GALIFORNIA LEGAL STUDIES JOURNAL

BERKELEY LEGAL STUDIES ASSOCIATION

Editor-in-Chief

Rosie Alexandra Ward

Associate Editor-in-Chief

Kit Beyer

Assistant Editors

Alejandra Bautista Elena Hsieh Yui Ogihara

Cover Design

Kelley Sheen

California Legal Studies Journal

The California Legal Studies Journal was founded in 1981 as a forum for high-quality undergraduate legal research. The Berkeley Legal Studies Association publishes the journal annually.

Contributions

We welcome contributions from undergraduate students, as well as recent graduates, from any University of California campus. Students may submit any upper division coursework, independent research, or theses that pertain to legal matters. For more information, please refer to the submission guidelines for contributions at the end of this issue.

Review Process

We follow a double-blind review process. To ensure a fair and objective review, we remove identifying information from all submissions, and submissions are rated along predetermined guidelines by multiple editors.

Acknowledgements

We thank Lauri La Pointe, Legal Studies advisor, for her guidance and help with outreach efforts.

Copyright 2023 by California Legal Studies Journal. Authors retain all rights to their articles. ASUC Sponsored.

The views expressed herein are the views of the writers and not necessarily the views of the ASUC or the views of the University of California, Berkeley.

Letter from the Editor	4
Organizational Challenges of the U.S. Secret Service	5
Science vs. The Law: How Developments in Artificial Intelligence Are Challe	nging Various
Civil Tort Laws	15
Technology and Talk: Exploring Escalation Risks as an Outcome of AI and N	luclear
Integration	40
A Legal, Political, and Theoretical Comparison of Legislation in Alabama, To	exas, and
California on Transgender Youth	59
Reconstructing Supranational Governance: Risk Perception and Economic I	ntegration in
the European Union	77
Submission Guidelines for Contributions	93

Letter from the Editor

Dear Reader,

In February 2022, Russia ended an eighty-year period of relative peace in Europe with its full-scale invasion of Ukraine. For the first time since WWII, many Western powers are now at risk of engagement in international war, questioning national security in the most profound sense of the word.

Yet the impact of the war extends far beyond countries' departments of defense. The war in Ukraine sparked an energy crisis, which has seen countries scrambling to overcome reliance on Russian oil and gas and boost their domestic energy security. Upheavals in global food markets caused by Russia's black sea blockade have compounded climate-change induced agricultural losses, leaving hundreds of millions in a state of severe food insecurity. And high food and energy prices precipitated by the war have pushed inflation to record levels, threatening the job and financial security of many.

It is for all of these reasons the editorial team and I selected "Security" as the theme of this year's journal, and the remarkable range of submissions we have since received made producing this year's journal a true privilege and delight. We are thrilled to share papers exploring the organizational challenges of the US secret service, the implications of AI for cyber and nuclear security, the role of law in defending transgender rights and individuals' associated sense of self-security, and the security concerns which fueled European economic integration.

Publishing this year's journal would not have been possible without the help of an incredible team. I'd like to extend special thanks to all the editors and contributors, as well as Legal Studies advisor Lauri La Pointe, for their contributions to the journal.

We hope you enjoy reading the 2023 California Legal Studies Journal!

Best wishes,

Rosie Alexandra Ward Editor-in-Chief, California Legal Studies Journal Organizational Challenges of the U.S. Secret Service

Jack Guan

University of California, Berkeley

Abstract

The U.S. Secret Service has pursued its important mission to secure financial networks and protect American dignitaries for over a century. However, owing to poor organization focus, misconduct among agents, and a lack of positive agent morale, the agency today struggles to maintain effectiveness and adapt to an era of challenges. This paper takes a critical look at the secret service's functions and discusses the challenges facing the agency from a public management perspective. The paper concludes with a discussion of, and suggestions for, wide-ranging future reforms in the Secret Service at all levels.

Introduction

January 6, 2021 is one of the most defining symbols of the increasing polarization that has plagued the public sphere of America. Individuals incited by outgoing President Donald Trump stormed the U.S. Capitol building and threatened the safety of then-Vice President Mike Pence and other lawmakers while they certified the 2020 presidential election (Dozier). As the agency best known for protecting current and former presidents and vice presidents as well as their families, the role of the Secret Service in the Capitol insurrection was thrust into the limelight. The refusal of Pence to leave the Capitol with Secret Service agents illustrates an

agency locked in crisis mode that permeated to the highest echelons. The U.S. Secret Service has pursued its important mission to secure financial networks and protect American dignitaries for over a century, but the agency today struggles to maintain effectiveness and adapt to challenges because of its organizational structure, misconduct among agents, and lack of agent morale.

Background

The Secret Service was founded in 1865 with an original mission to counter counterfeiting. In 1901, at the request of congressional leaders, the agency's responsibilities were expanded to provide presidential protection (Reese, *Selected Issues* 1). Today, the agency's responsibilities continue to fall under these two auspices, with a financial division focusing on national financial infrastructure and a protection division focusing on security for current and former executive political leaders and their families.

The Secret Service is also organized into two other divisions, mission support and training divisions, which provide support to the two main auspices. The two main auspices form the core of the agency's mission, self-defined to be a "no-fail, integrated mission of protecting our nation's leaders and financial infrastructure" (U.S. Secret Service 1). In pursuing this mission, the agency is staffed by 7,600 employees who are spread nationally across 162 field offices (Isman 1).

Organization Focus

The division of the Secret Service into multiple divisions and geographic field offices is an example of functional decentralization (Ansell). However, the organizational structure of the agency remains hierarchical rather than a competitive sphere where information is compartmentalized. The Secret Service has three main layers of hierarchy, with the director overseeing a deputy director and chief operating officer, two positions that the vast majority of the agency's division offices report to (Reese, Selected Issues 3). Thus, the problems that permeate the agency arise not from a decentralized organizational structure but rather from the divided mission focus of the Secret Service itself. The divided focus of the agency inherently results in a need to concurrently pursue criminal investigations and protective missions at the 'no-fail' standard defined in its mission, stretching resources and staffing. 63 percent of the agency's funding, and most agency attention, is focused on the protective division, stretching the investigative division (Reese, *History* 12). At points, like during presidential campaign cycles, the investigative division is also hampered by the protective division's need for more personnel because the agency has an increased number of individuals, like major party candidates and their spouses, to provide protection to. This is juggled by reassigning investigative division agents to the protective agents, lessening the agency's capacity to fulfill that side of its mission in favor of the other (Reese, *History* 13).

As financial crimes evolve with new innovations like hard-to-trace digital currencies, protective challenges also evolve with innovations like advanced threats and new weaponry. This illustrates the dangers of a juggling act where both divisions do not act in tandem: for example, fewer agents on the investigative side during presidential election cycles means there is an increased likelihood of failure by the Secret Service to investigate the crimes under its jurisdiction. With increasingly complex financial crimes, this likelihood is further enhanced.

As the investigative and protective divisions face novel challenges in performing their duties, the singular organizational structure of the Secret Service as it stands today is ineffective at juggling both. The Secret Service should be separated into two agencies with separate

hierarchies to ensure the two main divisions have adequate resources to effectively fulfill their mission. Multi-agency cooperation is not a novel concept and could benefit them, particularly if each division is properly funded and adequately resourced. This is because the two divisions do not suffer from a lack of cooperation (Harlow 46), but rather a lack of adequate resources individually (Melanson in Harlow 7).

Agent Misconduct

In July 2011, agents improperly expended government resources in a personal dispute with a neighbor of an agency employee (U.S. Senate 3-4). In April 2012, 12 Secret Service agents "solicited prostitutes and engaged in other misconduct" during a visit by President Barack Obama to Cartagena, Columbia (U.S. Senate 4-5). In March 2015, agents attended to a potential explosive device threat at the White House after spending the "previous five hours in a restaurant/bar," which violated the agency's 10-hour rule prohibiting alcohol consumption preceding a shift (U.S. Senate 3). 15 agents were also found to have violated the 10-hour rule during the period from June 2013 to June 2014 (U.S. Senate 6). While these are only a few of many examples, they speak to a systematic culture of misconduct among Secret Service employees that requires systemic reforms to address.

The Secret Service performs well in having uniform rules for discipline. In all cases above, agents were fairly disciplined according to consistent guidelines, with consequences ranging from letters of reprimand to variable-length suspensions from the force. However, the same report found that the agency issued less severe penalties than recommended in 78 percent of cases and at or above the recommended level in just 22 percent of cases (U.S. Senate 8).

Misconduct is difficult to investigate since employees are "hesitant to report off-duty misconduct, either because of fear that they would be retaliated against or because they felt management would do nothing about it" (U.S. Senate 7). The lack of an organizational structure for employees to report misconduct allows misconduct to become entrenched in Secret Service culture. The collective fear of reporting misconduct sends a message that misconduct is tolerated within the agency, impeding fulfillment of the Secret Service's 'no-fail' goal as impairment by alcohol or otherwise fosters mistakes.

The misconduct prevalent within the Secret Service can also be attributed to the lack of quality training provided to agents and staffing levels. In testimony from the Department of Homeland Security's inspector general, inadequate training was cited as a factor in potentially disrupting critical mission operations (Roth 5). In a September 2014 incident where an individual jumped the fence of the White House, a panel concluded it was a result of a "catastrophic failure of training" (U.S. Government Accountability Office 1). However, the Secret Service itself lacks clear information on the effectiveness of its training program, with "some concern regarding the quality and applicability of training received" (Isman 47). This is because the agency does not systematically evaluate data on course evaluations completed by trainees. In order to better understand the effect of its training, the Secret Service needs to engage in organizational learning. This could be done by establishing processes where organizational strategies and structures (e.g. misconduct reporting, employee training) are systematically evaluated to draw lessons learned (Ansell).

Beyond that, inadequate training is further caused by the need to get agents into their duties as fast as possible. Staffing shortages have plagued the protection division, as mentioned previously in the organization's divided mission focus. With pressure to quickly train and fill vacancies, agents may not be fully aware of agency policies and protocols. This can lead to

incidents of misconduct and lapses in effectiveness, calling the agency's ability to present a 'no-fail' success record into question. This has been acknowledged in reform efforts, with a panel recommending more training shifts (U.S. Government Accountability Office 19) and a reform of the hiring process to be efficient (U.S. Government Accountability Office 26). However, the recommendation of more efficient hiring processes also creates a dilemma of whether the agency should focus on more effective processes or efficient processes; they are not the same. Striving for increased effectiveness may mean a longer training period, with potentially better outcomes regarding on-the-job effectiveness and misconduct levels, whereas a quest for efficiency may mean a shorter training period with a faster application-to-duty pipeline. The agency has clearly picked one, implementing a more efficient hiring process in 2019 while failing to implement new training shifts.

The overall effectiveness of these reforms is still to be seen, with a cautionary tale to be found in the reforms' top-down as planned change versus bottom-up as emergent change characteristic. Top-down change has a strategic basis – the desire to avoid further incidents affecting the agency's reputation – though bottom-up change is more diagnostic of larger issues (Ansell). The lack of emergent characteristics means employees likely had limited input and overall reforms may encounter resistance and hamper overall effectiveness.

Agent Morale

Employee misconduct and the staffing shortage in the protection division also compromise agent morale. Between the 2015 and 2020 fiscal years, attrition rates in the Secret Service averaged 13 percent (Isman 4). Attrition is an indicator of employee morale: high attrition rates mean employees are dissatisfied with their positions, while low attrition rates mean

employees are satisfied with their positions (or satisfied enough to remain in them). Despite the reforms pushed into the Secret Service after the aforementioned September 2014 White House breach, "employees continue to have concerns about work assignments and career advancements" (Isman 3). This confusion and low morale amongst agents impede their ability to deliver upon the Secret Service's mission, either effectively or at all. This confusion is reinforced by a lack of leadership: after the 2014 breach, it was reported that "employees had lost confidence in Secret Service leadership and believed that there was no longer accountability in the organization" (Isman 11). In other words, the leadership of the Secret Service has lost legitimacy to govern and manage its rank-and-file employees.

Overburdening agents reduces morale and increases errors, overall lessening mission delivery effectiveness. A report references that "insufficient staffing is driving significant overtime" and "officers routinely work days off, providing little work-life balance, and the limited opportunities for concentrated skill refresher training" (Isman 4). The high attrition rates within the Secret Service are likely influenced by this lack of a work-life balance as agents burn out and leave the force to seek positions where they can have a better balance. Agents that do stay may be more likely to commit employee misconduct, such as violating the 10-hour rule on alcohol consumption since without days off, employees who want to consume alcohol have limited opportunities to do so. Even those who stay may burn out, with detrimental effects on their focus and overall effectiveness. This subtracts from the supposed 'no-fail' mission of the force, which has experienced past lapses like the September 2014 incident at the White House.

Employee morale, like many other aspects of the Secret Service's shortcomings, is influenced by the politics that define running a government agency. A report found that "[the] Agency was experiencing a staffing crisis that started in 2011 as a consequence of the 2011 Sequestration budget reductions" (Isman 11). The lack of federal appropriations to fund healthy

hiring at the Secret Service created the crisis of overworked employees and skyrocketing attrition rates which severely reduced the capacity of the agency, defined with factors such as measures of esprit de corps, employee pride, and career longevity (Ansell). Not only could the agency not efficiently hire new employees, but it began to lose its existing employees, feeding a self-reinforcing cycle of declining effectiveness from a declining workforce. The agency needs to improve metrics like work-life balance (e.g. enforcing maximum work hours per week) that balance effectiveness and efficiency.

Conclusion

The Secret Service is one of America's most important agencies, with a reputation as elusive as it is renowned. The reality, on the other hand, is a tale of an agency struggling to reconcile its mission amidst a variety of challenges ranging from mission focus to agent morale. The agency has engaged in reforms based on recommendations from various government bodies. However, the overall effectiveness of reforms demands that the agency take a multifaceted, collaborative, and transparent approach, with all voices (including agents) heard and all functions revealed for potential reform. The Secret Service is an around-the-clock operation that never stops, and efforts to improve it should be equally intense.

Works Cited

- Dozier, Kimberly, and Vera Bergengruen. "Incited by the President, Pro-Trump Rioters Violently Storm the Capitol." *TIME*, Jan 06 2021, Web.

 https://time.com/5926883/trump-supporters-storm-capitol/.
- Examining on-Going Challenges at the U.S. Secret Service and their Government-Wide Implications. Tran. U.S. Senate. Ed. Senate Homeland Security and Governmental Affairs Committee., 2015.
- Harlow, Richard. "Two Missions, One Secret Service: The Value of the Investigative Mission." Naval Postgraduate School, 2011. Web. https://calhoun.nps.edu/handle/10945/5587.
- Isman, Brenna, et al. *Building for the Future: Employee Engagement in the United States Secret Service*. National Academy of Public Administration, 2021.
- Klippenstein, Ken. "Secret Service Deleted Jan. 6 Text Messages After Oversight Officials Requested Them." *The Intercept*, Jul 14 2022, Web.

 https://theintercept.com/2022/07/14/jan-6-texts-deleted-secret-service/.
- POLSCI 181 Fall 2022 Lectures. Dir. Ansell, Christopher. University of California, Berkeley, 2022. Lecture.
- Reese, Shawn. "The U.S. Secret Service: History and Missions ." *Congressional Research Service* (2014)
- Reese, Shawn. "U.S. Secret Service: Selected Issues and Executive and Congressional Responses." *Congressional Research Service* (2017)
- Roth, John. Testimony of Inspector General John Roth before the House Oversight and

- Government Reform Committee. Office of the DHS Inspector General, 2016.
- U.S. Government Accountability Office. U.S. Secret Service: Further Actions Needed to Fully Address Protective Mission Panel Recommendations. U.S. Government Accountability Office, 2019.
- U.S. Secret Service. Professionalism Within the Workforce: Fiscal Year 2015 Report to Congress.U.S. Secret Service, 2015.
- U.S. Secret Service. U.S. Secret Service FY2020 Annual Report. U.S. Secret Service, 2020.

