

THE UNDERGRADUATE RESEARCH JOURNAL OF BOSTON COLLEGE

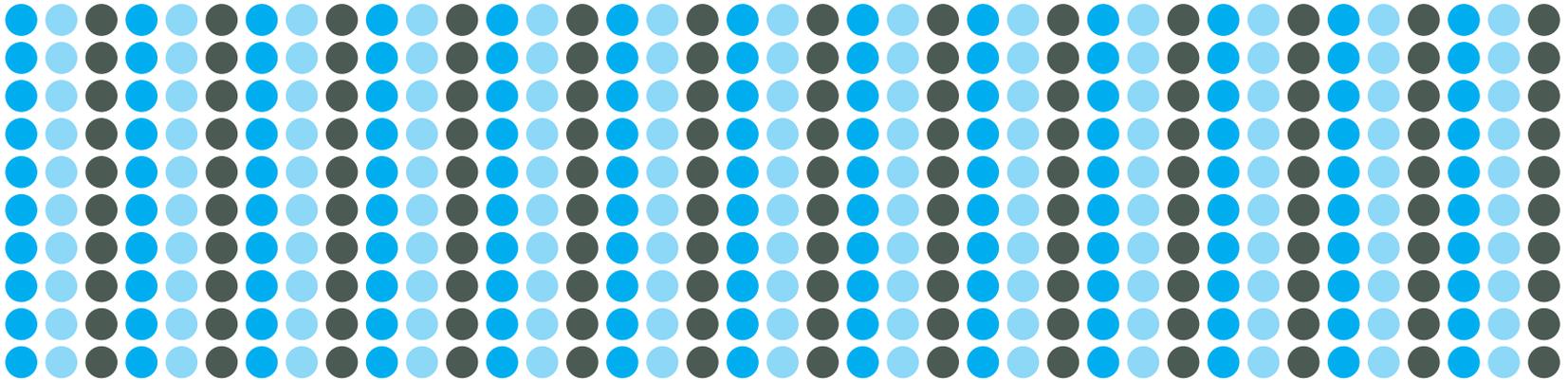
THE DEMON OF THE BELFRY

INVESTIGATING THE EVOLUTION OF THE PENNY PRESS AND THE EMMANUEL CHURCH MURDERS

ALSO FEATURING

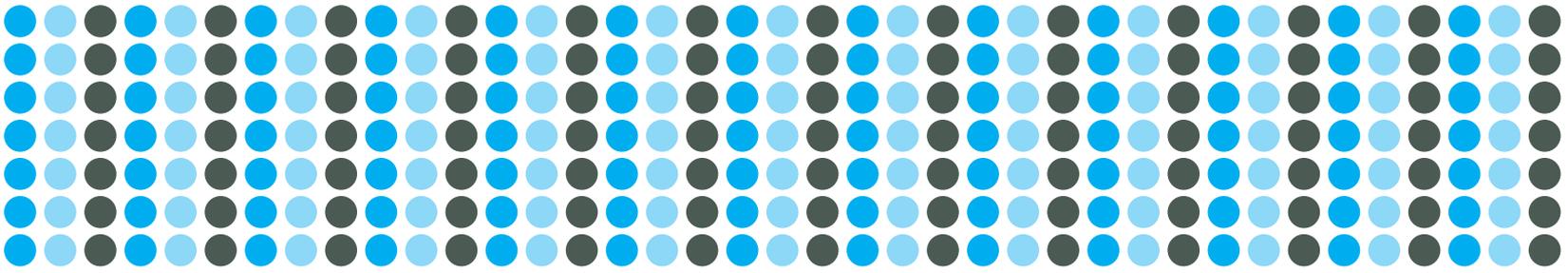
- *The Digital Pandemic*
- *The Force on the Front*





MISSION STATEMENT

Elements, the undergraduate research journal of Boston College, showcases the varied research endeavors of fellow undergraduates to the greater academic community. By fostering intellectual curiosity and discussion, the journal strengthens and affirms the community of undergraduate students at Boston College.



THANKS

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QUESTIONS & CONTRIBUTIONS

If you have any questions, please contact the journal at bcurjelements@gmail.com. All submissions can also be sent to bcurjelements@gmail.com. Visit our website at www.bc.edu/elements for updates and further information.

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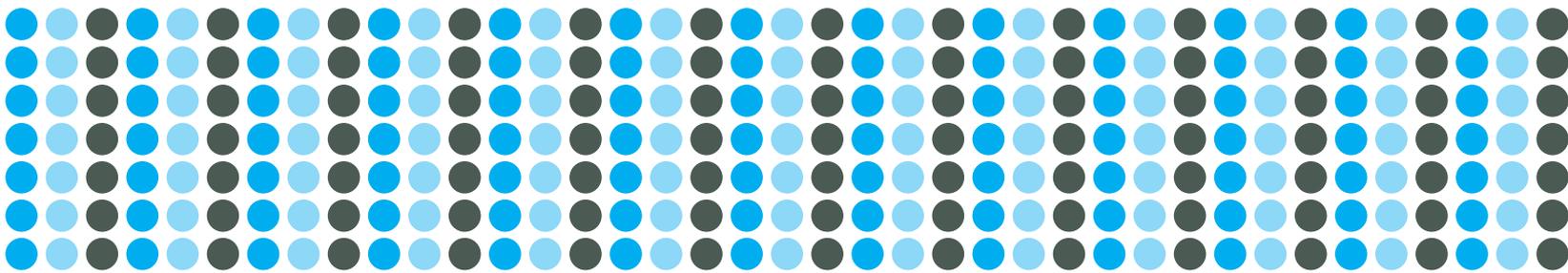
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EDITOR'S NOTE

Dear Readers,

The Jesuit tradition and liberal arts education of Boston College is often lauded as one of the most versatile and effective ways to cultivate critical thinking, ethical reasoning, and intellectual dexterity—among a vast array of other skills so desirable to employers and the world in general. And yet, we are asked time and again the same question facing many undergraduate student research journals: “Beyond the educational benefit of practicing post-graduate work, where is the value in undergraduate research?” A perfectly valid response lies in the assertion that there is no well-defined chasm between inexperience and expertise that students leap across on the day of their graduation. Rather, each student undergoes a gradual accumulation of knowledge which can be competently utilized in real-world applications at any point throughout their college education, and this process, when taken in consort with fresh perspective, can yield incredible results. Taken further within the context of Element’s environment, students exposed to the concept of *cura personalis*—literally “care for the whole person”—likewise have the capability to inquire intellectually, to search for the truth in all things, and to passionately use their knowledge in service to others. Indeed, the research present in this issue demonstrates the well-rounded intellect of its authors who, through careful analysis, offer enriched interpretations of—and in some cases potential solutions to—some of the most pertinent issues of our time.

