EDITOR’S NOTE

Volume 5 of *Paideia* sets out to recognize the excellent work of Political Science students’ in their academic and professional work. The collection of student-authored papers features topics that reflect the diversity of the department and students’ knowledge, experiences, and intellectual curiosities. Meanwhile, alumni spotlights highlight the plethora of career paths – domestic and international – present students can pursue.

This year, *Paideia* continues its missions by featuring work that intersects disciplines across liberal arts and STEM with political science. It is our goal to inspire discourse among all disciplines on existing and emerging issues, to inspire development with societal considerations, and to challenge conventional notions about how the world operates in the 21st century.

The fifth volume of *Paideia* will be accessible by print, as well as Kennedy Library’s Digital Commons database. By providing it on an online platform, we hope the journal contributes to academic work across the globe and aids decision making.

The *Paideia* team and I are delighted to serve Cal Poly San Luis Obispo’s Political Science Department, and we invite you to read *Paideia: Volume 5*.

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BACK MATTER
Acknowledgments
The California State University (CSU) has an ambitious objective, the Graduation Initiative 2025. This is a plan to dramatically improve four-year and six-year graduation rates for all students while simultaneously eliminating all differences in graduation rates — called achievement gaps — between underrepresented students. These groups include minority students and non-underrepresented minority students, low-income Pell Grant eligible students and non-low-income non-Pell Grant eligible students, and first-generation students and non-first-generation students. In this paper, I argue that the initiative largely fails to address many root problems facing CSU students’ slow graduation rates, most importantly the effects of cost of attendance on student’s time to degree. In my critique of the initiative, I conclude that the plan must account more for non-traditional and low-income students through making courses more accessible and adjusting high tuition and cost of living.

Matt Klepfer is a recently graduated student of Political Science (Winter 2018), with minors in Ethnic Studies; Gender, Race, Culture, Science & Technology; Women’s & Gender Studies; and Ethics, Public Policy, Science & Technology. As a student activist at Cal Poly, Matt has worked with queer students, advocated for free public higher education, and pushed for Cal Poly to divest from corporations that support war and militarism. During his time after graduation, Matt plans to continue working in community organizing, and seeks to pursue graduate studies in Science & Technology Studies to engage with the intersections of queer politics, technology, engineering, social justice, and peace.

By Ian Risdale
Introduction

The California State University (CSU) has an ambitious goal: to dramatically improve four-year and six-year graduation rates for all students while simultaneously eliminating all differences in graduation rates (called achievement gaps) between underrepresented minority students and non-underrepresented minority students, low-income Pell Grant eligible students and non-low-income non-Pell Grant eligible students, and first-generation students and non-first-generation students. This goal will supposedly be achieved through the CSU’s new Graduation Initiative (GI) 2025.

This initiative is the product of the sociopolitical and economic needs of the state of California today, yet it is uniquely shaped by the history, purpose, and changing demographics of the state’s institutions of higher education. In this paper, I will first provide A History of the CSU, which will provide historical context in which the initiative takes place. Second, I will explore Issues Facing Today’s CSU, which will analyze the current state of higher education in California and the national context of higher education in which it exists. Third, I will examine Issues Impacting Student Success and Graduation, and look at four issues which most impact students’ graduation rates and time to degree. Fourth, I will argue that Graduation Initiative 2025 is deeply flawed, inequitable, and incapable of achieving its goal of eliminating all achievement gaps. I will then examine how a revised Graduation Initiative 2025 could better serve low-income students by explicitly naming and exploring cost of attendance, cost of living, and other factors which affect and are affected by graduation rates.

My analysis here is highly informed by my involvement with student activist groups, particularly Students for Quality Education, positions on student government organizations, particularly the Cal State Student Association, and as a student at Cal Poly San Luis Obispo, one of the California State University’s twenty-three campuses. Much of my work with these groups and as a student has been around ensuring the affordability and accessibility of Higher Education in California. This paper is, therefore, highly shaped by formal and informal interactions with CSU Chancellor Timothy White, the CSU Office of the Chancellor, Trustees on the CSU Board of Trustees, administrators at Cal Poly SLO, student activists at Cal Poly SLO and at other CSU campuses, student government leaders across the CSU, and my fellow CSU students over the last three years.

A History of the CSU

The California State University is the product of California’s 1960 Master Plan for Higher Education in California, which outlined a mission for California’s then existing higher education institutions: the accessible Junior Colleges, the more selective State Colleges, and most selective University of California system. The 1960 Master Plan created a tuition-free education system which gave all California residents access to a high quality and affordable higher education, and therefore access to the American Dream.1 California higher education institutions were by law forbidden to charge tuition or fees for instructionally related activities, but fees were allowed for non-instructional activities, such as counseling and health services.2 This model allowed California’s higher education system to be recognized by the United States and other nations around the world as a model system of higher education.3 The California model of higher education served the

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3 op. cit., fn. 1
college student, the state also faced large changes in its tax structure. Proposition 13, passed by California voters in 1978 and still in effect today, drastically reduced property taxes in the state, therefore reducing state tax revenues. Reduced state tax revenues means less money for higher education. Proposition 13 also meant that higher education must rely on a less stable tax source, income tax, which is very volatile during recessions. This means that higher education funding in California is now highly dependent on the state’s (often fluctuating) economy. This tax structure would prove to be especially problematic during times of economic stagnation or recession: as we will see, the state would be forced to make massive cuts during California’s budget crisis between 2008 and 2012.

Declining tax revenues, increasing enrollment demands, and the increasing cost of educating students due to the changing face of the California undergraduate student marked the beginning of the end for the 1960 California Master Plan’s vision for free higher education.

The CSU, along with the University of California, began to increase system-wide tuition: CSU students paid $441 per academic year in 1982. As a 1982 New York Times article stated: “Free Education is No More.”

In response to these changing trends in California, the state formed a Commission for the Review of the Master Plan for Higher Education, which released a new Master Plan in 1987 laying out new goals for the state’s higher education institutions. The plan specifically called on the state

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6 The passage of Proposition 13 resulted in fewer local tax revenue, resulting in fewer funds for local communities to fund K-12 education. To counteract this, the state (rather than local communities) paid for significantly more K-12 education costs (The state paid 42 percent of K-12 education costs in 78/79 and 66 percent in 79/80 after Proposition 13 passed). This meant that the state had fewer funds to pay for Higher Education. See more: Race to the Bottom? California’s Support for Schools Lags the Nation. California Budget Project. June 2010.
7 op. cit., fn. 1
8 Ibid.
9 op. cit., fn. 2
10 Ibid.
11 op. cit., fn. 2
and California’s institutions of higher education to ensure that all Californians “have unrestricted opportunity to fulfill their educational potential and aspirations.”12 Despite this plan, the CSU, alongside the University of California, continued to increase tuition and fees: by 2001, undergraduate tuition alone in the CSU was $1,428 per year, and was $5,472 by 2011.13 Increasing enrollment and costs would form the CSU of today: the largest and most diverse public four-year university system in the United States, with 23 campuses, eight off-campus centers, over 470,000 students, and more than 49,000 faculty and staff.14

Issues Facing Today’s CSU
Today, many issues face the CSU, the largest and most diverse public four-year university system in the United States. In this section, I will emphasize four issues: declining state investment in the CSU, increasing tuition and fees, declining quality of education, and increasing selectivity. The next section will explain how these issues impact student success and graduation.

At the height of the Great Recession in 2008, higher education in California was plagued with massive budget cuts and skyrocketing tuition and fees. During the 2007/08 academic year, California allocated nearly $3B to the CSU. In light of a massive budget deficit, the state’s allocation sunk to $2.3B in 2009/10 and less than $2B in 2011/12, a decrease in $1B or one-third of the state’s allocation to the CSU over four years.15 The percent decrease in state spending per student in all higher education in California between 2008 and 2013, adjusted for inflation, was 29.3 percent, or $2,464 less state dollars per year per student.16 In response to these cuts, the CSU furloughed employees, decreased enrollment, and skyrocketed undergraduate tuition, increasing from $2,772 in 2007/08 to $5,472 in 2011/12, an increase of 108.7 percent.17 Additionally, CSU campus-based fees increased significantly, including the addition of new campus-based fees, such as the Student Success Fee.

It is also important to note that skyrocketing tuition and fees is a common theme in public higher education across the United States. Between 2007/08 and 2012/13, tuition has increased more than 50 percent in seven states, more than 25 percent in 18 states, and more than 15 percent in 40 states.18 California, however, has seen some of the highest tuition increases in the nation: between 2008 and 2013, California had the second highest average percent increase in tuition at public four-year colleges, a 72 percent increase, equating to $3,923.19 As Figure 1 shows, the burden of affording public higher education is increasingly being placed on students across the nation, however, California is leading the way.20 The results of declining state investment in higher education is vast and extends far beyond just cost of attendance, affecting both students’ ability to enter the CSU and the quality of education they receive once there.

A wide body of literature has shown that student and faculty interactions are central components to student success; however, the status of faculty in the CSU is diminishing.21 Lecturers as a percentage of total teaching faculty are the highest they have ever been in the CSU. 60 percent of all faculty

18 op. cit., fn. 16
19 Ibid., 9-10.
20 Ibid., 13.
21 Adrianna Kezar, and Dan Maxey. “Faculty Matter: So Why Doesn’t Everyone Think So.” Thought and Action (Fall 2014): 29-44.
Students Are Shouldering A Larger Share of the Cost of Funding Public Higher Education

Tuition revenue as a percent of total educational revenue, FY 1987 - FY 2012

Figure 1: The increasing financial burden placed on students, from the Center on Budget and Policy Priorities.

are lecturers. Lecturers focus almost exclusively on classroom teaching and therefore are not compensated for giving service to the university, including committee work and proposing new courses.\(^{22}\) Additionally, fewer tenure-line faculty are teaching in the CSU today than ten years ago,\(^ {23}\) and until recently, faculty compensation has remained stagnant or declined.\(^ {24}\) Further, the state’s inability to fund higher education in California has resulted in the CSU’s inability to meet enrollment demands. Between 2009-10 and 2014-15, an average of 23,000 eligible and qualified applicants were denied admittance into the CSU each year, totaling 30,209 eligible students in 2014-15, and nearly 140,000 eligible students over six years.\(^ {25}\) Limited enrollment means increased selectivity, so qualified students are turned away from attending a CSU, even those which serve their own community. For example, a qualified student who lives five minutes from CSU Fullerton and applies may be denied admission and be required to commute long distances to other CSU’s around the Los Angeles area. Rising selectivity is not just a California issue, however. While the number of applicants nationwide to four-year colleges and universities has doubled since the early 1970s, the number of available slots has changed little.\(^ {26}\)

In response to increasing tuition and fees, the need for increased enrollment, the decline in quality education, and the erosion of the original vision for higher education in California, the California State Legislature convened a Joint Committee on California’s Master Plan between 2009 and 2010, ironically marking the 50th anniversary of the 1960 Master Plan, to reassess the status of higher education in the state. The committee, acknowledging that higher education in California was at risk, stated that they “[reaffirm] the essential tenets of the California Master Plan for Higher Education: universal access, affordability and high quality.”\(^ {27}\) The Joint Committee also highlighted the need to not only ensure access to higher education for all Californians, but also to focus on completion, results, and to eliminate achievement gaps, without sacrificing quality. This reaffirmation of the original Master Plan, however, has not come to fruition. Today, the state and the CSU have somewhat recovered from the Great Recession of 2008: the state’s allocation to the CSU for the 2016/17 year was $2.8B, which is still $200M less than the state’s allocation in 2007/08.\(^ {28}\)

As we will later explore, declining state investment, resulting in increased tuition and fees, directly impacts students’ ability to access higher education and pay for it once they get there. Obviously related to Graduation Initiative 2025, students working in order to pay tuition, fees, and cost of living expenses is a large, yet under-discussed, barrier to underrepresented and low-income students’ ability to graduate in a timely manner.

**Issues Impacting Student Success and Graduation**

The Public Policy Institute of California emphasizes four factors which contribute to slow time-to-degree for students: course availability, college preparedness, students working to cover expenses, and the availability of financial aid. In this section, I will analyze each of these individually, although many of these factors may intersect, especially for students of color, low-income students, and first-generation students.

Many students struggle to simply enroll in the courses they need to graduate. One Long Beach State student, talking about enrolling for classes, told the LA Daily News, “what I do is pray, please God, let me get my classes.” In 2013, the CSU conducted a Bottleneck Course Survey which identified 866 bottleneck courses across the CSU: at least 2,103 additional course sections need to be offered to address these bottlenecks. These bottlenecks exist because of a lack of funding to hire faculty, a lack of qualified part-time faculty, and lack of classroom or lab space to hold classes. Students struggle to make progress toward their degree if they are unable to enroll in courses.

College preparedness also plays a major role in completion rates for undergraduates, and students who enter university academically prepared are much more likely both to graduate and to graduate in a shorter time. Issues of college (un)preparedness are often caused by the quality and funding of K-12 education for students. Students who enter college unprepared for college-level coursework often need to take remedial courses, requiring more courses and time to finish their degree. In 2014, 42 percent of first-time freshmen in the CSU required remediation in at least one subject. Low-income, Pell Grant eligible students are more likely than their non-low-income peers to be first-generation and come from underfunded K-12 school districts, meaning they are more likely to require additional remedial courses and academic support.

Cost, and therefore students working to cover expenses, is also a major barrier to student success and graduation. During the 2015-16 academic year, the average price to attend the CSU was $23,565, of which only 29 percent ($6,759) was tuition and fees. Other costs include books and supplies ($1,500-1,900), transportation ($1,000 to $1,500), food and housing ($4,231 to $16,146 depending on housing situation and campus location), and miscellaneous personal expenses (around $1,400). The CSU’s own research states that there are “causal impacts of college costs and financial aid on college outcomes” and that cost of attendance affects student enrollment, completion, and choice in institution. On-time graduation rates are lowest for low-income and working students: graduation and persistence rates are highest for students who are Pell-ineligible and not working (five-year graduation rate for Fall 2009 cohort: 60.8 percent), and lowest for working Pell-eligible students (five-year...
graduation rate for Fall 2009 cohort: 33.9 percent). Working low-income students face a double jeopardy: they must work, and therefore have less time for their studies, while simultaneously taking more remedial courses and receiving additional academic support because of their prior education in underfunded K-12.

The disproportionate effects of these four factors on certain demographics is evidenced by achievement gaps within the CSU. Gaps exist in achievement between sociopolitical groups by race/ethnicity, class, and first-generation college student status. System-wide, current achievement gaps are 11 percent by race/ethnicity, 8 percent by Pell-eligibility (low-income status), and 13 percent by first-generation status. In his January 2016 State of the CSU Address, Chancellor Timothy White stated that the CSU’s goal should be a “quality bachelor’s degree for every Californian willing and able to earn it – with an achievement gap of zero.” This rhetoric was an instrumental start to the CSU’s new goal of eliminating all achievement gaps, in which there would be no differences in achievement by underrepresented minority status, first-generation status, or low-income status. In order to eliminate achievement gaps, the CSU would have to embark on a large mission to address the issues impacting student success and graduation explored in this section.

Graduation Initiative 2025

The Public Policy Institute of California projects that by 2030, California will be 1.1 million workers with bachelor’s degrees short of economic demand. This is a startling figure for political leaders in the state, and one that has triggered the need for more college graduates as soon as possible. Assembly Bill 1602, signed into law in June 2016, allocated $35M in one-time funding to the CSU to increase four-year graduation rates and two-year transfer rates, contingent on the CSU releasing plans on how they would spend that money. This triggered the CSU system to produce their current CSU system-wide Graduation Initiative 2025 plan and for individual CSU campuses to make their own campus Graduation Initiative 2025 plans. The money allocated to the CSU through AB 1602 was specifically and exclusively allocated to improve four-year first time undergraduate and two-year transfer graduation rates, not for improving six-year first time undergraduate and four-year transfer graduation rates, the rate at which many nontraditional students graduate, whom the CSU exists to serve.

The CSU has an ambitious goal: to dramatically increase graduation rates for all students and eliminate all achievement gaps, in which there would be no differences in achievement by underrepresented minority (URM, by ethnicity or first-generation status) and low-income students. Examples of achievement gaps that are particularly relevant to Graduation Initiative 2025 are the differences in four-year and six-year graduation rates between URM and non-URM students and between low-income and non-low-income students.

To meet these goals, the CSU system-wide Graduation Initiative 2025 plan outlines broad system wide plans to meet graduation rate goals and eliminate achievement gaps, and individual campus plans outline their own specific campus-based strategies. The current CSU System-wide Graduation Initiative 2025 Plan highlights four key system-wide strategies to improve graduation rates. First, to increase the average number of courses that students earn during the academic year above the current 12.9 units per term by adding class sections and advisors to work with students to increase their unit load.

39 Ibid., 17.
40 op. cit., fn. 34
41 Timothy White. “State of the CSU,” (Address, The California State University Board of Trustees, January 26, 2016)
42 “Addressing California’s Skills Gap,” The Public Policy Institute of California (April 2016).
Second, to increase summer and winter course enrollment by encouraging students to enroll in these courses. Third, to replace course-taking that does not contribute to degree requirements with courses which do contribute to degree requirements. Currently, students on average take about one semester’s worth of units more than the minimum required for their bachelor’s degree. Lastly, to redesign high failure courses and change pedagogy to prevent students from failing and having to retake courses. The CSU hopes to achieve the graduation rates illustrated in Table I and eliminate all achievement gaps by 2025. Strategies that aim to increase a student’s ability to enroll in highly impacted, difficult-to-enroll-in classes are likely to affect all students to varying degrees, as are efforts to improve educational strategies in high failure courses. The above strategies, however, are not inherently innovative and are not directed at specifically eliminating achievement gaps, but rather seem to be most directed at improving graduation rates for traditional, non-URM, non-low-income students. Encouraging and providing opportunities for students to increase their course load would only improve time-to-degree for students who are able to take an increased course load. Encouraging students to take summer and winter courses would only benefit students who can afford to take these courses: financial aid does not cover summer courses, and many students work full-time over academic breaks to earn money to pay for tuition, fees, and living expenses. The current system-wide strategies to improve graduation rates would be particularly helpful for traditional students whose largest barrier to graduation is not related to their ability to enroll full-time or take courses during traditional term breaks. By only highlighting the above strategies, the current system-wide GI 2025 plan ignores the realities of the very students that the initiative is claiming to support: non-traditional students, especially low-income ones, who work part- or full-time to pay for their education and living expenses, preventing them from enrolling in full unit loads. Because of this, Graduation Initiative 2025, in its current form, will fail to achieve its mission.

While increasing the availability of courses, especially bottleneck courses, and redesigning high-failure courses to promote student success would likely improve graduation rates for all students, the system wide GI 2025 plan highlights few, if any, specific strategies to close achievement gaps. Individual campuses may envision strategies to close achievement gaps with their individual campus’ GI 2025 plans, but the lack of system-wide strategies and planning to close achievement gaps as a component of the current system wide Graduation Initiative 2025 is an area of concern. Another fear about GI 2025 is that it will exclude certain types of students as an (un)intended consequence of its mission to improve graduation rates: “one way to improve graduation rates is to exclude students who face greater challenges to graduating.” If access to the CSU does not improve by increasing enrollment, graduation rates may improve, but that increase will be at least

Table I: Target Graduation Rates from Graduation Initiative 2025

<table>
<thead>
<tr>
<th>Completion Metric</th>
<th>Current Rates</th>
<th>Revised 2025 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>First-Time Freshman Four-Year Graduation Rate</td>
<td>19%</td>
<td>40%</td>
</tr>
<tr>
<td>First-Time Freshmen: Six-Year Graduation Rate</td>
<td>57%</td>
<td>70%</td>
</tr>
<tr>
<td>Transfer Students: Two-Year Graduation Rate</td>
<td>31%</td>
<td>45%</td>
</tr>
<tr>
<td>Transfer Students: Four-Year Graduation Rate</td>
<td>73%</td>
<td>85%</td>
</tr>
<tr>
<td>Achievement Gap by Ethnicity</td>
<td>11 Points</td>
<td>0 Points</td>
</tr>
<tr>
<td>Achievement Gap by Pell Eligibility</td>
<td>8 Points</td>
<td>0 Points</td>
</tr>
<tr>
<td>Achievement Gap by First Generation Status</td>
<td>13 Points</td>
<td>0 Points</td>
</tr>
</tbody>
</table>

45 op. cit., fn. 34

46 “The CSU Graduation & Achievement Gap Initiative,” California Faculty Association (April 2010).
partly caused by increased admissions criteria and selectivity.

At the CSU Graduation Initiative Symposium in August 2016, presenters from across the CSU highlighted unique methodologies and strategies to close achievement gaps and serve low-income, underrepresented minority, and first-generation students, giving hope that Graduation Initiative 2025 would have the ability to actually close all achievement gaps. However, current documents coming out of the CSU relating to closing achievement gaps are underwhelming at best. The largest disappointment is the way in which Graduation Initiative 2025 ignores significant causes of achievement gaps and decreased graduation rates: student tuition, fees, and cost of living. Particularly, the way in which high tuition, fees, and cost of living means that students need to work many hours per week in order to afford to live and attend the CSU, taking away time that students could be working toward their degree. 75 percent of CSU students work more than 20 hours per week. Not one document from GI 2025 mentions or explores the effects that cost has on graduation rates, despite the fact that the CSU’s own research states that cost of attendance affects completion.