Science vs. The Law: How Developments in Artificial Intelligence

Are Challenging Various Civil Tort Laws

James Holliday

University of California, San Diego

Abstract

For centuries, the law has been playing catch-up as science pushes the boundaries of how we

define both society and our own realities. Today, artificial intelligence (AI) perhaps poses the

biggest challenges the legal system has ever faced. This paper aims to explore many of the

numerous ways in which artificial intelligence developments are actively pushing the boundaries

of contemporary civil law, challenging lawyers and judges alike to rethink the law as they know

it. It first offers a general overview of artificial intelligence as well as some relevant legal fields:

negligence, product liability, fault information, invasion of privacy, and copyright. Then, it dives

into the specifics of how artificial intelligence is challenging these fields. Each section will

introduce a new field in which artificial intelligence is rapidly changing the game, explain the

benefits and pitfalls of said use of AI, introduce the relevant legal field and its policies, and then

explore the challenges that AI is causing to the law and how, if at all, that legal field is adapting

to those challenges.

Introduction

Science and the law seem to be, from both a philosophical and a practical standpoint,

15

two distinct, non-congruent points of interest in our societal field. On the one hand, the law

California Legal Studies Journal 2023

stands as a pillar of unyielding principles and statutes, bound by our traditions and resilient to change; while science is constantly challenging these same traditions, and accelerating at increasingly groundbreaking rates. And on the other hand, the law is a very human construct, subject to the whims of society or even its individual members; while science is grounded in truth, absolutely immutable to change. Regardless of perspective, the two disciplines are very antithetical.

These observations are not just surface level: science and the law indeed do not mix well. For millennia, the law has been playing catch up as science pushes the boundaries of how we define society and our own realities. The current intersection of the scientific and legal fields is no exception. If anything, modern developments in science present the most significant challenge that the law has faced to date. Far and away the biggest challenge the legal system is facing today, and will continue to in the coming decades, is artificial intelligence.

This paper aims to explore numerous ways in which artificial intelligence developments are actively pushing the boundaries of contemporary civil law¹, challenging lawyers and judges alike to rethink the law as they know it. It first offers a general overview of artificial intelligence as well as some relevant legal fields: negligence, product liability, fault information, invasion of privacy, and copyright. Then, it dives into the specifics of how artificial intelligence is challenging these fields.

Each section will introduce a new field in which artificial intelligence is rapidly changing the game, explain the benefits and pitfalls of said use of AI, introduce the relevant legal field and its policies, then explore the challenges that AI is causing to the law and how, if at all, that legal field is adapting to those challenges. Finally, the paper briefly covers what actions federal and state legislators and courts are currently taking to address the legal

challenges introduced by AI, and offers a cursory recommendation of the direction law should take.

What is Artificial Intelligence?

Paramount to understanding the challenges artificial intelligence (AI) brings is understanding AI itself. AI is a branch of computer science specifically focused on machine learning. What separates AI from other computer systems is that an AI system is constantly learning and building upon its own code, reprogramming itself as it obtains new information from its environment to best accomplish its selected task. Additionally, AI algorithms are based on data originating from various sources, and different data sets can lead to different conclusions, often making it impossible to trace an AI's decision-making process (Lederer).

What makes artificial intelligence especially difficult to deal with, legally, is that it does not exist in a vacuum. When a human makes a mistake, legal responsibility is attributed solely to that human's own volition, or, in limited circumstances, a superior. For example, in California, employers are liable for negligent and wrongful acts committed by employees within the scope of employment (Stimmel & Roeser). But AI rely not just on their own volition, or that of their creators; instead, they draw from an interdependent network of data using sensors, smartphones, or anything connected to the internet. An AI algorithm's decisions can be affected by a plethora of factors, and thus there are a plethora of sources for error or bias to infiltrate the system.

When assigning liability for AI malfunction, many questions arise. For instance, if the source of damage can be traced to a design error, the manufacturer would be liable; while an

implementation error would make the user liable. If the AI has open source software, however, as many do, a third-party programmer might be liable for providing faulty code. And if the damage resulted while the AI system was learning, liability could be assigned to the data provider rather than the manufacturer (Day and Gluyas). But, as explained above, tracing the source of AI error can be nearly impossible. As such, artificial intelligence becomes a very murky area in already murky legal fields.

The Civil Law of Torts

Law can be broadly divided into two overarching fields: criminal law and civil law. Criminal law deals with crimes committed by individuals against the state and is prosecuted by state officials. On the other hand, civil law addresses interactions and conflicts between private parties. There is overlap, but in general civil law focuses on instances in which no actual crime was committed. Civil law is also not focused on punishing a wrongdoer but on compensating a victim. Furthermore, while criminal law employs a "beyond a reasonable doubt" standard for convicting criminals, civil law merely relies on a "preponderance of evidence" standard that tests if a plaintiff's claims are only likely true ("Criminal vs. Civil").

This arguably makes artificial intelligence's blurring of traditional legal lines more impactful, and undoubtedly more intriguing, in civil law cases. The standard of proof for determining likelihood is much more precise than that of reasonable doubt. To be sure, AI does provide many challenges for criminal law, but those challenges are mainly based around the legal system's own use of AI and how fair its use is. In civil law, especially tort law, which is based around interpersonal relationships, artificial intelligence shakes the very foundations of the legal practices themselves.

Tort law is probably the most expansive field of civil law, as it covers any sort of injury brought about by another's actions. Tort litigation typically begins with an injured party filing suit to recover damages, often monetary. The plaintiff is burdened with proving that their injury is a result of another party's actions, whether careless, negligent, or held strictly liable ("Tort"). But, again, the plaintiff need only show that a defendant's actions probably caused the injury, not absolutely did. Combine this fact with the many questions about assigning liability that arise when artificial intelligence is one of the parties, and determining probable cause and responsibility becomes extremely difficult.

This paper will emphasize particularly the tort of negligence, product liability, faulty information, invasion of privacy, and copyright as those fields are especially agitated by the emergence of artificial intelligence in private affairs.

Tort of Negligence

The tort of negligence is far and away the most common tort in civil law today. Any time a suit is brought against another party for personal injury due to careless behavior, it falls under the tort of negligence. These disputes can be between two previously related parties, like employer and employee, buyer and seller, manufacturer and dealer, or between complete strangers, as in the case of a vehicular collision, an extremely common basis for a negligence suit.

Establishing negligence follows four basic steps. For a party to be found liable due to negligence, there must be a duty of care, a breach of said duty, a causal relationship between breach and injury, and actual resulting injury. These four pillars are consistent across the

country. Although some states do add slight modifications—for example, Texas specifies both actual cause and proximate cause (a responsible party should know their actions could result in injury)—the practical bar for proving negligence is still very similar ("What It Takes").

This means that with any missing component, negligence cannot be established. Even if a party without doubt breaches an established duty of care, and knows their behavior is reckless, they cannot be brought suit against unless it resulted in tangible injury. Alternatively, if injury is directly caused by a party, they're still not liable if they did not breach their duty of care. Certain cases that fall under the tort of negligence actually don't use the typical negligence standard but instead employ a strict liability standard. Strict liability removes the breach of duty component and assigns liability if any harm is caused by the action, regardless of the level of due care. For the situations this paper explores, this is not the case.

In the case of motor vehicle accidents, negligence claims are fairly straightforward.

Everyone has a duty to safely drive, and injury and cause of injury are easy to demonstrate.

Thus, negligence claims mainly focus on breach of duty: if the driver was drunk, speeding, ran a red light, or violated any other traffic law, this is easy. It gets more complicated when one party being the clear perpetrator is not the case.

In cases of contributory negligence—when more than one party breached a care of duty—establishing liability becomes very difficult. Different states approach this issue differently. For example, California relies on pure comparative negligence for determining liability. When looking at negligence cases, juries assign liability percentages: if they decide the plaintiff is 20% liable, they would receive damages at 20% less than their losses ("Proving Negligence"). Other states, like North Carolina, follow a contributory negligence policy that disallows plaintiffs from any compensation whatsoever if they are proven to be partially at fault

("Contributory Negligence"). These different policies make the negligence legal field very complex.

Autonomous Vehicles

Liability is already complicated in cases in which the two parties are independent decision makers. But what happens when one of the decision makers isn't entirely independent, like artificial intelligence? How is liability apportioned then? As autonomous vehicles become more prevalent, the question of liability becomes more pressing.

Before exploring the legality of autonomous vehicles, it is important to understand how they operate differently than regular vehicles. To first define terms, the phrases autonomous and self-driving are often used interchangeably, but the latter requires a human passenger present while the former does not. In fact, vehicles that employ artificial intelligence are broken into more categories than just those two. The Society of Automotive Engineers, as well as the US Department of Transportation, have adopted six levels of driving automation, ranging from mere driver assistance (what many cars produced today have) to full automation. Notably, while much discourse is centered around full automation, mainstream production has not surpassed level two ("The 6 Levels").

Autonomous cars are defined by their ability to self-monitor their environment, as opposed to a human monitoring the environment and employing controls. This is achieved through an integrated system of sensors creating a map of the car's surroundings, sophisticated software that processes input and plots a path, and actuators ("What is an Actuator?") that direct any or all of the vehicle's controls. Hard-coded rules, predictive modeling, and object

recognition software all aid autonomous vehicles in following traffic rules ("What Is an Autonomous Car?").

Already, various legal questions arise, many of which are stalling the mass-production of autonomous vehicles. Assigning liability in certain circumstances is the biggest unknown. Consider this hypothetical: In bad weather conditions, rain or snow can obscure lane dividers or make driving unsafe in other ways. Typically, a driver is still fully responsible for their actions; in bad weather, their duty of care is raised and the driver is expected to take extra precautions like slowing down (Roy). In an ideal autonomous vehicle, the AI would have the same decision-making level as a human driver, and adapt accordingly to any weather conditions. But autonomous vehicles on the market right now are nowhere near this level. Perhaps the system simply looks for lane dividers, and when it can find none, it assumes it is driving on a single-lane road. Who would be liable: the owner for giving control to the faulty AI system during bad weather, or the manufacturer for distributing a faulty system in the first place? Presumably, at lower levels of automation where driver oversight is still necessary, it would be the driver's fault, and at higher levels, where no human may even be present, it would be the manufacturer's fault. But where is this line drawn?

To further confound matters, current blueprints suggest fully autonomous vehicles won't have a steering wheel or dashboard, entirely removing the option for a human to take control. If there is no faulty code nor human to take control, and an autonomous vehicle still makes a mistake, is no one liable? Perhaps strict liability would apply to the owner of the vehicle when we reach such levels of autonomy. As cars with higher levels of automation begin entering the public realm, these will be huge questions to face.

Even now, certain standard AI features present in cars give rise to legal concern. For

example, some cars have a feature that stops the engine when it detects imminent collision (Kingston). If this feature were to actually lead to a greater collision, say in the case where a driver would need to drive into oncoming traffic in order to avoid an oncoming train, who would be liable for the crash? Some arguments state it would be a clear-cut case of product liability, and the manufacturer would be liable. After all, as stated in a standard handbook of tort law, "a bad state of mind is neither necessary nor sufficient to show negligence; conduct is everything" (Dobbs). The autonomous vehicle need not be acting in bad faith. The mere fact that its decision led to greater harm would be enough to establish liability. However, this decision may directly contradict the current legal precedent of crashworthiness. Crashworthiness assigns liability to a manufacturer if a product is not designed with any reasonably foreseeable use in mind ("Car Defects"). For vehicles, this means including safety features to minimize damages or avoid altogether a crash. A feature that shuts off the engine when it predicts collision would comply with crashworthiness. Further complicating things, an automated car prioritizes the driver's life over that of a pedestrian may even be a selling point. In that case, the manufacturer couldn't be held liable as it's expressly part of the design, but could the driver even be liable for a mechanism it has no control over? Either way, new legal precedent will need to be set for the rising amount of AI in vehicles.

One case that sheds some light on the legal direction autonomous vehicles are heading toward occurred in 2016 when a Tesla Model S with autopilot activated drove straight into a tractor trailer perpendicularly crossing the highway (Golson). Data from the vehicle indicated that the front sensors identified the trailer as an overhead road sign so it did not engage the breaks. It also indicated that the driver's hands weren't on the wheels leading up to the crash. Tesla stated that its models are still in beta and it is expected of customers to maintain control

of their vehicle, even while autopilot is activated. Of course, manufacturers will try to burden customers with liability as long as legally possible, but that won't be feasible for long. Realistically, passengers in autonomous vehicles can't be expected to take over for an emergency situation when an emergency only occurs every 500 thousand or so miles; to be alert for that long contradicts the very purpose of autonomous driving. While liability may shift towards the manufacturer in coming years as autonomous vehicle technology accelerates, for now negligence liability remains mostly with the human operator, for good or for bad.

Product Liability

Sometimes considered a subsection of the tort of negligence, sometimes considered a sister field, product liability deals with torts aimed at manufacturers and distributors for faulty products they put on the market. Similar to classic negligence, product liability torts must prove a breach of duty of care, cause of harm, and tangible injury. Duty of care itself is based more in inherent rules, most notably that of merchantability, which states that a product must be fit for normal use ("Merchantable Definition"). Proving negligence in product liability cases is usually much more straightforward than most other negligence fields. If a product causes injury to a user, all that must be asked is if the said product was used properly and if that product was merchantable. If it was used properly, or the product is found not merchantable, liability is typically assigned to the manufacturer.

Non-merchantable products are categorized by three types of defects. Manufacturing defects occur when a product does not meet a manufacturer's own specifications ("Defects in Manufacturing"). These types of defects are more rare because they are unintentional flaws in the development of a product. An example that includes AI would be a faulty sensor in an

automated vehicle. If the sensor can be proven to not work, it would be a manufacturing defect and the producer of the vehicle would be strictly liable for any resulting damages. Another type of product defect is a design defect. Design defects are classified by designs that make a product unnecessarily dangerous to a user. In design defect cases, lawsuits are usually brought against the designer of the product, not the manufacturer or producer. Examples include toys with choking hazards, flammable clothes, or power tools with poor safety guards ("What Is a Design Defect"). When a product causes injury, whether or not a design defect was present is tested by consumer expectations, a risk to utility ratio, and if there was a reasonable alternative design. Notably, design defect cases don't always require tangible harm: if the design merely renders the device unfit for normal use, or not merchantable, consumers can sue for monetary compensation for the product. Lastly, warning defects occur when distributors fail to adequately warn users of dangers associated with use of a product. These can come in the form of a lack of any warning label, mistakes on the label, or a misplaced label (Wishnia). Just as the designer is liable for design defects and the manufacturer for manufacturing defects, the distributor is usually liable for warning defects.

Just like with the tort of negligence, developments in artificial intelligence are posing many challenges to traditional product liability laws. When AI designs, manufactures, or distributes products, it muddles the source of negligence by stretching current legal boundaries and makes assigning liability extremely difficult. Smart warehouses, a rapidly popularizing style of traditional warehouses that are powered with artificial intelligence systems, are a perfect illustration of this development.

Smart Warehouses

Smart warehouses are warehouses (buildings that receive, count, store, and export products) that heavily incorporate machine use to offset human labor. They rely on artificial intelligence among other technologies. Their use of AI allows the machines within smart warehouses to maximize efficiency, be it finding products, packing products space-efficiently, etc. For example, AI can detect the best box to use for shipment based on size, shape, and weight of a product much faster than human workers can (Brush).