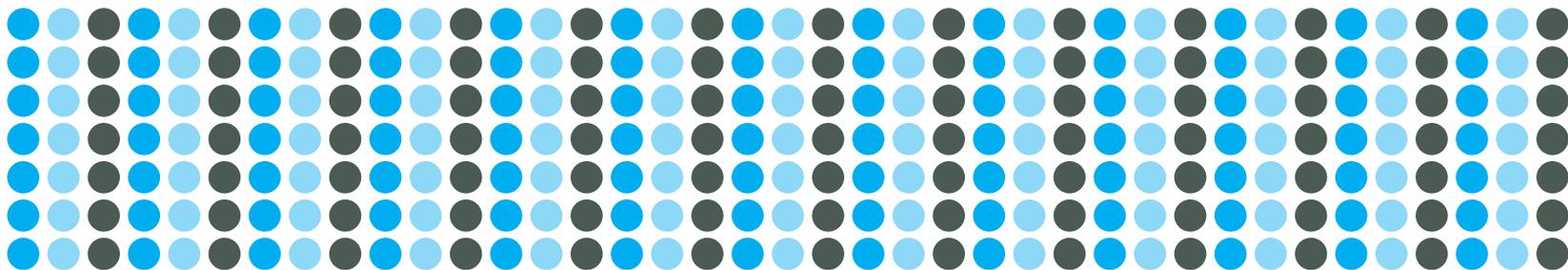
In our cover article, “‘The Demon of Belfry’: The Penny Press, the Emmanuel Church Murders, and Gilded Age Sexuality”, Sean Stebbins delves into the changing perspectives on sexuality in the nineteenth century documented in the news coverage of the Emmanuel Baptist Church murders during the Gilded Age. In the attempt to find reason for the gruesome details and motivations of the murders, the press demonstrated how media can have a profound impact on the cultural perceptions of the time. Our first feature article “Ireland Re-Imagined: Irish Commemoration during the Decade of Centenaries” by Czar Sepe reviews how the Decade of Centenaries comprises the differing recollections of Ireland’s history from various communities of people and a modern response to those historical narratives from the Irish government. This story shows how the personalized values of history are influenced by how it is recorded in time.

Will Riherd’s article “Neuromorphic Computing” brings to light a new concept in technology that is inspired by the human brain. This innovative restructuring of computer operations illustrates the potential of interdisciplinary solutions in the future. The article “Wrestling with Giants: Antitrust Measures in the Technology Sector” by Luc Riordan analyzes the current economic and political interplay in the trend toward monopolization in the technology industry and the need to evaluate the extent to which these companies can operate under law. In Caroline Cohen’s article “Nutrition’s Mitigating Effects on the Pathogenesis of Alzheimer’s Disease,” she details the physical effects that food can have on the brain and how a balanced diet with a focus on antioxidants and n-3 fatty acids can support long-term brain health. Additionally, the issue contains Daniel Fu’s “Trump’s China Containment Strategy” that scrutinizes President Donald Trump’s approach to China’s growing presence on the global stage and the ongoing necessity for attention by future leaders. And lastly Siobhan Pender’s “The Force on the Front” probes the anti-Semitic motivations of the police force that aligned with the growing Christian Front in Brooklyn, New York from 1938 to 1940. Pender identifies the consequences of action and inaction by those who take on leadership roles in law enforcement.

The range of perspectives and topics in this issue serve to highlight the vast and unique society that we live in. Whether it struggles to define the boundaries of the technology industry or document the complex relationships and tensions in history, society has been challenged to think more about the issues deeply embedded and engrained in our system. These articles provide a well-written and well-crafted deep examination of these issues; an introspective challenge that requires us to understand the roles of aspects in our society that create these issues. This edition of Elements is a nod to those that want to illuminate and bring forth the difficult assumptions in our society; ones that through shared understanding can create constructive discourse.

Happy Reading!

Sincerely,
Michaela Balboni, Joanna Choe
Editors in Chief



CONTENTS

10 IRELAND RE-IMAGINED

Czar Sepe

Grasping Historical Perceptions for the Decade of Centenaries

28 THE DIGITAL PANDEMIC

Ryan Cattich

Averting Negative Externalities of Disinformation Through Platforms

42 NEUROMORPHIC COMPUTING

Will Riherd

Explaining how Projected SNN Training will Largely Impact our Interactions with Technology

50 THE DEMON OF BELFRY

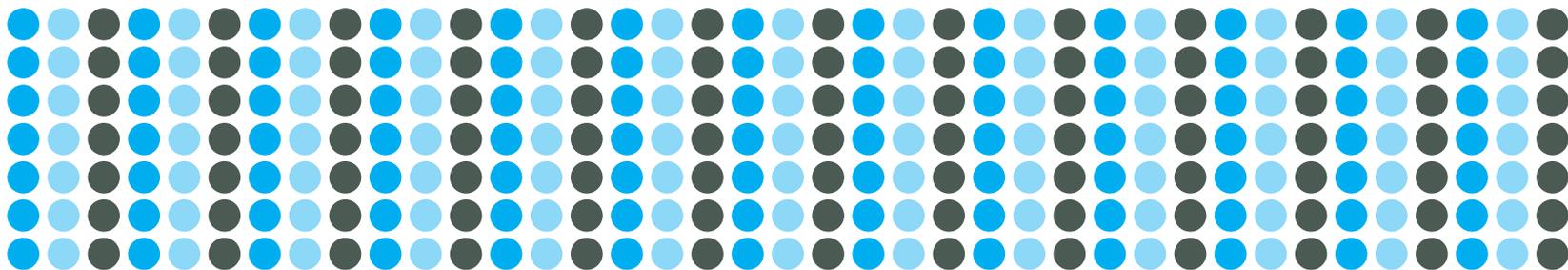
Sean Stebbins

Investigating the Evolution of the Penny Press and the Emmanuel Church Murders

56 WRESTLING WITH GIANTS

Luc Riordan

Probing the Pertinence of Antitrust Law for Big Techs



65 FOOD FOR THOUGHT

Caroline Cohen

Researching Nutrition's Mitigating Effects on the Pathogenesis of Alzheimer's Disease

79 THE CONTINUING CONTAINMENT

Daniel Fu

Evaluating the Trump administration's China Containment Strategy on Eastern Regions and Beyond