Additionally, GI 2025 fails to mention how things such as student homelessness or food insecurity contribute to lower graduation rates. A recent CSU survey found that one in ten CSU students are homeless, and one in five students do not have steady access to food. The lack of these issues being discussed in GI 2025 is concerning: not having safe access to food or housing would surely distract students from their studies, and delay time to graduation. Since these issues are not discussed, they will not be addressed as a part of GI 2025.

Therefore, GI 2025 is not serving these students, but rather serving students who are not working to pay for their education, not food insecure, and not housing insecure. A reimagined GI 2025 should include these concerns as a central component to the system’s aim of eliminating achievement gaps and ensuring that all Californians have equal access to obtain a high-quality education and contribute to California’s workforce and economy.

A reimagined Graduation Initiative 2025 will most importantly name, address, and explore how cost of attendance and cost of living affect graduation rates and student success, especially for URM and low-income students. It will also explicitly explore the effects of student homelessness and food insecurity on graduation rates. A reimagined initiative will explicitly highlight the need for increased state funding and financial aid in order to increase graduation rates and eliminate achievement gaps. Will Graduation Initiative 2025 work? Only if it takes into account the complexity of issues that face the CSU’s most vulnerable students.

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47 “Made in the CSU Fact Sheet,” California State Student Association (March 2016).
48 op. cit., fn. 38
49 Rosanna Xia, “1 in 10 Cal State students is homeless, study finds,” Los Angeles Times, (June 20, 2016).
Reflecting on how he made the decision to attend Cal Poly San Luis Obispo, Andrew “AK” Kramer says something simply “clicked” for him. He knew he would be coming to the right place for the major that was a perfect fit for him. Today, it is clear that AK is still passionate about his decision. “I believe Political Science is really a study of people under duress. How do we navigate a world of seven billion people? How do we coexist in a power hungry, ego-driven society? And when we write these ‘rules,’ why do we follow them? It’s fascinating!”

During his four years at Cal Poly, AK was heavily involved in a number of organizations that directly impacted student life. His many accomplishments included serving on the College
of Liberal Arts Council and the ASI Board of Directors, as well as working for Student Life and Leadership and as a Poly Rep giving tours to prospective students. For Student Life and Leadership, AK organized “Another Type of Groove,” a monthly poetry night dedicated to exploring diversity issues through artistic and creative outlets. Most notably, AK was elected ASI President during his final year at Cal Poly.

Concentrating in Pre-Law, AK became acutely interested in correcting inequities in education. He completed his Senior Project with Dr. Jean Williams, during which time he studied the opportunity gap between white and black high school students in U.S. public schools – a project he says catapulted him into his current line of work. For Kramer, yet another formative experience at Cal Poly was a service opportunity where he spent the night at a homeless shelter with his classmates. Today, he says this was an incredible moment where he gained insight into his future work and into his own humanity as well.

Graduating from Cal Poly with a B.A. in Political Science in 2009, AK went on to earn his Master’s in Educational Leadership and a teaching credential from Mills College in Oakland, California. While he was still in graduate school, he worked for West Oakland Middle School, performing student instructional support.

Currently, AK works for the City and County of Denver on a team that is implementing a system-wide social and emotional learning initiative. AK describes his work in Colorado as the “feelings business.” He notes that the problem solving, decision making, and empathy which he honed during his time at Cal Poly is incredibly important to the work he does today. Furthermore, dedication to developing and sustaining systems of equity and access in education is key – as is maintaining an awareness that the playing field in education is not equal for all learners.

Outside of work, AK enjoys wine tasting, spending time with his wife and baby, playing trivia, and going to sporting events.

AK also has some advice for current Cal Poly students:

“Dive in. College is fake real life – it’s utopia. You have access to EVERYTHING – art, music, culture, food, fitness, academics, socializing – with minimal responsibility. When you head into the workforce no one will care about your 4.0 – they want to know what you believe in. They want to see how you problem solve, how you connect to the world, and if you have the skills to walk the walk. Remember that you are not an island – everything you do has an impact on the world, big and small. Take that impact seriously. You matter – your impact matters.”
AUTHOR BIOGRAPHY

Dominic Scialabba is a third-year Political Science major with an individualized concentration: Identity, Culture, and Politics. They also have minors in Women’s and Gender Studies; Spanish; and Science, Technology, and Society. On campus Dominic conducts activist work and aspires to inspire change. Their research interests are in marginalized identities and how identities become politicized within US institutions – focus on queer identities. Despite their scholarly interest, they wish to pursue employment in the education field as a high school teacher upon graduation in Spring 2019.

By Juan A. Ortiz Salazar

The Unborn Victims Of Violence Act

THE UNBORN VICTIMS OF VIOLENCE ACT: EXPANDING A NEOLIBERAL, CARCERAL STATE
Dominic Scialabba

Abstract

Fetal-protection laws, such as the Unborn Victims of Violence Act, are a contemporary means of upholding and spreading the neoliberal administrative state and mass incarceration within the United States. This act creates a political culture in which laws similar to the Unborn Victims of Violence Act can be applied to restrict mothers’ access to proper health services, and to even imprison expecting mothers. I argue these laws do not work to prevent domestic violence, but rather participate in the larger prison industrial complex. A second key finding is that fetal-protection laws stand as obstacles to achieving reproductive justice in policing the bodies of mothers and redefining the relationship between mother and fetus. Political, queer, and critical race theories combine to create a critical framework for analyzing fetal-protection laws present in the United States, alluding to the need for larger political and institutional changes within the United States that render prisons obsolete.
argue fetal-protection laws are a means of upholding the prison industrial complex and the neoliberal administrative system of the United States, and a means of stifling true reproductive justice, defined as “the human right to maintain personal bodily autonomy, have children, not have children, and parent the children... in safe and sustainable communities.” Through a critical analysis of the Unborn Victims of Violence Act of 2004, this paper seeks to demonstrate the influences of neoliberalism and the prison industrial complex on fetal-protection laws.

The Prison Industrial Complex and Neoliberalism

The Unborn Victims of Violence Act expands practices of mass incarceration in the United States through its participation in the prison industrial complex. The concept of “prison industrial complex” is used “to point out that the proliferation of prisons and prisoners is more clearly linked to larger economic and political structures and ideologies than to individual criminal conduct and efforts to curb ‘crime’.”

One in nine Black men between the ages of twenty and thirty-four are

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The prison industrial complex is an intersectional issue that affects multiple identities, as a majority portion of the prison population comes from marginalized racial communities and women are the fastest growing prison population. Mass incarceration has become the answer to solving social issues that should be addressed by other institutions. The establishment of the concept “prison industrial complex” works to call out a society in which an overreliance on incarceration has become natural. The prison industrial complex relies heavily upon global neoliberalism. Neoliberalism can be defined by four main policy trends: extended privatization, deregulation, increase in corporate power, and defunding of social services.

The belief in personal responsibility over a collective responsibility drives neoliberalism, which justifies the privatization and deregulation occurring under the current system. Neoliberalism influences social and political institutions as those in power see marginalized communities’ oppressed status in society resulting from individuals making bad choices rather than systemic oppressive forces. The trend of mass incarceration in the United States is linked to neoliberalism with regards to capitalistic exploitation: “Multinational globalization in search of cheaper and cheaper labor and profit maximization is part and parcel of the growth of the prison industrial complex. The ideological underpinnings of racialization and the political economy of inequality are at the core of this discussion.”

Prisons are a site of cheap, industrial labor which can be exploited by the global marketplace, especially when the prison population in the United States has quadrupled since 1980, rising from 400,000 to just under 1.6 million. Incarceration and the criminal justice system are not accidental to, but rather embedded in, a state that exploits prisoners for profitable, cheap labor in a space where there can be no strikes and no organized opposition. With a lack of social services to support those struggling to survive in a capital market that relies on post-industrial jobs, the state turns to mass incarceration. Rather than work toward long-term systemic solutions to solve social issues, such as working in a post-industrial society, the state is able to turn toward incarceration as a short-term solution where those unfit to society’s standards are locked up. This trend is no stranger to fetal-protection laws that imprison both domestic violence abusers and pregnant mothers addicted to drugs.

The Unborn Victims of Violence Act
A critical analysis of the Unborn Victims of Violence Act demonstrates that fetal-centered laws have roots in neoliberalism and the prison industrial complex, whereas these laws work toward controlling pregnant mothers and reproduction. The Unborn Victims of Violence Act was introduced in 2001 by the Bush Administration and passed in 2004 to protect fetal life from harm and possible death resulting from domestic violence. Specifically, an abuser who injures or kills a fetus is punished for the act against the mother, and is also punished for the harm committed against the fetus as if the fetus had been a person. The main components of this act include the second criminal charge against a domestic violence offender, and the establishment

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9 op. cit., fn. 5
10 Ibid.

13 The Sentencing Project, Fact Sheet: Trends in U.S. Corrections (June 2017).
15 Ibid.
16 op. cit., fn. 2
The Unborn Victims Of Violence Act

The Unborn Victims of Violence Act was designed to address this current inadequacy in Federal law by providing that an individual who injures or kills an unborn child during the commission of certain predefined violent Federal crimes may be punished for a separate offense. This legislation is vitally important to expectant mothers and their families, serving as a deterrent to anyone who thinks that they can injure or kill an unborn child with minimal consequences.

The language of the act and arguments in support of the act, such as those put forth by Judge Steve Chabot demonstrate the perceived motivation behind these laws: preventing further domestic violence against pregnant mothers. The law itself uses language focusing primarily on the fetus rather than the mother, though, which challenges the notion that this law is designed to protect mothers. In the UVVA and other fetus-centered homicide laws define harm in relation to the fetus: Fetus-centered homicide laws contribute to the perception that the

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19 op. cit., fn. 17, 215-216.
21 op. cit., fn. 1
23 op. cit., fn. 3
harm is defined by the harm to the fetus rather than to the woman. In doing so, they contribute to the devaluation of women that makes violence against women a problem in the first place… Claims of fetal rights relegate ‘the women are being hit, demeaned, and violated to the status of baby carriers’ rather than human beings.24

Through defining the fetus as a person, pregnant mothers revert to a status of “baby carrier.” Devaluing mothers to this status questions who these laws are meant to protect, and who they actually protect. Increasing criminal charges seems to be a solution to solving the domestic violence issue, assuming that a rational individual would not want to put themselves in jail for a longer amount of time. This assumption has roots in neoliberal personal responsibility and does not address the systemic roots of domestic violence.

This act individualizes oppression by painting domestic violence as a few people in society making bad decisions rather than acknowledging a system of oppression and injustice that needs to be addressed. The individualization of domestic violence cases occurs at the intersection of the prison industrial complex and neoliberalism, “where the struggles of oppressed people come to be used to prop up the very arrangements that are harming those people.”25 This practice fails to address domestic violence as a social and cultural issue. Neoliberalism is a self-justification for the state’s mass use of the prison system, creating a system of punishment instead of a system of prevention. Instead of facing a culture of domestic violence, the UVVA justifies the spread of other fetal-protection laws that further a culture of criminalization, both of abusers and of mothers.

**Broader Implications of the UVVA**

While the UVVA does not directly punish pregnant mothers, the UVVA validates and substantiates other fetal-protection laws that put mothers into prisons. A recent example of the incarceration of a woman under these fetal-protection laws is the case of Purvi Patel from April 2015. Purvi Patel, a 33-year-old woman from Indiana, was given 20 years in prison for illegally inducing an abortion and for neglecting her “dependent.”26 Patell’s case “demonstrates how unsparing the criminal-justice system can be to women whose pregnancies end in (or otherwise involve) suspicious circumstances. If one lesson of the case is about the legal risk of inducing your own late-term abortion, another is about the peril of trying to get medical help when you are bleeding and in pain.”27 Purvi Patel’s case is part of a trend to imprison mothers who have a current or past drug addiction, and those mothers who lose their babies under “suspicious” circumstances. The UVVA validates these state laws because it establishes a federal interest in protecting the life of fetuses over the livelihood of the mothers.

Mothers who become addicted to drugs while pregnant become characterized as malicious beings and may be prosecuted under the same laws that are seemingly designed to protect the mother and the fetus. Fetal-homicide laws can have consequences for a mother’s reproductive health: “A desire to avoid prosecution or confinement under these laws encourages women with addictions to forego medical treatment throughout their pregnancy, avoid giving birth in a hospital, or, in even more extreme cases, seek out abortions to terminate the fetus that could be responsible for their loss of liberty.”28 The UVVA and similar state laws only value mothers when they perform the role

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27 Ibid.  
of fetal carrier in the societally and medically correct fashion, defining what a mother “should be” through those in power. The state is quick to put a woman in prison for endangering her fetus, but does not address what happens to a woman once she is in prison. Putting a mother in prison may protect her from the dangers of drug use or self-inducing abortion, but a lack of proper reproductive health care in prisons present another form of danger:

Women prisoners wait months, and sometimes years, to receive routine gynecological examinations that protect against the development of serious health conditions. For some women, these delays, combined with a consistent failure of prison medical staff to address treatable conditions early, result in the development of serious reproductive health problems. When women in prison are neglected proper reproductive healthcare, the state’s reasoning for placing pregnant mothers in prison collapses. The state argues that through punishing these women, they are promoting both the fetus and the mother’s health and well-being, yet prisoners do not receive proper healthcare. This gap between the state’s justification and the reality of prisoners demonstrates that the state is placing mothers in prison for the sole purpose of putting more people in prison, erasing the experiences of mothers who do not fit in with society’s definition of what a mother should be and should act like.

**Conclusion**

The Unborn Victims of Violence Act and its validation of other fetal-protection laws work to recreate a neoliberal landscape in the United States that sees mass incarceration as a primary solution to social issues. A running theme of the Unborn Victims of Violence Act and other fetal-protection laws is the lack of proactive, self-reflective work in society to acknowledge and prevent societal factors that influence domestic violence, drug and alcohol addiction, and self-induced abortions. Through combining critical theories surrounding the prison industrial complex and the neoliberal administrative system, I have produced a framework to analyze the broader implications of fetal-protection laws. Not only do these laws work to harm the very mothers supposedly protected under these acts, but rather they also participate actively in a rising incarceration rate. While these acts remain, the theoretical framework put forth provides critical tools to inform future political and socio-cultural work, as well as tools to resist the passage of future legislation that relies primarily on incarceration as a solution.

To rearticulate, reproductive justice has three main components: full bodily autonomy over one’s self; the free choice to decide whether to have a child; and the ability to raise one’s child in a safe environment. Mothers who cannot access healthcare services and drug rehabilitation services do not have full control over their bodies. Mothers who revert to the status of “baby carrier” under these laws lose their bodily autonomy when society now sees them in relationship to another being, their fetus. Mothers in abusive relationships lack the ability to make reproductive decisions free from coercion. Until radical structural, social, and cultural changes come about to preemptively challenge the issue of domestic violence in the United States, mothers will not be able to raise their children in safe environments. Fetal-protection laws exist at the intersection of institutions that denies women reproductive justice.

The prison industrial complex and neoliberalism work together to create an empty solution to social problems: imprisoning the few bad individuals in society to give the appearance of fixing society. To truly achieve reproductive justice, there needs to be a challenging of the United States administrative system which currently works to categorize

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29 _op. cit._ fn. 5, 12.

30 _op. cit._ fn. 4
marginalized communities in an effort to determine their life chances, deciding the lifespan, the opportunities, and the ability to move freely for these people.\textsuperscript{31} A far-reaching goal of connecting trends of incarceration within fetal-protection laws to theories discussing the neoliberal carceral state is to create a society in which prisons are obsolete. To achieve this goal, work must be done to create preemptive programs that decriminalize drug addiction. A creation of drug rehabilitation programs that are affordable and accessible give those with drug issues the ability to get help without the need for forced state intervention.\textsuperscript{32}

Continuing, prisons that are currently seen as economic bases, by both the majority white rural population staffing them and private corporations, must cease to hold this fundamental position in society.\textsuperscript{33} These recommendations point to a larger, radical shift that must occur, in which the prison system’s embedded relationship with the state needs to be removed. Decarceration strategies, such as free drug rehabilitation programs, act as a first step in working towards this radical shift because they will decrease the number of women in prison.\textsuperscript{34} Ultimately, the neoliberal administrative system in the United States must be challenged through social welfare programs that deem prisons obsolete.

\textsuperscript{31} op. cit., fn. 25
\textsuperscript{32} op. cit., fn. 3
\textsuperscript{34} op. cit., fn. 5
The notion of “fighting words” was established in the benchmark case Chaplinsky v. New Hampshire, which chronicled how Chaplinsky, a proselytizing Jehovah’s witness, called the city marshal a “God damned racketeer” and a “damned fascist,” and was convicted for violating a state statute forbidding individuals from addressing others in an offensive way. The New Hampshire statute and the Chaplinsky ruling established a new framework for classifying speech as fighting words, which are not constitutionally protected speech. For speech to be considered fighting words, it must satisfy three criteria: The speech must be individually addressed and incite immediate violence in an average addressee. This essay explores the fighting words doctrine as presently constructed, determines that the criterion regarding an “average addressee” is particularly problematic, and suggests that the doctrine be altered to include specific demographics such as race. First, opposing viewpoints in favor of the current doctrine, including maintaining a high level of protection of free speech and avoiding issues regarding content-based speech restrictions, are discussed. These arguments are rebutted to conclude that the doctrine has only adverse effects. The latter portion of the essay argues that the case Miller v. California provides legal precedent for altering the fighting words doctrine, so that specific contexts are considered. It also contends that doing so aligns with both the contemporary social zeitgeist and the state’s key interests.
Interpreting Fighting Words

Freedom of speech is a key tenet of American society and government, and restrictions on speech are understandably hotly contested. Among the various types of speech that are not constitutionally protected, fighting words cases are the least prevalent. “Fighting words” are defined as speech that is individually addressed to an average addressee and would incite immediate violence towards the person making the speech. The primary reason that fighting words cases are so rare is that there is no speech that would be universally regarded as so heinous that anyone would reasonably expect individuals to respond violently. Of these criterion, the most problematic is the second, which specifies an “average addressee.”

For speech to be considered fighting words, it would have to be universally regarded as so offensive as to incite violence, regardless of the individual addressee’s identifiable characteristics. At the time of Chaplinsky v. New Hampshire in 1942, calling an individual a “God damned racketeer” and “a damned Fascist” was considered so offensive as to incite violence against the speaker, yet today this would not be the case. However, speech that is biased against a specific demographic, such as race, could, by today’s standards, understandably be responded to with violence; still, according to the aforementioned criteria, the speech would qualify as constitutionally protected. Thus, the fighting words doctrine – as presently constructed – fails to establish a class of speech which ought not to be constitutionally protected. Mainly, it is universally inapplicable to most speech and simultaneously so narrow in its scope that it fails to provide a legal standard for the punishment of unconstitutional speech. Considering these inadequacies as well as prior case

2 Ibid.

history, contemporary standards, and potential benefits, the fighting words doctrine should expand its scope by allowing specific demographics, such as race, to be taken into account.

The Status Quo

Proponents of the fighting words doctrine, notably traditionalists, assert the importance of maintaining the status quo regarding fighting words and the current level of constitutional protection that the doctrine affords to certain speech. As it is, the doctrine is highly protective of speech, in the sense that it is nearly impossible to argue that specific speech would satisfy all three criteria, particularly the criterion which regards an “average addressee.” Placing further restrictions on fighting words speech would thus make the speech less protected, and more speech would likely lose its constitutional protection. This results in somewhat of a chilling effect. Since the doctrine would ultimately be less protective of speech, those making speech such as racial commentary or criticism may fear that their speech could be conflated or construed as a verbal attack on a racial demographic. Rather than face potential legal repercussions for making the speech, an individual may choose to not make the speech at all. Avoiding this type of self-censorship is a key interest of the state, as the state – both by law and in practice – aims to uphold the First Amendment to encourage a “marketplace of ideas.”

3 op cit., fn. 1
4 Ibid.
words should be maintained, according to opposing viewpoints, is that prior case history illustrates that the government cannot regulate speech based on its specific content. One case that demonstrates this is *R.A.V. v. St. Paul*. The U.S. Supreme Court ultimately reversed the decision of lower courts, ruling that the St. Paul Bias-Motivated Crime Ordinance was unconstitutional in its regulation of the content of speech. Under the ordinance, displaying a symbol or object that would cause anger or alarm based on demographics such as race was considered a misdemeanor. The issue with the ordinance, according to Justice Scalia, was its effect: one side of the debate was being forced to fight under “the Marquis of Queensbury Rules.” In other words, the ordinance essentially gave one side of a debate regarding demographics like race a certain advantage. For example, in a debate, minority groups might have had an advantage because the ordinance targeted racism, and they would thus have special protections that others did not. In effect, the government would be biased towards certain viewpoints — endorsing some while condemning others — resulting in viewpoint discrimination. Ultimately, further regulating the content of fighting words speech would also have the effect of increasing self-censorship, since the government would establish the primacy of certain viewpoints over others.

