering tactic. Dunlap finishes off the article by saying Eisenhower would've recognized that "dismissing the military-industrial complex as the inveterate enemy of democracy was wrong," which is quite interesting given the previous sentiments of Hartung and Freeman (Dunlap, 2011, p. 143).

Another scholar, William Pfaff (2010), addresses the US's presence in foreign countries, more specifically, he presents the question of if this presence was a mistake. With over 1,000 military bases, stations, and outposts, it's hard not to question if establishing a US existence in other countries has been more harm than good. Post-Vietnam, the US was determined to not be involved in any more insurgencies; however, this has not been the case in recent years. From the Iraq war to conflicts happening in Gaza, the US has yet to remove itself from these issues. Instead, they continued to support sides of conflicts that contributed to their gain, especially when the US kept troops in Afghanistan. By attempting to establish permanent military bases in Afghan territory, it would be easier to get "Central Asian oil and gas to the ports of the Arabian

Sea" to avoid going through former Soviet states (Pfaff, 2010, p. 138). Pfaff also adds that issues with the Korengal Valley happened because of US presence. It seems like their participation in foreign affairs "create insurgents rather than defeat[s] them." This idea ties into the MIC because this kind of action adds to and strengthens the complex. With constant implications in foreign wars, the arms industry can keep making money.

Pfaff also provides insight into the meaning of having a "citizens' army" (2010, p. 139). He states that the US military remained a citizens' army to "create an instrument of national power that is no longer directly accountable to the public," which in turn means that the military can get away with misusing power. This adds to Eisenhower's speech in the sense that his warning of the MIC is still prevalent and shouldn't be taken lightly. Pfaff then states that "the United States today what was once said of Prussia – that it is a state-owned by its army" (2010, p. 140). The US being involved in affairs on foreign soil has made such an impact on the way the MIC grows and changes. He provides a more foreign affairs lens when looking at the MIC and all its intricate involvements. It gives good context on how foreign affairs affect the MIC and vice versa, which gives better context as to why so much money is poured into the military. In turn, it leads to universities seeking funding from such sources and continuing military research.

In addition to Pfaff's ideas, Walter Adams (1968) discussed the blueprint for technocracy, private socialism, and the corporate state. His hypothesis states that the "industrial concentration is not the inevitable outgrowth of economic and technical forces", instead it's the "result of unwise, man-made, discriminatory, privilege-creating governmental action" (Adams, 1968, p. 653). This includes everything from defense contracts to R&D to patent policy. These factors have such heavy government influence, and the clearest case of this intersection is the MIC. Adam notes that this relationship "creates and institutionalizes power concentrations which

tend to breed on themselves and to defy public control" (1968, p. 654). Because the government no longer makes products in-house, they are forced to "buy what [they] can no longer make" (Adams, 1968, p. 655). This makes the government extremely dependent on external resources, especially for new technologies. The intertwining of heavy government influences in the private sector has caused a bigger problem than Eisenhower warned. What's interesting about this, however, is that with the intersection came an absence of competition. Given that six major companies dedicate themselves to government contracting, it has created a lack of diversity for technology while simultaneously weakening the Government's negotiating position. In a way, the MIC has created a version of capitalism that is eating its tail.

Adams also mentions the role of patents in R&D contracts. He brings up an interesting statistic of the government funding 65% of research while only conducting 15% of the work (1968, p. 658). This statistic makes sense, especially when placed in an academic setting. Most of the research done in the Mechanical and Aerospace Engineering department is subsidized by the government. This goes to show how the MIC weaseled its way into higher education, which is exactly what Giroux was talking about. This idea is essential to my research because it adds to the idea of how deep the MIC runs and provides a connection between it and higher education using research.

However, how does the MIC affect recruiting, more specifically in higher education? Helen Houghton (2020) primarily focused on how the military recruits individuals. She talks about how many people feel that it's their only way out. So many recruiters will promise benefits to students, whether it be free school or a chance to travel to different places to rope them into the military. However, Houghton touches on how the rhetoric used can feel like a person's hand is being forced because there is no better option available.

She also discusses the role race and socioeconomic status plays in the recruitment process. Houghton claims that, for the Army specifically, students of color (predominately Black students) are targeted more for recruitment. She brings up an interesting point that this kind of targeting could be racially motivated in the sense that they are the first to be sent overseas.

Rune Ottosen (2009) approached the MIC in a completely different way than the other articles. They hinted at the notion of a military-entertainment complex (Robin Anderson), where they describe a close link between the Pentagon and the entertainment industry. This can be seen in a lot of wartime movies such as *War Dogs*.

Ottosen also hits on how video games have become a source of recruitment. After the Cold War, a new generation of computer games emerged from the armed forces to serve as pieces of training for military personnel. However, in time, these computer games were released to the public to recruit individuals to join the military. The game 'America's Army' had taken the US by storm and was ranked as one of the most popular games. It was free to play and served to recruit. Its purpose was to "strengthen the image of the US Army among the domestic and international public" (Ottosen, 2009, p. 40). It did just that. In a survey given to people between the ages of 16-21, 29% said that this video game was an effective way to recruit individuals (Ottosen, 2009, p. 40). This game set a pathway for more games like it to come. This furthers the idea of the military using new technology to recruit individuals, and in turn, fuels the MIC.