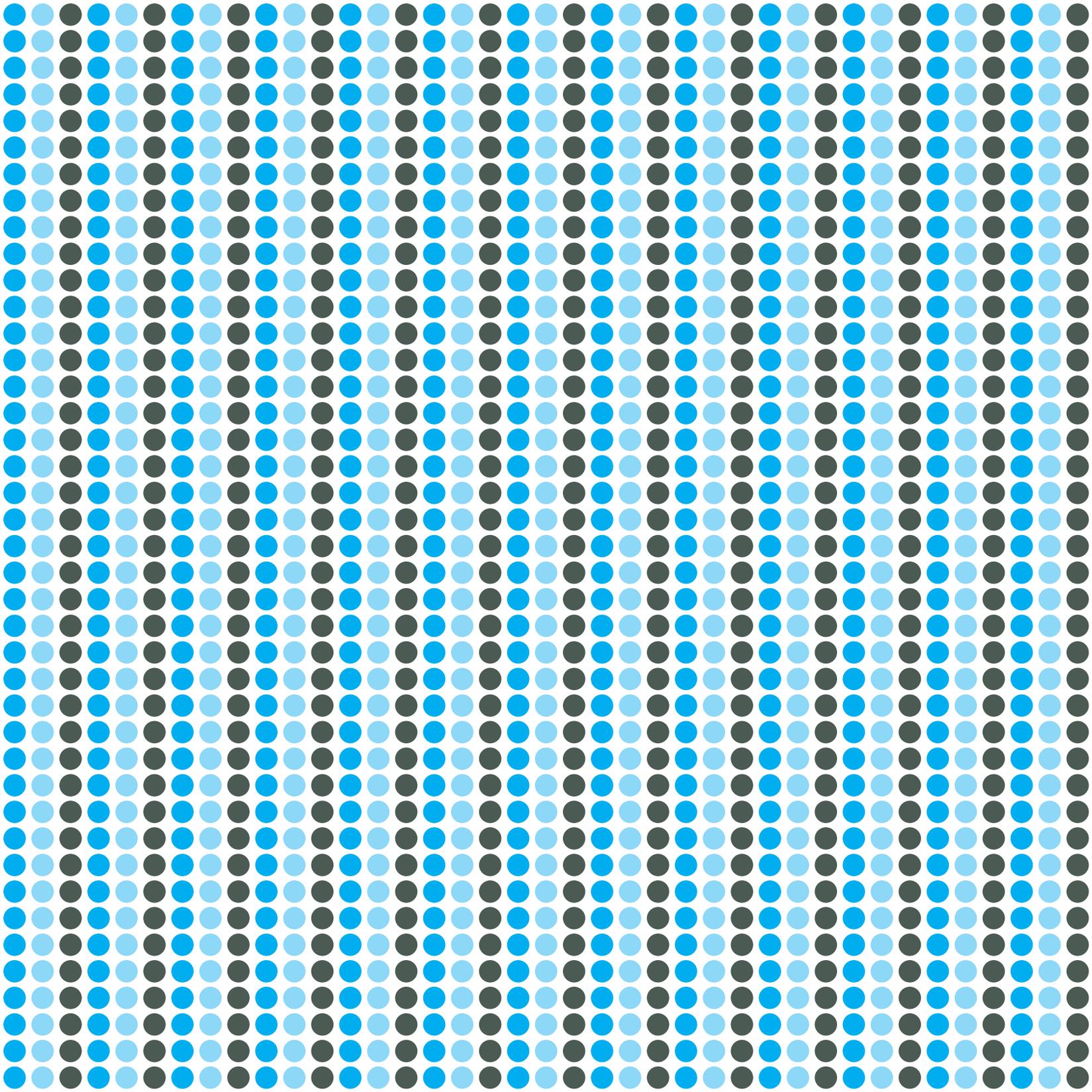
86 THE FORCE ON THE FRONT

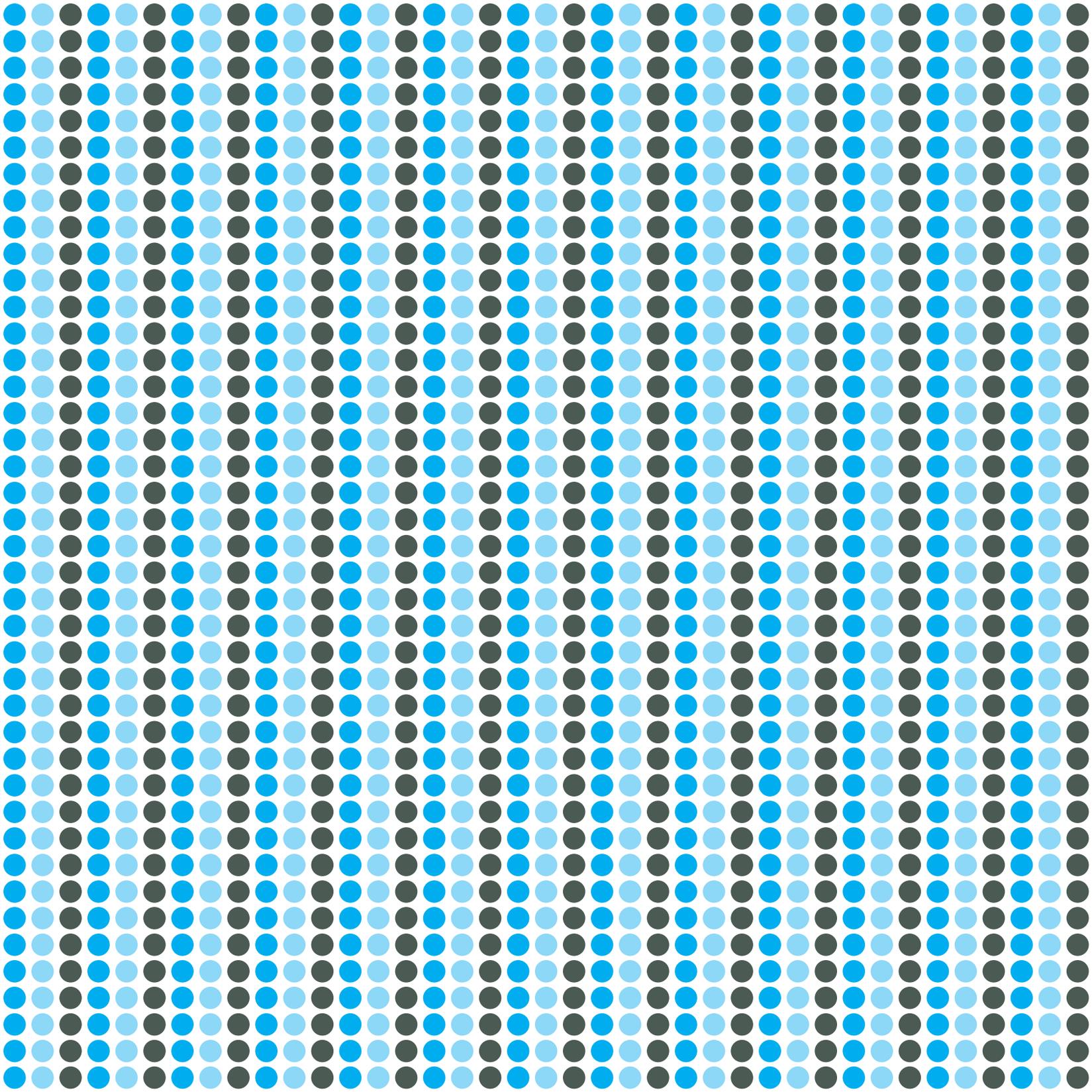
Siobhan Pender

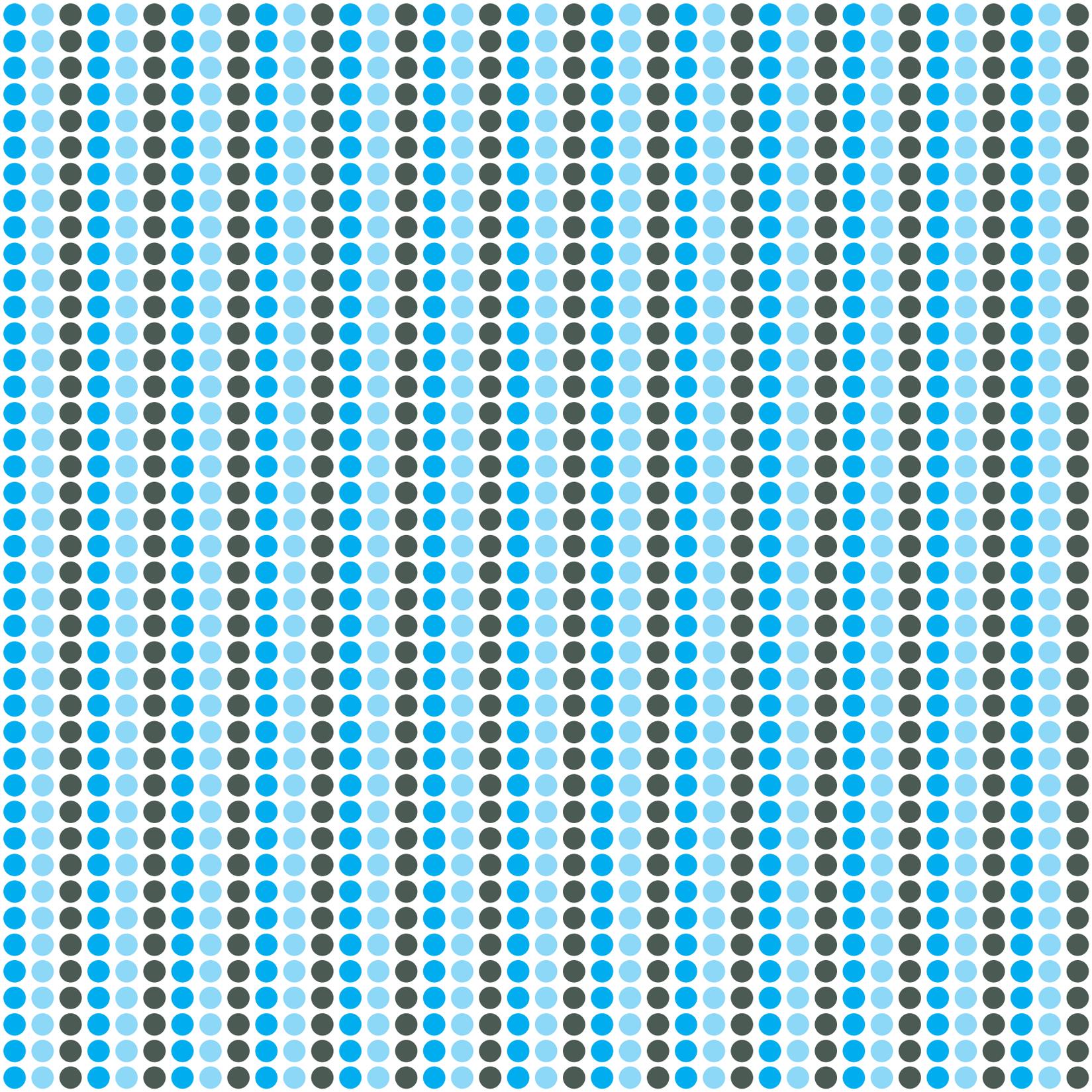
Analyzing the Police Sympathy for the Christian Front Movement in Brooklyn from 1938-1940

94 AUTHOR BIOGRAPHIES

99 LIST OF ARTWORK







IRELAND RE-IMAGINED

Grasping Historical Perceptions for the Decade of Centenaries

CZAR SEPE

IRELAND'S DECADE OF CENTENARIES (2012-2022) COMMEMORATES HISTORICAL MILESTONES THAT LED TO THE COUNTRY'S INDEPENDENCE FROM GREAT BRITAIN AND THE CREATION OF THE REPUBLIC OF IRELAND. HOWEVER, SINCE THE ADVENT OF THE IRISH NATION, ITS HISTORY HAS ALWAYS BEEN A CONTESTED SPACE— WHERE OPPOSING POLITICAL, SOCIAL, AND CULTURAL GROUPS NEGOTIATE BETWEEN HISTORICAL NARRATIVES—TO LAY CLAIM TO A 'TRUE' IRISH HISTORY. THIS PAPER PRESENTS THE COMPETING HISTORIOGRAPHIES INVOLVED IN THE IRISH GOVERNMENT'S DECADE OF CENTENARIES AND IDENTIFIES THE SOCIO-POLITICAL AGENDA BEHIND STATE COMMEMORATIONS. A HISTORICAL ANALYSIS OF THE COMMEMORATIONS THAT TOOK PLACE IN THE 2010S PROVES THAT SOCIO-POLITICAL CONSIDERATIONS FACTORED IN THE WAY IRELAND'S FOUNDING WAS PORTRAYED BY THE GOVERNMENT, THE PUBLIC, AND CIVIL SOCIETY. OVERALL, THIS PAPER CONCLUDES THAT THE IRISH GOVERNMENT'S CHIEF AIMS WERE TO STRIKE A CONCILIATORY TONE WITH NORTHERN IRELAND, 'CROWD-OUT' OPPOSING HISTORICAL NARRATIVES, AND PROJECT IRELAND'S ECONOMIC PROGRESS THROUGH THE IRISH PROCLAMATION. NEVERTHELESS, ACADEMIC HISTORIANS AND THE PUBLIC INTERVENED IN THIS NEGOTIATION TO CREATE RE-IMAGINED HISTORIES OF IRELAND.

Ireland's 'Decade of Centenaries' (DOC) can be characterized as a negotiation between competing historical interpretations and present socio-political concerns. In particular, themes of inclusion, transnationalism, and intersectionality colored commemoration events. To further explore this, the paper will provide the conceptual framework of a 'negotiation' of historical memory. Then, it will analyze the DOC Expert Advisory Group's mission, the First World War and Easter Rising commemorations, the online platform *Century Ireland*, and the #WakeTheFeminist movement. Overall, the Irish Government brought certain needs to the negotiating table: (1) a conciliatory tone with Northern Ireland (NI), (2) a 'crowding-out' of opposing historical narratives, and (3) a projection of Ireland's progress in relation to the Irish Proclamation. In the end, the Government was somewhat successful in this negotiation. With the intervention of academic historians and the public, the DOC accommodated 're-imagined' histories of Ireland, outside of the state's initial scope.