**Fighting Words and Contemporary Standards**

Despite these objections, specific demographics such as race should be considered under the fighting words doctrine. Prior cases provide evidence that content-based rulings are both possible and supported by legal precedent. In *Miller v. California*, a Supreme Court case regarding sexually explicit speech, the Miller Test was established to distinguish between obscene and non-obscene speech — the former is not constitutionally protected. Similar to the problematic criterion of the fighting words doctrine, the first standard of the Miller Test seeks to determine if an average person, applying contemporary community standards, would find that the work, taken as whole, appeals to the prurient interest. Here is a prime example of a precedent for rulings which are based upon the meaning derived from the specific content of a work. The key issue with the fighting words doctrine is that its scope is so broad that it has the unfortunate effect of limiting what can be considered fighting words. If an individual makes a specific racial slur towards another person, it is reasonable that the addressee might react violently toward the speaker. However, it is not necessarily reasonable to expect that someone of a different racial group would react violently as well. Nevertheless, under the current fighting words doctrine — though the first addressee’s actions might be a perfectly reasonable response — the individual’s speech would be constitutionally protected, since the racially-targeted speech would not universally result in violence. Applying the criterion of contemporary community standards emphasizes the notion that experiences are contextual, not universal, and recognizes that values and standards regarding what is offensive may not be or remain the same.

Additionally, the fighting words doctrine should take specific demographics like race into account due to the contemporary social climate. As mentioned previously, calling someone a “God damned racketeer” would not, by today’s social standards, be considered so insulting that someone would reasonably react violently towards the speaker. It is difficult to think of many utterances that would incite violence now, likely due to how the nature of discourse itself has changed. Over time, language has become both less formal and more callous,
particularly in comparison to language used at the time of the Chaplinsky case. As a result of an increase in the prevalence of vulgar and offensive speech, people have become accustomed and hardened to it, so that it is less likely that they will react violently to any language used at all. Language has devolved such that there is a greater sense of indifference to harmful speech, and the standard for speech that is offensive enough to provoke violence has changed. Social movements have also played a role in this change. Now more than ever are individuals more conscious about their identity in terms of the unique aspects that define their character and experience, such as their racial background. Considering how race is so tied to one’s political, economic, and social experiences, as well as the historical plight of racial groups specifically, it is reasonable that it would be so integral to one’s identity that if one is insulted egregiously based on their race, they would react towards the speaker with violence. Both language and individuals’ sense of identity have shifted, and it is pertinent that the fighting words doctrine be adapted accordingly.

There are also several state interests and benefits in considering race within the fighting words doctrine. It should first be noted that there is little, if any, value in fighting words generally. There is no public utility in sanctioning the exercise of free speech that exists only to inflame or injure. It follows then, that there is little to no meaningful value in racially-biased speech that intends to inflame or injure to the extent that an addressee will be incited to respond violently. Further, it is a key interest of the state to promote overarching equality. The state has a vested interest in limiting free speech which is racially biased and inflammatory, so that true equality can be pursued. Considering race within the fighting words doctrine would also have the effect of supporting state interests in protecting its citizens and maintaining the peace. If individuals were faced with the prospect of legal repercussions for using racially-inflammatory speech that would incite violence, they would be less incentivized to make the speech in the first place. Thus, citizens would be less likely to be harmed, and breaches of the peace would be less likely to occur. Lastly, reconsidering the framework of the fighting words doctrine would mean that those who rightfully deserve legal consequences for inciteful speech would be punished. Under the current doctrine, which limits the scope of fighting words speech to what would universally incite violence, racially-biased inflammatory speech is constitutionally protected, even though contemporary standards would consider this speech to be capable of inciting violence. In short, it is in the state’s interest to alter the scope of the fighting words doctrine.

Objections
One set of possible objections to this argument is that there is potential danger in placing too much value on the specific contexts of free speech. An extreme example might be someone stating: “I don’t believe in God” in a radically religious community. According to that individual, applying the community standards of their specific demographic, in this case, religion, it may be reasonable to expect that people would respond violently, as such utterances are considered blasphemous. Most people would argue that any reasonable person would not react violently to this speech, but the idea of contemporary community standards that allow room for specific contexts means that even extreme community standards would consider this speech to be capable of inciting violence. In short, it is in the state’s interest to alter the scope of the fighting words doctrine.
altering the fighting words doctrine might serve the state interest in maintaining the peace – but this is ultimately outweighed by the fact that it would result in viewpoint discrimination and a chilling effect. One side of the debate would be afforded protections that the other was not, and those fearing legal punishment would refrain from making any speech at all.

However, these objections are problematic and can be countered by three contentions. First, it is wholly necessary to observe the intent of free speech. Regardless of how perverse a community’s standards may be, the original intent of speech is preserved when taken in the context of those standards and remains as a waypoint by which one can gauge if the speech ought to be constitutionally protected. This follows from the third criterion of the Miller Test, requiring consideration of the interest or concern of the work (or in this case, the speech) as a whole. Second, fighting words have nothing to do with the presence or absence of violence on the part of the addressee – it has to do with whether a person’s speech in a specific instance is constitutionally protected or not. Further, altering the scope of the doctrine to allow room for more contextual-based analysis means that even if people are generally more sensitive to marginalizing language, it will meet community standards. Third, it is once again necessary to point out that it has been established that fighting words have little, if any, social value. If there is only one way of expressing a viewpoint that ultimately serves to inflame and injure, there is not only no value in the viewpoint, but the viewpoint can have only negative impacts as well.

Conclusion

Undoubtedly, there are several issues with the present fighting words doctrine. Prior case history such as *Miller v. California* has demonstrated that it is both possible and beneficial to alter the doctrine to be more context-based rather than universal – so that specific demographics such as race can be considered. Contemporary social understanding indicates that previous definitions of fighting words are no longer applicable, and that specific, targeted attacks on a person’s racial identity are among the only kinds of speech to which a person may reasonably respond with violence. The state has an interest in altering the doctrine, as it would support its aims to promote equality and maintain the peace. Ultimately, expansion of the fighting words doctrine would function within existing case law and balance the state’s interest in maintaining a marketplace of ideas in the context of changing social and cultural norms of acceptable discourse.
Aaron Thiele graduated from Cal Poly’s political science department in 2011. He currently works as an Advance Representative in the Office of the Secretary for the U.S. Department of the Interior. He was drawn to this position after working in Secretary Zinke’s Congressional Office for two years as a Senior Policy Assistant. In this position Aaron worked on policies relating to foreign affairs, military, judiciary, and veteran issues. When Secretary Zinke was confirmed as Secretary of the Interior, Aaron was asked if he was interested in transferring over to the Department of the Interior, which he enthusiastically embraced and accepted. Working as an Advance Representative served as good experience for Aaron, allowing him to learn the issues of the Department and giving him the opportunity to travel to some of the country’s greatest places. Aaron chose to attend Cal Poly because of its reputation and
Outside of work, Aaron plays softball (a frequent interview question in the government), as well as recreational soccer. Aaron’s advice to current Political Science students is to learn to constructively disagree with people. There are many people who you will meet in politics that may subscribe to a more radical political point of view than the one you hold; however, just because you may not see eye to eye with someone on every issue does not mean people cannot work together on contentious issues.

During his time as an undergraduate, Aaron had two internships in a House Congressional office. The first was during the August recess, which was rather slow. He applied for the same internship the next year, but requested it in the timeframe when the House was in session, to gain more insight into a typical Congressional office experience. After graduating in 2011, Aaron’s first job was as a Staff Assistant in Congressman Kevin McCarthy’s office.

Working in a Congressional Office was a great experience for Aaron. He spent a lot of time drafting policy memos and briefing memos in order to ensure that his boss was adequately prepared for a hearing, meeting, or vote. One skill Aaron gained through this was the ability to convey the top issues and anticipate questions that may be asked. He has used these skills in his current job, as working in Advance sometimes leads to having to provide last minute updates or information to the Secretary. The key skill necessary for Aaron is the ability to quickly absorb information. Due to the wide range of issues addressed by the Department of the Interior, Aaron has to be able to know the issues that will be discussed.
Reproduction As A Crime

Abstract

This paper briefly examines the actions by states that criminalize substance use during pregnancy through a critical lens that grants attention to the reasons for and implications of punishing pregnant women for specific actions taken during pregnancy. It first embarks on a case study into a particular Alabama law that has warranted the arrests of hundreds of women since its implementation in 2006. Then, using qualitative research, this paper investigates broader state intervention into the lives of pregnant, substance using women via criminal prosecution and the termination of parental rights. Results indicate that current punitive policies have often developed without appropriate consideration of the negative outcomes of criminalization. This includes the effects on the health, well-being, and reproductive autonomy of women. Lastly, I argue that the most effective way to approach the issue at hand will be from a perspective that accounts for women’s own voices and social locations, including wholesome public health approaches that emphasize harm reduction, treatment, and a dedication to reproductive freedom.

Emily Spacek is a junior majoring in Political Science with a Global Politics Concentration. Although she has not focused her scholarly interest beyond political science and public policy, she is curious about Southeast Asian politics and global environmental politics. As she pursues her undergraduate career, she continues to master sewing and writes poetry. As a California native, she hopes an international experience through studying abroad will narrow her academic and professional goals. Nevertheless, she is certain she will pursue a master’s degree in the near future.

Emily Spacek

By Juan A. Ortiz Salazar
Introduction

The issue of drug use during pregnancy has provoked countless debates surrounding public health, welfare, criminal justice, and women’s and fetal rights during the last three to four decades. Since 1973, forty-five different U.S. states have sought to persecute new and expecting mothers for drug use during pregnancy and have successfully arrested hundreds of women. This intervention has existed historically in the U.S. in the name of averting a public health crisis. However, contrary to approaching policy as a means to help women in regards to their health or living situations, approaches by states have been to persecute and punish pregnant women for their substance use. Scholars have increasingly been granting attention to how the modern criminal justice system is criminalizing aspects related to pregnancy. Part of this attention can be attributed to explaining the current trends of increasing numbers of women in prison. According to the ACLU, “women are the fastest growing segment of the incarcerated population increasing at nearly double the rate of men since 1985.” The recent actions of states to criminalize and prosecute new and expecting mothers for substance use during pregnancy certainly contributes to this problem.

The possible severity of the implications of criminalizing mothers as opposed to taking other policy approaches warrants an investigation into how states have reacted towards substance using mothers across the United States. Research begins in the next section by briefly framing the issue of substance use during pregnancy. It is proceeded by a case study of a recent Alabama law that is being used to criminalize pregnant women in the state. Through investigating the activity of state legislatures and courts via criminal law and the termination of parental rights, I will analyze how policies have often developed without adequate consideration of the likely negative outcomes criminalization entails. I will focus on the implications of how these reactions affect the reproductive liberties and rights of women across the United States.

Framing the Issue

Substance use during pregnancy can pose serious risks to both a pregnant woman and her fetus. The U.S. Department of Health and Human Services estimates that each year 400,000-440,000 infants are affected by prenatal alcohol or illicit drug exposure. According to a document prepared by the National Center on Substance Abuse and Child Welfare, “Prenatal exposure to alcohol, tobacco, and other drugs has been potentially linked to a wide spectrum of physical, emotional, and developmental problems for these infants.”

As Figure 1 shows, rates of usage by pregnant women vary by type of substance. While laws mainly target other illicit substance use during pregnancy, alcohol and tobacco use are much more prevalent. The expressed reasoning for laws that specifically target illicit drug usage is often that these drugs are perceived to have more harmful effects for children and mothers, however the factuality of this claim is actually debated. It is important to recognize, too, that there has been limited scientific knowledge about prenatal exposure to certain

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3 American Civil Liberties Union and the ACLU Foundation, “Facts About The Over-Incarceration Of Women In The United States,” (online source, 2018).
5 Ibid.
development and health. Affective approaches to promoting the health of children take a more holistic approach, combatting the various significant factors that affect their development. In actuality, current state policies that resort to punitive measures divert attention away from the focus of creating substantial efforts to support pregnant or parenting women who struggle with addiction or fall into drug use. They do little to target the significant, more systemically based reasons drug usage occurs.

The Case of Alabama

As previously noted, the last two to three decades have seen increasing state attention towards reproduction as a focus for criminal punishment in the U.S. Alabama’s chemical endangerment law, added to the state’s legal code in 2006, is one prime example of such attention through the intervention into the lives of new and expecting mothers. Section 26-15-3.2 of the code makes exposing a child to a controlled substance or to an environment in which a controlled substance is produced a crime. Although not explicitly intentioned, this law has since been the means of criminalizing hundreds of Alabama mothers. On September 23, 2015, ProPublica reported on the results of an in-depth investigation into the Alabama chemical endangerment law, revealing that it has prompted the criminal prosecutions of at least 479 women since its implementation in 2006. The article brings to light one mother’s particular confrontation with the law in August of 2014 which had resulted in her arrest and a prolonged legal battle to regain custody of her two children. According to the article, after testing positive for drugs in a routine blood test during labor, Casey Shehi was reported to authorities and charged with “knowingly, recklessly or intentionally”

substances. While strong evidence exists about the maternal and fetal effects of substances like alcohol and tobacco, less is known about the effects of other substances. Rather, it is difficult to develop strong evidence-based conclusions by attributing certain observed outcomes to specific drugs. In fact, poverty, environment, violence, poor nutrition, and other risk factors have been known to influence children’s development and health as much as, or more than prenatal exposure to drugs. Existing policies regarding substance use during pregnancy focus on the single factor of prenatal drug exposure as the explanation for all negative outcomes to child

7 op. cit., fn. 6
8 Ibid.

10 op. cit., fn. 6
causing a child to be exposed to an illicit substance.\textsuperscript{14} Despite her newborn being born substance-free, Shehi was being prosecuted under the rationale that she had exposed her fetus to substances in utero. This unfortunate, burdensome situation was due to Shehi having taken an unprescribed Valium (a medication commonly used to treat anxiety disorders) one evening during her pregnancy to help with sleep.\textsuperscript{15} Stories like Casey Shehi’s and other Alabama mothers’ demonstrate the downfalls of the criminalization approach to solving issues of drug use in Alabama.

Alabama’s implementation of the chemical endangerment law illuminates one controversial way in which state law and the criminal justice system is targeting pregnancies – the prosecution of substance-using pregnant women.\textsuperscript{16} During the 1980s, the issue of prenatal substance use first gained substantial attention from state lawmakers and prosecutors. Since then, the effort to address prenatal substance use has continued under a variety of different state laws. Most state legislatures, at one time or another, have attempted to criminalize prenatal drug use or to treat it as grounds for terminating parental rights.\textsuperscript{17} As exemplified in Casey Shehi’s case, when mothers or newborns in Alabama test positive for any illegal drugs or misused prescription drugs, the mother can be criminally prosecuted by the state.\textsuperscript{18} The law that legitimizes these prosecutions originally aimed to combat the so-called methamphetamine epidemic in Alabama during the early 2000’s. Initially, it intended to target parents who were producing methamphetamine in their homes in an attempt to protect children from drug exposure.\textsuperscript{19} Soon, however, prosecutors and courts began applying the law to pregnant women who exposed their embryo or fetus to illicit substances during pregnancy. The penalties have been severe – one to ten years in prison if a woman’s infant suffers no ill effects, ten to twenty years if an infant shows signs of exposure, and ten to ninety-nine years if there occurs an infant death.\textsuperscript{20} As seen in Shehi’s case, because the law considers chemical endangerment a form of child abuse, a woman prosecuted for exposing her baby to drugs in utero may also lose custody of all children she has.

According to civil rights attorney Rachel Suppé, “Medical, pro-choice, and anti-poverty groups have challenged use of [Alabama’s statute] in this manner, arguing that the law was not intended to criminalize women whose fetuses are exposed to controlled substances in utero.”\textsuperscript{21} In 2013, Hope Akrom, a mother who had been arrested and charged with chemical endangerment of a child due to her substance use during pregnancy, attempted to appeal her conviction to the Alabama Court of Criminal Appeals.\textsuperscript{22} Hope argued that she could not be guilty under the code because it applied to children, not fetuses.\textsuperscript{23} The court ruled against her, determining that her conviction was in fact correct. In its certiorari, Ex parte Ankrom, the Alabama Supreme Court fortified that the term “child” in the chemical endangerment statute does legally apply to fetuses.\textsuperscript{24} Thus, the

\textsuperscript{14} op. cit., fn. 13; 14

\textsuperscript{15} op. cit., fn. 14

\textsuperscript{16} I use “pregnant women” in this paper to refer to individuals who are pregnant or are biologically capable of becoming pregnant. Therefore, this may include individuals who do not identify as women.


\textsuperscript{20} op. cit., fn. 14


\textsuperscript{22} Ibid.

\textsuperscript{23} Ibid.

\textsuperscript{24} Ibid.
court has legitimized the criminalization approach based on the recognition of the fetus as having rights distinct from its mother’s.

Alabama’s punitive response to the issue of substance use during pregnancy, under the rationale of fetal protection, carries the potential to infringe upon the autonomy and integrity of pregnant women. For one, there has been an increased rate in cases where drug tests are conducted without consent or appropriate warning of the consequences that a positive test necessitates. During her investigation, reporter Nina Martin reviewed hundreds of post-2006 court records in Alabama, revealing that drug testing across Alabama counties is ubiquitous, varied, and often not based on clear hospital policy. Some hospitals seem to test only on a case-by-case basis. As pointed out by Martin, these variable hospital policies likely lead to health care workers’ own prejudice influencing decisions on who gets tested. For example, based on the criteria that expecting mothers who use drugs are more likely to go without prenatal care, some hospitals have decided to single out which mothers to test based on whether the mother has or has not received prenatal care. This, however, promotes the unfair targeting of certain women. Poor women, especially those who live in more rural areas, are less likely to obtain proper prenatal care. These discriminatory health policy practices are especially relevant in states like Alabama with significant underserved populations, where, in 2016, 18.2% of women aged 18 to 64, fell below the poverty line. The Alabama chemical endangerment statute is strategically being used to criminalize mothers in the state of Alabama. It is one of many cases across the country that is contributing to the trend of greater state intervention into the lives of pregnant women.

**State Activity: Criminal Law**

The social context and criminal response to prenatal substance exposure changed drastically in the 1980s and has since become a controversial policy debate. Prior to the 1980s, charges of prenatal crime in the U.S. were few and far between, occurring only twice a decade. During the mid-1980s, however, “Media attention on the problems of ‘crack babies’ combined with technological advances in in utero fetal health monitoring created a public outcry against pregnant substance abusers.” The focus of not only the public, but legislators, policymakers, judges, and lawyers shifted from protecting children to protecting fetuses, and sanctions via both the criminal justice system and the child protective system have been prevalent in the U.S. since.

According to research by Leticia Miranda and Christine Lee, the Guttmacher Institute, and the National Advocates for Pregnant Women, forty-five U.S. states have attempted to prosecute women for drug use during pregnancy since 1973 (Table I). The only states which have not prosecuted women for drug use during pregnancy include Delaware, Iowa, Maine, Rhode Island, and Vermont. Tennessee is the only state to have enacted a law explicitly making drug use during pregnancy a crime and proceeded to expire the law in July 2016 only two

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[25] op. cit., fn. 20
[26] Ibid.
[27] Ibid.
[28] Ibid.
[29] Ibid.
[30] Ibid.
[31] op. cit., fn. 12
[32] op. cit., fn. 18
[34] op. cit., fn. 19
[35] Ibid.
Reproduction As A Crime

years after passage. Still, in other states, prosecutors have been able to use various existing state criminal laws to attack women for substance use during pregnancy. In Alabama substance use during pregnancy constitutes child abuse under the chemical endangerment law. Pregnant women across the nation have been arrested and charged with a wide range of crimes, including possession of a controlled substance, delivering drugs to a minor, corruption of a minor, child neglect, assault with a deadly weapon, and manslaughter. For example, an Oklahoma mother was charged with second-degree murder and sentenced to spend fifteen years in prison after the stillbirth of her meth-exposed baby in 2004.

To uncover a framework that underlies the connection between state infringement on pregnancies and reproductive decision-making, acclaimed scholar Dorothy Roberts identifies two key factors at stake. First, criminal prosecutions of drug addicted mothers impose severe penalties on women for choosing to complete pregnancies. In other words, women are actually penalized for choosing to have their babies as opposed to choosing to terminate their pregnancies. Restricting a woman’s right to have children, regardless of society’s view of her responsibility as an expected mother, is an infringement on her reproductive freedom and bodily autonomy. Second, the state is interfering with women’s reproductive liberties be illegal in all or most cases with only 18% of Democrats sharing this view. The politicization of the debate carries its own implications. Today, thirty-eight states have passed fetal homicide laws or have amended their murder statutes to include the unborn. In Roe v. Wade, the U.S. Supreme Court rejected the claim that fetuses are separate legal persons with rights independent of their pregnant mothers. However, Roe also establishes a trimester framework that allows states to take an interest in fetal life and protection during the third trimester of pregnancy. Prosecutors and judges, consistent with the goals of personhood measures, continue to claim that Roe establishes legal rights of fetuses fully separate from those rights of pregnant women. Subsequently, states adopt what they view as an obliged role of protecting these separate entities from their potential perpetrators – that is, their mothers.