Additionally, the use of AI in smart warehouses is extremely beneficial for inventory management. Smart warehouse systems provide a level of data invisibility unparalleled by traditional warehouse models. This allows for real time updates on the inventory of products, not only for management but for consumers too. Because of these benefits, warehouses across the nation are quickly turning to AI systems instead of human management. But how does the transition from human-operated to AI-operated warehouses translate to legal terms?

Traditionally, warehouses are covered by a special warehouse legal liability (WHLL) that kicks in when a warehouse operator is liable for property damage or loss. A WHLL contract distinguishes warehouses from typical product liability because it defines the exact terms of who is liable for certain damages, foregoing the usual processes of determining negligence. Warehouse operators—unlike, say, automobile operators—need only to demonstrate a reasonable standard of care to avoid liability, so it is possible to avoid WHLL even when damages occur. Furthermore, WHLL policies can be constrained by warehouse receipts (express contracts between warehouse and supplier) delineating exactly what the warehouse is liable for ("Unpacking").

However, WHLL and express contracts can conflict with each other. For example, if the warehouse contract states the warehouse is liable for all losses, the WHLL may still exclude things like unforeseeable disasters out of warehouse control. US law exempts liability due to such events, limiting responsibility to a warehouse's own actions. These legal incongruencies leave gaps in liability in which no party is responsible, so the damages are not insured. Ultimately, legal liability in a warehouse is constrained to human behavior, and external contracts are required to insure remaining losses. With this in mind, the implications of smart warehouses extend far past just technology concerns and well into the legal realm.

The obvious legal question arises: is AI malfunction a human error, or an uncontrollable event? With artificial intelligence now controlling nearly every action along the assembly line in many warehouses, most sources of loss or damage are in AI's domain. If AI malfunction is deemed outside human control, it would render the majority of smart warehouses' damages uninsured. Alternatively, new contracts specifically regarding the use of AI could assign liability to the AI developer or supplier to the warehouse. WHLL insurance is usually limited to facility maintenance issues or gross negligence on part of warehouse employees ("A Guide"). Until an AI system is legally considered an employee, a legal standard we are doubtlessly very far from adopting, WHLL will have to change its foundation to include regular, non-operative artificial intelligence malfunctions. Otherwise, AI leaves a huge gap in warehouse liability, which will be a major problem going forward. Either way, as smart warehouses inevitably become the dominant form of warehousing, considerations for AI failure will have to be incorporated into either liability laws or express warehouse liability contracts.

Smart warehouses are clearly a very complicated example, but the legal issues they present ring equally true for any product liability case. Just like in the case of warehouse legal

liability, normal product liability will have to adopt new norms of either strict liability, contractual liability, or negligence liability as various AI systems enter the market. Take, for example, a Roomba, a home vacuuming robot already widely used by the general public (Barwell). A normal malfunction would be attributed to either a design or manufacturing defect and follow normal liability routes. But when the damages occur while the robot is following appropriate code, perhaps due to an oddity within the user's household the AI has not experienced, is it really a design defect? Liability, for now, is constrained by normal terms and conditions contracts. But as AI systems become far more advanced than a simple home vacuuming robot, and resulting damages are less attributable to human error, such AI product liability will have to move in the direction of strict liability or normal negligence, or create a whole new product liability standard and be expressly legally constrained to only contractual liability.

AI Chatbots and Faulty Misinformation

Just as new artificial intelligence systems present in autonomous vehicles and smart warehouses require new legal scrutiny, so do chatbots, a form of online communication with an AI, which present equally pressing legal questions in a very similar tort: negligent misrepresentation.

Before diving into the logistics of chatbots and negligent misrepresentation, let's take a step back and look at the bigger picture of misinformation in general. More sensationally referred to as fake news, misinformation is any factually incorrect information, especially but not necessarily deliberately misleading. Legal remedies for misinformation itself are far and few between, as the First Amendment protects our right to freely spread ideas, even false ones

(Haskins). One common legal remedy is a defamation lawsuit, but that is specifically limited to misinformation published about individuals that directly causes some sort of harm. Otherwise, for the plethora of online websites advocating blatantly false medical treatments and other potentially dangerous misinformation (Gregory et al.), there is no clear legal path to preventing them.

At least for now, no artificial intelligence is challenging defamation torts by specifically tarnishing individuals. Rather, AI is becoming ever more present in providing medical and legal information for clients online. These new AI systems intended to help customers with low-level medical, legal, or business-specific questions are called online chatbots.

Chatbots are computer programs designed to simulate human conversation, either through voice or text commands, and use artificial intelligence to do so. Common examples are Amazon's Alexa or Apple's Siri, but thousands of businesses, even small ones, are now implementing their own online chatbots to offset human customer service. Starting off restrained to a limited number of commands, most chatbots now used advanced machine learning, allowing it to teach itself new vocabulary and learn the accuracy of its responses (Frankenfield). While most come nowhere near the level of interaction a human would provide, they are significantly cheaper and faster than human service, and with machine learning, they are quickly catching up. Unfortunately, this also means they are prone to error, especially when giving advice.

Chatbots pose a much greater difficulty in the field of online misinformation than written text. Websites simply putting disingenuous advice out there for people to read and interpret on their own are one thing, and other websites like the one referenced above that shed light on their reliability shift most liability for following the misinformation to the readers. It is

relatively easy to simply not engage with those websites that are intentionally misleading. AI chatbots, however, are an entirely different problem. For one, the real-time interaction between customer and bot implies a much more trustworthy relationship. Chatbots for the most part don't intentionally mislead, but are rather prone to human-like mistakes. Chatbots are also often the only choice users have when using a website as they become more and more popular among businesses, and in one study many users said they would interact with a chatbot if a human agent wasn't available (Leah). As they become even more popular and distrust wanes, the law must adapt accordingly to protect against misinformation originating from chatbots.

There are two main paths in which the law could adapt. First, legal remedies for misinformation could generally expand, which would include chatbot misinformation, perhaps dubbed a new misinformation tort. Given misinformation's rising prevalence and negative effects, we'll almost certainly see increased legislation and new legal standards regarding it.

But there is a simpler way to adopt chatbots into the current legal field right now: they could be included in the tort of negligent misrepresentation.

Negligent Misrepresentation

Negligent misrepresentation is a subsection of negligence and contract law that applies basically when one party "makes false statements, honestly believing they are true, but without reasonable ground for such belief ("Negligent Misrepresentations"). Contracts based on false premises are always invalid, and proving negligent misrepresentation can yield relief for any damages resulting from relying on that information. Negligent misrepresentation differs from other kinds of misrepresentation in that it is unknowingly but carelessly false; fraudulent misrepresentation is knowingly false and innocent misrepresentation is not careless

("Fraudulent Misrepresentations").

The basis for negligent misrepresentation claims is thus described: "One who, in the course of his business, profession, or employment, or in any other transaction in which he has a pecuniary interest, supplies false information for the guidance of others in their business transactions, is subject to liability for pecuniary loss caused to them by their justifiable reliance upon the information, if he fails to exercise reasonable care or competence in obtaining or communicating the information" (Restatement (Second) of Torts § 552 qtd. in "Negligent Misrepresentations"). In simpler terms, negligent misrepresentation constitutes an exchange of information in the context of a business transaction that results in tangible harm for one party due to their reliance on the information. It is very similar to a basic negligence claim, with the addition of the harming party in some way benefiting from the exchange.

With this in mind, chatbots that provide faulty information fit right into negligent misrepresentation, with a bit of stretching of definitions, as called for by a stretching of our current understanding of business interactions. Chatbots already well satisfy the requirements for exchange of information and business transactions; for the vast majority of chatbots, their primary purpose is to provide information to customers involving some kind of business-related advice. So when a customer who relies on information given by chatbots to make a decision they may come to regret, and one that results in actual harm, they would have standing to sue under the tort of negligent misrepresentation.

The question this new legal assimilation would pose is whether an AI is, in fact, operating with a pecuniary interest in the information it gives, and second, can fail to give reasonable care. The answer to the first question is, as far as chatbot technology stands now, no. But the company that implements the chatbot can be. Even for chatbots not directly linked to a

company, but to third party services providing legal or medical advice, those services likely have something to gain in providing information, be it pushing a political agenda or promoting business for other companies or government sectors. If the pecuniary requirement for negligent misrepresentation is removed, or even merely stretched, there can be legal remedy for faulty information provided by chatbots.

The second question of reasonable care requires a more scrutinous look at how artificial intelligence operates. In the sense that an AI gives no care at all, as it is only operating off of code, any poor advice it may give would be with unreasonable care. However, without the ability to operate with reasonable care, would that standard then be shifted to the programmers? If we can establish a working definition of artificial care, there is an easy legal remedy for faulty chatbots.

It may take some sharpening of our understanding of both artificial intelligence and exact legal standards, but incorporating chatbots into existing legal remedies for misinformation is more than possible. Just as we may have to warp the standards for the torts of negligence and product liability to account for autonomous vehicles and smart warehouses, the same must be done for the rapid rise of chatbots.

Copyright Infringement Tort

A far step away from the tort of negligence and related fields is copyright infringement.

The copyright infringement tort may seem straightforward enough: you prove someone replicated your own artistic creation, you get legal compensation. But the tort in regards to artificial intelligence is very murky.

The history of copyright law is very different from that of negligence law. Arguably, the very basis of most Western governments is to protect the creative works of private parties to inspire innovation and prevent intellectual theft. While the importance of copyright law may be overblown, it is undeniably a central part of our government's history, even earning its own section in the Constitution ("Constitution of the United States," art. 1, sec. 8) Protecting the creative rights of all private parties has been and still is essential for encouraging innovation.

Copyright infringement is often mistaken as being of strict liability, meaning regardless of intent or state of mind, copying one's work is a violation of the tort, but this is incorrect. Currently, the Copyright infringement tort is based on failure to live up to a certain standard of conduct: it is not an infringement to copy a work if the use is deemed fair. Fair use includes parody, use of content for a bibliography, quoting literary works, thumbnail reproduction, digitizing books, quoting literary works, and reverse engineering computer programs (Goold). Whether a form of copying constitutes fair use has no clear boundaries, and is entirely up to the judiciary to decide.

AI-Generated Content

So how is artificial intelligence challenging the legal standards of the copyright infringement tort? With all the incongruence between the state of technology and the state of the law this paper has explored, how copyright law treats AI is perhaps the most inane. As federal law stands, there is no clear path for works generated by AI to be copyrighted. The US Copyright Office sets a human authorship requirement for copyrights, so most AI-generated works, failing this requirement, immediately fall into the public domain after creation (Hristov). In fact, the US Copyright Office explicitly exempts machine-generated content from being

eligible for copyright.

The obvious problems with this are the same with denying copyright protection to any work: if the work can be freely copied and there are no rewards for the creation, people are disincentivized to create. In the case of AI, this means less incentive to write new AI programs so it is very counterproductive to the development of AI. By denying copyright protection to AI-generated works, the law essentially suggests that copying such works is fair use. But as more and more content moves towards being generated by artificial intelligence completely absent of human input, this puts most copyright into fair use and runs antithetical to the historic purpose of copyright law.

Kalin Hristov, the author of the same article that explains this inconsistency, recommends not a change in authorship requirements, but a redefinition of AI systems as employees, thus giving copyright authorship to the "employer". He argues that if we were to define the AI as the human author it would open up many more legal uncertainties and have implications far outside just copyright law. Instead, AI can be added to the works made for hire doctrine. The works made for hire doctrine (*United States Code*) includes works made by an employee within the scope of their employment or works specially commissioned for use.

Adding a third condition, a work created by an AI system, would allow copyrights to be granted for AI-generated work without the copyright going to the non-human AI itself.

The question then is who becomes the author: the program developer, the owner of the AI system, or the end-user (Hristov). This answer, in consistency with the purpose of copyright law, should be whoever benefits the further development of creative works the most. In an AI program in which content is generated from interaction with an end-user, they would have the largest claim. But logistically, as Hristov points out, developers and companies could cut out

third party users to maintain copyright claims, thus reducing the widespread applicability of AI programs. One possible solution would be to reserve copyright claims for the developers and owners, while including end-user use of content generated by an AI they interact with under fair use. No matter the approach copyright law follows in the coming years, there will doubtlessly be conflict among the three parties as more and more content becomes solely AI-generated.

Invasion of Privacy

Just as a right to one's intellectual property has become fundamental to Western society in the past centuries, so too has a right to privacy. Unlike copyright law, however, no specific right to privacy exists. The US Constitution indeed implies it many times, from the Third Amendment right to not quarter troops to the Fifth Amendment right to not self incriminate, we are protected in various forms against government or other private party interference in our lives.

As such, the invasion of privacy tort is not one but a bundle of torts, "including intrusion into seclusion, appropriation of likeness or identity, public disclosure of private facts, and portrayal in a false light" ("Invasion of Privacy"). Essentially, when any aspect of your private life is brought into the public sphere against your will, there is usually some sort of legal remedy. Like any other tort, an invasion of privacy can only result in legal remedy if actual damages occurred. But because of a special constitutional protection of privacy (there is no such constitutional guarantee of merchantability for product liability, for example), legal remedy is also available for any sort of government intrusion, even in the absence of tangible damages (Stimmel & Roeser).

Sharply distinguishing invasion of privacy from negligence torts is its standard that intrusion must be based on intentional interference with one's interest in privacy (*Uranga v. Federated Publs*). Furthermore, the invasion must be offensive to a reasonable person, although this standard does not apply to appropriating one's name or likeness. Historically, invasion of privacy has not been a very controversial tort; if someone intrudes upon your privacy unfairly and for their own gain, there is a legal remedy. But, of course, developments in artificial intelligence are posing challenges for this tort as well.

Artificial Intelligence and Data

The fact that the use of artificial intelligence in the data sector is bringing rise to numerous privacy concerns is no secret. If anything, it's the one topic with the most public discourse in regards to any sort of challenges artificial intelligence brings. Large corporations' use of complex AI systems to collect vast amounts of private data from almost every US resident is well known and has led to numerous privacy concerns. The ethical and practical concerns of an impersonal business having access to your phone number, date of birth, and potentially even social security number have been exhausted time and time again. But in what ways is artificial intelligence having a tangible effect on the actual legal processes of the invasion of privacy tort?

To start with, intrusion into seclusion, the advent of cyberspace brings many difficulties, even in defining the term itself. Traditionally, intrusion into seclusion differs from trespass in that it is designed to protect not property interests but mental wellbeing, such that it includes intrusion into conversation and general matters as well as physical spaces ("Intrusion upon

Seclusion"). By this definition, intrusion into seclusion surely covers intrusions in cyberspace. But on the internet, where everyone is connected to everything, what counts as one's own personal space? Current legal standing protects privacy on phone calls and extends this to private messages ("The Tort of Intrusion"). It gets complicated, however, when these messages are sent through platforms constantly running on AI systems.

Today, many online platforms employ AI to automatically read messages to search for illegal or harmful content. Social media platforms like Facebook do so to search for content like sex trafficking, while private companies may do so to search for messages that state intent to leave the company ("Additional Classifiers"). Do these programs automatically reading messages constitute an intrusion into seclusion? Recall that, at least for private parties, there must be both intentional interference and resulting harm for an invasion of privacy tort to apply, neither of which is the case for AI systems. Still, with the message data being indefinitely stored, there's certainly still room for concern.

Similar AI collection of data has implications for the appropriation of likeness in the form of biometric authentication technology. In recent years, artificial intelligence has become increasingly used in security as face recognition, voice recognition, and real-time video processing allow AI systems to detect abnormal behavior patterns and fake images of faces for advanced security (Tsymbal). This means that AI is constantly monitoring, storing, and recalling people's biometric data.