In order to delve into the DOC commemorations, it is essential to provide a conceptual schema for commemoration as a negotiation between historical narratives and current socio-political needs. Pierre Nora challenges the traditional separation between history and memory by proposing *lieux de mémoire*. Such crossover spaces include commemoration, in which both "memory attaches itself to sites," while "history attaches itself to events" (Nora, 1989). Further, Eric Hobsbawm comments on the rise of state commemoration during the nineteenth-century, as "...rulers...rediscovered the importance of 'irrational' elements in the maintenance of the social fabric..." of newly formed nation-states (Hobsbawm, 1983). Accordingly, this top-down concept is challenged in the twenty-first century, considering the idea of historical victimhood, which Guy Beiner notes that "...public remembrance of victims tend to be exclusive and monopolistic, denying the trauma of others and ranking one's own suffering above theirs" (Beiner, 2007). It is apparent that commemoration is in-

trinsically linked with the past. Nevertheless, commemoration is manifested in the present, and is subject to a society's values, whether it be nineteenth-century nation-building or twenty-first century traumatic healing. What is unique to today's notion of commemoration is that it can no longer be imposed solely by the state, rather, a dialogue must take place between historical memories throughout a broad spectrum of society. Politics must be considered in the Irish context because "...commemorative rituals have become historical forces in their own right" (McBride, 2001). As this '*lieux*' is limited because of financial constraints, physical space, and public will, a society must prioritize what is and is not remembered. Therefore, commemoration becomes a multi-faceted negotiation between differing historical narratives on one hand and differing socio-political interests on the other.