The criminal prosecutions of pregnant women across the country have taken place most often under the rationale of protecting the fetus. There is much debate in society about the status of the human embryo and fetus. The debate revolves around questions of personhood and resulting legal and moral rights – contested rights that underlie the use of fetal protection measures against pregnant women. It continues to be a partisan, politically driven debate as well. For example, a 2016 Pew survey reports that 62% of Republicans believe abortion should

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<th>Substance abuse during pregnancy is child abuse</th>
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<td>YES</td>
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Table I: Substance Use and Pregnancy: State Responses

36 Liss-Schultz Nina, “Tennessee’s War on Women Is Sending New Mothers to Jail,” Mother Jones (March 14, 2016).
37 Cynthia Dailard and Elizabeth Nash, “State Responses to Substance Abuse Among Pregnant Women,” Guttmacher Institute (December 1, 2000).
38 op. cit., fn. 19
39 op. cit., fn. 12
43 Ibid.
44 op. cit., fn. 12
by imposing a certain “standard for procreation” – that some women do not deserve to have children.⁴⁵ The state often infringes on the lives of pregnant women with criminal sanctions based these concealed sentiments: that certain women are inferior, immoral, and should not be granted the same liberty as other “well-deserving” women. This dangerous ideology, frighteningly similar to that of the eugenics movement in the late 19th century, has historically led to the justification of ill practices such as forced sterilizations across the nation.

Further, criminalizing substance use during pregnancy arguably infringes on a woman’s liberty to seek medical care.⁴⁶ There are many medical reasons that health care professionals should be aware of drug use, such as ensure necessary prenatal care or to help prevent pregnancy complications.⁴⁷ Criminal laws, however, create an atmosphere of fear for women. In actuality, penal sanctions discourage effective public health approaches to the issue. These measures discourage women from obtaining prenatal care at all, avert them from following through with medical appointments, and cause women to withhold important information from their doctors.⁴⁸ The purpose of punitive measures backed by a criminal justice system is to establish actions as crimes and then punish the guilty individuals. This, however, is not the correct solution for every societal ill. Policymakers must confront the negative effects of criminalizing situations that often stem from systemic issues. Effective approaches, at the very least, should look to promote women’s health, liberty, and success.

⁴⁵ op. cit., fn. 12
⁴⁶ op. cit., fn. 38
⁴⁷ op. cit., fn. 6

State Activity: Termination of Parental Rights
Many states have also expanded their child welfare statutes to address prenatal drug exposure, treating the issue as a matter of civil law.⁴⁹ Eighteen states have laws dictating that drug use during pregnancy equates to child abuse (Table I).⁵⁰ In these states, signs of prenatal drug exposure can provide grounds for removing the infant from the mother’s custody and can cause the termination of a mother’s parental rights. Further, of the eighteen states that determine substance use during pregnancy as child abuse, seven of them – Minnesota, Iowa, Illinois, Oklahoma, Louisiana, Virginia, and Rhode Island – have laws which require health care workers to report to authorities if they suspect a pregnant woman is abusing drugs (Table I).⁵¹ These reports can be used as convicting evidence by the state in child welfare proceedings to terminate parental rights. Unfortunately, a major reason women do not disclose their drug use to a medical facility and seek treatment in the first place is because they fear their children may be immediately removed from their homes and they will lose parental rights and custody.⁵²

Equating drug use to child abuse may also initiate the severing of families without review of adequate, case-by-case evidence that it is indeed the best course of action to take for the benefit of the children and mothers. In fact, there is an, “extraordinary consensus by public health organizations, medical groups, and experts that such actions undermine rather than further maternal, fetal, and child health”.⁵³ While it may be important to investigate if a home situation and environment is healthy and supportive for children, these laws take a one-size-fits-all approach that substance using mothers are not worthy of parenting.

⁴⁹ op. cit., fn. 34
⁵⁰ op. cit., fn. 19
⁵¹ Ibid.
⁵² op. cit., fn. 6
⁵³ op. cit., fn. 44
The view that some pregnant women are not worthy of being mothers is therefore crucial to legitimizing the state’s interfering in women’s pregnancies. Dominant cultural notions of motherhood contribute to the idea and practices of controlling women with regard to childbirth and child raising. These notions and norms have been promoted by the state as legal duties, and thus pregnant women who do not conform to these social norms are considered to be willfully immoral, bad mothers. By imposing certain standards for procreation, based on specific societal norms, it interferes with a woman’s reproductive liberty. For most of U.S. history, these norms determine notions of good versus bad motherhood that are based on the idea that bad mothers are those who do not express traditional family values. This, however, is problematic because it undermines true respect for women’s control of their own bodies, a respect that makes up, “the backbone of an equal society”.

It is also important to understand that the devaluing and demeaning of certain pregnant women rests on the rhetoric of “choice” that policy preferences of neoliberalism promote. These policy preferences, which focus on the defunding of social programs, promote the idea of personal responsibility and choice over the potential needs and barriers of the collective. In the 1990s, courts began to implement policies and practices that emphasized personal responsibility and punishment— one example being that while public funding for assistance and education are being cut, prison funds have actually gone up. Although the 1995 Personal Responsibility Deregulation Act failed in Congress, it is a perfect example of such proposed legislation. Its purpose was to “end the dependence of needy parents on government benefits by promoting work and marriage; and discourage out-of-wedlock births.”

Expanding child welfare statutes in order to address prenatal drug exposure as a means of terminating parental rights works in a similar manner to penalize pregnant women for seeming to make “bad choices”. Oftentimes use is perpetuated by addiction, poverty, abuse, or other factors that “bad choice” rhetoric ignores. Further, separating families solely based on evidence of substance use during pregnancy, should not be a policy solution to rely on for creating healthy families.

**Implications**

Despite the importance of stated concerns for the health and safety of children, it is crucial to analyze the implications that result from according fetal rights over the rights of the women who carry them. The common justification for criminalizing women based on their substance use is that it is an active attempt to promote the health and well-being of both mothers and children. However, based on my findings, the threat of punitive measures does much to damage the health of drug using women and their fetuses because it discourages them from obtaining necessary help or medical care. In fact, in many cases it is necessary to challenge if these actions are responses to a social health problem or are attempts to strategically further the agendas of fetal personhood. When this is indeed the case, these prosecutions, arrests, and laws must be criticized and examined as potentially undermining women’s reproductive autonomy and

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56 Ibid.
freedom. Additionally, with the rates of incarcerated women in the U.S. increasing by the year, policymakers should think more critically about their contributions to this phenomenon. Society must not unwarily accept the normalization of criminalizing this issue to an extent such that even medical workers, who’s number one concern should be the promotion of health and well-being for these mothers, are expected to participate in their persecutions. Lastly, criminalization also normalizes negative social norms such as the stigmatization and discrimination of certain women, most often those of marginalized groups.

Conclusion
As put by the director of the National Advocates for Pregnant Women, Lynn Paltrow, “The truth is that we do not have to pit the woman against the fetus to promote healthy pregnancies or to value life". To approach the issue of pregnant women whose behavior might have the potential to cause harm to their fetus, I argue that we should focus on the pregnant women’s social locations rather than focus on fetal harm and protection. These social locations tend to include poverty, violence, need, and sometimes helplessness. Blaming and prosecuting individual women without understanding their distinct circumstances makes the goal of promoting the best situations possible for both mother and child difficult, if not impossible.

In contrast to punitive measures, public health approaches to substance use during pregnancy promote harm reduction and treatment. While substance use may have negative health consequences, imposing legal and criminal punishments on mothers very often leads to worse outcomes for both the mother and child. Effective treatment has the potential to actually better the health of women and children, while punitive approaches can make it less likely that women will receive any healthcare services. This means that how the situation is currently being handled in some states hinders the possibility of women seeking not only prenatal care for their fetus, but for treatment and care of their own substance use. Further, women’s own perspectives should be incorporated in policy solutions. In one study, where researchers conducted in-depth interviews with pregnant drug using mothers, it was undoubtedly concluded that punitive policies have severe effects on women’s abilities and decisions to seek help for their drug use. There should be numerous widely available and accessible treatment options. There should be more support for keeping women in treatment for not only the duration of their pregnancy, but for as long as they need to and wish to receive help.

Thus, if policymakers want to most effectively tackle issues of substance use during pregnancy, they should incorporate women’s voices about what the barriers to help are and come up with the necessary and helpful state-supported programs. They should focus on creating humane, evidence-based drug policies and ensuring that adequate health care and reproductive freedom is accessible to all. Now more than ever, it is crucial to challenge health care workers, law enforcement, child welfare officials, social workers, judges, and policy makers to examine the role they play in the intervention of the liberties of pregnant women and look to change what we know to be harmful.

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61 op. cit., fn. 42
62 op. cit., fn. 34
63 Ibid.
64 op. cit., fn. 50
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Carlos made the last-minute decision to attend Cal Poly as an English major after attending Open House in 2009, which persuaded him to pick Cal Poly over UC Santa Cruz. He quickly realized that English was not the major for him and transferred into Political Science to better fit his desire to analyze global
news events and discuss them among his peers. Within global issues, Carlos found his niche in studying climate change and the need for clean energy. To better focus his degree on this area, he picked up a minor in Environmental Studies, which prepared him for a career in science without having a science degree.

On campus he was involved with the Political Science Club where he served as treasurer, and the Political Science Honors Society, Pi Sigma Alpha where he served as president. One of his most memorable classes in the Political Science Department was Contemporary US Foreign Policy taught by Dr. Shelley Hurt. As an undergrad, Carlos worked in a range of jobs from doing laundry for Cal Poly athletes to working as a shoe repairman at a local shoe store. During his senior year, he interned with Public Policy Solutions, where he worked on the election campaign of Lois Capps for Congress. One of his memories from this internship was working at an event where Bill Clinton was speaking and being able to take a picture with former president Clinton. After graduation, Carlos worked in SLO for a year before moving to Washington DC to attend graduate school at George Washington University where he earned a master’s degree in Environmental and Natural Resource Policy.

Carlos’ advice for current Political Science students is to find an issue or cause that they are passionate about and pursue a career in that field. He believes that the skills gained during your time at Cal Poly are valuable in a wide variety of fields. These skills include communications, writing, research, data analysis, and so on. In his opinion, the most important skill students will gain in a Political Science degree is how to publically engage on topics of interest. Carlos advises students to avoid comparing their personal career progresses to others – both within and outside
WARRANTLESS DRONE SURVEILLANCE: CONSTITUTIONALLY PERMISSIBLE OR PROHIBITED?
Brett Raffish

Abstract

Unmanned Aerial Vehicles (UAVs), also known as remotely piloted aerial vehicles (RPVs) or drones, have been a tool for military reconnaissance and surveillance since the early 1900s. They are one of many emerging technologies that have broken onto the consumer market. In addition to their appeal on the private market, drone technology serves a practical purpose for law enforcement agencies looking to adopt new and innovative methods of conducting aerial surveillance. However, the use of drones for surveillance has raised questions pertaining to compliance and consistency with federal search and seizure law as outlined by precedent and the Fourth Amendment. Surveillance using drones has yet to be challenged in a federal court on Fourth Amendment grounds, which has left many law enforcement agencies and the public uncertain of their constitutionality. This paper will first examine the holistic and overall constitutionality of law enforcement use of drones for surveillance, as well as provide a set of operating rules for law enforcement agencies looking to implement this new technology. Policy recommendations will be based on United States Supreme Court opinions and precedent established within the last 100 years. Due to the relative infancy of drone technology, these guidelines may serve as a foundation for law enforcement organizations looking to carefully implement drone technology. Further, they may aid law enforcement organizations that have already implemented drone technology who are looking to reform their current activation policies in order to comply with U.S. Supreme Court precedent pertaining to warrantless surveillance and avoid a future constitutional challenge.
Eye in the Sky

Technology is an ever-expanding facet of the 21st century. Every few years, a new form emerges that allows for individuals to see the world from a new and different perspective, sometimes without actually having to be physically present at a particular location. One of the newest technologies marketed to the average consumer is drone technology, also known as remotely piloted aerial vehicles (RPAVs) or unmanned aerial vehicles (UAVs).1 Drones have been a tool for military reconnaissance and surveillance since the early 1900s. As unmanned aerial technology has become more technologically advanced and practical for both military and civilian use, it has become quicker in digital and mechanical processing speed and smaller in size.2 For instance, the United States Department of Defense and U.S. intelligence agencies have adopted drones capable of carrying powerful payloads that are controlled by U.S. military personnel across the United States, thereby virtually eliminating ground troop deployment in many cases.3,4

Although drone technology had been exclusively utilized as a military surveillance and precision strike tool, within the last 3 years drone technology has become 1) small enough for consumer use; 2) practical for consumer use; and 3) affordable for the everyday, average consumer.5,6 It has become possible to equip non-military drones with high-quality video cameras and wi-fi capability, allowing operators to not only to view the world from the sky in real-time, but also to record footage.7,8

The versatility of these technologies and the drone’s capacity to view the world from above have enticed many law enforcement agencies to adopt the use of drones for reasons similar to that of military agencies – to provide situational awareness of potentially dangerous situations to individuals on the ground, and to conduct surveillance of suspects.9 The use of drone technologies by law enforcement, however, has generated a great deal of controversy over the impact the use of such devices may have on individuals’ Fourth Amendment rights against unlawful search and seizure.10

As drone technology has expanded, allowing for real-time surveillance above a person’s property and, potentially, the interior of their home through windows or spaces otherwise not easily viewable, concerns have arisen regarding the constitutional boundaries necessary to ensure citizens’ rights against unlawful search and seizure are protected.11 Although the use of drone technologies by law enforcement agencies has yet to be challenged in any United States Federal Court, seven United States Supreme Court decisions (Hester v. United States, Katz v. United States, Oliver v. United States, Ciraolo v. United States, Dow Chemical Co. v. United States, Florida v. Riley, and Kyllo v. United States), all decided within the last 100 years, support the constitutional use of drone technologies by law enforcement. These cases may also

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provide insight as to the lawful boundaries within which drone technologies may be utilized by law enforcement agencies.

As law enforcement surveillance technologies and techniques have expanded and developed over the last 100 years, an array of Fourth Amendment challenges have been brought against their use. Based on five United States Supreme Court cases which all address the topic of law enforcement surveillance and the Fourth Amendment, it is reasonable to conclude that aerial surveillance technologies utilized by law enforcement are constitutionally protected. However, this assumes proper limitations are imposed to avoid a successful Fourth Amendment challenge. Moreover, drone technologies may also be limited by their practicality, which is likely measured differently within each state. One can better understand why drone technologies are constitutionally permitted by examining how prior cases addressing Fourth Amendment challenges to law enforcement deployment of technologies build upon one another, thereby creating a set of limitations, guidelines, or structure governing the lawful use of drone surveillance technologies. Due to the relative infancy of drone technology, these guidelines may serve as a foundation for law enforcement organizations looking to carefully implement drone technology, as well as law enforcement organizations that have already implemented drone technology who are looking to reform their current activation policies, in order to comply with U.S. Supreme Court precedent pertaining to warrantless surveillance and to avoid a future constitutional challenge.

The Foundation of Warrantless Surveillance

The first case to pave the way for the constitutional use of drone technologies was Hester v. United States (1924). Law enforcement officers conducted a warrantless surveillance of Mr. Hester’s property from a field adjacent to Mr. Hester’s house. This observation was made via the officers’ naked-eye from the open field on suspicion that Hester had violated prohibition law by selling moonshine whiskey.12 Once officers observed illicit behavior from their vantage, Hester was arrested. Hester was convicted of violating prohibition law. However, he appealed the conviction on Fourth Amendment grounds by claiming that the officers’ vantage point in an open field on his property constituted an illicit search. Once the case had reached the United States Supreme Court,13 the court held that open fields do not qualify as “persons, houses, papers and effects”14 as articulated in the Fourth Amendment.15 From this decision, the Open Field Doctrine was born, thereby providing the first level of guidelines for law enforcement surveillance techniques and, almost 100 years later, for law enforcement utilization of drone technologies. Specifically, the Hester Court determined that the “Fourth Amendment did not protect ‘open fields’ and that, therefore, police searches in such places as pastures, wooded areas, open water, and vacant lots need not comply with the requirements of warrants and probable cause.”16 Thus, law enforcement surveillance conducted of an open field is a constitutionally protected practice.17

Katz v. United States (1967), building off Hester v. United States, provides the standard for government search or seizure, and has remained so throughout the 20th and 21st centuries. In Katz, Charles Katz, a self-proclaimed gambling bookie, used a public payphone to transmit illegal gambling wagers to
individuals in Miami, Florida and Boston, Massachusetts. The conversations and transactions between Katz and his clientele, made via payphone, were monitored by federal law enforcement, eventually leading to Katz’s arrest. Katz thereafter challenged the ‘search’ of the payphone conversations. The court then developed a two-part test to determine whether governmental action amounted to a search requiring either a warrant or valid exception to the warrant requirement. First, does the individual exhibit an actual or subjective expectation of privacy and, if so, is that expectation one that society finds reasonable? Answering these questions affirmatively means the conduct amounts to a search as provided by the Fourth Amendment, and any such search performed in the absence of a warrant or exception is invalid and unconstitutional. Katz therefore defines the method by which constitutionality of searches and seizures are evaluated. Although aerial surveillance was not regularly used by law enforcement agencies at the time Katz was decided, the case unquestionably provides clear guidelines for evaluating Fourth Amendment search and seizure challenges.

**Law Enforcement Surveillance Tactics & The War on Drugs**

Although the New York City Police Department established the United States’ first airborne law enforcement surveillance unit in the mid-1920s, aerial surveillance was not common practice by law enforcement as it was neither the most economical nor practical surveillance technique. However, over the course of approximately 20 years, law enforcement agencies began to adopt fixed-wing aircraft as a means of speed detection and surveillance, and in 1947 the helicopter was introduced to law enforcement in New York. Although “Helicopters…can cost more than $3 million to purchase and thousands of dollars per hour to fuel and maintain, larger urban jurisdictions may have the resources to acquire more expensive aviation assets, but the price may be unrealistic for smaller jurisdictions.” As the cultivation of marijuana generally necessitated large open spaces to grow cannabis plants, law enforcement surveillance tactics changed. Notwithstanding the large price tag for aerial surveillance technologies, access to helicopters and fixed-wing aircraft enabled law enforcement to more aggressively pursue the cultivation and production of recreational drugs, the most common being marijuana. This tactical change spurred a series of Fourth Amendment search and seizure challenges (See, Oliver v. United States, California v. Ciraolo, Florida v. Riley). These decisions, weaving in precedent set by both Hester and Katz, provide greater clarification of the constitutional boundaries of law enforcement aerial surveillance, thereby promoting modern utilization of law enforcement technologies, including drone technology, in a manner that is constitutionally valid.

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20 op. cit., fn 18
23 “Fixed Wing Aircraft in Law Enforcement,” Law Officer, (January 3 2009).
25 “In 2007, the first national study of police units operating planes or helicopters found that approximately 20 percent of all agencies with 100 or more sworn officers had aviation units, including 44 state police agencies, 76 sheriffs’ offices, 68 municipal police agencies and 13 county police agencies. source: “Aviation Technology,” National Institute of Justice.
develops the boundaries that separate those areas of a person’s property entitled to constitutional protection from areas where individuals are not entitled to such constitutional protection.\textsuperscript{36}

Law enforcement surveillance tactics in Oliver are similar to, but distinct from, those utilized in California v. Ciraolo (1985). Whereas law enforcement engaged in a physical warrantless entry of an open field in Oliver, Ciraolo introduced the aspect of surveillance and observation from the sky. Dante Ciraolo, a resident of Santa Clara, CA, grew marijuana in his backyard (an open field shielded by two fences). Based on an anonymous tip that Ciraolo was growing marijuana, the Santa Clara Police Department flew officers 1,000 feet above Ciraolo’s property in order to take aerial photographs of the field. Based on naked-eye observations made by one of the officers in the airplane, a search warrant was obtained and police seized the marijuana plants and arrested Ciraolo.\textsuperscript{37, 38}

In an appeal to the Supreme Court alleging Fourth Amendment violations, the court, in a 5-4 decision held that, held that the Open Field Doctrine applied to the aerial surveillance of Ciraolo’s property. Therefore Ciraolo did not possess a reasonable expectation of privacy. In his majority opinion, Chief Justice Warren Burger contended “[T]hat the backyard and its crop were within the “curtilage” of respondent’s home did not itself bar all police observation. The mere fact that an individual has taken measures to restrict some views of his activities does not preclude an officer’s observation from a public vantage point where he has a right to be and which renders the activities clearly visible.”\textsuperscript{39} Ciraolo asserted that because his home resided in a suburban area, his entire backyard

\textsuperscript{36} “Warrantless Drone Surveillance,” PAIDEIA VOLUME 5

\textsuperscript{30} "Open Fields," Justia Law.

\textsuperscript{31} “Oliver v. United States,” Oyez, (December 12, 2017).


\textsuperscript{34} op. cit., fn. 31

\textsuperscript{35} Ibid.