Discussion/Results:

When interviewing students and faculty, I found that most interactions with the military or defense contractors were driven by money. Given that most of the funding in the US is governed by the Department of Defense, this was not a surprise. Many professors stressed how their universities urge them to acquire funding to pay for their research and graduate students;

however, there is not much money in non-defense fields. This forces professors to apply for defense grants to continue their research. Students, are most stressed about money after college. It was a big factor in their decisions to work for the military or defense post-graduation. For the privacy and safety of everyone, I kept the interviews anonymous. I spoke with students and faculty from various schools in Virginia to get a better understanding of the MIC in higher education. I wanted to learn how it intertwined with academia and influenced students' career paths.

In my interviews, I focused on the individual's involvement or interest in the military and to what degree. It was important to understand potential biases because they could affect how that person responded. Most of the individuals I interviewed were not part of military families, so there were not any previous biases factored into their responses. However, many of the students involved have been approached by recruiters. One student stated, "I never really thought about joining the military, but the recruiter told me everything I wanted to hear." They continued to say how their recruiter "would pay for [their] school" and how they could "travel and do cool stuff." Coming from a single-parent household, they wanted to give everything to their parent. It seemed like joining would be the right answer. Was it?

> I went in and specifically told them what I wanted. I said I want to be a full-time student. I don't want to go active duty, and I want to do engineering in the military. That was what I was going to be studying, so I wanted it to correlate to what I'm doing outside the military. So, I signed an engineering contract. But after, COVID hit. So, when COVID hit, they called me and said 'hey we don't have that slot open anymore you need to get another job. They said I would be leaving in October instead of after graduating high school. I didn't want to do bootcamp in the winter, so I did a whole year of school and

> signed a new contract. But, when they were telling me my options, they were limited. There wasn't anything I really wanted to do. So, I signed a new contract.

A few months had rolled around, and they finally finished boot camp. They had gotten their paper back and noticed that the codes on their new assignment were different than the ones they had originally signed. They had gone through hoops and hurdles trying to figure out where they were supposed to be and ultimately ended up somewhere they did not want to go. They were not able to work on the new technologies they had hoped for. The entire process did not feel like the one they were promised. Not knowing what was going on seemed to be a consistent thread throughout the rest of the interviews.

I wanted to dive deeper into that feeling of not knowing. How did the lack of transparency from the military affect students and faculty in higher education? For one professor, secrecy was everywhere. In their research, they are restricted from using certain words.

> There are a bunch of levels of funding (…) in terms of direct application to Naval warfare. I'm on the very bottom (…) so it's fundamental research. So, we're not even supposed to use the terms robot or weapon because everything we do is 'fundamental.' But there are layers above me (…) where they then start using those words, and there are actual deliverables where people must build a prototype. People on your team may have to have a clearance and may not be able to publish.

This kind of engagement is not new to academia. Another professor had mentioned working in a lab where graduate students needed clearance to work on a specific project. They had talked about when they were a graduate student working in a lab, and their peers had to acquire clearance to be on a certain project. They recounted the experience as being "horrifying."

> Some of my fellow graduate students were commissioned to work on a project that was kind secrety, and they weren't really saying what it was for. It was basically using magnetic bearings to levitate some kind of generator that could make huge pulses of tremendous amounts of wattage. Reading between the lines it became pretty clear that it was some massive laser device that could be put on to a helicopter that could just vaporize people or whatever they wanted from miles away with insane accuracy. It was fascinating to see all these math nerds working out the equations and control algorithms but not waking up to see 'wait what are we building here?' (…) And that's concerning.

Students were simply disengaged. I have seen this level of disengagement all around the university. Students work on these technologies under the impression that their work is neutral. The magnetic bearing could be used for something good, but it could also be used for something terrible. This kind of uncertainty removes the neutrality of that technology and plays into the idea of SCOT. These students might have played a small role in the making of the project, but they still hold their own thoughts and values with it.

Conclusion

The military is everywhere. Trying to understand the complexities of the MIC and how it intertwines with new technologies and higher education has been interesting. It seems that most students are not aware of the work they produce and the effects it has, or if they are, the money associated with the outcome of the project is more important to them. Given the socioeconomic climate we are in right now, it has been disheartening to see this phenomenon. Students and professors are trying their best to do what they love, but at times it felt like partnering with the military or defense contractors was the only way to make ends meet.

One professor hinted that engagement with the military from a university standpoint only occurs because the military holds the most money. It then becomes a struggle of money versus morality. How much money does it take to put morals aside? However, to hold a student or professor to that question would be unfair. Everyone has different circumstances that hinder their ability to choose. For instance, one student had to join the military to go to college. That professor had to get funding from the military to sponsor graduate students and get equipment for their lab.

Although everyone felt uncomfortable about the lack of transparency with the military, they found themselves relying on defense to study or develop new technologies that could be used for good… or bad. This goes to show how the military uses new technologies to not only recruit new college graduates but also professors and students alike. I did not expect for new technologies to be used in this way, where it is almost hanging over individuals. However, it is not just new technologies. They seem to combine technology with money to create even more incentives. With a pull like this, it becomes easy to see how the MIC continues to grow and influence higher education. It seems that the growth of the MIC is not contributed to military involvement in higher education, but instead, contributes to their presence in academia.

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