From this viewpoint, the Expert Advisory Group (EAG) was tasked to navigate the centenary of Ireland's foundational years. In 2012, the DOC programme was launched, designed to be "...broad and inclusive, highlighting the economic and social conditions of the period, [and] the shifts in cultural norms and the experience of the Irish abroad" (Decade of Centenaries, 2020). A year earlier, the EAG was established to advise the Government on how to approach the decade, chaired by Dr. Maurice Manning. It is noteworthy that a respected Irish academic and politician was appointed to this role. The EAG, supplementing the DOC's statements, argued that "commemoration will be measured and reflective, and will be informed by a full acknowledgement of the complexity of historical events and their legacy..." and "...of the multiple identities and traditions which are part of the Irish historical experience" (Department of Culture, Heritage, and the Gaeltacht, 2015). This spirit of inclusion is molded by past commemorations of the 1916 Easter Rising, most notably the fiftieth anniversary of the Rising in 1966, which will be discussed later. Moreover, attempts to create a shared history come in the aftermath of the 1998 Good Friday Agreement, in

"It is apparent that commemoration is intrinsically linked with the past. Nevertheless, commemoration is manifested in the present, and is subject to a society's values, whether it is nineteenth-century nation-building or twenty-first century traumatic healing."

which there came a strong imperative to maintain peace on the island. This is reflected in Northern Ireland's approach to the decade, in which Paul Mullan explains that "by embracing the nuances and complexity of past events, a new understanding can emerge that may help mitigate the potential for further conflict" (Mullan, 2018). Clearly, the notion of inclusion, as well as transnationalism and intersectionality in public commemoration, arose as a result of a fear of conflict and Ireland's past experiences with historical commemoration. Was the DOC successful in orchestrating their expressed goals?

A marker of the DOC's success in tackling the issues of inclusion and transnationalism is the commemoration of the First World War and leading up to the Battle of the Somme in 2016. Until the beginning of the twenty-first century, the war was overlooked by Irish society, in what historian F.X. Martin decried as a 'national amnesia.' However, Keith Jeffery focuses on contemporary trends in First World War commemoration, such as the fact that it "...began to be drawn into a wider, more general commemoration of all Irish people who had died for war," rather than a unionist-dominated narrative prevalent in recent history (Jeffery, 2013). The war, through the unionist lens, legitimized NI's place in the British Empire. With its ultimate sacrifice at the Battle of the Somme, Ulster unionists incorporated First World War commemoration as a key part of their heritage. Meanwhile, Northern Irish nationalists viewed the war with contempt because of unionism's fervent embrace of it. During the 'Troubles'—a thirty-year sectarian conflict in Northern Ireland pitting Protestant unionists against Catholic nationalists—these antipathies were heightened so much so that Remembrance Day was a target for Provisional IRA attacks, namely the 1987 Enniskillen bombing.

Though some loyalists scoff at the 'greening' of Great War history, both Irish and Northern Irish state officials embarked on a transnational effort to paint a reconciliatory picture. First, it started with joint commemorations in continental battlefields, like in Messines in 2014, which "...demonstrated the power of using foreign locations as 'safe' spaces for Irish First World War commemoration," as Ca-triona Pennell contends (Pennell, 2017). Placed in a broader European historical context, the Republic can better grapple with its role in the war. Irish President Michael D. Higgins, in an interview on RTÉ News, notes the Republic's duty is to "be able to take all of the experience of its citizens into account" (Century Ireland, 2014). Ireland's participation in the events is premised in the wider Euro-

pean context and in the inclusion of all Irish people. As for the Irish, "there has been an unprecedented and sustained public engagement..." as "...a way of dealing with the instability of the present and future" (Pennell, 2017). By the 2010s, the public welcomed the new consensus of 're-discovery' and reconciliation as a new historical motif that colored public commemoration. In effect, this phenomenon cannot be explained wholly by a 'top-down' theory of commemoration but also with a give-and-take between levels of society.

Indeed, this sense of shared loss culminated in the state commemorations of the Battle of the Somme on 10 July 2016. In the Republic's state ceremony at Islandbridge, all Irish regimental flags, including the 36th Ulster Division, were displayed. In addition, representatives of the Northern Irish Government, like the Secretary of State and the Deputy First Minister, laid wreaths representing both unionist and nationalist traditions. In Belfast City Hall, the Irish Minister for Social Protection laid a wreath at the Cenotaph on behalf of the Irish Government (Century Ireland, 2016). The reciprocity of representation signals the island's attempt to reinforce the inclusive narrative of a shared loss, in which all can relate to the horror of the Somme's carnage. James Evershed, on the other hand, posits that "the 'sharedness' of the Irish government's



THE BATTLE OF THE SOMME COMIC: THE STORY OF WILLIAM MCFADZEAN

approach to commemoration...has not engender[ed] any meaningful reflection on the violence of [Britain's] imperial heritage..." (Evershed, 2019). This critique is not unfounded. For example, the *Creative Centenaries* graphic novel, *The Battle of the Somme*, depicts the heroism of Billy McFadzean in the trenches. Supported by the Northern Ireland Department of Culture, Arts and Leisure, the graphic novel focuses on Ulster's pride and hints at the triumphalist tone that both states supposedly sought to dampen this time around. Thus, the concept of a shared historical loss shone through in First World War commemorations, following the EAG's inclusive and globalized vision, and a brokered consensus between the Republic and Northern Ireland on historical reconciliation was widely accepted.

After the First World War commemorations, the DOC reached its peak with its remembrance of the 1916 Easter Rising and the Irish Republic's proclamation. There are two inherent historical issues with the commemoration of the Rising; (1) it was orchestrated in direct opposition to the United Kingdom, of which Northern Ireland is still part of, and (2) that it was an undemocratic, violent rebellion that ultimately achieved its goal of independence, which violates today's political norms. Nonetheless, the Rising is central to the Irish state's founding narrative. In this regard, how will the DOC programme adhere to its core tenets of inclusivity, intersectionality, and transnationalism? Rising commemoration has been marred by allegations that they were partisan in the past. For instance, the Rising's fiftieth anniversary in 1966 was commemorated in a patriotic, militarized manner. The highly-politicized events linked Irish president Éamon de Valera, the last surviving Rising leader, with his Government as they wished to cement their legacy as the bearer of Irish independence. Some even argue that the commemorations stirred the forces that would cause the Troubles a few years later. The southern Government chose to forgo official commemoration during the late-twentieth century until the ninetieth anniversary in 2006—eight years after the Good Friday Agreement. Hence, there were credible concerns about commemorating the centenary of Easter 1916.