\textsuperscript{36} op. cit., fn. 33

\textsuperscript{37} “California v. Ciraolo,” Oyez (December 12, 2017).

\textsuperscript{38} Ibid.

\textsuperscript{39} Ibid.
was considered curtilage. However, the majority countered that the “observation took place within public navigable airspace, in a physically non-intrusive manner” where any person in aircraft flying above may be able to notice the cannabis crop growing in Ciraolo’s backyard from 1,000 feet in the air.\footnote{Gregory James, “California v. Ciraolo: Are the Protections of the Fourth Amendment Earthbound,” 20 J. Marshall L. Rev. 343 (1986), John Marshall Law Review, Vol. 20, no. 2 (1986).} \footnote{op. cit., fn. 37}

As a complement to Ciraolo, Florida v. Riley (1986) addressed the issue of the height from which observation occurred, type of aircraft, and the parameters required when utilizing aircraft of any type to conduct surveillance. In 1989, Michael Riley, a resident and property owner in Pasco County, Florida, was reported to be growing marijuana inside a greenhouse at a location adjacent to his property which was situated on five acres of rural land.\footnote{“Florida v. Riley,” Oyez, (December 14, 2017).} Law enforcement could not see into the interior of the greenhouse to confirm that Riley was growing marijuana. To gain a closer look at the property, officers flew a helicopter from 400 feet above to see onto the property and specifically attempt to identify the contents of the greenhouse. Officers identified what they believed to be marijuana, obtained a search warrant to enter the property, seized the marijuana Riley had been growing, and arrested Riley.\footnote{“Florida v. Riley,” 488 U.S. 445 (1989), Justia Law.} \footnote{op. cit., fn. 42} Associate Justice Byron White, affirming the holding of California v. Ciraolo, added that the precedent set in Ciraolo that aerial surveillance is permitted and that the specific type of aircraft used is of no import – whether it be fixed winged or a helicopter – as long as the particular aircraft is flying under Federal Aviation Administration (FAA) guidelines and parameters.\footnote{“While Federal Aviation Administration (FAA) regulations permit fixed-wing aircraft to be operated at an altitude of 1,000 feet while flying over congested areas and at an altitude of 500 feet above the surface in other than congested areas, helicopters may be operated at less than the minimums for fixed-wing aircraft. ‘If the operation is conducted without hazard to persons or property on the surface. In addition, each person operating a helicopter shall comply with routes or altitudes specifically prescribed for helicopters by the [FAA] Administrator.’ source: “Florida v. Riley, 488 U.S. 445 (1989),” Justia Law.}

Florida v. Riley remains the law with respect to law enforcement aerial surveillance, which in turn, means that the application of new and innovative drone technologies as a form of aerial surveillance technology is constitutionally permissible – to an extent.

Modern Technology & Its Implications

As law enforcement technology continued to advance into the 21st century, new Fourth Amendment challenges emerged. Moreover, the introduction of vision and sensory enhancement technology came with two primary challenges on Fourth Amendment grounds in the United States Supreme Court: Dow Chemical Co. v United States and Kyllo v. United States. In Dow Chemical Co. v. United States (1985), United States Environmental Protection Agency (EPA) enforcement officials were denied, by a United States District Court, the ability to inspect the Dow Chemical Company industrial worksite to investigate possible violations of federal environmental law and policy. After the EPA was denied access to search the facility in person, the Agency “employed a commercial aerial photographer, using a standard floor-mounted, precision aerial mapping camera, to take photographs of the [Dow Chemical Company] facility from altitudes of 12,000, 3,000, and 1,200 feet.”\footnote{Dow Chemical Co. v. United States, 106 S. Ct. 1819, (1986)} The Dow Chemical Company brought the suit to the U.S. District Court on grounds that the “EPA had no authority to take aerial photographs and that doing so was a search violating the Fourth Amendment.”\footnote{Ibid.} Once appealed to the U.S.
Supreme Court, Chief Justice Warren Burger, writing for the majority, ruled that the Fourth Amendment does not require government inspectors to obtain warrants before conducting aerial searches of outdoor business facilities. Furthermore, Justice Burger concluded that, “Although [the photographs] undoubtedly give EPA more detailed information than naked-eye views, they remain limited to an outline of the facility’s buildings and equipment. The mere fact that human vision is enhanced somewhat, at least to the degree here, does not give rise to constitutional problems.” However, Burger qualifies the extent to which the enhancement of human vision may be utilized in warrantless surveillance by stating that “surveillance of private property by using highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed absent a warrant.” Thus, warrantless surveillance conducted with vision or sight enhancing technology is permitted, however, must be a technology available to the general public and must be used in a manner that does not penetrate areas where citizens possess a reasonable expectation of privacy. Although the camera used in Dow enhanced agents’ vision, the enhancement was not to such a degree that would violate the “Naked-Eye” principle established in Ciraolo and prior cases.

However, as technology continued to expand, legal disputes concerning the implication of various types of technology in warrantless surveillance developed. The most recent case that set precedent for the use of sense-enhancing technology in government surveillance is Kyllo v. United States (2001). In Kyllo v. United States, Danny Kyllo, a resident of Florence, Oregon, was suspected of cultivating marijuana inside his triplex by a Department of Interior federal agent. The Agent used an infrared sensor to detect the level of heat emanating from Kyllo’s home to identify probable cause in order for the agent to obtain a search warrant. The rationale was that if marijuana is grown indoors, the operation requires large artificial sources of light or lamps which emanate heat. Once the Agent detected an abnormal level of heat emanating from the exterior of the home, the Agent obtained a search warrant and discovered that Kyllo had been growing marijuana. Kyllo was arrested and convicted, but appealed the conviction on Fourth Amendment grounds by asserting that the warrantless use of the infrared sensor was an unreasonable and illicit search inside Kyllo’s home.

Once appealed to the U.S. Supreme Court, Associate Justice Antonin Scalia affirmed that the warrantless use of enhanced surveillance technology, such as thermal imaging, which “explore[s] details of the home that would previously have been unknowable without physical intrusion...” is considered a search and is unreasonable without a warrant. The distinguishing feature of thermal imaging is that “Thermal imagers detect infrared radiation, which virtually all objects emit but which is not visible to the naked eye.” Through precedent, this decision may apply to most sensory (non-vision) enhancing surveillance technology as most sensory enhancing technology may allow government to see what is not visible to the naked eye. Precedent set in Kyllo qualifies and further defines the precedent set in Dow. Although the Supreme Court had ultimately upheld enhanced aerial photography of an industrial complex or area in Dow, Kyllo occurred in an area.

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48 Ibid.
49 Ibid.
51 op. cit., fn. 46
52 op. cit., fn. 40
53 op. cit., fn. 30
54 Kyllo v. United States, 533 US 27, 121 S.Ct. 2038, 150 L.Ed.2d 94 (2001)
56 op. cit., fn. 54
57 Ibid.
or location adjacent to a private residence, an area where a person’s privacy is afforded the utmost protection, with a type of technology that is not generally available to the public.\(^{58,59}\)

By assessing the situations and conditions in which enhanced technology may be utilized in warrantless surveillance, Dow and Kyllo may be drawn on and utilized when defining a “naked-eye” observation and establishing a limitation and capacity of drone technology in order for the use of drones to remain constitutionally sound when conducting warrantless surveillance.

**Constitutional Limitations on Drone Use**

Specific parameters established by *Oliver v. United States*, *California v. Ciraolo*, *Dow Chemical Co. v. United States*, *Florida v. Riley*, and *Kyllo v. United States*, and identified below, must be adhered to in order to legally utilize aerial surveillance:

**Vertical Parameters of Surveillance**

The altitude a drone may be flown above an individual’s property is only bound to FAA regulation and applicable local laws.\(^{60}\) In *Florida v. Riley*, Justice White observed that “the FAA permits helicopters to fly below [400 feet], the helicopter here was not violating the law, and any member of the public or the police could legally have observed respondent’s greenhouse from that altitude.”\(^{61}\) Per FAA regulation, the maximum permissible height for drone use is 400 feet, and as long as the drone is not flying over a sports stadium, wildfire, airport, designated hazardous airspace, or the entirety of Washington D.C., the use of the drone is federally permitted and does not violate the guidelines set by federal regulation.\(^{62}\) Justice White’s opinion in *Florida v Riley* suggests the height of observation may be fluid, so long as it complies with federal regulation.\(^{63}\) Therefore, the use of drone technology, as long as operated in a permissible area and in a manner consistent with other state and federal regulations, is permitted.\(^{64,65}\) Additionally, due to the widespread recreational use of drone technologies, if the average person is federally permitted to fly a drone over a piece of property — unless doing so is against local ordinance or law — and even in the publicly navigable airspace around a piece of property, that act by law enforcement should be constitutionally permitted under Ciraolo and Riley as no private citizen controls or owns the airspace above their property.\(^{66,67}\)

**The “Naked Eye” Observation**

Ciraolo and Riley defended naked eye observations made by law enforcement personnel from both an airplane and helicopter, respectively.\(^{68}\) In Ciraolo and Riley, law enforcement personnel did not use anything that would enhance their ability to see, such as high-powered binoculars or infrared sensors. A potential constitutional challenge to drone technology could be based on the notion that drones equipped with cameras are inherently sense enhancing — whether in the detection of heat or the ability to remotely zoom in on points of interest.\(^{69,70}\) Along with the ability to enhance a person’s vision by use of a zoom feature, etc.

\(^{58}\) Ibid.

\(^{59}\) op. cit., fn. 38

\(^{60}\) “Getting Started,” *Unmanned Aircraft Systems*, Federal Aviation Administration, July 31, 2017.

\(^{61}\) op. cit., fn. 42

\(^{62}\) op. cit., fn. 60

\(^{63}\) op. cit., fn. 42


\(^{66}\) op. cit., fn. 42

\(^{67}\) op. cit., fn. 38


Warrantless Drone Surveillance

Drones equipped with cameras capable of capturing still images or video are in general public use. According to the FAA, 770,000 drone registrations were filed from December 2015 to March 2017. The FAA also speculates there will be up to 3.5 million drones in use by 2021. Needless to say, drone technology is in general public use.

Although the image-capturing capability of drones may be a perceived ‘red-flag,’ even the most advanced image-capturing and video technologies attached to drones are in general public use such as the utilization of 20 Megapixel drone cameras and some drone’s ability to capture video in 4K resolution. Therefore, any person with a private or commercial drone license may capture the same images or the same video as that of law enforcement if law enforcement agencies adopted drone technology.

Therefore, drones equipped with cameras are a permissible form of technology when conducting warrantless drone surveillance. Any further technological vision or sense enhancement used in warrantless drone surveillance must pass the threshold of being in general public use. It may be prudent for law enforcement to adopt technology that is in general public use as to remain within the bounds provided by Kyllo and Dow. This practice would be more consistent with legal precedent upholding naked-eye surveillance and observation.

“Private Activities Occurring In Private Areas”

The concept of an individual’s reasonable expectation of privacy is repeated throughout the seven cases which constitutionally support the use of drone technologies. Although all seven
cases support the use of drone technology for law enforcement surveillance, Supreme Court precedent leaves room for interpretation as to those areas immediately surrounding a person’s home or dwelling considered ‘curtilage,’ the area entitled to a heightened degree of privacy and protection against unreasonable search and seizure. Areas where private activities may occur, such as areas inside or around a home (curtilage) may entitle citizens to a greater degree of protection against a governmental search. In order to avoid a constitutional challenge flowing from law enforcement use of a drone, it is vital to further define the distance or limits within which law enforcement drones may operate on a horizontal plane (horizontal limits of surveillance).

Ciraolo and Oliver may provide guidance on defining the boundaries within which video footage or still images may be captured before doing so constitutes an unreasonable search and seizure. Katz establishes that in order for persons, property, papers or effects to be constitutionally protected, an individual must demonstrate 1) an actual or subjective expectation of privacy, and 2) that expectation must be one that society finds is objectively reasonable. Surveillance conducted in an open field, known as the Open Field Doctrine (established in Hester and reaffirmed in Oliver), is constitutionally protected activity. In Hester, Riley and Oliver, the Court was faced with surveillance of acres of property, thereby permitting it to easily distinguish between areas considered “open fields” and areas considered curtilage. Ciraolo, however, muddles this distinction.

Dante Ciraolo argued that the Open Field Doctrine did not apply to his property as he believed the entirety of his backyard was considered curtilage, as it was much smaller in size than the larger open field illustrated in Hester or Oliver. However, former Chief Justice Burger disagreed, contending that Ciraolo “knowingly exposed” his backyard to law enforcement and anyone else flying over his property. If law enforcement has the ability to look over a fence or through a knothole (see Oliver v. United States & People v. Lovelace), law enforcement should be constitutionally permitted to look over a fence via aircraft. As Burger further explained, “curtilage is essentially a protection of families and personal privacy in an area intimately linked to the home, both physically and psychologically, where privacy expectations are most heightened.”

However, as evidenced by Ciraolo, suburban yards may not necessarily be considered curtilage. Although there may be areas within a suburban yard that may be considered curtilage and therefore over which an individual may possess a reasonable expectation of privacy, the entirety of an open suburban yard will likely not be considered curtilage, even though it is smaller in size compared to a more distinct ‘open field.’ However, as technologies that allow enhanced surveillance of the insides of structures or private areas become publicly available, law enforcement must still consider present limitations on warrantless surveillance. As explained in Kyllo, sense enhancing technology which produces “any information regarding the interior of the home that could not otherwise have been obtained without physical ‘intrusion into a constitutionally protected area’ is otherwise deemed as unconstitutional and illicit.” Even if new sense enhancing technology had developed which allowed law enforcement to look over a fence or through a knothole (see Oliver v. United States & People v. Lovelace), law enforcement should be constitutionally permitted to look over a fence via aircraft. As Burger further explained, “curtilage is essentially a protection of families and personal privacy in an area intimately linked to the home, both physically and psychologically, where privacy expectations are most heightened.”

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78 op. cit., fn. 36.
79 op. cit., fn. 54
80 op. cit., fn. 19
81 John C. Busby, “Expectation of Privacy,” LII / Legal Information Institute (September 17, 2009).
82 op. cit., fn. 17
84 op. cit., fn. 31
85 op. cit., fn. 38
86 op. cit., fn. 54
87 op. cit., fn. 19
enforcement officers a glimpse inside a person’s home or areas where the person possesses a reasonable expectation of privacy which was in general public use, a recommendation is made to avoid such technology that to maintain Fourth Amendment compliance when conducting warrantless surveillance.

Additionally, the home is afforded a greater degree of constitutional protection than commercial property or an open field. Although Dow "involved enhanced aerial photography of an industrial complex," the complex itself "does not share the Fourth Amendment sanctity of the home." A home or the curtilage surrounding a home are areas where any type of sense-enhancing technology, including photography and video, may not be constitutionally permissible if used when conducting warrantless surveillance. Thus law enforcement must strictly adhere to the open field doctrine when conducting warrantless surveillance with enhanced technology.

If law enforcement agencies operate drone technologies over suburban areas, it may be advisable to avoid locations which have structures and other elements which one could argue represents an affirmative effort to create privacy, such as overhangs, tented areas, or areas protected by internal fencing (excluding the exterior wall). A similar consideration would also apply to such structural elements erected in larger, more defined open fields. Clearly demarcated areas that may not be visible from above (areas with an overhang, shed, tent, etc.) should be avoided when operating a drone and considering the horizontal surveillance to which the drone may surveil a property.

Unchallenged Technology & Future Implications

A Fourth Amendment claim of an unreasonable or illicit search due to warrantless drone surveillance has yet to be introduced at any level of the United States federal justice system or individual state justice systems. However, drones remain a hotly contested technology as they continue to be integrated in law enforcement tactics and operations. The only case to-date that has involved a concern over the use of an unmanned aerial vehicle is from 2011. Rodney Brossart, a North Dakota resident, had barricaded and armed himself on his property resulting in a standoff with law enforcement. Law enforcement deployed a Predator drone to locate Brossart on his property in order to approach him in a tactful, strategic, and safe manner. Once Brossart was arrested, he later claimed that the use of the UAV was improper. However, the municipal court did not find any wrongdoing on the part of law enforcement.

Although this is the only court case to-date involving a claim of misuse on law enforcement’s part, the overall utilization of drones as a surveillance tool remains a hotly contested topic within the United States.

Law enforcement use of drone technology as a surveillance tool does not, in and of itself, trigger a violation of an individual’s right against unreasonable search and seizure. However, three primary limitations establish guidelines for law enforcement agencies looking to avoid a constitutional challenge. These limitations include: the vertical height permissible for drone flight, the technological capacity of the drone, and permissible horizontal distance within which a drone may surveil in relation to the curtilage of an individual’s property. Although drone technology has yet to be challenged on Fourth Amendment grounds, that is not to say the expansion of this new technology, utilized for the purpose of surveillance, will never see its day in United States federal court. The adoption of new surveillance technology by law enforcement, including but not limited to:

90 op. cit., fn. 54

fixed-wing aircraft, helicopters, heat detection, on-body cameras, and automatic license plate readers, have all been challenged in court. As drone technology continues to develop and expand, it is inevitable that its use by law enforcement will eventually generate a Fourth Amendment challenge. However, adherence to the limitations established by the 20-year-old Supreme Court precedent described herein may mitigate against such challenges.
THE RISE OF AI: WHY THE AMERICAN WORKFORCE MUST INEVITABLY CHANGE

Bryce Fauble

Abstract

This paper explains the potential impact of artificial intelligence on the American workforce with particular attention given to the manufacturing, service, and white-collar sectors. First, the conventional wisdom on this advancing technology is presented and analyzed. Then, using qualitative methodology in the form of case study research, this paper explores alternative solutions that demonstrate the rise of AI and the present and encroaching changes on the American workforce. According to this research, the American workforce will experience incredible transformations that must be met head on. The potential political and social consequences of this massive job loss are revealed, and suggestions of necessary social change and political regulation are presented. While the potential impacts of Artificial Intelligence have been discussed by mainstream media, this paper offers an in-depth, scholarly look into who exactly will be affected and how much they will be impacted.

By Emily Spacek
Introduction

Artificial intelligences are becoming more and more advanced, and are continually making strides in ways that had not been theorized. On April 28th, 2017, The New York Times posted an article entitled, “Meet the People Who Train the Robots (to Do Their Own Jobs)”, which discusses the potential implications of advancing technology on the American workforce. In this article, five individuals discuss their opinions on artificial intelligence (AI) and how they train those AI to replicate the jobs each of the individuals perform. Rachel Neasham, for example, is a travel agent working for a startup who helps train the AI systems that could eventually take over for her. She discovered that while the AI is very good at analyzing the customers’ preference for hotels and vacation destinations, humans are much better at continuing support when the customers are on their trip. While AI are, thus far, good at simple analytical tasks such as data analysis, humans are still the best at maintaining a conversation. For example, humans can call the hotel about room service or recommend events for visitors to try. AI has yet to become sophisticated enough to perform these tasks. Another woman, Diane Kim, who trains AI assistants for office workers, has discussed the limits of training AI. Her main job is to discover the limitations of the AI software. Sometimes clients ask the AI to do something it cannot do, and the AI then does not know how to recover. However, she has also said that some of her clients are surprised to learn that they are setting up meetings through an AI assistant, and are not at all interacting with a human. They send thank you notes or ask the assistant on dates, displaying the fact that AI are continually getting better at

acting more “human”. This is also the case in the legal realm. Dan Rubins, a chief executive, spoke on how he used AI to replace lawyers during the process of contract writing. The AI he uses are programmed to find vague phrasing, fix typos, and minimize litigation time. While lawyers will assuredly still be needed in the future for basic contract writing, this shows the broad potential for new AI applications.

While job replacement by automation is not a new trend in the American workforce, the breadth of change that AI could bring is certainly unique. Automation has been especially prominent in the manufacturing industry, with the steel industry losing seventy-five percent of its workforce, or 450,000 people, to automation within the last forty-five years. Towns like Youngstown, Ohio, Gary, Indiana, and Pittsburgh, Pennsylvania suffered massive hits to their economies during the 1970s and 1980s, and they are still recovering. Major steel corporations such as Wheeling-Pittsburgh Steel Corporation and the LTV Corporation asked to borrow almost six billion dollars from the federal government, and a bailout, much like the auto bailout after the Great Recession, was given to attempt to preserve the industry. However, job automation has not yet been seen across industries to the extent that The New York Times and the journalist Wakabayashi suggest. While there is a history of technology changing the American workplace in massive ways, due to current advancements in the technology, artificial intelligence now has the potential to affect jobs that have long been considered unreplicable.