Supposedly, the use of biometric data is a safeguard for consumers (Krasnokutsky). But if the collection of such data proves economically beneficial for companies, that constitutes a commercial interest, making said collection liable for an appropriation of likeness claim. And if this data is breached and used maliciously, there is certainly standing to sue. In that case, the

same question as with autonomous vehicles arises: sue who? Perhaps the owners of the AI system if they can be proven to have not reasonably protected the data, but again, the lines are murky, and new legal standards will have to be made clear as more AI systems turn to biometric data.

Lastly, and most notably, "deepfakes" are a clear violation of portrayal in a false light. Deepfakes are faux images, audio, or video, usually of a person but sometimes of an event, created through deep learning, a kind of artificial intelligence ("What are Deepfakes"). Deepfakes can often be entirely indistinguishable from real recordings, making them a major problem for privacy. Fortunately, the law surrounding them is less murky: they are an obvious breach of privacy and legal remedy should be relatively easy. The issue for now is proving something is a deepfake and, moreover, finding who to actually sue for damages. As they become more realistic and easier to create, the law may need to find an alternate way to provide compensation other than normal tort law routes.

Conclusion

From autonomous vehicles and smart warehouses to chatbots and AI-collected data, this paper has explored numerous ways in which science and technology, in the form of artificial intelligence, have clashed with the various civil tort statutes, including product liability, negligence, copyright infringement, and invasion of privacy.

If any trend can be gleaned from this series of clashes, it is that society is facing yet another inflection point. The advent of an intelligence other than just the human opens up a whole new social world for us to navigate and demands we change the very way we view

society. This, of course, includes the law, which often lags behind other developments as it is steeped in tradition by its very nature. As artificial intelligence brings new modes of driving, storing products, giving advice, generating content, and collecting data, the law must adapt accordingly by stretching existing legal standards or creating whole new ones. And these changes are just the beginning of what artificial intelligence will bring. The field promises more innovation in coming years in ways we may not even predict. In order to minimize the consequences these changes may have on society, the law must be prepared to take on these challenges and continue doing what tort law was first formed to do: addressing grievances and ordering society to minimize harm. What new torts will form in order to do this is hard to say, but what can be concluded from this paper without a doubt is that there is always room and need for the law to grow, and it will certainly have to do so in the coming years.

Works Cited

- "Additional Classifiers for Communication Compliance (Preview)." PUPUWEB, 31 May 2022,

 pupuweb.com/mc387035-microsoft-purview-additional-classifiers-communication-com pliance-preview.
- "A Guide to Understanding Warehouse Legal Liability Insurance." Symbia Logistics, 4 July 2020,

 www.symbia.com/resources/a-guide-to-understanding-warehouse-legal-liability-insurance/
- Barwell, Emily. "Legal Liability Options for Artificial Intelligence." Lexology, BPE Solicitors LLP, 16 Oct. 2018, www.lexology.com/library/detail.aspx?g=6c014d78-7f4c-4595-a977-ddecaa3a12e4.
- Brush, Kate. "What Is a Smart Warehouse? Definition from Whatis.com." IoT Agenda,

 TechTarget, 14 Aug. 2019, www.techtarget.com/iotagenda/definition/smart-warehouse.
- "Car Defects: The Concept of 'Crashworthiness." Findlaw, 21 June 2016,
 www.findlaw.com/injury/product-liability/car-defects-the-concept-of-crashworthiness.ht
 ml.
- "Contributory Negligence and Car Crash Law." Kellum Law Firm New Bern, kellumlawfirm.com/contributory-negligence-and-car-crash-law.
- "Criminal vs. Civil Law: What's the Difference?" St Francis School of Law, 30 Aug. 2021, stfrancislaw.com/blog/criminal-law-vs-civil-law.

- Day, Stephanie, and Lee Gluyas. "Artificial Intelligence Who Is Liable When AI Fails to

 Perform?" Insight | Technology, Media & Telecommunications | United Kingdom |

 International Law Firm CMS, CMS,

 cms.law/en/gbr/publication/artificial-intelligence-who-is-liable-when-ai-fails-to-perfor

 m.
- "Defects in Manufacturing." Findlaw, 30 Nov. 2018, www.findlaw.com/injury/product-liability/defects-in-manufacturing.html.
- Dobbs, D.B. Law of Torts. West Academic Publishing, 2008.
- Frankenfield, Jake. "What Is a Chatbot?" Investopedia, Investopedia, 19 May 2022, www.investopedia.com/terms/c/chatbot.asp.
- "Fraudulent Misrepresentation." Findlaw, 16 Feb. 2018,
 www.findlaw.com/smallbusiness/business-laws-and-regulations/fraudulent-misrepresent
 ation.
- Golson, Jordan. "Tesla Driver Killed in Crash with Autopilot Active, NHTSA; Investigating."

 The Verge, The Verge, 30 June 2016,

 www.theverge.com/2016/6/30/12072408/tesla-autopilot-car-crash-death-autonomous-model-s.
- Goold, Patrick R. "Why Copyright Infringement Is Not a Strict Liability and Why That Matters." Berkeley Technology Law Journal, XX, no. N, nnn, pp. 31–32.
- Gregory, John, et al. "Health Websites Are Notoriously Misleading. So We Rated Their Reliability." STAT, 26 July 2019, www.statnews.com/2019/07/26/health-websites-are-notoriously-misleading-so-we-rated

- -their-reliability.
- Haskins, Jane. "Fake News: What Laws Are Designed to Protect." LegalZoom,

 Legalzoom.com, 2 May 2022,

 www.legalzoom.com/articles/fake-news-what-laws-are-designed-to-protect.
- Hristov, Kalin. "Artificial Intelligence and the Copyright Dilemma." IP Mall Law, vol. 57, no. 3,

 https://ipmall.law.unh.edu/sites/default/files/hosted_resources/IDEA/hristov_formatted.
 pdf, pg. 437-445.
- "Intrusion upon Seclusion." Law Dictionary, 21 Dec. 2018, encyclopedia.lexroll.com/encyclopedia/intrusion-upon-seclusion.
- "Invasion of Privacy." Legal Information Institute, Legal Information Institute, www.law.cornell.edu/wex/invasion_of_privacy.
- Kingston, J. K. C. "Artificial Intelligence and Legal Liability." SpringerLink, Springer International Publishing, 1 Jan. 1970, link.springer.com/chapter/10.1007/978-3-319-47175-4_20.
- Krasnokutsky, Evgeniy. "Artificial Intelligence (AI) Biometric Authentication for Enterprise Security." MobiDev, MobiDev, 7 Apr. 2022, mobidev.biz/blog/ai-biometrics-technology-authentication-verification-security.
- Leah. "What Do Your Customers Actually Think about Chatbots? [Research Study]." Userlike Live Chat, Userlike, 12 July 2021, www.userlike.com/en/blog/consumer-chatbot-perceptions.

- Lederer, Frederic I. "Here There Be Dragons: The Likely Interaction of Judges with the

 Artificial Intelligence Ecosystem." Americanbar.org, American Bar Association, 3 Feb.

 2020,

 www.americanbar.org/groups/judicial/publications/judges_journal/2020/winter/here-the
 re-be-dragons-likely-interact ion-judges-the-artificial-intelligence-ecosystem.
- "Merchantable Definition & Meaning." Merriam-Webster, Merriam-Webster, www.merriam-webster.com/dictionary/merchantable.
- "Negligent Misrepresentations." Los Angeles Real Estate Lawyers, www.lalitigationlawyers.com/negligent-misrepresentations.
- "Proving Negligence in California Car Accidents: J&Y Law Firm Los Angeles."

 J&Y Law Firm, 23 Mar. 2022,

 jnylaw.com/practice-areas/car-accident/los-angeles-car-accident-investigations/proving-negligence.
- Roy, Chris J. "Who Is at Fault When Weather Causes an Accident?" HG.org Legal Resources, www.hg.org/legal-articles/who-is-at-fault-when-weather-causes-an-accident-48347.
- Stimmel & Roeser. "Employer Liability for Unauthorized Acts of Employee?" *Stimmel Law*, www.stimmel-law.com/en/articles/employer-liability-unauthorized-acts-employee.
- Stimmel & Roeser. "The Legal Right to Privacy." Stimmel Law, www.stimmel-law.com/en/articles/legal-right-privacy.
- "The 6 Levels of Vehicle Autonomy Explained." Synopsys Automotive, www.synopsys.com/automotive/autonomous-driving-levels.html.

- The Constitution of the United States: A Transcription. National Archives, U.S. National Archives and Records Administration, 4 May 2020, www.archives.gov/founding-docs/constitution-transcript.
- "The Tort of Intrusion upon Seclusion in the Cyberspace." Jindal Digest for Competition and Innovation Laws,

 jindaldigest.weebly.com/blog/the-tort-of-intrusion-upon-seclusion-in-the-cyberspace.
- "Tort." Legal Information Institute, Cornell Law School, www.law.cornell.edu/wex/tort.
- Tsymbal, Oleksii. "10 Artificial Intelligence Technology Trends for Business Owners in 2022."

 MobiDev, MobiDev, 12 May 2022,

 mobidev.biz/blog/future-artificial-intelligence-technology-ai-trends.

United States Code. Section 101 of the Copyright Act, Title 17, U.S. G.P.O., 2010.

Uranga v. Federated Publs., Inc., 138 Idaho 550 (Idaho 2003).

- "What Are Deepfakes and How Can You Spot Them?" The Guardian, Guardian News and Media, 13 Jan. 2020, www.theguardian.com/technology/2020/jan/13/what-are-deepfakes-and-how-can-you-sp ot-them.
- "What Is a Design Defect Products Liability Claim?: Who Can Be Liable." McCann Dillon Jaffe & Lamb, LLC, 3 Mar. 2022, www.mccanninjurylaw.com/2021/01/04/design-defect-products-liability-claim.
- "What Is an Actuator?" REAC,
 www.reac-group.com/en en/facts/actuators/what-is-an-actuator.

- "What Is an Autonomous Car? How Self-Driving Cars Work." Synopsys, www.synopsys.com/automotive/what-is-autonomous-car.html.
- "What It Takes to Establish Negligence after a Car Crash." Welmaker Injury Law, Lawyeredge, www.welmakerlawfirm.com/blog/what-it-takes-establish-negligence-after-car-crash.
- Wishnia, Jaclyn. "Warning Defect Laws." LegalMatch Law Library, LegalMatch, 12 Mar. 2020, www.legalmatch.com/law-library/article/warning-defect-laws.html.
- "Unpacking Warehouse Legal Liability." Amwins,
 www.amwins.com/resources-insights/article/unpacking-warehouse-legal-liability.

Technology and Talk: Exploring Escalation Risks as an Outcome of AI and Nuclear Integration

Kirthi Kumar

University of California, Berkeley

Abstract

Artificial intelligence (or AI) is an increasingly powerful force in creating faster and more accurate military technology. At its core, AI combines pattern recognition and data automation to generate novel outputs. This could include anything from a seemingly simple linear regression algorithm to identify a pattern in biosecurity threats to a neural network on an early warning system satellite. AI capabilities encapsulate subfields such as machine learning and deep learning, and span fields from biosecurity to robotics. Many algorithms that have already been developed under the umbrella of AI research could generate the risks talked about further in this paper. However, the main concern with the integration of AI and nuclear is the unprecedented kinetic effects. In this paper, I first explore the impetus for innovation through the historic lens in order to motivate the acceleration in the usage of AI technologies within the nuclear context. I then discuss the risks associated with the usage of AI regarding strategic stability, inadvertent escalation, and geopolitical power dynamics. Finally, I discuss a combination of technological and diplomatic risk mitigation. I conclude that, in the short-term, diplomatic procedures are a viable mitigation technique, but in the long term, an investment in technical improvements in AI will give the United States an outsized advantage in nuclear theaters. From a global standpoint,

pursuing international AI governance architectures will be the best strategy to reduce escalation risks.

Introduction

Artificial intelligence (or AI) is an increasingly powerful force in creating faster and more accurate military technology. At its core, AI combines pattern recognition and data automation to generate novel outputs. This includes anything from a seemingly simple linear regression algorithm to identify a pattern in biosecurity threats to a neural network on an early warning system satellite. AI capabilities here encapsulate many similar terms, such as machine learning and deep learning, which are subfields of AI and span fields from biosecurity to robotics. Many algorithms that have already been developed under the umbrella of AI research could generate risks that are often overlooked. However, the main concern with the integration of AI and nuclear is the unprecedented kinetic effects that will be discussed later in this paper.

In this paper, I first explore the acceleration in AI innovations within the nuclear context through a historical lens. I then discuss the risks associated with the usage of AI regarding strategic stability, inadvertent escalation, and geopolitical power dynamics. Finally, I discuss a combination of technological and diplomatic risk mitigation. Through this analytic progression, I will demonstrate that in the short-term, diplomatic procedures are a viable mitigation technique, but in the long-term, an investment in technical improvements in AI will give the United States an outsized advantage in nuclear theaters. From a global standpoint, pursuing international AI governance architectures will be the best strategy to reduce escalation risks.

Motivation

Before delving into the risks of AI and how to mitigate them, it is worth considering why it is even worth considering a technology that presents so many risks in the first place. One reason is that AI algorithms are becoming increasingly entrenched in everyday life for many individuals, and it is inevitable that AI will be used to augment the United States' nuclear arsenal. However, inevitability cannot be the only reason we gravitate towards AI.

It is useful to turn to historical examples of military innovation, relevant factors, and impacts of technology. Scholars throughout relevant literature such as Van Evera, have laid the foundation for many studies on the impacts of technologies on the offense-defense balance, and the consequent breakout of war from a historic lens (Van Evera). Throughout periods of conflict in history, there were opportunities to modernize and adapt to new technologies. When analyzing World War I, Shimshoni noted the United States' focus on defensive technology and a factor of hesitancy towards new offensive technologies lead to a lost opportunity in development (Shimshoni). Alternatively, when analyzing World War II, Lebow described the lack of a factor of timing in leaders' decisions to go into war due to a suboptimal window of technological opportunity (Lebow). Looking at the Cold War, Talmadge reflects that technology was not actually the primary factor of escalation, and instead working in tandem with other factors such as politics ("Emerging Technology"). These factors of hesitancy, timing, and politics, not just inevitability, are at least connected to some of the factors driving AI innovation in the defense space today.

Currently, are these factors aligned for AI development and integration with nuclear capabilities? While it is difficult to exactly determine this, current research and development trends show that there is a lot of energy around AI as a domain. The factors for development

could not be more aligned in terms of hesitancy, timing, and political drivers (including the private sector). However, the risks to the AI implementation with nuclear are many. Going forward, as Murray articulates, "Friction together with fog, ambiguity, chance, and uncertainty will dominate future battlefields as it has in the past" (Murray). While AI can dissipate some of that old fog, additional friction and fog will certainly arise in the form of risks, and there will be a unique opportunity to mitigate these.

Strategic Stability

One of the fundamental features of nuclear weapons is that they serve as instruments of deterrence, especially in the context of stability. A major impact to the overall stability of the nuclear system is the intervention of cyber. When the older nuclear systems integrate with the newer AI systems, a whole host of vulnerability issues can arise. Some of these issues are predictable, including interceptions, manipulations, and subversive techniques on the nuclear command and control systems, as mentioned by Lewis and Unal in "Cybersecurity of Nuclear Weapons Systems." Other wholistic issues like supply chain vulnerability will continue and could potentially amplify (Lewis and Unal). The digitization and modernization could contribute to "wormhole" escalatory dynamics (Hersman), as they present new opportunities that may not be currently captured by a classic escalation ladder, and consequently impact stability.