From the onset, the EAG unequivocally stated that although they outlined a commemoration based on a multiplicity of traditions and identities, "...the State should not be expected to be neutral about its own existence" (Department of Culture, Heritage, and the Gaeltacht, 2015). The group acknowledged that there is a limit to the principles of inclusion, especially to the events of the Rising. Though it may be a noble attempt to de-politicize the Rising, the EAG soon came under government pressure to integrate the peace process into commemorations. According to the *Irish Times*, the advisory committee "...'point blank' refused a government request to use the Northern Ireland peace process as a frame of reference" (McGreevy, 2016). However, Roisín Higgins attests to the innate politics of Rising commemorations, as "Easter 1916 came to represent a moment of possibility against which all subsequent realities could be measured or on which they could be blamed" (Higgins, 2016). For their part, the EAG's resistance to the political interventions still did not prevent the Government, nor other political actors from bringing commemoration to the bargaining table.

Of course, Higgins' insight on the ideas proclaimed during the Rising as a 'measuring-stick' of progress is evident throughout several aspects of the DOC. In particular, RTÉ's dramatic production of "Centenary The Proclamation" projected what seems to be an accomplishment of the ideas enshrined in the document, showcasing the Irish people's diversity and the diaspora community. Beginning with the unfurling of the tricolor by two descendants of leaders in the Rising, the video pans into the scenic countryside and lush farmland of the island. As different people read parts of the proclamation, one notices the wide-ranging locations of the people reading it. There is certainly no coincidence that a man with an American accent, who is assumed to be Irish-American, reads "...and supported by her exiled children in America..." (RTÉ-Ireland's National Public Service Media). In essence, Higgins' analysis strikes at the heart of why so many resources were afforded to the Easter Rising commemoration. For the state, remembering the Easter Rising meant remembering how far Ireland has come since its foundation and in the realization of its ideals. Portraying a progressive, prosperous nation able to

"For the state, remembering the Easter Rising was meant to remember how far Ireland has come since its foundation, in the realization of its ideals."

embrace its history and heritage, the Irish Government was keen on underscoring the DOC's tenets of inclusivity, transnationalism, and intersectionality.

In Northern Ireland, the Rising commemorations were not as simple and proved to be a complicated negotiation between competing political actors. As demonstrated in the First World War commemorations, both the Republic and NI were committed to what John Brewer describes as “ethical remembering,” based on “truth, tolerance and trajectory” (Brewer, 2016). This is hard to do for the Rising in NI, especially for unionists, because the event's meaning is against the rationale behind the formation of the Northern Irish state. Alvin Jackson contextualizes the unionist historical interpretation, concluding that the Rising “...was not just about the safely distant history of the neighbouring state, it was also interlinked with the contemporary history and experience of Northern Ireland,” although this was not always the case (Jackson, 2018). This is why unionists have more trouble acknowledging the event, as “...they feel that honoring the sacrifices of the ‘martyrs’ of the Rising could, in fact, signal some agreement with their aim of extricating all of Ireland from the United Kingdom” (Hancock, 2019). On the other hand, Sinn Féin—the leading republican political party—is not exempt from scrutiny, as Landon Hancock points out that they “...tried to use their willingness to acknowledge [the Somme] as a platform to insist upon unionist recognition of the importance of the Easter Rising...” (Hancock, 2019). Thus, the NI republican movement effectively pin unionists against a wall when they could claim that their unionist counterparts are not holding up to the parity of esteem—their end of the bargain.

Meanwhile, Northern Irish minority republican groups created their own commemorative spaces to reaffirm their legitimacy as the “true” heir to Easter 1916. Brendan Ciarán Browne shares incredible insight on the republican groups’ divergent Rising commemorative practices, which is surprising for an event that seemed to unify the republican cause. As an example, he accounts of the groups’ choreographed dance in the Belfast republican cemetery. Interestingly, “...rather than have any ‘official’ discussion between group hierarchies...the events are organised in deference to the historical precedent set in previous years” (Browne, 2016). One can view this as a gentleman’s agreement with the ultimate aim of “...embedding an historical narrative and about keeping the unique and distinct republican politics of the individual groups alive in the public arena” (Browne, 2016). This is

the identity-reaffirming element of commemoration, pivotal to these marginalized groups’ sense of solidarity. There is no need for understanding the other side when nationalist commemoration is the lifeblood of these political groups. In this case, republican actors were crowded out of commemoration by the state, so they negotiated a partition of alternative commemorative space amongst themselves.

Although the DOC was a complicated affair in the Irish and Northern Irish political spheres, the decade accomplished great strides in an intersectional and interdisciplinary study of Irish history, whether from state-sponsored events or grassroots activism. *Century Ireland*, formed in conjunction with Boston College, RTÉ, and the

POBLAcht NA H EIREANN.
THE PROVISIONAL GOVERNMENT
OF THE
IRISH REPUBLIC
TO THE PEOPLE OF IRELAND.

IRISHMEN AND IRISHWOMEN In the name of God and of the dead generations from which she receives her old tradition of nationhood, Ireland, through us, summons her children to her flag and strikes for her freedom.

Having organised and trained her manhood through her secret revolutionary organisation, the Irish Republican Brotherhood, and through her open military organisations, the Irish Volunteers and the Irish Citizen Army, having patiently perfected her discipline, having resolutely waited for the right moment to reveal itself, she now seizes that moment, and, supported by her exiled children in America and by gallant allies in Europe, but relying in the first on her own strength, she strikes in full confidence of victory.

We declare the right of the people of Ireland to the ownership of Ireland, and to the unfettered control of Irish destinies, to be sovereign and indefeasible. The long usurpation of that right by a foreign people and government has not extinguished the right, nor can it ever be extinguished except by the destruction of the Irish people. In every generation the Irish people have asserted their right to national freedom and sovereignty: six times during the past three hundred years they have asserted it in arms. Standing on that fundamental right and again asserting it in arms in the face of the world, we hereby proclaim the Irish Republic as a Sovereign Independent State, and we pledge our lives and the lives of our comrades-in-arms to the cause of its freedom, of its welfare, and of its exaltation among the nations.

The Irish Republic is entitled to, and hereby claims, the allegiance of every Irishman and Irishwoman. The Republic guarantees religious and civil liberty, equal rights and equal opportunities to all its citizens, and declares its resolve to pursue the happiness and prosperity of the whole nation and of all its parts, cherishing all the children of the nation equally, and oblivious of the differences carefully fostered by an alien government, which have divided a minority from the majority in the past.

Until our arms have brought the opportune moment for the establishment of a permanent National Government, representative of the whole people of Ireland and elected by the suffrages of all her men and women, the Provisional Government, hereby constituted, will administer the civil and military affairs of the Republic in trust for the people.

We place the cause of the Irish Republic under the protection of the Most High God, Whose blessing we invoke upon our arms, and we pray that no one who serves that cause will dishonour it by cowardice, inhumanity, or rapine. In this supreme hour the Irish nation must, by its valour and discipline and by the readiness of its children to sacrifice themselves for the common good, prove itself worthy of the august destiny to which it is called.