The term AI, or artificial intelligence, was first used by

2 Ibid.
3 Ibid.
4 Ibid.
6 Bill Toland, “In desperate 1983, there was nowhere for Pittsburgh’s economy to go but up,” Pittsburgh Post Gazette, December 23, 2012.
computer scientist John McCarthy in a proposal for a conference at Dartmouth College on computer learning in 1955.\(^8\) While often thought of as a new, emerging technology, AI has been in the scientific literature for over sixty years. In 1960, McCarthy wrote his seminal work on program learning, called “Programs with Common Sense.” This book influenced AI thinking and philosophy for years, arguing that AI was the next step in human evolutionary thinking and could give humans a way to achieve higher thought.\(^9\) As AI continued to develop, it was increasingly seen by software developers as a way to duplicate human thinking and, therefore, eventually replace humans entirely. This thought process became public conventional wisdom after the computer dubbed “Deep Blue” beat chess champion Garry Kasparov in 1997.\(^10\) The startling realization that computers could best the brightest among us shocked the world. The next question asked was profound: What was to come for AI and automation? As AI and automation software continued to improve, Americans were pushed out of jobs that had been considered irreplaceable. Productivity went up, but workers in the steel and automotive industries shrank. This trend continues today.\(^11\)

The issues that artificial intelligence pose will have significant impacts on not only the American economy, but the worldwide economy. Automation has already displaced a significant number of people from their workplace. According to a study done by Ball State University in Indiana, only 13 percent of total job loss in the manufacturing sector to date was due to trade, and 87 percent could be attributed to automation in the workplace.\(^12\) However, as Daisuke Wakabayashi showed in her New York Times article, the impact on jobs from AI and automation will not only affect manufacturing. For example, contract litigators could be pushed out of a significant portion of contract writing.\(^13\) AI applications have shown the ability to replace even doctors, with one particular program outperforming doctors at predicting heart attacks.\(^14\) This possible impact on all socioeconomic classes and labor sectors in the United States leads me to ask the following research question: How will AI affect the American workforce?

Americans are technological optimists. According to a Pew Research Center poll published on February 8th, 2017, only thirty-seven percent of those polled believed that the use of algorithms (artificial intelligences) would have entirely negative impacts on society and individuals. The other individuals surveyed said that it would either be entirely positive or half and half (thirty-eight percent and twenty-five percent respectively).\(^15\) This percentage represents an overwhelmingly supportive view of AI as an emerging technology. A separate poll conducted by Gallup found that twenty-six percent of American workers believed that their own job would be eliminated by technology within the next twenty years. Seventy-two percent of Americans said that it was not too likely or not at all likely that their job would be replaced by technology within the next twenty years (twenty-seven percent and forty-five percent respectively).\(^16\) These percentages suggest, again, a highly optimistic view of technology and AI. The fact that both of these nonpartisan polls


\(^9\) Ibid.


\(^12\) Ibid.

\(^13\) op. cit., fn. 1


point to Americans believing that they will not be replaced points to a trend in American thinking toward technological optimism.

The views surrounding technology and artificial intelligence are incomplete. My research question will challenge this conventional wisdom, as traditional ways of thinking about technology do not take into full account the possible economic impacts of emerging technologies. The average American does not thus far possess the knowledge required to form an educated opinion on the matter.\footnote{Camille L. Ryan and Kurt Bauman, “Educational Attainment in the United States,” \textit{U.S. Census Bureau} (March 2016).} Former President Barack Obama, a well-informed man with access to leading experts, has expressed his concern with the “economic implications” of artificial intelligence.\footnote{Scott Dadich “Barack Obama, Neural Nets, Self-Driving Cars, and the Future of the World,” \textit{WIRED} (November 2017).} He said in an interview with WIRED that, “...historically we’ve absorbed new technologies, and people find that new jobs are created, they migrate, and our standards of living generally go up. I do think we may be in a slightly different period now, simply because of the pervasive applicability of AI and other technologies.”\footnote{Ibid.} Were conventional wisdom complete, it may exhibit a view similar to former President Obama’s: rationed caution. In my research, I utilize a qualitative methodology in the form of case study research. In order to do this, I use three case studies to explain how AI will affect different sectors of the American economy. The first case study is the economic sector of manufacturing, such as the auto industry or steel industry. The second case study is the service sector, including basic restaurant jobs, cashiers, or cooks. The last case study is on the “white-collar” sector. This industry includes jobs such as lawyers, doctors, or those who are often considered office workers. The findings of this research are based upon primary sources such as Bureau of Labor Statistics data, official White House policy stance documents, Congressional Research Service reports, and Senate Subcommittee documents. This primary source research is supplemented with numerous secondary sources including The New York Times, Washington Post, CNNMoney, and a variety of peer-reviewed scholarly articles.

The Manufacturing Sector

Americans still believe that manufacturing is the backbone of the American economy. In a poll conducted by Gallup, nineteen percent of those asked felt that manufacturing was the best way to create jobs in the United States more than any other category.\footnote{Former President Barack Obama, a well-informed man with access to leading experts, has expressed his concern with the “economic implications” of artificial intelligence. He said in an interview with WIRED that, “...historically we’ve absorbed new technologies, and people find that new jobs are created, they migrate, and our standards of living generally go up. I do think we may be in a slightly different period now, simply because of the pervasive applicability of AI and other technologies.”} Manufacturing has even been embedded into the American consciousness through sport, with teams such as the Pittsburgh Steelers and San Francisco 49er’s adopting mascots that instill a sense of pride in the blue collar worker. Unfortunately, manufacturing has been stricken by automation. The study conducted by Ball State University showed this plainly, revealing that eighty-seven percent of job loss in the last forty years has been due to advancements in automation technologies.\footnote{op. cit., fn. 6} However, with AI continuing to make serious strides and advancements, this job loss is only going to increase.

For example, at some UPS plants, 3D printers have begun to be used to quickly create any conceivable product.\footnote{“UPS To Launch On-Demand 3D Printing Manufacturing Network,” \textit{UPS Pressroom} (May 18, 2016).} These 3D printers can be used to print almost anything, and do not need for a human worker to input code, specs, or even unload the machine. At these factories, one worker watches around 100 machines and is only needed to fix the machines as they break or malfunction.\footnote{Ibid.} These factories, though convenient
for customers and manufacturers of custom products, continue to displace workers. A single machine can replace the workers required for coding, the workers involved in shipping, and the workers needed for building the products themselves. In fact, even the workers that are needed for fixing the machines could soon be replaced. General Electric has outlined a plan for what it calls a “Brilliant Factory” that includes replacing workers whom would have manufactured prototypes contracted by different companies to GE. In fact, Proctor and Gamble, another manufacturing giant, has said that introducing artificial intelligence onto their factory floors has decreased unexpected downtime by ten to twenty percent. These two examples show a continuing trend of large manufacturing companies moving towards replacing their menial labor workforce.

Quality assurance is another aspect of manufacturing that could eventually phase out human workers. Quality assurance entails making sure that parts coming off of an assembly line are all up to specifications, and then if they are out of line, fixing the machine that is causing the issue. This job is tedious and intensive, requiring focus for the entirety of the workday. If a mistake is missed, it could mean an entire day’s product has to be thrown out. Naturally, this process would be improved upon by automation. Numerous companies are already selling quality assurance software, which removes humans from the process. These programs can have all of the specs for every part in the factory directly uploaded to them, can analyze better statistical methods to predict failures more quickly, and can do the job much faster than their human counterparts. As AI continues to improve, GE plants such as the “Brilliant Factory” will be able to connect these quality assurance programs with the machines themselves, and fix the machines that are out of line without a human ever being involved.

Leading experts in the field of artificial intelligence have spoken on the potential job loss that would directly impact the manufacturing sector. When testifying before the Senate Subcommittee on Space, Science, and Competitiveness on the potential impact of artificial intelligence, Dr. Eric Horvitz testified that “There is an urgent need for training and retraining of the U.S. workforce so as to be ready for expected shifts in workforce needs and in the shifts in distributions of jobs that are fulfilling and rewarding to workers.” The White House Office of Science and Technology had taken this stance as well, recommending in its report, Preparing for the Future of Artificial Intelligence, that, “The Executive Office of the President should publish a follow-up report by the end of this year, to further investigate the effects of AI and automation on the U.S. job market, and outline recommended policy responses.” This recommendation paid particular attention to those people in low and medium skill jobs, knowing that they would be the most impacted by further automation in the workforce.

The Service Sector

Artificial intelligence and automation of jobs is not something that will be confined to the manufacturing sector. This technology can replace workers everywhere, including at the grocery store and fast food restaurants. In November of 2016, McDonald’s announced that they were going to replace cashiers with automatic machines, similar to ATMs or modern

25 Ibid.
vending machines. This introduction of automation, many have theorized, was in response to the strikes put on by fast food workers asking for a higher rate of pay. This theory, if correct, goes to show that large companies can and will utilize artificial intelligences in order to improve the bottom line.

Many Americans have begun to see this automation in grocery stores as well. Self-checkout lanes have become a staple in most American grocery stores. The concept of these cashier lanes is that the customer does the work of a cashier, including scanning and bagging groceries. This reduces the need for on-hand cashiers in grocery stores; rather than a whole host of cashiers, grocery stores need only one or two employees to watch for possible malfunctions. However, the future looks grim even for those cashiers that remain in the industry. Amazon recently purchased Whole Foods in an enormous $13.4 billion deal and is looking to continue to revolutionize the grocery business. If Amazon is going to make their new stores anything like the Amazon Go store they already run, cashiers may very well be pushed out of the picture. In this revolutionary store, there are no checkout lines; you simply go in, grab your items, and leave. The store has finally opened to the Seattle public, and while the store does not offer any sort of produce or weight-based items, ready made meals and drinks are available to those who download the new Amazon app and walk in. With a lack of cashiers, the store only needs workers to restock food that is purchased by eager Seattleites. Clearly, this could be a revolution in the grocery business, and it’s all thanks to the AI running the shop behind the scenes.

Waiters and waitresses are beginning to feel the push of automation as well. Within the last two years, restaurants like Olive Garden have started to put tablets on the tables where customers sit, allowing them to purchase and pay for food through the tablet. The only times they interact with a server is when the host takes them to the table, and when the server brings them the food that they’ve ordered. According to Olive Garden, these tablets are not meant to replace the servers, but instead are a means to assist them. However, with less need for a server to take orders or take payment, they could soon be propelled out of the dining room entirely.

Along with the waiters and waitresses, chefs may start to feel the heat from AI. While the technology is still not as advanced as some of the artificial intelligence powering self-driving cars or machining lines at Ford, some companies have begun to develop 3D printers for food. These 3D printers can learn any recipe within a fraction of a second, can print food of any variety, and can take out the difficulty of preparation that keeps some people from cooking. While this printer can only print raw food and not prepared food, future advancements could mean that users could press a button and have fresh, 3D printed, ready to eat food right in front of them. This advancement is the proof in the pudding that artificial intelligence and advancements in technology can genuinely replace any job.

The service sector will also be impacted in ways that have yet to be seen, with major impacts on those who are most vulnerable. In Elon Musk’s official “Master Plan, Part Deux,” he

29 “Building a better McDonald’s, Just for You,” McDonald’s (November 17, 2016).
33 Kif Leswing, “Amazon is buying Whole Foods- here’s Amazon’s vision for the grocery store of the future,” Business Insider, June 16, 2017.
34 Elizabeth Weise, “Amazon opens its grocery store without a checkout line to the public,” USA TODAY, January 21, 2018.
36 Ibid.
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and other various necessities for taking a trip. This is tedious work and requires a lot of comparing and research. However, an AI that was programmed to compare all of this data could do so in a fraction of the time that it would take Rachel. And if an AI could be trained to do a task like that, it could almost definitely be trained to do any tedious task. Were every travel agent replaced by AI, the United States would lose around 68,000 jobs.

The “White-Collar” Sector

The “white collar” sector of the economy refers to those workers who are required to be highly educated, skilled or knowledgeable to do their jobs. People who work in this sector includes lawyers, engineers, professors, and doctors. For years, these jobs have been considered the apex of work, as they pay very well, and with the high educational requirement, there has been little pressure from competition. However, the threat of AI is becoming increasingly menacing for those at the top.

One of the last areas of work many Americans would think to see job replacement by AI would be in the software engineering world. Obviously, if AI are programs, there must be those people who develop and code these programs. However, software engineers could soon be programming AI to handle jobs that have been staples in the field since software was invented. Debugging code is incredibly important, but often tedious work that involves reading through code and finding mistakes that break it. This process can potentially take hours when thousands of lines of code are involved. However, some programs are beginning to debug themselves. Researchers at MIT developed a program that senses its own faulty code, then imports code from other working programs and integrates it into itself. With this reduction in possible workload to software engineers, engineers can focus more on developing code itself,


Ibid.

“Rules to curb sleepy truck drivers are breaking down,” Associated Press, December 8, 2016.

op. cit., fn. 1


Ibid.

“Rules to curb sleepy truck drivers are breaking down,” Associated Press, December 8, 2016.

op. cit., fn. 1
and less on fixing the code that they have already worked on. With this reduction in downtime, fewer software engineers are needed to do the same amount of work, and because of this, not even coders themselves are safe from the software they create.

Doctors are some of the most respected men and women in the workforce, but they could also be replaced by advancing technology. In his testimony to the Subcommittee on Space, Science, and Competitiveness, Dr. Eric Horvitz called artificial intelligence a “sleeping giant” when referring to its impact on the healthcare industry. He also referred to a study conducted by Mohsen Bayati and his colleagues, which states that AI was used to evaluate patients and how likely they were to be readmitted to the hospital within thirty days. When the AI was used instead of standard doctor evaluation, readmittance went down by thirty-five percent, and those who needed more care received it instead of leaving the hospital. Given this, doctors could be replaced in symptom analysis. According to a recent Science Mag article, four separate AI programs that were developed through a “self-learning” technique performed significantly better than doctors when attempting to predict heart attacks. These AI were about seventy-three percent accurate, which, when applied to the 83,000 patient records used to train the AI, would have been 355 more patients saved.

This algorithm is just one example of the power of AI to replace doctors. Those doctors whose main job is to examine images, such as x-rays or MRIs, could soon be replaced with pattern recognizing AI. In an article published by Nature magazine, an AI program taught to look for signs of different skin cancers performed as well as twenty-one dermatologists. The increase of these programs could lead to a massive overhaul of the medical system, with patients no longer going to see a doctor, but going to see a computer that could perform just as well as a doctor. The same could be said of patients who are going to get their heart checked. An algorithm from a company called Arterys takes MRI images from patients and calculates the amount of blood that is flowing through a patient’s heart. This process, which usually takes trained doctors about forty-five minutes to an hour, can be performed by the AI in about fifteen seconds. Fewer doctors are then needed for diagnosis and can spend more time talking with patients about the implications of their disease, as well as treatments.

Finance is another industry that could experience a push by AI. Stockbrokers and investment bankers do jobs that may soon be automated. In fact, Charles Schwab recently revealed a program entitled Schwab Intelligent Portfolios, which automatically checks and adjusts investors portfolios. Customers pay next to no fee to use this program, instead of the usual one percent they would pay to the investment banker. Customers simply fill out a questionnaire and the program manages an investment portfolio for them. These programs are quite literally handling millions of dollars worth of investments with no human involvement in money movement. And programs do more than help retirees and families manage retirement funds; they now run most of Wall Street. Almost all trades go through a computer, with AI programs making trades in milliseconds

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45 *op. cit.*, fn. 23


47 *op. cit.*, fn. 14

Implications and Recommendations

The potential for job replacement has always been an issue for the working class in the United States. A new technology may come along in the steel industry, as it did in the 1970s, or in the automotive industry, as it did in the 1980s, with the potential to completely revolutionize manufacturing sector. Some jobs have come and gone in the American workforce, but most of the fluctuation has stayed firmly in the lower classes. However, with the advancement of artificial intelligence, job replacement has the potential to impact the job market like never before. While the low and medium-skilled jobs will be affected hardest, those at the top will feel the impact as well. If all of the jobs discussed in these case studies were to experience a fifty percent job loss rate due to AI, the American economy would lose over four million jobs. This estimate is over dramatic of course, but shows the potential for just how much the American economy could suffer from a lack of foresight when it comes to artificial intelligence. This number also does not include a number of other industries and jobs that could potentially be affected by AI programs. The estimate likewise fails to account for the jobs internationally that would be lost from potential American developed programs. How would this situation impact American relations with countries that experience job loss and are not prepared to deal with it? How will Americans handle being out of work after being replaced by a computer program? How will the economy suffer from this job loss? All of these questions must be considered if we are to appropriately handle the impacts of artificial intelligence.

Artificial intelligence programs will only continue to advance as we move into the future. More and more people will feel the impact of potential job loss. The United States must develop a program that is faster than any human ever could. This is favorable and unfavorable: while computers can make investment choices faster than humans can, they can also malfunction. In 2012 Knight Capital lost over 400 million dollars in half an hour after a computer malfunctioned. So, while computers may replace most stockbrokers and investment bankers, some may have to remain in order to remedy these problems.

Another “white-collar” sector that could be heavily impacted by AI programs is the litigation sector. Lawyers have incredibly complicated jobs, often including interpretation of wording, creating and finding patterns, and critically thinking about complex ideas. However, artificial intelligence programs could be easily taught to look out for those patterns, interpret words and phrases, and break down complex ideas into easily computable data. According to a study done led by a professor at University of North Carolina School of Law, artificial intelligence programs could help reduce workload for lawyers by thirteen percent.

Hours spent on document review, for example, could be reduced by eighty-five percent. While it is not realistic to assume that this would happen automatically, as the paper implies, these programs have the potential to overhaul how hours, and therefore money is spent on certain aspects of the job. These AI are already being exploited in the world of contract writing. According to those who use a program developed by Kira Systems, contract writing time is reduced by twenty to sixty percent. Once again, AI has shown its potential to completely overhaul the job market in new and unexpected ways.

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54 *op. cit.*, fn. 44
56 Ibid.
plan to analyze this potential job loss, develop a plan to combat job loss such as retraining those who are impacted, and prepare for a future where work is no longer a requirement. Americans may not be ready to accept this reality, but it will come for them nonetheless. It is possible, but may mean accepting a program that includes heavy government involvement and powerful labor union forces. Unless Americans want to ask themselves where the strong financial sector, service sector, and litigation jobs went off to, as they do now with manufacturing, they need to plan. A safety net must be created for those who will no longer have decent paying jobs after they are replaced. A standard living wage must be created for those who can longer advance through the workforce. More emphasis must be placed on educating children on science and technology so that they can be armed with the proper knowledge to enter into an ever-changing workforce. Society as a whole must rethink its focus on how people produce and instead to an emphasis on what people produce. Human creativity, such as our ability to create art, music, and develop new ways of thinking about the world around us – things not able to be replaced by a computer – must be established as our true worth. Men and women must no longer be valued by the wealth that they create for others, but the wealth they create for themselves through thorough self-fulfillment. These are radical ideas, but must be sought after if humanity is to survive the coming AI revolution.

Kylie Mason graduated from Cal Poly with a political science degree in 2013 and currently works as a Senior Associate at The Lafayette Group – a government contracting firm working on cybersecurity policy. Kylie was drawn to this position after finishing a major set of projects at her previous government job. She felt that at that point, the growth opportunities within that section of the Department of Defense were slim and wanted to move into cybersecurity. Kylie has been working in her current position in February 2018. In that time, she has realized that it is important to her to work alongside people who are driven by things larger than themselves, taking precedence over seeing a direct outcome from her work. Kylie chose to attend Cal Poly due to a promise she had made herself about not finishing her education with a bachelor’s degree. She set a goal to continue her education beyond
undergraduate schooling. She chose Cal Poly because it was an affordable option that still offered a good education. Growing up in San Luis Obispo, Kylie has always dreamed of getting out of town, but after moving into the dorms her first year, she began to love Cal Poly and San Luis Obispo in a new way.

Going into her undergraduate program, Kylie knew that she wanted to work in international affairs, prompting her to major in History. After a few months as a History student, she realized that her desire was not to study how things have already happened, but how to do those same things in the right way in the future. Enter, Political Science. Kylie chose to create her own concentration within the department, focusing on the individual’s interaction with government at every level. She used this to explore concepts of jurisprudence as well as how international order regimes changed over time. Her favorite class in the department was Politics and Popular Culture, which she says challenged most everything by using the lens of science fiction and fantasy to analyze political concepts. Kylie also had a psychology minor, which she recommends to everyone, regardless of area of study. On campus Kylie was involved in the social dance scene, as well as a few years of Mock Trial, Theater, and the Political Science Honors Society, Pi Sigma Alpha.

After graduating from Cal Poly, Kylie attended American University in Washington, D.C., where she focused on security studies (global governance, politics, and security); a perfect fit for her interests. After finishing graduate school, Kylie was offered a position as a government consultant in the Pentagon working on defense policy. Kylie accounts many of her useful day-to-day skills to Dr. Moore’s infamous red pen. She notes a few things that are necessary to the job she does now:

1. A good mental organization of large amounts of very dry information
2. Quick thinking
3. The ability to interpret legal speak into simple concepts.

Kylie’s insight into government workings is that “the state” is not just a black box that elections fill and policy, laws, and taxes come out of. Rather, it is a complex network of individuals who have lives and feelings. Learning how to navigate in government is a skill that Kylie stresses heavily.

Kylie’s advice to current Political Science students is to explore the things they love, the things they are curious about, and to figure out stress management strategies before you enter the “real world.” She also advises students to travel when you can. She notes that it may cost a lot of money now, but it will cost more of you to take the time to do so later.