More specifically, the introduction of AI in these systems will impact both first strike and second strike stability. Simplistically, first strike stability is the stability generated from the lack of motivation for one country to initiate a strike against another because their perceived power is on par with each other. Second strike stability is the stability generated from a country's ability to respond after another country initiates a strike, and some attribute this to ultimately generating

stability in an international system. In the context of first strike stability, AI could amplify already existing "use it or lose it" dynamics. Another more specific case is how first strike stability is impacted by other emerging technologies such as drones. Artificially intelligent algorithms play a large role in such autonomous systems, including the operation and management of these swarms. As Kallenborn and Bleek discuss in "Drones of Mass Destruction," drone swarms can augment both offensive and defensive capabilities in the nuclear arena. The former is augmented by the use of swarms as delivery mechanisms, and the latter allows for the prevention of delivery, both of which impact the ability to conduct and defend against a first strike.

In the context of second strike stability, both quantity and quality of nuclear weapons matter. AI could improve the quality of existing systems, allowing a quicker and more efficient response. While this can be viewed as an advantage for those who have AI systems integrated within their arsenal, the adversaries of such countries are more likely to deploy AI to ensure their own second-strike capability is not undermined. As Horowitz et. al. argue, the speed that AI operates introduces new cognitive risks for decision-makers. Another aspect of this is the use of misinformation and disinformation as an escalatory tactic within the information space. This introduces a new variable to consider in the context of first-strike stability, particularly in the case of "escalate to de-escalate" tactics, where social media may be used to intentionally escalate or even by third party actors to create catalytic escalation. The consequences of rushing into conflict "at machine speed" will most likely lead to an aggressively escalatory dynamic confirmed by automation bias, which is not an ideal scenario for any of the parties involved with respect to stability.

Another aspect discussed by Long and Green is the role of intelligence gathering in second strike stability. Although they do not explicitly mention this, one advantageous aspect of

AI is the data parsing ability and pattern recognition. If intelligence gathering plays a larger role in second strike capability than actual nuclear counts, the usage of AI could not only enhance our knowledge of other countries' arsenals, but could contribute to our ability to better obfuscate our nuclear arsenal in the event of a strike. Publicly accessible information (i.e. through social media platforms) plays a role in intelligence, and thereby could enhance this intelligence gathering or, alternatively, enable the propagation of disinformation. However, the augmentation of intelligence capabilities could increase preemptive risk-taking related to "use it or lose it" dynamics, as well as increase the potential of inadvertent escalation.

Inadvertent Escalation

In the context of inadvertent escalation, a major area of concern regarding AI is the asymmetric advantage generated via disinformation and misinformation. The information space, including social media platforms, has the potential to influence populations within the nation and leadership within and outside of the United States. Already embedded in most social media platforms, AI algorithms are generally focused on feeding information to individuals to encourage them to stay on the platform. This is done in a multitude of ways, optimizing for the objective function tuned to capture the user's attention. This is usually achieved by reinforcing opinions and views that the individual already holds, essentially placing them in an echo chamber of information, or showing them increasingly radicalized content. This is particularly seen on platforms such as YouTube and Facebook, which capitalize on the attention economy. These methodologies lead to phenomena currently being observed across the information space such as political polarization (Lin et. al), which impacts the support of people when leaders decide to go into a conflict in the first place.

While this may not have direct impacts on nuclear, the public does have a sizeable ability to pressure decisions made by leadership. Furthermore, leaders may be subject to this misinformation or disinformation themselves. On a platform like Twitter that is heavily used for political communication, asymmetries in power can lead to tweets that are not fact-checked being retweeted more (Williams and Drew). Moreover, these platforms allow direct and public communication between leaders, including informal communications that may be misinterpreted. These social dynamics could directly or indirectly put leaders in positions where they could inadvertently escalate to nuclear scenarios.

Beyond the information space, the acceleration towards advancement in systems has led to the creation of entangled systems, which are a large contributor towards potential inadvertent escalation. Nuclear capabilities, particularly those regarding command, control, communication, and intelligence, also known as C3I systems, are oftentimes enabled by the same satellites operationalizing conventional capabilities, including intelligence, surveillance, and reconnaissance, also known as ISR systems. These satellites are dual-use, and as a result can be prime targets for attacks by other countries (Acton). Particularly, a main attack surface is through cyber interference in early warning systems, in which conflicts can be unnecessarily escalated due to the inability to discriminate between a nuclear and nonnuclear response. If AI is deployed in such dual-use systems, a major fear is that the margin of error generated by an AI algorithm would potentially blur the boundaries between conventional and nuclear capabilities.

Of course, the flipside of this is how AI systems can be deployed to actually prevent inadvertent escalation in early warning systems. This is by increasing the respective country's response time after a weapon is detected in their zones (Cox and Williams). There are many benefits of this, including but not limited to less Type I error as a result of more accurate and robust algorithms, the earlier identification of false positives enabled by the speed and accuracy

of neural networks, and the ability to discern the type of weapon through advanced image recognition algorithms such as convolutional neural networks. The introduction of these capabilities leads to more time to make decisions, allowing increased confidence in decisions which reduces the cognitive load for the decision-maker. Moreover, making these distinctions can lead to a more informed, and in turn more proportional response, preventing unnecessary escalation. For those who are less risk-averse, these benefits outweigh the risks of AI deployment.

Geopolitical Power Dynamics

The impacts of AI deployment within nuclear systems have a strong relationship with power dynamics between countries. As Hersman mentions, the diffusion of global power means that smaller states could pull larger states into strategic conflicts. The results of this amplify the effects of the failure or success of an AI algorithm. This means that an algorithm that may not be as well-tested and is deployed on a smaller scale can have large effects on conflict, trust between countries, and the subsequent stability of the alliance or region. Furthermore, as discussed by Lieber and Press, from a global perspective, nuclear systems are becoming vulnerable at different rates due to the evolving counterforce, including within cybersecurity (Lieber and Press). This emphasizes the importance of global power dynamics and alliances within the nuclear decision-making space.

A major impact that AI can have within the nuclear context is in terms of arms control.

The most specific case is that, coupled with the increase of other technologies such as 3D printing, AI algorithms can be used to make techniques more precise, which could potentially

lead to an acceleration of arms racing within nuclear (Volpe). More generally, however, AI could lead to higher accountability within arms control. Specifically, the data automation and analysis capabilities afforded by AI will allow for much better monitoring of arsenals globally. This presents an opportunity for arms control, but not without the risk of the same technology being turned and used upon the United States (Vaynman). In these scenarios, the ability to conceal one's own capabilities could be compromised. The existence or augmentation of the abilities of such AI systems could heighten mistrust between countries, and in the worst case, lead to the breakdown of confidence-building measures.

An important case study regarding this topic would be China, specifically due to the competitive dynamic that the United States has with China regarding AI research and development. It is important to note not only the asymmetries in motivations for development, but also how each country prioritizes and funds its AI development. The Brookings Roundtable concluded that China's development is strategically clear but focuses on repression, due to the differing government funding, structure, and values. As a result, they implore the United States government to consider alternative approaches that are more open-source yet imply that it needs to achieve a similar clarity on priorities (Brookings Roundtable). This is interesting to consider within the context of nuclear. Particularly, the analysis of Talmadge on China's nuclear escalation risk reveals that the determination relies on technological transparency and China's perceptual or psychological positioning. This means that both technological readiness and diplomatic measures play a role in reducing this risk.

Risk Mitigation in the Future of AI and Nuclear

One of the main areas of risk regarding strategic stability is the positioning of the human in the AI loop. The prevention of unnecessary risk means having a human in or on the AI loop. Some may argue that the empathy and creativity of a human are likely qualities that machines, even at their prime, will have difficulty mirroring ("Delegating strategic decision-making"). As a result, there are many talks regarding considerations fully limiting autonomous nuclear systems, particularly ones that cannot be recalled (Cox and Williams). However, this may be difficult considering some countries may have deadhand systems in place as a deterrence mechanism and would likely not agree to such proposals. Within the United States, ad-hoc technologists working at agencies can build the human into the loop. However, as Acton et. al. identify within nuclear arms control, a more comprehensive or international approach would need political alignment. This would need to happen in the short term to generate the most optimal models, but is less feasible with such a time constraint.

In terms of preventing inadvertent escalation, bringing in the best technical talent can be critical in ensuring not only an efficient development process, but also the quality development of these systems. Technologists must also consider the risks presented throughout the AI and nuclear integration process, not just after the building of models has been completed. The active consideration of risks during the development process will help reduce bias in models and proactively solve problems that could arise. Within the United States, there is high potential for interactions between the private technology sector and public interest technology space, especially in the case of AI where some of the most frequently used algorithms are in the private sector. This long-term hiring strategy at a unique intersection can give rise to better public-private partnerships and collaborative research and development.

Long-term investments in technologies such as AI can help maintain the current geopolitical balance of power. Kroenig argues that, as a result, the failure to maintain the current balance of power is what could lead the United States into conflict in this space. Technology is a means to continue to have leverage and power in many of these roundtable discussions and to reassure the confidence-building measures that are taking place. However, along with this comes a long road of promoting accountability by educating decision-makers (Jensen). Promoting better technology literacy will help those at higher levels than the technologists make more informed decisions, especially in the fog of war.

Finally, it would be remiss to treat technology and diplomacy as mutually exclusive. One of the major areas for overlap is the creation of international frameworks for AI governance. This will help holistically preempt factors such as risks accompanying cyber vulnerabilities, speed, and non-human decision-making. Furthermore, this can serve as a proactive trust-building measure within diplomatic circles ("Artificial Intelligence in Nuclear Warfare"). These governance frameworks can also be a great tool within public and private sectors of technology to more ethically research and develop AI on a global scale. Ultimately, such a framework has the best chance of reducing nuclear escalation risks from a global standpoint.

Works Cited

- Acton, James M. "Escalation through entanglement: how the vulnerability of command-and-control systems raises the risks of an inadvertent nuclear war." *International Security 43*, no. 1, 2018, 56-99.
- Acton, James M., Thomas D. MacDonald, and Pranay Vaddi. "REIMAGINING NUCLEAR ARMS CONTROL." *Carnegie Endowment for International Peace*, 2021.
- Brookings Roundtable. "U.S.-China technology competition," Brookings Institution. 2021.
- Cox, Jessica, and Heather Williams. "The unavoidable technology: How Artificial Intelligence can strengthen nuclear stability." *The Washington Quarterly 44*, no. 1, 2021, 69-85.
- Horowitz, Michael C., Paul Scharre, and Alexander Velez-Green. "A stable nuclear future? The impact of autonomous systems and artificial intelligence." *arXiv preprint arXiv:1912.05291*, 2019.
- Jensen, Benjamin M., Christopher Whyte, and Scott Cuomo. "Algorithms at war: the promise, peril, and limits of artificial intelligence." *International Studies Review 22*, no. 3, 2020, 526-550.
- Johnson, James. "Artificial Intelligence in Nuclear Warfare: A Perfect Storm of Instability?." *The Washington Quarterly 43*, no. 2, 2020, 197-211.
- Johnson, James. "Delegating strategic decision-making to machines: Dr. Strangelove redux?." *Journal of Strategic Studies*, 2020, 1-39.
- Lebow, Richard Ned. "Windows of opportunity: do states jump through them?." *International Security 9*, no. 1, 1984, 147-186.
- Lewis, Patricia, and Beyza Unal. "Cybersecurity of Nuclear Weapons Systems: Threats, Vulnerabilities and Consequences." *Chatham House*, 2019.
- Lieber, Keir A., and Daryl G. Press. "The new era of counterforce: Technological change and the

- future of nuclear deterrence." *International Security 41*, no. 4, 2017, 9-49.
- Lin, Herbert S., Benjamin Loehrke, and Harold A. Trinkunas, eds. Three Tweets to Midnight:

 Effects of the Global Information Ecosystem on the Risk of Nuclear Conflict. *Hoover Press*.
- Long, Austin, and Brendan Rittenhouse Green. "Stalking the secure second strike: Intelligence, counterforce, and nuclear strategy." *Journal of Strategic Studies 38*, no. 1-2, 2015, 38-73.
- Kroenig, Matthew. "Will Emerging Technology Cause Nuclear War?: Bringing Geopolitics Back In." *Strategic Studies Quarterly 59*, 202.
- Murray, Williamson. Thinking about revolutions in military affairs. ASSISTANT SECRETARY OF DEFENSE (PUBLIC AFFAIRS) WASHINGTON DC, 1997.
- Rebecca Hersman. "Wormhole Escalation in the New Nuclear Age," *Texas National Security Review*, Summer 2020.
- Shimshoni, Jonathan. "Technology, military advantage, and World War I: a case for military entrepreneurship." *International Security 15*, no. 3, 1990, 187-215.
- Talmadge, Caitlin. "Emerging technology and intra-war escalation risks: Evidence from the Cold War, implications for today." *Journal of Strategic Studies 42*, no. 6, 2019, 864-887.
- Talmadge, Caitlin. "Would China go nuclear? Assessing the risk of Chinese nuclear escalation in a conventional war with the United States." *International Security 41*, no. 4, 2017, 50-92.
- Van Evera, Stephen. "Offense, defense, and the causes of war." *International Security 22*, no. 4, 1998, 5-43.

A Legal, Political, and Theoretical Comparison of Legislation in

Alabama, Texas, and California on Transgender Youth

Angelina Martinez

University of California, Berkeley

Abstract

As transgender people fight for recognition in the United States, some states are making gains difficult to obtain. This paper will compare how the legal protections for gender affirmation of transgender minors in the U.S. differ by state and how policy affects this marginalized group, particularly with regard to access to transgender healthcare, including gender affirmation therapy, hormones, and surgery. To answer this question, I analyze and compare Alabama's Senate Bill-184, California's Senate Bill-107, and Texas' Senate Bill-1646 by covering the legal, political, and theoretical discourse between the states and conflicting political parties. In summary, Alabama's SB-184 makes it a felony to engage in medical care for transgender minors, California's SB-107 makes California a "trans refuge state" for parents who want to access gender-affirming medical care for their children, and Texas' SB-1646 classifies gender-affirming care as child abuse. Moreover, I will address the most prevalent reported issues found in case studies and possible solutions. Understanding and validating gender affirmation, whether that be through therapy, hormones, or surgery, is of the utmost importance because it deals with the health and future of United States citizens.

Introduction

Within the last four years, proposed anti-transgender legislation has been sweeping the nation. Over "200 anti-LGBTQ[+] bills [have been] introduced in nearly 40 states" from January 2022 to April 2022, making this year on track to be the most anti-LGBTQ+ legislation since 2015 to 2021 (Block). Within the LGBTQ+ community, transgender people continue to fight for public and legal recognition in the U.S., especially in the forms of access to healthcare, recognition of pronouns legally and socially, designated restrooms, nondiscrimination policies, and participation in gendered sports. Many sectors, including healthcare, fall under the purview of state legislatures, so long as the legislation does not interfere with federal law. In the absence of comprehensive federal standards in this area, different states are developing their own regulations governing transgender healthcare. Arguably the most prevalent and contentious pieces of anti-transgender legislation are those that affect transgender youth and their access to gender-affirming processes. This paper will compare the legal protections and implications for the gender affirmation of transgender youth in the U.S. and how they differ by state, specifically looking at Alabama, California, and Texas. In the context of this paper, gender affirmation includes transgender youth's access to therapy, hormones, or surgery.