Signed on Behalf of the Provisional Government,
THOMAS J. CLARKE,
SEAN Mac DIARMADA, THOMAS MacDONAGH,

FIGURE 2: PROCLAMATION OF THE IRISH REPUBLIC

Irish Government, provided an innovative tool in Irish history's public engagement. This approach towards digital history "[tried] to capture the full extent of how lives were lived in Ireland those years and not simply give the narrative of the major political and military happenings," as Mike Cronin explains (Cronin, 2017). The website offers podcasts, video interviews, archival photos, and its signature weekly newspaper, which reports on the week's events from a century ago (Century Ireland, 2020). Lauded by the Government and cultural organizations, *Century Ireland* received a warm reception by the Irish public, as deep interest in "every day" history during this period was cultivated. Remarkably, this project demonstrates an acute awareness of its own historical significance, that "it will undoubtedly be seen as a product of its time, but one that offers...a contemporary record of commemoration" (Cronin, 2017).

Another example of the DOC's intersectional approach is its initial failure to be adequately intersectional, as highlighted by the #WakingTheFeminists (#WTF) movement. After the Abbey Theatre's 2016 "Waking the Nation" repertoire featured only male Irish playwrights, a grassroots campaign mobilized to protest the lack of representation of women in Irish arts in general. A resurgence of Irish feminism in culture took hold as #WTF organizers successfully forced a nationwide reconsideration of women's role in Irish society. How can the DOC, trumpeting inclusive thematic histories, be so blind to the fact that its own advisory group is made up of a disproportionate number of men? Oona Frawley explains this phenomenon through Irish academia's proclivity for "oblivious remembering," which "...lacks awareness of or dismisses the systemic biases present in its institutional and/or official approaches to the past" (Frawley, 2021). As a result of this pushback, Irish institutions introspectively looked at its governing structures, ultimately increasing the number of women in decision-making positions, including in the EAG. On the whole, this bottom-up effort pushed state-sponsored commemoration to democratize and better represent the Irish experience, to the benefit of a more nuanced understand-

ing founded upon the Irish Proclamation's notion of equality—of "Irishmen and Irishwomen."

Lastly, the popularization of public historical engagement during the DOC should be embraced by historians, who serve as the sentinels for good history. Diarmaid Ferriter, an EAG committee member, viewed "...that in relation to commemoration, 'we [the EAG] have a duty to prevent hijacking by the government or anyone else'" (Ferriter, 2018). In his opinion, historians are not mere fact-checkers, they also carry ethical obligations to maintain integrity. However, Dominic Bryan adamantly disagrees with Ferriter's claims, saying that "the danger of using commemoration as a moment for historical engagement is that you collude with a statement of political identity..." (Bryan, 2016). Instead, he argues that social scientists, like anthropologists and political scientists, better explain commemoration. Unfortunately, Bryan's picture of history is outdated and generalized, rooted in the nineteenth-century historical method. Contemporary academic history is specialized, with themes of labor, cultural, and gender history emerging as proper historical spheres. In addition, Irish public historians have demonstrated a consistent commitment to "...create about a meaningful and considered state programme..." and "...to highlight and expose political abuses of the commemorations..." which drastically contrasts with Bryan's simple characterizations (Ferriter, 2018). After all, it would not be fair to base criticism of modern anthropology on its imperialistic, racist origins.

On the contrary, public historians must be at the forefront of commemoration, serving as sentinels against propaganda. It must be understood that "public commemoration is futile unless driven by the conviction that it will bring social dividends..." or, simply put, that history cannot be apolitical (Fitzpatrick, 2013). Even so, this should not deter historians from supporting or critiquing events publicly. The DOC has renewed public interest in Irish history, and local communities took the lead in most ceremonies. This democratized history, aided by increased open access to archival material, has made history personal for many.

Given this public platform, historians have a moral duty in twenty-first century commemoration to mold a historically-educated society.

Professional historians, therefore, should provide the contextual roadmap for the public's understanding of the centenary so that people can be guided in their historical pursuits. Given this public platform, historians have a moral duty in twenty-first century commemoration to mold a historically educated society.

In conclusion, the Decade of Centenaries has been a negotiation between varying historiographies and multiple socio-political actors. The first half of the decade has proven that public commemoration conforms to present Irish values, namely, an emphasis on inclusion, intersectionality, and transnationalism. Its multi-faceted approach, encompassing Irish culture and transnationality brings nuance to Irish history. The DOC, at times, failed to reflect its aspirations accurately, but the historians and the people pushed back and won. Nevertheless, the DOC has benefited Ireland, not because Irish history has been re-examined or re-discovered but because it has been re-imagined.

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THE DIGITAL PANDEMIC

Averting Negative Externalities of Disinformation Through Platforms

RYAN CATTICH

IN RESPONSE TO VIRAL SPREADS OF DISINFORMATION IN THE 21ST CENTURY, MOST NOTABLY IN 2020, THIS PAPER ANALYZES SECTION 230 OF THE COMMUNICATIONS DECECY ACT AS CURRENTLY WRITTEN. PRESENTLY, MUCH AMBIGUITY SURROUNDS THE ACTUAL PURPOSE AND IMPLICATIONS SECTION 230 DENOTES FOR THE UNITED STATES, AND THE WORLD. HEADS OF THE LARGEST TECHNOLOGY COMPANIES FREQUENTLY COME UNDER FIRE, CALLED UPON BY BOTH POLITICIANS AND THE PUBLIC TO COMBAT THE SPREAD OF DISINFORMATION ON THE INTERNET. IN THIS PAPER, I PRESENT AN ANALYSIS OF SECTION 230 FROM ITS INCEPTION TO TODAY, FOLLOWED BY AN EXAMINATION OF PLATFORM-BY-PLATFORM DECISIONS ON HOW TO BEST COMPLY WITH THE STATUTE. I ARGUE REVOKING SECTION 230 IS NOT A REASONABLE SOLUTION, RATHER A STATUTORY MODIFICATION COUPLED WITH HEIGHTENED INDUSTRY COLLABORATION WILL SERVE TO UPHOLD THE SECTION'S ORIGINAL OBJECTIVES SET FORTH IN 1996.

“This is the cost of disinformation” – Atul Gawande, responding to nurse Jodi Doering’s story of her COVID-19 patients’ denial of their condition¹

1. INTRODUCTION

Eight months into a global pandemic and it appears the spread of the novel coronavirus is supplemented by the spread of disinformation. One story, in particular, illustrates just that – South Dakota ER nurse Jodi Doering recounts a few days’ worth of COVID-19 patients in a Twitter thread: “The ones that stick out are those who still don’t believe the virus is real...They tell you there must be another reason they are sick. They call you names and ask why you have to wear all that ‘stuff’ because they don’t have COVID because it’s not real” (Orth, 2020). How did we get here?