Outside of work Kylie is involved in powerlifting, self-defense combat courses, hiking, social dancing, and many other activities that allow her to work so hard and handle the inevitable stress of life. Kylie also enjoys going to museums, reading, cooking, and responsibly participating in the DC craft bartending culture.
This paper examines relative power relations in Asia between the United States and China while assessing how the United States might approach a potential change in the balance of power of the region. The United States, under President Trump, has enacted numerous policies that target the rise of Chinese power, but most appear to be protectionist measures. These include the application of tariffs on Chinese imported goods, investigations that bypass multilateral institutions on China’s coercive economic behavior and the removal of the United States from Trans-Pacific Partnership negotiations. This paper uses empirical findings and employs the lens of realism to analyze the implications of the Trump Administration’s policies. The findings display that President Trump’s policies to date are not an effective balance against China’s rising power, and they may potentially lead to a decline of the United States’ power in Asia.

Ethan Gunnlaugsson

Ethan Gunnlaugsson is a second-year Political Science major. He has chosen a concentration in Global Politics and is minoring in Economics. A Chicago native, Ethan hopes his academic and professional careers may take him around the world someday. Next fall, he is planning on studying abroad in Copenhagen, Denmark. After graduating from Cal Poly in 2020, Ethan aspires to pursue further education and eventually earn his doctorate. One day he hopes to work for a think tank out of Washington, DC. In his spare time, Ethan enjoys golfing and is also a dedicated member of the Phi Sigma Kappa chapter here at Cal Poly.

By Emily Spacek
The Emergence of China and Necessity to Respond

A few decades ago when the United States supported China’s rise into the global trading system, it accelerated the country’s growth and hastened its rise as a geopolitical rival. Over time, China privatized state owned enterprises, eliminated tariffs, opened up the country to foreign investment and joined the World Trade Organization. These actions led to unprecedented economic growth, and now China is the second largest economy in the world by aggregate GDP. During its economic rise, China has not always followed the institutional rules that are at the heart of the current international system. For example, China has taken steps to increase its power in the International Monetary Fund and the World Bank in order to serve its own purposes and has economically coerced its neighbors. It has also built up incredible military strength which is used to defend its illicit territorial claims of “indisputable sovereignty” over land and maritime territory covering most of the South China Sea. Although many US officials hoped China would one day become a responsible stakeholder in the international system, it has not behaved in a way that satisfies this expectation.

What’s more, President Xi Jinping and the Communist Party of China continue to push forward expansion plans. The Belt and Road Initiative, launched in 2013, aims to create a Eurasian trade route dominated by China and further expand and diversify the country’s economy. To help fund the infrastructural development, China founded the Asian Infrastructure Investment Bank in 2015, of which eighty countries have joined. A trade route of the size President Xi has in mind would be competitive with the Transatlantic trade route dominated by the United States, which causes concern in Washington. If the Belt and Road Initiative were successfully completed, Chinese currency, technical standards and preferences for trade as a whole would be more widely accepted throughout the continent. Infrastructure is a great vehicle for expanding influence, and this project is one of the most obvious signs from China that the country has a mission of solidifying its position as a great regional power. A result of the many recent developments, countries in the region see Asia as “increasingly dominated by adversarial power relations” between the United States and China.

The two fundamental objectives at stake are China’s need for economic growth to avoid collapse and the United States’ need for maintaining its order to ensure security. For now, the United States remains an influential power in Asia. But the rise of China has reached a point where the country has the ability to change the balance of power in its favor over the United States. This is evident through its military buildup, activities in the South China Sea, and coercive economic diplomacy, amongst other actions.

It is natural for regional hegemons to oppose the rise of other hegemons in order to have no competitors for global hegemony. Therefore, the United States does not want China to

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3 op. cit., fn. 1
8 op. cit., fn. 2
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achieve hegemony in Asia. This assumption is formed under the guidelines of renowned political scientist John Mearsheimer’s “offensive realism” theory, which assumes that states will seek to gain as much power as possible and pursue hegemony when the circumstances are right. Under these assumptions, China’s economic and military rise can be interpreted as an attempt to remove the United States from a position of dominance in the region and gain regional hegemony. Also following these assumptions, the United States needs to take steps to maintain economic, political and military balance in Asia in order to ensure China does not achieve its goal. Although there is a strong conception that the US exerts too much effort to project power around the globe, Mearsheimer presents a more focused strategy which he refers to as “offshore balancing.”

The strategy identifies Asia as one region with the potential to produce a hegemon with “abundant economic clout” and ability to project power around the globe. Therefore, the United States must actively engage with countries throughout Asia to ensure a hegemon does not arise. China has explicitly stated it does not seek to remove the United States’ presence from the region, nor achieve hegemony, and to some, its actions in the South China Sea can be interpreted as no more than an attempt to guarantee its own free movement throughout the territory. Yet, another essential part of realist theory is that states do not and cannot know the true intentions of other states. Considering former Chinese president Deng Xiaoping’s dictum of laying low and hiding capabilities while developing strength still influences Chinese strategic thought, the United States should interpret Chinese actions in Asia as attempts to increase its relative power over the US.

Even if realist theory were untrue, East Asia is still the most important region for the United States’ global economic and security interests because of its economic capacity. The South China Sea is vital to the United States as it carries one-third of global maritime worth and provides access through the Indo-Pacific, another economically vibrant sub-region. Great powers also tend to entrench their influence by using regional institutions. If China were to dominate this area, surrounding countries would succumb to Chinese pressure, harming the United States liberal international order. The authoritarian state of China holds less regard for human or political rights than the United States, and it has already showed signs of trying to impose its ways of domestic politics on its neighbors. Currently, China undergoes a forced migration of moving 250 million rural residents into newly constructed cities in order to ignite economic growth.

Not only does the migration represent the CPC’s disregard for the individuality of China’s own citizens, it shows its willingness to assert authoritarian power in order to make economic gains. Since World War II, the United States has led the effort to create and expand open trade systems out of self-interest. The success of a system like the Belt and Road Initiative or the solidification of power in the South China Sea could allow China to take a more leading role in this expansion, which it

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11 Ibid.
13 Ibid.
15 op. cit., fn. 10
17 op. cit., fn. 4
18 op. cit., fn. 6
19 op. cit., fn. 6
21 op. cit., fn. 7
could use to reflect its own interests. Given these circumstances, the United States must take concrete steps to maintain influence in Asia in order to balance China’s emerging power in the region. Thus, the rest of this paper will examine the actions of President Trump’s Administration that pertain to China’s emergence and the implications of these policies to determine how effectively they maintain balanced power with China in Asia. The Trump Administration’s Policies Towards China and Asia

President Trump began making serious decisions about the United States’ involvement in Asia on his first weekday of office. On January 23, 2017, President Trump withdrew the United States from the twelve country trade deal called the Trans-Pacific Partnership.22 The agreement was brokered by former president Barack Obama and intended to remove both “tariff and non-tariff trade barriers” between the twelve countries, including Japan and Australia, and decrease the Asian region’s economic dependence on China.23 In a memorandum released by the Office of the Press Secretary regarding the withdrawal, President Trump stated that trade is of “paramount importance” to his administration, but he would pursue trade on a more advantageous “bilateral” basis.24 On the other hand, The Congressional Research Service of the Library of Congress observed that the agreement could be used as a “vehicle to advance wider Asia-Pacific free trade area” and could “deepen U.S. integration in a vibrant region for the future.”25 However, President Trump did not believe in these possibilities based on his executive decision to leave the TPP. The negotiations continued without the United States, and on March 8, 2018, the remaining eleven countries signed the agreement renamed the Comprehensive and Progressive Trans-Pacific Partnership.26

The signing of the new Trans-Pacific Partnership agreement occurred around the same time President Trump unilaterally announced a massive tariff of 25% on imported steel and 10% on aluminum in the United States. He argued that the overcapacity in the market for these goods was due to China’s state-backed economic policies.27 To justify the import tariffs, President Trump ordered the US Department of Commerce to launch an investigation under Section 232 of the Trade Expansion Act of 1962, which has not been used since the creation of the WTO in 1995, on the effects of steel and aluminum on national security.28 If they were able to determine that the actions of China were a threat to the country’s security, the tariffs could be legally accepted. Oddly, China only accounts for 2% of US steel imports, so the tariffs are unlikely to inflict too much damage on its economy.29 Yet President Trump continues to escalate tariffs in response to China’s “unfair retaliation.”30 When China published a list of $50 billion dollars of American products to be hit with tariffs on April 4, 2018, President Trump threatened additional tariffs on $100 billion of Chinese goods.31 President Trump also initiated an investigation into China’s alleged intellectual property theft under Section 301 of the Trade Act of 1974 on August

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23 Ibid.
28 Ibid.
29 Alex He, “Intellectual Property will make or break US-China relations,” The Hill (March 22, 2018).
31 Ibid.
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14, 2017. Section 301 gives the US Trade Representative broad authority to take measures against a foreign country’s unfair trade practices, of which President Trump accuses China of having. Specifically, the US is challenging China for performing forced technology transfers, where if a US company wishes to do business with other Chinese firms, they are forced to share their intellectual property. These United States investigations also bypass the World Trade Organization and could lead to broad sanctions and restrictions on China, which would provoke retaliatory measures against the US.

While President Trump’s economic policies surely intend to cause damage to China, it is unclear how much damage they will also inflict on the United States or other countries around the world. Officials have argued that while tariffs on Chinese goods do not intend to help American industry, they are necessary to prevent China from continuing to “violate international trade rules.” Rather than prompt China to change its behavior, the administration’s tariffs so far have sparked retaliation that especially targets American carmakers and soybean farmers. Whether the administration’s economic policies are attempts to actively maintain a regional balance in Asia or simply unilateral movements to encourage China to adapt to the rules of global institutions is unclear.

Sticking to offensive realist theory, the United States also needs to balance Chinese military power. During Trump’s presidential tenure, China has continued to claim additional land territory, and the country has deployed “increasingly sophisticated” military assets onto its artificially created islands in the South China Sea. While the administration was more involved in other Asian affairs in 2017, moving forward it appears prepared to tackle the growing military threat that China presents.

The 2018 National Defense Strategy released by the Department of Defense clearly argues that China is coercing neighbors and pursuing a military modernization program to achieve “Indo-Pacific regional hegemony” in the near term and “displacement of the United States” in the future. Key objectives for the United States, according to the National Defense Strategy, include maintaining “favorable regional balances of power” in the Indo-Pacific and “defending allies from military aggression.”

Furthermore, the National Security Strategy of 2017 stated that in Asia, the United States would strengthen partnerships with countries like Singapore, Vietnam, Indonesia and Malaysia to help them become “cooperative maritime partners.”

Since releasing the National Defense Strategy, the administration has sent a US missile destroyer within 12 nautical miles of the Chinese occupied Scarborough Shoal as a gesture to challenge its occupation. It has also sent Defense Secretary James Mattis to Indonesia and Vietnam. To afford using the military to counter China, President Trump also proposed a $716 billion increase in the defense budget for 2019 earlier this year. While President Trump’s military policies towards Asia are still developing, they appear strong.

32 “USTR Announces Initiation of Section 301 Investigation of China,” (announcement, Office of the United States Trade Representative, Washington, DC, August 14, 2017).
33 op. cit., fn. 29
34 Ibid.
36 Ibid.
39 Ibid.
41 op. cit., fn. 37
A realist perspective argues for the United States to consciously balance China’s rise by developing new, trusted strategic relationships throughout the Indo-Pacific region. Yet, President Trump’s economic policies have not succeeded in building these relationships. While the steel and aluminum tariffs are unlikely to affect China as much as other countries, they send a negative message about the United States’ trade policy and impede the ability to mount an effective coalition of countries to counter China’s unfair trade practices. Rather, they punish allies in North America and the European Union, causing political damage. It is likely that the US will need to strongly justify its tariffs on the basis of national defense in order to avoid going through a WTO dispute resolution process. If the US lost the legal battle, it would be required to remove the implementation of its steel and aluminum tariffs.

The United States could ignore the ruling, but then other states could legally invoke countermeasures to the US imposed tariffs, sending the world down a dangerous path of protectionism. President Trump is correct to point out that China engages in unfair trade practices, but he addresses the problem in a harmful manner. In 2017, Xi Jinping became the first Chinese leader to attend the World Economic Forum, where he gave a keynote speech that notably condemned protectionist policies. In his speech, President Xi announced that China would remain “committed to promoting free trade and investment through opening up and saying no to protectionism.” As China follows the rest of the world by advancing free trade, it could be

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48 op. cit., fn. 1
50 op. cit., fn. 27
51 Ibid.
The steel and aluminum tariffs have already sparked retaliation from states, but the Section 301 investigations could cause even more damage. If followed through, they will almost surely result in China responding with similar tariffs, damaging the US economy by raising consumer prices.\footnote{Daniel Rosen, “Is Trade War the Only Option? An Alternative Approach to Taking On China,” Foreign Affairs (March 20, 2018).}

In a hearing before the Section 301 Committee Office of the United States Trade Representative, Scott Kennedy did argue that IP is an instrumental tool in a “larger contest of economic power” with China.\footnote{Scott Kennedy, “China’s Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation,” (testimony, Section 301 Committee Office of the United States Trade Representative, Washington, DC, October 10, 2017).} However, Kennedy also claimed that if the United States “gives up efforts to create multilateral rules… it will leave wide swaths of global commerce with outdated rules or empty spaces without any rules.”\footnote{Ibid.}

Rather than utilize multilateral rules and guidelines under the World Trade Organization, President Trump made a unilateral decision to attack China by launching the Section 301 investigations. The administration should consider more effective ways to protect the intellectual property rights of Americans. Besides using the World Trade Organization to investigate China’s intellectual property theft, the Trans-Pacific Partnership could have been an effective tool in preventing China from using its IP policies. The agreement’s high standards could have encouraged China to improve its practices regarding intellectual property.\footnote{op. cit., fn. 29} But when the United States abandoned the negotiations, the remaining countries removed the provisions on intellectual property that the US was demanding.\footnote{op. cit., fn. 26} By removing the provisions, China will not have to face the pressure that would have been created by the original TPP to abide by them.

There appears to be a lack of trust with the Trump Administration in the multilateral institutions created under the US led liberal international order. As mentioned previously, the president recently took steps to include other countries in contesting military aggression in the South China Sea. But these actions are just one example of multilateral movement organized by the United States. The National Security Strategy and National Defense Strategy both call for team efforts with countries around Asia to prevent the formation of Chinese regional hegemony, but only time will tell if the president continues to pursue these policies in regards to military action. On the other hand, as detailed by President Trump’s major protectionist economic policies towards Asia, he wishes to go alone in stopping China’s economic coercion. The attitude of the administration runs the risk of the US approach towards balancing China being more confrontational than competitive.\footnote{Ibid.} Here lies the most fatal flaw in all of President Trump’s policies towards Asia.

The failure in this policy is that the president is separating the United States from the liberal international order that China is abusing for its own benefit. Instead of attacking China, the United States should write new trade and investment rules for the twenty-first century.\footnote{Ibid.} If President Trump’s new trade and investment rules follow a protectionist model, they will fail miserably. The rest of the world, including China, has explicitly shown that they will continue lowering trade barriers and interacting through multilateral fronts. This is evident through the signing of the CPTPP and the international support for China’ Belt and Road Initiative. Furthermore, the United States has already experienced backlash for protectionist proposals by the
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of US protectionism under President Donald Trump only assists China’s objective of achieving regional hegemony. US protectionist policies make it easier for China to gain economic dominance in Asia, which may lead to military dominance and the eventual removal of the United States presence in the region.

It is important to note that the theory followed in this paper is not the only framework for observing the situation in Asia. One could also follow defensive realist theory, which would still assume that China’s actions intend to increase its power. However, defensive realism would assume China will never seek to expand its power into global hegemony, and it will coexist peacefully with its neighbors and the United States. While an argument can be made for either side, or any other political framework of thought, the Asia-Pacific region is an especially important one to the United States for reasons other than preventing a hegemon from forming. It contains the biggest trade waterway in the world, the South China Sea, and the region’s most powerful country, China, is an authoritarian state. Without a United States presence in Asia it is impossible to know how China will mold the region. However, the possibility of an authoritarian wave led by China spreading throughout the continent should be enough to scare the United States into taking action. The United States created the liberal international order based on democracy after World War II and fought hard to expand it, so why turn back to protectionism now and run the risk of a Chinese regional hegemony reversing its vision for the world?

Trump Administration. As the leader of the current international order, the United States has the ability to help reshape the order, but it should not flip it on its head. It should strengthen the system to fix flaws that allow for Chinese coercion, but the United States should not go about it alone. Ian Bremmer argued for increased economic interdependence with China to ensure that any action China takes to destabilize the United States or its overseas interests will be met with a high cost. Slamming investigations and tariffs that attack China will only reduce economic interdependence, which makes it easier for China to economically coerce its neighbors without facing punishment.

The United States under President Trump heads in a direction that will result in the country’s presence in Asia being severely compromised. China is already the largest trading partner with many countries in Asia. Countries in Asia continue to increase economic interdependence while President Trump’s United States moves towards protectionism. If this trend continues and China completes its Belt and Road Initiative, it will become the center of trade across the entire Eurasian continent. China will also find it easier to bend its neighbors to its will with economic incentives. Not only will this further remove United States economic presence in Asia, it will make Indo-Pacific countries less inclined to prevent China’s military expansion in the South China Sea. Once this happens, the United States will only have its own military at its disposal, and it is difficult to imagine the United States starting an all out war with China. As Mearsheimer argues, there is military power and socioeconomic power, and socioeconomic power is what funds military power. Therefore, the continuation

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60 op. cit., fn. 16
61 op. cit., fn. 43
62 op. cit., fn. 1
63 op. cit., fn. 10
ALUMNI SPOTLIGHT

Salina Singh

By Elisabeth Grove

Since highschool, Selina Singh has been interested in anything with an “international flavor”—whether it was history, politics, business, or security. Drawn to Cal Poly for its educational value and stunning location, Political Science was the perfect fit. At Cal Poly, Selina concentrated in International Affairs and minored in Psychology, doing a variety of projects and research that facilitated her goals.

One of her most memorable classes was Political Theory with Dr. Moore, studying the writings of Nietzsche, Freud, Aristotle, and John Locke. The memories of getting called on at random in that class are still memorable for her to this day. In Dr. Hurt’s International Organizations and Law class, Selina studied the proliferation of chemical, biological, radiological, and nuclear weapons, particularly focusing on biological defense and threat
perception. Under Dr. Hurt’s guidance, students were encouraged to challenge the status quo and pursue projects and ideas they were uniquely motivated by. The assignment helped her to develop one of the most important skills she honed at Cal Poly - focusing on primary research. In her final year at Cal Poly, Selina examined separatist terrorism in India to illustrate the roles of religious belief systems and collective memory on identity and extremism.

During her time at Cal Poly, she participated in a summer internship program at the Potomac Institute for Policy Studies in Arlington, Virginia, where she worked at the International Center for Terrorism Studies. During her time there, Selina gained a better understanding of how businesses perceive security issues and how it informs key operational decision-making processes. The experience was incredibly formative - as Selina found the juncture between understanding international security threats and its real-world application to the commercial sector incredibly fascinating.

After leaving Cal Poly in 2010, Selina attended the George Washington University in Washington, D.C., receiving a postgraduate certificate in Political Psychology. After that, she moved to London and earned a Master’s in Terrorism, Security, and Society from King’s College, London, ultimately graduating in 2014.

Today, Selina lives in London and works as a Senior Consultant for a global security and crisis response consultancy called NYA. In her work, she supports companies to manage and respond to security risks. She finds the research and writing skills, honed at Cal Poly, to be key in lending credibility and authority to her advisory role. Also integral to her work are tolerance and respect for different ideas and the capacity to challenge and change them – skills reinforced by a Political Science degree. In her spare time, Selina enjoys playing the piano, cooking, and running.

Selina also offers advice to current Political Science students:

“I would encourage students to seek out internships if possible and generally gain exposure to the potential career(s) they are interested in. College is an ideal time in which you are well situated to learn about different fields and understand what you are and are not interested in for the future.”
Early into the 21st century, technological developments made unparalleled advances in the field of space. The realm of outer space has seen a change from exploration to technology-driven, ambitious goals more aligned with national interests and security. In this paper I ask the following research question: How can international organizations and law address the rapid advances in space exploration? To answer the research question, I conducted three case studies: 1) space privatization, 2) space colonization, and 3) space militarization. According to my research, existing international law cannot inhibit conflict in the 21st century characterized by intense competition to obtain space power. To inhibit space conflict, new international norms and laws need to be adopted that address the rapid pace of technological development, as well as the market-oriented and laissez-faire way in which technological development is carried out in order to prevent a single hegemonic state from securing space dominance.
Introduction

The field of astropolitics – the extension of geopolitics into outer space – is understudied and underrepresented in international studies. Nevertheless, scholarly and political interest has ramped up in the last three presidential tenures as technological developments and ambitious space programs allow new space ventures in the 21st century. Moreover, policies on technology tend to not keep up with advances. Existing treaties on outer space are obsolete. The Outer Space Treaty is subject to the UN – international laws on space have to be created in the UN, space activities must comply with general international law and the UN Charter, and all parties are required to consult with others before engaging in “potentially harmful interference” with the peaceful use of space.¹

Although the Outer Space Treaty states outer space and other celestial bodies are not subject to national appropriation, sovereignty, and occupation, it does not limit military and industrial activities in space and, it alone does not prohibit the achievement of space power.² Similarly, the Moon Treaty does not inhibit development of space power – it may ban national appropriation, but it allows privatization and private property rights. Moreover, weapons treaties such as the 1972 Ant ballistic Missile (ABM) treaty are being repealed in the US; the ABM treaty barred placing missiles in space and deploying space weapons like space-based lasers (SBLs).³ The issues brought up by space privatization, colonization and militarization, and the absence of precedent on those monumental issues in the international arena begs me to ask the question: How can international organizations and law address the rapid advances in space exploration?