Background and Historical Context

To understand the extent of the states' variation on legislation and how it affects members of the trans youth community, it is imperative to know current context on the legal and social implications transgender individuals face in relation to their identity. In the past few years, legislation has been focused on what sports teams transgender athletes can play on, at what age children and young adults can begin their medical transition, which bathroom they are allowed to

use, and more. With these proposals have come much discrimination and stigmatization in the law and society, which subsequently cause negative effects on transgender youth's mental and physical health. For example, key findings of the 2022 Trevor Project conclude that nearly "1 in 5 transgender and nonbinary youth attempted suicide and LGBTQ youth of color reported higher rates than their white peers" (The Trevor Project). According to the same study, 75% of trans and non-binary youth from ages 13-17 experience symptoms of anxiety, and 61% of the same demographic experience depression. Without acknowledging the true identities of minors within more conservative states, both socially and legally, they are at higher risk for suicide, depression, anxiety, and other varying mental health disorders. Trans youth also face disproportionately elevated experiences of "family rejection, bullying, intimate partner violence and homelessness" (Shook et al.). The motivation for this paper stems from the question of why children in some states should have to face gender dysphoria and learn to cope with their new identities while also having to face violence or discrimination outside of their homes and from the state. Part of this question begins with the divide between state legislation and the federal consensus and support of trans individuals.

Legal Comparison

To begin, in Alabama and Texas, state legislation takes a conservative and anti-transgender approach, as demonstrated by AL SB-184 and TX SB-1646. AL SB-184, titled "Alabama Vulnerable Child Compassion and Protection Act" and passed in April 2022, follows the binary of biological sex translating to gender. The bill only recognizes that the "sex of a person is the biological state of being female or male, based on sex organs, chromosomes, and endogenous hormone profiles, and is genetically encoded into a person at the moment of conception, and it cannot be changed" (AL SB-184). This state bill classifies any individual who

helps minor transgender youth access gender affirmation treatment as a C Class felon, "punishable by up to 10 years in prison and a fine of up to \$15,000" (Office of the Attorney General Rob Bonta). What is more, Texas' SB-1646 takes on a more radical approach by declaring the "administering or supplying, or consenting to or assisting in the administration or supply of, a puberty suppression prescription drug or cross-sex hormone to a child, other than an intersex child, for the purpose of gender, transitioning or gender reassignment" as criminal child abuse (TX SB-1646). The punishment for child abuse in Texas, based on Texas penal code 22.04 can be classified as a "second-degree felony punishable by two to 20 years in prison and a fine up to \$10,000" if prosecutors find that the conduct is reckless (Goldstein & Orr). I chose Alabama and Texas for this legal comparison due to their stringent conservative terminology in legislation and the amount of media traction that they have gained in the past year as anti-transgender states.

In response to many variations in transgender access to medical care in more conservative states, California Governor Gavin Newsom signed Senate Bill 107, enacted by the legislature, which allows for California to act as a protective safe haven for families that are seeking a mental or physical healthcare provider or plan for transgender children. CA SB-107 explicitly states that healthcare providers are prohibited from releasing medical information or participating in the arrest or extradition of an individual "in response to a criminal or civil action ... based on another state's law that authorizes a person to bring a civil or criminal action against a person or entity that allows a child to receive gender-affirming health care" (CA SB-107). Put into effect in January 2023, this bill can help reduce the rates of thousands of transgender youth experiencing gender disorders, depression, anxiety, and suicide due to the recognition and protection the bill gives the community. Not only can this recognition help individuals feel recognized and give them the option to receive the care they need, but it also

allows them a less dangerous outlet to find healthcare. As a whole, California's protection bill reduces the criminalization of the bills of other states and brings a sense of recognition to transgender youth individuals and their families.

Political Comparison

Politically, it is no surprise that Texas and Alabama take on a more conservative approach to gender given their demographics of mostly Republican inhabitants, in comparison to California, which has a significant Democratic majority. For nearly three decades, Texas has been a majority-red state, meaning that Republicans have had a strong grip over state legislation (Harper). The demographics impact elected local government leadership and in turn, state legislation. According to Pew Research Center, over 52% of Texans identify as Republican, and 90% of that demographic is made up of white-identifying people, not including the percentage who identify as independent and typically vote with the conservative majority (Pew Research Center). At the opposite end of the political spectrum is California, where 46.8% of registered voters are Democrats and 22.7% are classified as independent (Baldassare et al.). A problem associated with the presence of political parties in each of these states is that it affects local government rulings on the matter of trans rights. There is a disconnect between the current federal government and Republican states such as Alabama and Texas: as the federal government advocates for nondiscrimination policies, Republican states can enforce these bills that are inherently discriminatory. Each state has its own power to harm or protect the well-being of transgender minors, which can either lean towards discrimination and anti-transgender policies, or ones that provide better legal protection.

Theoretical Comparison

Taking these three legislative items into consideration and the political parties associated with the states, it is evident that California's legislation is influenced by post-liberal gender theory parallel to queer theorist Judith Butler's performative model of gender, while Alabama and Texas take more of a natural law theory approach and criminalize LGBTQ+ individuals. To start, California's SB-107 allows for the recognition of Butler's performative model, which is the theory that claims natural gender is expressive, malleable, and fluid. Butler claims that "[g]ender reality is performative which means, quite simply, that it is real only to the extent that it is performed" (Butler 527). Approaching gender in the law using the performative model, it reduces the stigmatization and negative public discourse within society. Approaching the law using the performative model allows for easier access to gender-affirming healthcare, as different experiences are validated and protected. More conservative states do not accept the performative model of gender and implicitly reject that way of thinking within state legislation. Unfortunately, the performative model often fails to justify gender-affirming medical transition, especially for youth patients, in the eyes of conservative judges and legislators.

Instead, conservative states traditionally support the medical model. The medical model of gender entails practicing non-invasive gender-affirming care, such as taking hormones, for a year or so before being eligible for surgery. Conservative states also take on natural law theory, theistically and atheistically. Theistically, which tends to be associated with religion and "traditional" mindsets means relying on God to determine morality in the law and in nature. Atheistically following natural law theory means focusing on evolution and nature to determine a man and woman. With this theory comes the belief that men and women perform in distinct spheres, where procreation is the sole purpose and should be adhered to. Moreover, this theory

does not sustain the idea of gender fluidity or same-sex procreators, relying solely on the idea of biological sex. This ties into the legislation of Alabama and Texas as their policies flow from the presumption of biological sex, invalidating the performative model of gender and the idea that gender is a social construct.

What is more, when taking a look at Alabama and Texas' legislation, the criminalization of the trans-identifying community is evident, and it is especially affecting minors who need the outlet to freely express themselves and be accepted by society. Enabling the criminalization of the trans community instead of promoting tolerance can translate into negative public discourse, physical or verbal abuse, and discrimination in society towards sexual minorities or any queer-identifying individual. These states condemning the existence and tolerance of trans-identifying youth affects not only the individual themselves but also allow theistic or atheistic natural law practitioners to believe they are morally correct in performing hate crimes or shaming trans individuals. Thus, the criminalization, lack of legal protections, and binary theory in conservative states like Alabama or Texas may enable hate crimes, stigmatization, feelings of unacceptance within the community, and other negative implications, while the performative liberal theory of gender may improve social and policy standing of transgender individuals.

Issues Surrounding Transgender Youth's Access to Medical Care

After researching and analyzing studies for this paper, I found the issues of inconsistent medical intervention, unavailable resources for the education of transgender youth, discrimination and long waiting lists in the healthcare industry, and stigmatization and bigotry at the root of transgender youth's inaccessibility to gender-affirming healthcare. In the following

paragraphs, I will explore the gaps in existing research and the harmful ramifications on the minority population of transgender youth.

The first issue at the core of limited access to gender affirmation is a lack of consistent processes and interventions available by healthcare practitioners to individuals who are wishing to take a medical step toward transition. For instance, many "trans people who seek to modify their bodies are routinely denied access to medical interventions if they fail to persuasively produce set narratives that align with how trans patients are discursively constructed in existing diagnostic criteria" (Shook et al.). Creating a binding set of criteria with little empirical support from the healthcare community can invalidate some trans individuals' experiences with gender and make room for discrimination from healthcare providers in anti-transgender, conservative-majority states. Trans minors specifically are in vulnerable positions, and in some cases, in order to gain credibility and avoid stigma, they may prepare "how they will approach healthcare professionals or alter their behavior in order to improve the likelihood of receiving appropriate care ... [constructing] narratives most likely to ensure their safety and access to care" (Shook et al.). The problem with current methods of therapy and a medical professional assessing whether or not a child is truly transgender is that identity is subjective and should not be based on whether or not they meet a certain set of criteria.

It is our job as a society to acknowledge that identifying as a different gender should not be whether or not someone meets a certain set of criteria or not. Instead, we should promote the liberal theory of gender fluidity. Often, the medical system is relying on a single healthcare provider to decide whether or not a child identifies differently than what they were assigned at birth. While it is important to conduct therapy and give a child guidance, the healthcare field should put more emphasis on how every trans youth's story may look different and not

stigmatize seeking help or not being completely certain of their identity. Validating the journeys of every individual is of the utmost importance for the mental and physical health of a child because it prevents stigmatization from driving them to unsafe methods of medical transformation, such as hormones bought from the internet, and puts them at a lower risk for depression, anxiety, or suicide, and rejection or bullying.

Furthermore, while it is important to receive parental consent for any medical alteration, trans youth should have access to more resources about their options for medical care or alternate options that they are eligible to receive at their age so that they do not risk their lives with unsafe methods. A study conducted by the Journal of Adolescent Health consisting of sixty-five participants (15 youth and 50 caregivers) participating in interviews, focus groups, surveys, and other methods of surveillance demonstrates common barriers to trans healthcare. Among the top six are "few accessible pediatric providers are trained in gender-affirming health care; ... lack of consistently applied protocols; ... [and] uncoordinated care and gatekeeping" (Gridley 254). The current status of gender-affirmation care is limited, in research and in practice. When it comes to research, it is difficult because every individual's story and perspective is different. It is important to recognize this and conduct new research for regulation in protocols. Additionally, healthcare providers should need to find a way to coordinate their usage of pronouns and treatment plans. Remembering that gender is a social construct and a spectrum is imperative in improving trans youth's access to healthcare and finding new ways of providing consistent and safe care for minors.

The second issue that arises is long waiting times and discrimination by the healthcare industry and policies, which drives transgender youth to unsafe lengths to alter their bodies, including buying puberty-blocking hormones on the internet. In seven clinical cases, transgender

individuals have been shown "self-prescribing and self-administering hormones bought from the Internet without any medical consultation. Among these cases, two were taking androgens, and the rest were taking oestrogens ... [because of the] lack of access to specialised care due to discrimination and long waiting lists" (Metastasio). With increased access to technology and the problems with its irregularity for minors, it can be dangerous for minors to try and find other ways to access the results they believe they deserve. Transgender youth are at risk for strokes, blood clots, heart attacks, dementia, and other physical conditions if they were to take hormones unsafely, especially estrogen (National Cancer Institute). What is more, they may take dangerous means to reach the hormones or unauthorized medical treatment, putting them at higher risk for trafficking or other crimes. To tie this back to policy, researchers have argued that "the fractured policy landscape in the U.S. today subjects trans people, and their health, to the judgment of service providers, insurance companies, and legislators who decide what transgender-specific healthcare will or will not be covered" (Shook et al.). The lack of insurance coverage reinforces the point that transgender youth may go to unsafe means just to be accepted by society, painfully trying to avoid suicide, depression, anxiety, or bullying in the school system. To tie this together, by enacting legislation like AL SB-184 and TX 1646, transgender youth are more prone to being afraid of getting judged or discriminated against by the healthcare industry which can drive them to use unsafe methods of body alteration.

The third and final issue I will cover in this paper is how stigmatization and ignorance play a role in anti-transgender policy. Transgender-identifying minors are having to face a conservative consensus that those who choose to go down the path of any methods of gender-affirming healthcare will regret it and the damage will be irreversible, but this case is solely the minority. Based on a study conducted on 22 transgender adolescents who underwent

sex reassignment surgery, after one or more years, results showed that the "group was no longer gender-dysphoric; they scored in the normal range ... [of] socially functioning ... [and not] a single subject expressed feelings of regret concerning the decision to undergo sex reassignment" (Cohen-Kettinis et al.). This study disproves the theory that many conservative groups hold about transgender minors choosing to go through gender reassignment at a young age. By choosing ignorance over research, elected officials will continue to make policies that are harmful to transgender youth, furthering the negative mental implications of suicide, depression, anxiety, and physical implications of seeking alternative methods to present themselves to the world or traveling to a state that has opposed the legislation, such as California, where being themselves is not criminalized.

Possible Solutions

Taking a look at the research available for transgender youth, though there are gaps, it is important to consider solutions: mandatory training for the medical industry in relation to gender-affirming healthcare; geographically increasing the number of locations where families can seek healthcare for their children; finding new ways to accept pronouns on legal documents and in social settings; conducting new research to develop more accurate roadmaps for families seeking gender-affirming services; and setting federal regulations so that the LGBTQ+ community cannot be stripped of their rights, including addressing the political and social divides of the states. Making training on transgender care available and mandatory for healthcare providers applies hand in hand with increasing the number of locations (geographically) and the availability of safe care for transgender youth and their families. This will prevent having to take desperate measures like acquiring unsafe drugs for physical alteration or having to cross the

country for expression. By implementing pronoun usage at the federal and local levels, trans youth will be more recognized, leading to the destignatization of the community and a feeling of acceptance within the LGBTQ+ community. Finally, conducting more research to provide for families when it comes to medical services is essential, as some effects are irreversible and should be disclosed to families.

The most important solution from the list above is finding a way to regulate access to gender-affirming healthcare at a federal level so that no political or social divide can affect the safety and self-expression of any United States citizen. Since President Biden was elected into office, he has begun issuing executive orders such as "Advancing Equality for Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex Individuals" or "Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation," giving hope to bridge the policy divide, where everyone will have the protection to be able to express themselves. What is more, the Biden administration has openly issued statements against anti-LGBTQ+ legislation in states such as Alabama, Texas, Arkansas, etc. which will hopefully help educate Americans and bring them into a state of open-mindedness. The restrictive bills in Republican states put trans youth in harm's way when it comes to discrimination and violence or having to find unsafe medical ways to cement their identity. Without making a change, suicide rates among trans youth could increase, discrimination and violence will ensue, and the feeling of unacceptance for all LGBTQ people will prevail. Thus, with the new administration in office, a new positive message is conveyed at a federal level, which may change the country's current beliefs and divides.

Conclusion

After analyzing AL SB-184, TX SB-1646, and CA SB-107, which showcase different levels of protection or prosecution of transgender youth's access to healthcare, it is clear that the presence of political parties greatly influences legislation that can help or harm this access. Alabama and Texas exemplify natural law theory, a conservative approach that criminalizes medical gender affirmation for youth, and California represents a safe haven for families and children seeking safe medical affirmation because the state recognizes the fluidity of gender. In the future, it is crucial to begin to fill in the gaps of research for healthcare professionals so they can understand and help transgender youth in their transition in a safe and accessible manner. Instead of criminalizing healthcare and leaving it in the hands of each state, which leads to unsafe measures for children, it is imperative that the federal government comes to a consensus to allow for the freedom of expression for transgender youth in America. By recognizing the existence of transgender youth and protecting them under the law, the government is taking the necessary steps to protect children from anxiety, depression, suicide, trafficking, and many other unsafe scenarios that the children are vulnerable to.

Works Cited

- Baldassare, Mark, et al. "California Voter and Party Profiles." *Public Policy Institute of California*, August 2022,
 - https://www.ppic.org/publication/california-voter-and-party-profiles/. Accessed 15 December 2022.
- Block, Melissa. "Hundreds of anti-LGBTQ bills have already been introduced this year.

 Here may be why." *NPR*, 14 April 2022,

 https://www.npr.org/2022/04/14/1092904560/hundreds-of-anti-lgbtq-bills-have-already-been-introduced-this-year-here-may-be-. Accessed 14 December 2022.
- Brooks, Karen. "Texas election results show the state is far from turning blue." *The Texas Tribune*, 9 November 2022,

 https://www.texastribune.org/2022/11/09/texas-election-results/. Accessed 15

 December 2022.
- Butler, Judith. "Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory." *Performing Feminisms: Feminist Critical Theory and Theatre*. Ed. Sue-Ellen Case. Baltimore: Johns Hopkins UP, 1990.
- Chong LSH, Kerklaan J, Clarke S, et al. Experiences and Perspectives of Transgender Youths in Accessing Health Care: A Systematic Review. *JAMA* Pediatr. 2021;175(11):1159–1173. doi:10.1001/jamapediatrics.2021.2061
- Cohen-Kettenis, Peggy, Van Goozen. "Sex Reassignment of Adolescent Transsexuals: A Follow-up Study, Journal of the American Academy of Child & Adolescent

- Psychiatry, Volume 36, Issue 2, 1997, Pages 263-271, ISSN 0890-8567, https://doi.org/10.1097/00004583-199702000-00017. Accessed 14 December 2022.
- Dawson, Lindsey, et al. "Youth Access to Gender Affirming Care: The Federal and State

 Policy Landscape." *KFF*, 1 June 2022,

 https://www.kff.org/other/issue-brief/youth-access-to-gender-affirming-care-the-federal-and-state-policy-landscape/. Accessed 16 December 2022.
- Goldstein & Orr. "Child Abuse." *Goldstein & Orr*,

 https://www.goldsteinhilley.com/violent-offenses/child-abuse/. Accessed 16 December 2022.
- Gridley, Samantha, et al. "Youth and Caregiver Perspectives on Barriers to Gender-Affirming Health Care for Transgender Youth" *Journal of Adolescent Health*, Volume 59, Issue 3, 2016, Pages 254-261, ISSN 1054-139X, https://doi.org/10.1016/j.jadohealth.2016.03.017.
- Grossman, Arnold, D'augelli, Anthony. Transgender Youth, Journal of Homosexuality, 2006. 51:1, 111-128, DOI: 10.1300/J082v51n01_06. Accessed 14 December 2022.
- McClurg, Lesley. "A new law in California protects transgender youth who come for medical care." NPR, 28 October 2022, https://www.npr.org/2022/10/28/1132405391/a-new-law-in-california-protects-transgende r-youth-who-come-for-medical-care. Accessed 15 December 2022.
- Metastasio A, Negri A, Martinotti G, Corazza O. Transitioning Bodies. The Case of Self-Prescribing Sexual Hormones in Gender Affirmation in Individuals

 Attending Psychiatric Services. Brain Sci. 2018 May 14;8(5):88. doi:

 10.3390/brainsci8050088. PMID: 29757929; PMCID: PMC5977079.

- Munce, Megan. "Gender-affirming medical treatment for transgender kids would be considered child abuse under Texas Senate bill." *The Texas Tribune*, 27 April 2021, https://www.texastribune.org/2021/04/27/texas-senate-transgender-child-abuse/.

 Accessed 16 December 2022.
- National Cancer Institute. "Menopausal Hormone Therapy and Cancer NCI." *National Cancer Institute*, 17 July 2018,
 - https://www.cancer.gov/about-cancer/causes-prevention/risk/hormones/mht-fact-sheet
 . Accessed 16 December 2022.
- Neugeboren, Eric. "Joe Biden signs order to protect transgender kids from policies like Texas." *The Texas Tribune*, 15 June 2022, https://www.texastribune.org/2022/06/15/joe-biden-texas-transgender-care/. Accessed 16 December 2022.
- Office of Joseph R. Biden, President of the United States. "Executive Order on Advancing Equality for Lesbian, Gay, Bisexual, Transgender, Queer, and Intersex Individuals." *The White House*, 15 June 2022,
 - https://www.whitehouse.gov/briefing-room/presidential-actions/2022/06/15/executive-or der-on-advancing-equality-for-lesbian-gay-bisexual-transgender-queer-and-intersex-indi v iduals/. Accessed 16 December 2022.
- Office of Joseph R. Biden, President of the United States. "Executive Order on Preventing and Combating Discrimination on the Basis of Gender Identity or Sexual Orientation."

 The White House, 20 January 2021,
 - https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-

- order-preventing-and-combating-discrimination-on-basis-of-gender-identity-or-sexual -orien tation/. Accessed 16 December 2022.
- Office of the Attorney General Rob Bonta. Attorney General Bonta Leads Multistate

 Opposition to Alabama Law Criminalizing Gender-Affirming Medical Care for

 Transgender Youth Press Release. 17 August 2022.
- Office of the Attorney General, Office of the Attorney General California Department of Justice, https://oag.ca.gov/news/press-releases/attorney-general-bonta-leads-multistate-opposition-alabama-law-criminalizing. Accessed 15 December 2022.
- Pew Research Center. "Party affiliation among adults in Alabama Religion in America: U.S. Religious Data, Demographics and Statistics." *Pew Research Center*, 2014, https://www.pewresearch.org/religion/religious-landscape-study/state/alabama/party-affil i ation/. Accessed 15 December 2022.
- Roberts, Tiffany, Fantz Corinne, *Barriers to quality health care for the transgender population*, Clinical Biochemistry, Volume 47, Issues 10–11, 2014, Pages 983-987, ISSN 0009-9120, https://doi.org/10.1016/j.clinbiochem.2014.02.009.
- Safer, Joshua D et al. "Barriers to healthcare for transgender individuals." *Current opinion in endocrinology, diabetes, and obesity* vol. 23,2 (2016): 168-71.

 doi:10.1097/MED.0000000000000227.
- Shook AG, Tordoff DM, Clark A, Hardwick R, St. Pierre Nelson W, Kantrowitz-Gordon I. Trans Youth Talk Back: A Foucauldian Discourse Analysis of Transgender Minors' Accounts of Healthcare Access. Qualitative Health Research. 2022;32(11):1672-1689. doi:10.1177/10497323221114801.

- The Trevor Project. "2022 National Survey on LGBTQ Youth Mental Health." *The Trevor Project*, https://www.thetrevorproject.org/survey-2022/#anxiety-by-age. Accessed 14 December 2022.
- United States, Senate Alabama. *Alabama Vulnerable Child Compassion and Protection**Act, https://legiscan.com/AL/text/SB184/id/2566425. Accessed 14 December 2022.
- United States, Senate California. *Gender-affirming health care*,

 www.gpo.gov/fdsys/pkg/CHRG-111hhrg50208/html/CHRG-111hhrg50208.htm.

 112th. Accessed 14 December 2022.
- United States, Senate Texas. *Relating to the definition of abuse of a child*, https://capitol.texas.gov/tlodocs/87R/billtext/pdf/SB01646I.pdf. Accessed 14 December 2022.

Reconstructing Supranational Governance: Risk Perception and

Economic Integration in the European Union

Dylan Waste

University of California, Santa Cruz

Abstract

Over the past century, the European system has undergone an unprecedented transition away

from inter-state competition towards supranational cooperation. Since World War II, European

officials introduced policies focusing on market integration, such as the mutual recognition of

goods and the European Single Market. Still, monetary and fiscal instruments were seldom

vested to supranational actors until 1992 because member states could not develop policy

consensus. A breakthrough occurred in Maastricht when many European states agreed to begin

moving towards monetary policy convergence: creating the eurozone. Even with the

establishment of such an institution, member states were still reluctant to engage in supranational

economic interventions when the Global Financial Crisis roiled the global economy. Eventually,

financial contagion caused European bond spreads to diverge sharply. Due to the systemic risk of

asymmetric economic pressures, many member states have elected to cede increasing authority

to the EU's economic institutions. This paper explores the dynamic of political and economic

security concerns that have invigorated European officials to embrace supranational economic

policy innovations.

Introduction

In 1992, the European Economic and Monetary Union (EMU) was enshrined in the Maastricht Treaty. Agreeing to economic convergence criteria at Maastricht, European Union (EU) member states laid the groundwork for supranational monetary policy alignment. This manifested in adopting a single exchange rate set by the European Central Bank (ECB) in 1998, and the Euro in 2002. While the monetary integration of the EU dramatically increased during this period, fiscal alignment did not expand at a similar rate. Supranational economic integration efforts stagnated after the euro's creation, but a mixture of economic and political security concerns increased the EMU's economic integration in the following years. In particular, the supranational economic convergence in the EMU has been accelerated by the systemic risks asymmetric economic shocks pose for the European institutions. Even though member states initially erected measures to prevent widespread intervention by supranational actors, political and economic security caused member state preferences to converge around further integration. In addition, ever since the Global Financial Crisis (GFC), member states have responded to existential threats to the EMU by ceding more economic and, particularly, fiscal authority to European actors, i.e., the ECB. Despite this, the asymmetric economic shocks of the Eurozone debt crisis and the COVID-19 pandemic shook the foundations of the EMU. In both disasters, the implementation of non-conventional monetary policies, EU-mandated budgetary requirements, and supranational funding measures resulted from the EMU's securitization.

European Response to Financial Crisis and Securitization Theory

In 1997, Barry Buzan, Ole Wæver, and Jaap de Wilde released Security: A New Framework for Analysis, firmly establishing the Copenhagen School as the intellectual hub of constructivist security studies. For the Copenhagen School, security is not what "is" a threat, but rather, how the perception of threats materializes and what entities they endanger (Buzan et al. 204). Also known as referent objects, these entities include norms, systems, and tangible items. When an actor experiences a threat, they justify using forms of nonconventional governance vis-a-vis referent objects. Through a constructivist framework, rigorous security analysis focuses on this ontological understanding of security: securitization (Buzan et al. 204). Securitization is the process by which a security concern becomes an existential threat, "requiring emergency measures and justifying actions outside the normal bounds of political procedure" (Buzan et al. 25). These actions might include a discrete policy response or the development of new governance norms. Thus, the interplay between motivating factors should be explored to better understand the securitizing logic behind the emergence of new policy attitudes. Dividing security analysis into five so-called security sectors, the authors posited that a calculus of military, environmental, economic, societal, and political concerns causes actors to engage in a securitizing speech act. Even though one cannot isolate how these sectors influence a specific instance of securitization, the investigation of the "dynamic interactions, the loops, and vicious cycles" allows for the constructivist analysis of security (Buzan et al. 168). Perplexingly, European policymakers downplayed the implications of the GFC on member states' macroeconomic stability, waiting to take decisive action to defend the policy regime until these systemic institutional threats emerged during the European Debt Crisis. Through the Copenhagen School's framework for security analysis, the dynamic interplay of political and economic concerns on the securitization of the EMU can be explored.

A New Era for European Economic Integration

While the EU has undoubtedly become more economically integrated over the last thirty years, the multitude of endogenous, exogenous, and institutional factors have shaped this transformation. Even though ideas about a common currency and single market were discussed for much of the European Economic Community's (EEC) early history, these discussions did not begin to manifest in concrete policy until the interest of member states converged in the 1990s (Clarke and Daley, 2010). The 1992 Maastricht Treaty laid out eurozone entry conditions primarily centered on monetary alignment. These included sustainable domestic fiscal policy criteria, price, exchange rate, and interest rate stability measures (Nugent 354). After Maastricht, the EMU convergence criteria had been met by EU countries—the eurozone now includes nineteen member states. Still, domestic political concerns have inhibited the policy regime from reaching across the entirety of the EU. In the 2000s, Denmark and Sweden held referendums to join the eurozone, but voters rejected these proposals. After the EU's 2004 and 2007 enlargements into Eastern Europe, most new member states decided not to join the eurozone. These decisions have been attributed to failures to meet the EMU's convergence criteria and because of domestic politics (Nugent 353). Since monetary integration has been the EMU's main emphasis, member states' divergent political preferences regarding supranational fiscal and monetary integration are evidence that intergovernmentalism has played a significant role in the Union's economic integration process.

Primarily centered on creating supranational monetary governance, the early EMU created new institutions and qualifying convergence criteria for member states. Even though the eurozone entry conditions required states to be in a sustainable financial situation, the EU failed to erect the necessary supranational political and fiscal measures to ensure the EMU's stability (Nugent 354). In 2007, some of these "basic design flaws" were entrenched by the EU's movement toward more liberal intergovernmentalism in the Treaty of Lisbon. For example, EMU member states agreed to stabilize their domestic fiscal policies and created the European Council, giving national governments direct influence in the EU's policymaker process. While aligning member state interests might have been "politically necessary," intergovernmental governance has weakened the EU's ability to cooperate and cope with significant crises and other exogenous factors (Nugent 9). This movement towards intergovernmentalism poses problems for the EMU because agreeing to conditions on further integration has become an onerous process where member states engage in "seemingly never-ending rounds of bilateral and multilateral agreements" (Nugent 9). Undoubtedly, the combination of intergovernmental decision-making and the EMU's need for supranational policy convergence has become a vexing challenge for European policymakers. Despite this policy puzzle, the EMU has increased its integration since 2008 because of the institutional threats posed by asymmetric economic crises. When a myriad of formidable exogenous factors threatened the fabric of the EU, member states agreed to cede increasing amounts of fiscal authority to supranational institutions.

Cascading Effects: the GFC and European Sovereign Debt Spillover

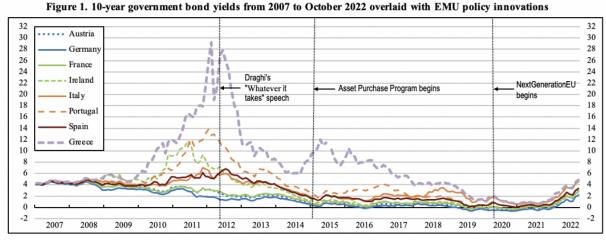
During the two years that the Treaty of Lisbon was on the path from being signed to ratification, financial institutions began to show the first signs of structural weakness in

mid-2007. In the 2000s, commercial lenders in the United States (US) made it easy for individuals to purchase homes. Lacking concern about an individual's ability to make mortgage payments down the line, these lenders entered into subprime and Alt-A loan mortgages (Baily et al. 14). Supreme and Alt-A are classification profiles for mortgages that suggest that a borrower has a substantial risk of running delinquent. During the 1990s and early 2000s, lenders were not required to perform extensive due diligence into the creditworthiness of these borrowers, compounding the financial riskiness of these credit lines. To finance the housing and mortgage boom of the 2000s, lenders would bundle their housing loans into mortgage-backed securities (MBS). Since high-risk MBSs offered the highest yields to risk-tolerant investors (e.g., hedge funds, investment banks), these securities were traded extensively with little regard for managing overexposure to the ballooning housing sector (Baily et al. 14). When the US housing market began to deteriorate rapidly in 2007, the housing risk profile that had been baked into the Anglo-American financial system pushed commercial lenders and investment banks into default and invigorated massive government bailouts. Result of an unsustainable mix of financial deregulation, credit risk palatability, and debt securitization, the GFC would have widespread consequences for financial institutions and economies around the world because of unprecedented amounts of transnational interconnectedness.

Despite the US and eurozone being quite financially integrated during the 2000s, the European banking system did not face the same structural economic risk vis-a-vis MSBs. In the eurozone, financial deregulation in the late 1990s and early 2000s to align the Anglo-American banking model meant that the EMU was still susceptible to the GFC, and the area experienced a recession. While the European banking system did not suffer the same disintegration as the US, the GFC's ramifications exacerbated the EMU's fundamental design flaws. Primarily, "weak public finances in a group of eurozone countries, persistent imbalances in another overlapping

group and slow productivity growth in various others" resulted in the GFC spreading into sovereign debt markets, which spiraled into the European Debt Crisis (Drudi et al. 882). The European Central Bank (ECB) acted in tandem with other central banks to slash interest rates to combat rapidly deteriorating growth. From September 2008 to May 2009, the ECB cut its marginal lending rate from 5.25 percent to 1.75 percent to buoy personal consumption (Drudi et al. 887). These unilateral fiscal policy decisions would stress public finances, a fact that was most apparent in southern member states.