Contextualization

SpaceX

Private firms and industry leaders have shared their interests to make humans a spacefaring species. SpaceX, a NASA-contracted (or public-private partnership), has set the ambitious goal to colonize Mars.⁴ Its goal becomes more plausible as it establishes itself as the most reliable space cargo and private satellite commercial delivery provider. SpaceX is not the only private US company engaged in the new space era. The success of US-based aerospace companies translates to US independence in what may be a new wave of space exploration; since 2011 the US has been dependent on Russia for delivery of cargo and ferrying astronauts to the International Space Station.⁵

It is to the advantage of the US that it has horizontal and vertical integration in the growing aerospace industry. Elon Musk’s firm, SpaceX, has the explicit goal of “[sending] humans to Mars for permanent settlement and [making] humanity a multiplanetary species” demonstrates the ambitious optimism and enthusiasm for space exploration by Americans.⁶ He has stated multiple times his Interplanetary Transport System could be used to travel to Europa – one of Saturn’s moons. It will not be a vehicle between Mars and Earth, it is being designed for manned exploration between Earth and worlds in the greater solar system.⁷ The sentiment towards space exploration is not new.

Outer Space Ventures in the 21st Century

Aspiration to explore our solar system, settle uninhabited planets, and mine asteroids are neither fantasy nor new. In 2004 the first commercial space venture – space tourism – was
must support the space program. Fortunately, President Trump has mentioned his curiosity “to unlock the mysteries of space,” and Robert M. Lightfoot, acting NASA administrator, wrote, “From my interactions with the transition team, NASA is clearly a priority for the president and his administration.”

It should come to little surprise then that on February 17th, 2017, congress passed a new NASA bill that allocates $19.5 billion USD for spending in fiscal year 2017 alone. The bill also made settling Mars, robotic missions to Europa, and “[moving] an asteroid into lunar orbit and have astronauts visit it on the upcoming Orion spacecraft as soon as 2020, called the Asteroid Redirect Mission (ARM)” explicit goals of NASA.

The new wave of space exploration is experiencing fervent enthusiasm. On the surface, space exploration may appear to be dominated by private and public companies, like SpaceX and Aerojet Rocketdyne, NASA, and officials such as the US president, but the truth is space endeavors, plans, and technologies are manipulated by federal agencies that receive little limelight by news sources. The Department of Defense (DOD) alone manages “launch vehicle development, communications satellites (or GPS), early warning satellites, weather satellites, reconnaissance satellites, and developing capabilities to protect U.S. satellite systems and to deny the use of space to adversaries (called ‘space control’ or ‘counterspace systems’).” Whatever domestic and foreign services satellites and the Space Program may provide, the DOD appears to be intricated. Space privatization, colonization, and militarization have advanced from discourse on races and cooperation between private companies and government agencies to planned missions conducted successfully. Mike Melvill privately funded the SpaceShipOne spacecraft designed by Scaled Composites. Public and private companies involved in this military-industrial complex include Blue Origin, Lockheed Martin and Boeing (the United Launch Alliance), and Aerojet Rocketdyne – industry leaders in space systems as well as tactical defense. In 2010 and again in 2016, President Obama reiterated US interests on space exploration, “We have set a clear goal vital to the next chapter of America’s story in space: sending humans to Mars by the 2030s and returning them safely to Earth, with the ultimate ambition to one day remain there for an extended time.”

The former president left his footprint on the Space Program by announcing the US’s goal to mine profitable asteroids by 2040. The plans are real: NASA has contracts with six companies solely for the purpose of developing sustainable habitats for astronauts, the Space Launch System (for Mars) is scheduled for 2018, the Jet Propulsion Laboratory has made proposals for manned missions to Mars with existing budgets, and the US government invested $18 billion between 2010 and 2015 on new space technologies like space fueling stations, spacecraft engines for deep space, manned missions, and robotic factories for churning soil on the moon and Mars.

Scott Pace, a former NASA official, and director at the Space Policy Institute at George Washington University, stated that colonizing Mars is plausible but only probable as a public-private partnership. The barriers are not technical, politics and budget approvals within congress remain the biggest challenge. These projects are long-term, multiple administrations and presidents

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11 op. cit., fn. 8
14 op. cit., fn. 9
and other objectives, such as the weaponization of space.

**Public Opinion**

Americans do not see the possible conflict between states in outer space. In a 2010 lecture at Colgate University, Professor Andrew Deudney captured the dominant outlook in the frontier expansion narrative – a Star Trek-like outlook on space and the human species. 15 Deudney quickly dispelled it: “this vision has been overwhelmingly dominant in the discursive characterization of space, particularly in the United States” but the “frontier expansion narrative is almost completely exactly wrong”.16 If we extrapolate, “It is more or less the exact opposite”.17 Americans’ frontier expansion narrative or bias is captured in a 2011 survey by the Pew Research Center and the Smithsonian. It found Americans support NASA, the space program and exploration, and are optimistic about the future of space exploration. 18 Moreover, Americans are “firmly committed to the space program”.19 According to a 2009 survey by Gallup, most of the public believes the US should continue to be the world leader in space exploration, and 70% of college graduates and 54% of non-graduates find the benefits of the space program justify its costs. Similarly, the majority of Americans agree that within the next 40 years astronauts will land on Mars (63%) and space tourism will be affordable to ordinary people (53%).20 I contend that the American technological optimism is based on the lack of factual knowledge, or blissful ignorance, by civil society.

16 Ibid.
17 Ibid.
19 Jeffrey M. Jones, “Majority of Americans Say Space Program Costs Justified,” Gallup (July 17, 2009).
20 Ibid.

**Theoretical Paradigm**

Privatization, colonization, and militarization are characteristic of imperialism, which is best explained by the realist theory. The underlying assumptions of realism are: states are primary actors, the main objective is to ensure security by maximizing military power, and that the international order can be viewed as a zero-sum game. Most important is the assumption that the international system is anarchic. The assumptions of realism listed are also characteristic of outer space and allow for the extension of realism to space. Since the future of space exploration mirrors imperialism and realism emphasizes the continual search for ways to increase power, realism best explains and frames the answer to my research question.21

**Case Studies**

**Space Privatization**

The US space industry is composed of four sectors: (1) defense, (2) intelligence, (3) commercial, and (4) civil space sectors.22 Space privatization is associated with the commercial space sector. In President Obama’s tenure private and public companies established themselves as necessary in space exploration. For the most part, the US national launch infrastructure has been privatized or leased to companies like SpaceX and Blue Origin.23 Asteroid mining may come next; it may be the most lucrative space endeavor in the near future and it does not violate international law nor the Moon Treaty. Asteroids can be composed of “nickel-iron metal, silicate minerals, semiconductor and platinum group metals, water,” and/or “bituminous

Space Privatization, Colonization, And Militarization

There are three arguments for the privatization of space systems: (1) ownership will reduce wasteful use, (2) alienability would create incentives to productively develop space, and (3) colonization.28 The first argument is founded on the bargain theory of economics – whoever can use the site for humanity’s greatest benefit will reap the greatest profit and is willing to spend the most to own it. Therefore, ownership may reduce wastefulness to increase profit margins by maximizing efficiency. An increase in overall efficiency of private ventures would in turn lead to space development to sustain such enterprises: routes, mines, colonies, and infrastructure. Privatization would create incentives to productively develop space because early developers would hold ownership rights allowing the company to internalize positive external effects. Colonization is special in that it is an argument for privatization as much as it may be an effect of it. Colonization cannot be maintained without property and private ownership, and enterprises such as mining may operate best with human supervision on site.29

The leading proposal for celestial appropriation suggest abandoning the Outer Space Treaty and the Moon Treaty entirely, replacing them with a free-market approach summarized by discovery, claim, and possession.30 Discovery would be an almost identical reflection of imperialism. Claim is necessary because the whole world needs to know a site is property to a state or company. Possession instructs the owner must “secure its position and continually perform symbolic acts to indicate authority over the [site]”.31 Because space appropriation is no longer within the domain of just states, market and economy trends are critical. Despite the advantages of the bargain theory of research, tourism, and industrial production to generate profit.

hydrocarbons,” and at least 10% of near-Earth asteroids are more accessible than the moon.24 Energy collection is another mode of acquiring tremendous profit from space. Helium-3 reserves on the moon alone would generate ten times as much energy as coal, oil, and gas combined.25 Ezra J. Reinstein claims that the privatization of space for profit is at a standstill due mainly to the uncertainty of the legal regime: if exploitation of outer space resources is the goal, then a space property legal system with incentives and predictability is necessary.

The moon is the best example on space privatization. It is within close-proximity and has valuable resources. It has promising sites for mining, energy-capturing projects, and spaceship refueling. Unfortunately, the resources are finite and usable land exits are limited.26 Space privatization also includes space itself. The Geo-Stationary Orbit (GSO) – a very well defined orbit above the Earth’s equatorial surface – is the most valuable space resource today. The GSO is related to all types of communication, weather monitoring, and military intelligence and surveillance. It is also the most satellite dense space around Earth. Due to its narrow band it is riddled with electromagnetic interference and “space-junk”.27 The most common private Space ventures remain competitions. Ansari X, Bigelow Aerospace, and NASA offer cash prizes in the millions for space ventures such as docking with an inflatable space station and collecting moon rocks.28 The objectives of those ventures are not to further research for the sake of science but for commercial


economics and the efficiency of the private sector, privatization of the space environment may ignite a gargantuan amount of issues not worth the wealth on any asteroid or the moon. In the international arena developed nations hold more military power, but less-developed nations hold a considerable amount of voting power in international organizations. On space acquisition less-developed states find a first-come, first serve regime immoral, while privatization and appropriation of space left unchecked resembles imperialist behavior. Another issue is that space is no longer reserved for the superpower(s) or governments. Private firms in the US are taking lead roles in new space exploration where there is no precedent. International bodies may not agree with a US-centric, US-first approach that is developing.

Space Colonization
Potential sites for space settlements include the moon, Mars, and moons of other planets. The second type of colonies are free-floating colonies. These types of colonies can be entirely man made, such as an inflatable space station, or a mining station on an asteroid. Space colonization is due to human curiosity, and the facts that Earth, like all celestial bodies, have a finite lifetime and limited resources. Colonizing other worlds may provide sanctuaries in the cases of asteroids hitting Earth, nuclear war, and other global cataclysms. Colonizing celestial bodies is not a new idea. In 1959 Project Horizon provided a study for a moon-based fort. The plan was to land to soldier-astronauts in 1965 and deliver 245 tons of cargo by the next year. The Lunex Project by the US Air Force planned an underground Air Force base on the moon by 1968 with a budget of $7.5 billion. Recent proposals for space colonization include Japan’s 2006 plan to have a lunar base by 2030, Russia’s 2007 plan to have a moon base in 2027 – 2032, a 2007 proposal for a Lunar Noah’s Ark by the International Lunar Exploration Working Group, and Newt Gingrich’s unrealistic 2012 plan to build a moon base by 2020. Water is necessary for human life and most human needs. When water was discovered on the moon in September 2009 moon bases became more feasible. The feasibility increased exponentially when ice deposits were discovered two months later in November 2009. A lunar base has many rational advantages: (1) site for launching rockets and refueling them with locally-manufactured fuel, (2) space launches from the moon would be easier (but maybe not more affordable), (3) energy required to send objects to the moon is lower than to any other celestial body, (4) the close proximity of the moon makes the transit time short, and (5) if the moon is colonized and humans are demonstrated to survive in low gravity atmospheres, then humans may be able to survive on Mars. The disadvantages cover: (1) long lunar nights may impede dependence on solar power, (2) the moon is depleted of volatile elements such as the ones we need to survive, (3) there are temperature extremes, (4) increased chance of being hit by meteors, (5) moon dust is extremely abrasive, (6) the moon is not fit to grow crops, and (7) Earth politics. Regardless of the disadvantages the US has predicted the lunar laboratory will have 10,000 residents by the year 2030 dedicated to research and exploiting the moon’s resources. Its cost will be dramatically decreased due to new technologies in solar energy. Private firms are working with government agencies on the infrastructure necessary to cultivate the moon, including niches such as genetic engineering, new

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32 op. cit., fn. 20
33 NASA, 2006, Colonization of the Moon.
36 op. cit., fn. 33
37 Ibid.
chemical processes, and refueling stations. All colonies will require locations prime for transport operations, strategic natural objects and features, and an abundance of natural resources. Naturally, colonies will also experience economic development. Most colonies are expected to have economies based on spaced-based materials processing, exporting material to Earth, refueling stations, and energy collection. In other words, colonies may or may not be state property but they will likely operate under market driven conditions. Space colonies, like the lunar bases, are also most likely to be military installations.

Space Militarization
On October 4, 1957, Sputnik instilled the fear of Soviet attacks from space. The fear was so great the American people and its policymakers responded quickly by “creating government policies in support of science and of education, with the aim of maintaining the U.S. scientific, technological, and military superiority over the rest of the world”. In 1958 the Space Act, the National Defense Education Act, and the creation of the Advanced Research Project Agency (ARPA or DARPA) organized the space program into civilian and military branches. Immediately, US military space policy emphasized the observational potential of satellites, especially for arms limitation treaty verification. This can be easily seen in the burst of US space achievements in 1960, including Tiros I, a joint military-civilian weather satellite, Transit 1B, the first navigation satellite, and Discoverer 14, the first successful film reconnaissance satellite. In the past decades the US has mobilized in order to achieve space power, rather than using satellites and space systems solely for integrated tactical warning and attack assessment, weather and environmental monitoring, satcom, surveillance and reconnaissance, and navigation and positioning.

Military space power – “the ability of an actor’s military space forces to successfully contribute to achieving the actor’s goals and objectives in the presence of other actors on the world stage through control and exploitation of the space environment” – has five elements or requirements: (1) forces deployed, (2) ability to deploy forces, (3) ability to employ forces, (4) ability to sustain forces, and (5) ability to “deny an adversary control and exploitation of space”. In the case of the US, the objectives are explicitly to defend US space assets, control space by denying other actors the use of space in conventional war, and project force through the deployment of space-based weapons. Those goals are reiterated in both the 2001 Report of the Commission to Assess United States National Security Space Management and Organization as well as in a 2002 RAND report. In “Totem and Taboo” Karl Mueller organizes policy views on space weaponization into six categories: (1) idealists, (2) internationalists, (3) nationalists, (4) space racers, (5) space controllers, and (6) space hegemonists. Idealists oppose militarization of space under all conditions, internationalists oppose it due to concerns it may destabilize international security, and nationalists oppose it because space weaponization may weaken US power. Space racers, controllers, and hegemonists promote space militarization. Space racers argue space weaponization is inevitable; therefore, the US should be the first. Controllers find weaponization outweighs the costs, and hegemonists believe space will become “the ultimate, and decisive, battle ground of the future – the ‘ultimate

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39 Ibid.
41 Ibid.
The dilemma of space militarization is that the well-being and security of the US and its allies “depends on the promotion and protection of the peaceful use of outer space.”

The US must establish an international environment that allows it to pursue its objectives and complement its allies’ endeavors. Since the technological requirements are already feasible, and advances in space lift, satellite miniaturization, information systems, space weapons and non-weapons, robotics and virtual reality facilitate space militarization, properly focused policy is needed to complement the rapid advances in space exploration. Interestingly, Space Power 2010 suggests policies such as technology proliferation, policies that facilitate space commercialization, and treaty modifications that will allow “the eventual exploitation of Lunar, Martian, and Near-Earth crossing asteroid resources enroute to space power expansion throughout the solar system and beyond” are the best policies to address.

Discussion & Research Implications

Conflict in the 21st Century

If outer space can indeed be analyzed and predicted by realism, then the 21st century will be characterized by intense competition to obtain space power and/or inhibit other states from achieve it. Conflict in space will be exacerbated by public and private ventures that international law could not conceive when created, such as space privatization and colonization. Prominent scholars in the fields of international relations and astropolitics recognize the possibilities of conflict. Laura Grego, Senior Scientist at the Global Security

high ground”. In the US, the schools of thought which promote space militarization appear to have a greater influence.

US space military capabilities include weapon and non-weapon assets. Non-weapon assets include camouflage and smoke screens for denial and deception, interfering with satellite signals and inserting false commands for electronic warfare, radiation hardening and shielding, command and data encryption. Space weapons also have a large variation: inhibiting satellite sensors, pellet-cloud attacks on other satellites, weaponized microsatellites, hit-to-kill antisatellite weapons, and high altitude nuclear weapons. Non-weapons can be and may already be employed into satellites such as the US Global Positioning Satellites (GPS).

Unlike non-weapons, space-based weapons require development and deployment. For example, in 2003 the US Air Force demonstrated the capabilities of microsatellites with XSS-10 which approached targets near enough to have destroyed if it had been weaponized. Research and developments have been fruitful in both kinetic-energy weapons and directed-energy weapons for the space environment. According to the 2002 RAND report, specific space weapons being developed include SBLs, long-rod penetrators, common aero vehicles (CAV), and pace-based hit-to-kill interceptors (or boost-phase interceptors). The realization of space militarization is no longer science fiction, fantasy, and/or scientific theory. SBLs such as MIRACL and Alpha – chemical lasers – began test-firing in the early 1990s. Today accurate predictions for long-range strikes can be made;
In recent decades, satellites have become increasingly important in the economic, civil, and military spheres. At the same time, space has become more crowded with satellites and the debris from their use, and many more states have become spacefaring. However, the legal and normative regime has not kept pace with these changes. Recent trends and events – including demonstrations of antisatellites (ASAT) capability, a collision between satellites, and a dramatic increase in dangerous space debris – make clear that the space environment needs more protection, that satellites face growing risks, and that space activities may be a potential source of mistrust and tension between countries. While voluntary confidence-building and transparency measures can help solve some of these issues, more substantive engagement is required to keep space safe and secure into the future.

Moreover, the US space program may be directing the world to confrontations in space. The 2018 Defense authorization bill requires the Department of Defense (DoD) to establish a new Space Corps and a new Space Command by January 2019.53 Furthermore, General John E. Hyten, Commander, Air Force Space Command, stated space is vital and essential to joint warfare.54 Therefore, he contended implementing a new Space Mission Force that “move[s] beyond the status quo and adopt[s] new tactics, techniques and procedures (TTPs)” is necessary so that the US may execute “swift and deliberate action” when deterrence fails.55 The amount of factual knowledge available on parties involved, as well as technology being developed increase uncertainty and fear among international actors.

Technology
The technologies needed for human deep space travel and for humans to live on extraterrestrial bodies are designed to overcome human’s greatest technical drawback: humans evolved to live only on Earth. Deep space refers to distances at and/or past the moon.56 Many obstacles such as radiation poisoning and osteoporosis may find a technological solution in the forms of human enhancement. The issues that arise from developing and employing such technologies may affect institutions and public policy on Earth. The main concern with human enhancement is that its use may not be just, it provides a new dynamic for equity and ethical dilemmas: “‘How will technology be developed, by whom and for whom?’ Will nanotechnology reach those in desperate need”.

Due to the overly market-oriented and laissez-faire way in which technological development is carried out in the US, “there is a great amount of hubris in regard to how scientific and technological achievements are used in society”.58 At the same time, the technologies needed for are dual use – “can be used for both civilian and military purposes” – which allows both the US military and other domestic and foreign institutions to weaponized and militarize benign technologies, Bill Joy’s

55 Ibid.
Developing technologies such as human enhancement may expedite the goals of the new space era but the development and commercial adoption of the technologies needed raise numerous ethical and social issues, including, but not limited to: (1) defining the distinction between therapy and enhancement, (2) concerns about “playing god”, (3) concerns about the return to eugenics, (4) concerns about the commodification of human life, and (5) issues around social justice and disparities in access to new technologies. With the amount of public and private investment for human deep space travel, many disruptive and promising technologies will be developed. Combined with commercialization, scarcity, and absence and lack of public policy, those technologies may enable the future’s many critics of the new space era fear. At the very least, standards for social justice, equity, and equality will be challenged.

Conclusion
If the US or any state can achieve space power, then that state may acquire global dominance. Combined with space privatization and colonization, it is plausible a living generation may experience the birth of an interplanetary empire, or at the very least a monopoly on the space environment. The jump to a space empire was almost quantized, but it is plausible. Neither domestic nor international law can keep up with the rapid advances in space exploration. Since the US exercises its hegemonic power in the international arena, international organizations and law may not even be able to react to a US space force. If they do in fact react to US space privatization, colonization, and militarization, I predict the US

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