Undoubtedly, Greece was hit by the hardest macroeconomic shockwaves of the GFC. When a new Greek government emerged in 2009 and ordered an audit of the country's public finances, the findings "rapidly led to tensions in the sovereign debt market" (Drudi et al. 887). In 2010, the Greek government started borrowing funds to service its debt obligations, and its credit rating was downgraded as concerns that the state would not be able to pay these funds back emerged (Clarke and Daley 3). At the same time, the Greek government began to implement stringent austerity measures to stabilize public finances (Clarke and Daley 3). Investors, international financial institutions, and eurozone member states were concerned about how the Greek debt crisis could unfold. Even though the Lisbon Treaty and Maastricht Treaty included provisions prohibiting bailouts, eurozone states and the International Monetary Fund (IMF) agreed to a € 110 bailout as a 'Stabilization Mechanism' for the country (Clarke and Daley 4). While the Stabilization Mechanism helped Greece get its sovereign debt crisis under control for a time, the bailout raised questions about the fundamental stability of the euro and the public finances of other EMU members.



Note: This figure is built on the analysis of the OECD Economic Surveys 2018

Figure 1.9 10-year government bond nominal yield in Italy and Spain declined after the ECB action

Source: (OECD 69), (FRED)

Concerned about how the Greek sovereign debt situation could spread to similarly situated member states and threaten the euro, investors and financial institutions were worried about the potential for financial contagion to threaten a bracket of countries in the eurozone. For this reason, the bond yields of Portugal, Ireland, Italy, and Spain began to become decorrelated from more economically robust EMU member states (Figure 1). The EMU member states that saw the most rapid deterioration in spread with the German BUND were Greece, Portugal, Italy, Ireland, and Spain (PIIGS) (Drudi et al. 888). Initially, the PIIGS pejorative was coined in the 1990s to include these member states, but Ireland was included in this grouping during the GFC and eurozone crisis. During the eurozone crisis, the PIIGS member states were characterized by unstable fiscal situations and diverging bond spreads compared to Germany and other economically robust EMU states. For these member states, these divergent spreads resulted from a confluence of financial deregulation, economic and trade balances between the EMU members, and the rapid deterioration of business profits (Duman).

When this calculus of economic pressure developed, investors began to demand higher yields on bonds for PIIGS countries. Sovereign debt yield jumps were particularly striking for

longer-term bonds (Figure 1). Even though every PIIGS state was in a significantly better situation vis-a-vis government debt than Greece, threats of contagion created an asymmetric crisis in the EMU's sovereign bond markets. To achieve this, eurozone states and the IMF agreed to construct a fund to reduce fear vis-a-vis PIIGS countries' ability to service their sovereign debt, extending financial stabilization measures to states throughout the EMU (Clarke and Daley 5 & 6). Under this economic measure, the European Financial Stability Facility (EFSF) was established to dampen the EMU's economic pressures. While the EFSF included a pool of capital to help at-risk eurozone states to stabilize their public finances, the measure also created new supranational institutions and review structures to audit domestic economic policies and create novel risk management instruments. Undoubtedly invigorated by the asymmetric threats that could have shattered the EMU and euro, member states ceded more fiscal and monetary sovereignty to European institutions.

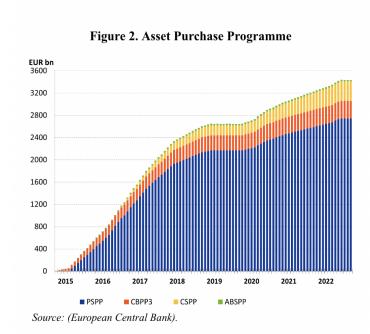
Reconstructing Supranational Economic Governance

Even though the GFC and eurozone crisis compelled EMU states to create new supranational bodies, intergovernmental approaches to these existential threats were not adequately equipped to push sovereign bond spreads permanently back together. The stabilization measures were an ex-post facto instrument that could only work to restore confidence in the eurozone and buoy sovereign debt. While the EFSF included novel fiscal regulation and audit standards for EMU member states, the structural deficiencies of the EMU were incredibly glaring in the wake of the European debt crisis. On July 26th, 2012, ECB President Mario Draghi made his famous *Whatever it Takes* speech, addressing the inadequacies

of the EMU's institutional architecture and reaffirming the willingness of EU officials to take radical steps to ensure eurozone stability. In the speech, Draghi asserted, "the progress in undertaking deficit control, [and] structural reforms has been remarkable," that the ECB would do "whatever it takes to preserve the euro. And believe me, it will be enough" (Draghi). At the height of the eurozone sovereign bond spread divergence, Draghi's declarations reaffirmed that supranational institutions were prepared to take unprecedented action to preserve the EMU for investors (Figure 1). Draghi's statements also evidenced that the ECB and other European institutions were poised to construct a more robust EMU.

During the same month, European Council president Herman Van Rompuy released a report titled Towards a Genuine Economic and Monetary Union—the report was written in collaboration with Eurogroup president Jean-Claude Juncker, EU Commission President Jose Manuel Barroso, and Draghi. In the piece, Rompuy called for the creation of "a strong stable architecture in the financial, fiscal, economic and political domains," aiming to create "a vision for the EMU to ensure stability and sustained prosperity" (Rompuy 2). Rompuy's specifically called for a deeper integration vis-a-vis financial, budgetary, and economic policy, which had the proper democratic checks to enable member state sovereignty, government accountability, and institutional legitimacy (Rompuy 3). While the European sovereign debt crisis was far from over, European institutions agreed on a strategy to rectify the policy regime's basic design flaws. Looking at the statements of influential EU policymakers during the trough of the eurozone crisis, one can deduce that the European institutions and member states realized that deeper integration was necessary to construct a more sustainable EMU. During the eurozone crisis, sovereign debt issues and market pressures that emerged against PIIGS states resulted in a mix of intergovernmental and neo-functional approaches to deepening monetary and fiscal integration. Learning from the collective action problems posed by the GFC and eurozone crisis, domestic

governments and European institutions have constructed policies to further supranational economic integration. Scholarship has noted the critical juncture that these crises represent for



EMU governance. "Since the crisis, shifting norms (third order governance) allowed for the creation of new bodies (e.g., the European Stability Mechanism and the Single Supervisory Mechanism) and the expansions of the powers of existing institutions [particularly the ECB]," says Michele Chang (487).

During and after the sovereign debt crisis, the ECB emerged with

significantly more legal privileges vis-a-vis unconventional monetary policy. While the Federal Reserve and Bank of England already were in their mandate, the ECB could take a direct role in strategic economic decision-making in planning through forward guidance.

The ECB constructed various nontraditional monetary measures throughout the eurozone crisis to buoy sovereign bond markets and create fiscal space. Most importantly, the ECB now had the authority to purchase different types of assets through quantitative easing. These policies include the Securities Market Programme, Long-Term Refinancing Operations, Outright Monetary Transactions, and quantitative easing (Chang 493). Additionally, in early 2015, the ECB implemented its asset purchase program (APP) to "support the monetary policy transmission mechanism and provide the amount of policy accommodation needed to ensure price stability" (European Central Bank). Since the APP's introduction, the ECB's balance sheet has exploded. As evidenced by the chart of APP purchases over time, the ECB has purchased a

massive amount of sovereign debt (PSPP) since 2015 (Figure 2). The APP has allowed the ECB to stabilize and expand fiscal space across the eurozone. Even though these are monetary measures, nonconventional measures are nebulously connected to fiscal policies, but there are clear linkages between the policy realms. Therefore, these policies have transformed the scope of the ECB's mandate and increased the fiscal integration of the EMU.

A New Role of Supranational Institutions Post-Euro Crisis

In early 2020, the COVID-19 pandemic threatened the fabric of the global economy when countries were pushed to institute stringent lockdown measures. The nature of the pandemic created an unprecedented for the EU economy. During this crisis, the NextGenerationEU (NGEU) instrument allocated €800 billion to support EMU states' economic recovery and fiscal situations (European Commission). The introduction of the NGEU and other fiscal interventions represents a new form of "fiscal capacity that has hitherto been absent from the EU fiscal architecture" (Mileusnic 1). On top of utilizing principles developed during the eurozone crisis, the NGEU has established a common debt, an innovation that signals fiscal integration has dramatically increased over the past decade (Mileusnic 3). Despite the deepening supranational fiscal integration, these policies are primarily based on converging member state preferences aligned by the acute economic crisis.

Resulting of the convergence of member states' interests and the fiscal crunch that occurred during the health crisis, the construction of the NGEU illustrates that some new supranational fiscalization has happened in the wake of the euro crisis. While deepened fiscal integration was undoubtedly the result of the COVID-19 crisis, the pandemic did not result in a

watershed moment for supranational fiscal policy. The NGEU and its mechanisms furthered EU fiscal integration but failed to manifest in a true fiscal union. Given the transnational nature of the COVID-19 crisis and the lack of a deep asymmetric shock in the EMU, these novel fiscal instruments could be short-lived compared to the entrenched reforms that emerged from the euro crisis (Schelke). The tailing nature of the economic fallout from the pandemic (e.g., supply chain shocks, ballooning inflation) could be a critical juncture for further supranational fiscal policy innovations. While the COVID-19 crisis wrought deeper fiscal integration, the irregular nature of the pandemic means that making assertions about its fiscal impact is difficult. Nonetheless, the instruments constructed in the wake of the GFC and eurozone crisis have undoubtedly softened the fiscal blow that member state economies would have experienced otherwise.

Conclusion

In the wake of the GFC, EMU states agreed to integrate further. Still, the financial contagion aligned European policymakers with the idea that deeper fiscal, monetary, and financial integration was necessary. During a period of unprecedented economic growth, European policymakers constructed the EMU in the 1990s. As the EMU grew from portions of the Maastricht agreement into a legitimate monetary union, political factors primarily explained intergovernmental consensus on further integration. The EMU and eurozone were established with critical design flaws that would shake the foundations of the policy regime during the GFC and European debt crisis. Despite the complex nature of the EMU's regulatory and policy position, the system has become unquestionably more integrated due to economic crises, but the permeance and deepness of this integration have fluctuated.

Reconstructing the EMU to account for existential threats, European policymakers' political and economic security concerns shaped the emergence of new supranational financial and macroeconomic risk management. In 1997, Buzan et al. argued that there was evidence that the EMU had been because of "its embeddedness in a volatile global financial system" (182). While this understanding might have seemed like the case at the time, European policymakers' initial response to the GFC evidence was that member states had not economically securitized the EMU. Only when the financial contagion caused by the GFC spiraled into the eurozone debt crisis were EU officials willing to securitize the EMU. The divergence in European sovereign debt spreads put unprecedented pressure on the institutional architecture of the EU. When Draghi declared, "much more of what is national sovereignty is going to be exercised at [the] supranational level, that common fiscal rules will bind government actions on the fiscal side," the securitization of the EMU as a critical function in the EU was confirmed in official discourse.

From 2014 on, EMU institutions have taken an increasingly more direct role in member states' fiscal and economic affairs. In the past decade, European officials broke with the Maastricht Treaty charter regarding eurozone member states bailouts and introduced non-traditional monetary measures and supranational budgetary requirements. Historically, the relationship between political and economic concerns has been understood through a theoretical model: "[t]he securityness of economic issues is multiplied by a political argument" (Buzan et al. 184). An analysis of reactions to the GFC and COVID-19 crisis reveals that the influence that political security concerns play could be more significant than previously suggested. Economic factors seemingly seldom have a chance to initiate securitization without their modification by political threats. By longitudinally analyzing European policymakers' response to threats to the EMU, one can conclude that political factors exponentiate the securitization of economic issues.

Works Cited

- Baily, Martin Neil, et al. "The Origins of the Financial Crisis." *Brookings Institution*, Brookings Institution, Nov. 2008,

 https://www.brookings.edu/wp-content/uploads/2016/06/11_origins_crisis_baily_litan.pd

 f.
- Buzan, Barry, et al. Security: A New Framework for Analysis. Lynne Rienner, 1998.
- Chang, Michele. "The (Ever) Incomplete Story of Economic and Monetary Union." *Journal of Contemporary European Research*, vol. 12, no. 1, 2016, https://doi.org/10.30950/jcer.v12i1.696.
- Clarke, Stephen, and Claire Daley. "The Eurozone Crisis." *Civitas Institute for the Study of Civil Society*, 2010, http://www.civitas.org.uk/content/files/TheEurozoneCrisisOct2010.pdf.
- Draghi, Marco. "Whatever it takes." Global Investment Conference, 26 Jul. 2012, London. Press Conference.
- Drudi, Francesco, et al. "The Interplay of Economic Reforms and Monetary Policy: The Case of the Euro Area." *Journal of Common Market Studies*, vol. 50, no. 6, 2012, pp. 881–898., https://doi.org/10.2139/ssrn.2140769.
- European Central Bank. "Asset Purchase Programmes." *European Central Bank*, European Union, 23 Feb. 2023, https://www.ecb.europa.eu/mopo/implement/app/html/index.en.html.

- European Commission. *Recovery Plan for Europe*. European Union, 2022, https://ec.europa.eu/info/strategy/recovery-plan-europe en.
- FRED St. Louis Fred. "Long-Term Government Bond Yields: 10-Year Monthly." *Main Economic Indicators*, 2022.
- Mileusnic, Marin. "EU Fiscal Policy Shifts: Towards More Integration?" *Economic Research-Ekonomska Istraživanja*, vol. 36, no. 1, 2022, pp. 2960–2979., https://doi.org/10.1080/1331677x.2022.2106277.
- Nugent, Neill. *The Government and Politics of the European Union*. Bloomsbury Academic, 2017.
- OECD. "OECD Economic Surveys: Euro Area 2018." *OECD Economic Surveys: Euro Area*, 2018, pp. 1–92., https://doi.org/10.1787/eco_surveys-euz-2018-en.
- Sarımehmet Duman, Özgün. "The Political Economy of the Eurozone Crisis: Competitiveness and Financialization in Piigs." *Journal of Balkan and Near Eastern Studies*, vol. 20, no. 3, 2017, pp. 211–229., https://doi.org/10.1080/19448953.2018.1379752.
- Schelkle, Waltraud. "Fiscal Integration in an Experimental Union: How Path-Breaking Was the EU's Response to the COVID-19 Pandemic?" *JCMS: Journal of Common Market Studies*, vol. 59, no. S1, 2021, pp. 44–55., https://doi.org/10.1111/jcms.13246.

Submission Guidelines for Contributions

We welcome contributions from undergraduate students, as well as recent graduates, from any University of California campus. Students may submit any upper division coursework, independent research, or theses that pertain to legal matters. This year, we encouraged submissions relating to the journal theme of security. We will decide next year's theme later this year.

For future submissions, please refer to the detailed submission guidelines and instructions below:

Submission Requirements

- Submissions should be selected from your upper-division courses or independent studies
- Papers must be a minimum of 5 pages and should include an abstract
- Submissions must follow the MLA style of formatting
- Ideal papers should relate, at least tangentially, to the journal theme, but we will review papers about any policy / legal subject
- Submissions must have not been published elsewhere

Submission Instructions

- Send your submissions to berkeleylegals@gmail.com by January 31st, 2024
 - o In the subject line, write "2024 Journal Submission First Name Last Name"
 - Please attach your paper as a PDF and as a DOCX
- In your email, please also include:
 - Your contact information (email, phone number)
 - The term when the paper was written
 - Your graduation year
 - Your program of study