Doering’s story draws a destitute parallel to developing countries. Despite effective remedies like mosquito nets and deworming pills, people in developing countries neglect to use them at large, partly citing a lack of available information, or misinformation more generally (Pulford et al., 2011). In the United States, with an abundance of readily accessible information at our fingertips, how are we, too, in a position where people neglect reality? Outside of the externalities inherent in a pandemic, widespread disinformation hinders and undermines the very integrity and the accuracy of fact. Disinformation has the potential to influence civic engagement, election results, and, most unfortunately, downstream health outcomes. In search of a remedy, we must begin at the root of the problem: section 230 of the Communications Decency Act.

In so doing, the evaluations and recommendations in this paper contribute to a literature on the effects of media and disinformation on behavior and health outcomes (Bursztyн et al., 2020; Banerjee et al., 2019a; Bursztyн et al., 2019; La Ferrara, 2016; DellaVigna and La Ferrara, 2015; La Ferrara et al., 2012; Chiang and Knight, 2011; Jensen and Oster, 2009). Prior work has revealed that media exposure can increase hate crimes (Muller and Schwarz, 2018; Bursztyн et al., 2019) and mass killings (Yanagizawa-Drott, 2014); it can also affect domestic violence (Card and Dahl, 2011; Banerjee et al., 2019b), fertility choices (La Ferrara et al., 2012; Kearny and Levine, 2015), and responses to natural disasters (Long et al., 2019).

Related to this analysis is contemporaneous work calling for a reinterpretation and a reassessment of section 230 of

the Communications Decency Act as it stands today. Lotty (2020) argues the current interpretations of the scope of section 230 immunity wrongfully deny individuals who have been sexually harassed or assaulted an opportunity to hold online services accountable for causing or exacerbating their harms (Lotty, 2020). Thus, Lotty prescribes a necessary revision to section 230 to better align with contemporary views regarding the role of the internet user and the responsibility of technology companies to deter sexual misconduct. In a similar vein, Sloss (2020) responds to the Myanmar military carrying out brutal attacks via Facebook against Rohingya Muslim communities in Rakhine State in 2017. Going further than Lotty, Sloss argues for a statutory exception in 230 to permit civil suits against internet companies on account of their alleged complicity in genocide, war crimes, or crimes against humanity (Sloss, 2020). With a civil liability exception, Rohingya plaintiffs could then bring a state tort law claim against Facebook alleging that Facebook was negligent in permitting its platform to be utilized to spark mass violence against the Rohingya in Myanmar. As the law stands today, such a case would be immediately nullified under the current federal preemption defense to state tort law claims.

Irrespective of the study, the written law, or the lack thereof, section 230 most certainly demands a statutory modification – a modification which provides a positive incentive for companies to internalize the risk prevention of disseminating misinformation on their platforms. The remainder of this paper proceeds as follows. In section 2, I provide a brief history of the Communications Decency Act, followed by a substantive overview of the clauses under section 230. In section 3, I present a platform-by-platform analysis of their prior and current efforts to prevent the spread of disinformation. In section 4, I introduce potential amendments to the current legislation, present notable downstream implications, and provide empirical evidence of disinformation as a negative externality to society. Section 5 concludes.

2. HISTORY

2.1 Inception of The Communications Decency Act

Introduced in February of 1995 by Senator James Exon, the federal Communications Decency Act (CDA) was created to combat a growing issue of extensive pornography and obscenity on the internet (Cannon, 1996). As passed, the CDA extends the “antiharassment, indecency, and antiobscenity” restrictions currently placed on telephones to

interactive computer service providers (“ICSPs”). The bill was promptly met with opposition from some lawmakers and interest groups who opposed the idea of interfering with the Internet, along with concerns that the act was a “violation of free speech and ... of the right of adults to communicate with each other” (Cannon, 1996). Opposing the CDA on the basis of these concerns, coupled with the 1995 New York Supreme Court decision *Stratton Oakmont v. Prodigy Services Co.*, representatives Christopher Cox and Ron Wyden proposed the “Cox-Wyden Amendment” to Exon’s bill, some parts of which would ultimately become section 230 of the CDA as it stands today.

In *Stratton Oakmont*, the court held that an online bulletin board service provider could be held liable for defamatory content posted by users on its platform, given that the website proactively monitored, screened, and removed offensive user content, thereby serving as an editor and publisher of all posted content and assuming legal responsibility for it (*Stratton Oakmont v. Prodigy Services Co.*, 2018). By contrast, a 1991 New York case, *Cubby, Inc. v. CompuServe, Inc.*, held that an ICSP that did not regulate third-party user content evaded liability for libel since it did not know of and had no editorial control over posted defamatory material. Astonishingly, *Stratton Oakmont* asserted that an online service that does nothing by means of monitoring for problematic content can never be legally responsible for the content of its users; in addition, a service that takes good-faith steps to screen such content subjects itself to liability (Ardia, 2010).

As a direct response, the Cox-Wyden Amendment was proposed to encourage online services to take proactive measures to improve online safety and regulate objectionable content without fear of increased liability (Ardia, 2010). Thus, this amendment allowed private ICSPs to address

the problem of online indecency, while concurrently upholding the Representatives’ policy goal of fostering the “vibrant and competitive free market that presently exists for the Internet and other interactive services” (*Stratton Oakmont v. Prodigy Services Co.*, 2018). Subsequently, Congress passed the Telecommunications Act of 1996, which included the Communications Decency Act and the Cox-Wyden Amendment – legislation presently regarded as section 230 of the CDA (Ardia, 2010).

2.2 Section 230 of the Communications Decency Act

Section 230 of the Communications Decency Act is the most significant piece of legislation regarding internet regulation, praised by commentators for allowing the Internet as we know it today to prosper. This statute largely restricts the scope of potential liability for interactive computer service providers based on content transmitted by third-party users of the service and an ICSP’s good-faith actions to limit access to objectionable material transmitted by users. The ICSP definition extends to “any information service, system, or access software provider that provides or enables computer access by multiple users to a computer service,” which includes most websites and Internet-based apps (*Stratton Oakmont v. Prodigy Services Co.*, 2018).

As written, section 230 bears the name “Protection for private blocking and screening of offensive material” (*Stratton Oakmont v. Prodigy Services Co.*, 2018). Section 230(b) lists the policy objectives, which include: promoting the continued development of the Internet, preserving the free market that is the Internet, spurring technological innovation that maximizes user control, eliminating “disincentives for the development and utilization of blocking and filtering technologies,” and guaranteeing the enforcement

"[Section 230 of the Communications Decency Act] largely restricts the scope of potential liability for interactive computer service providers based on content transmitted by third-party users of the service and an ICSP's good faith actions to limit access to objectionable material transmitted by users."

of federal online security laws (*Stratton Oakmont v. Prodigy Services Co.*, 2018). Section 230(c) sheds light on what constitutes “Good Samaritan” neutral actors and publishers online. Below the heading “Protection for ‘Good Samaritan’ blocking and screening of offensive material,” section 230(c)(1) states: “No provider or user of an interactive computer service shall be treated as the publisher or speaker of any information provided by another information content provider” (*Stratton Oakmont v. Prodigy Services Co.*, 2018).

Successively, section 230(c) safeguards civil liability for any “provider or user of an interactive computer service” given “any action voluntarily taken in good faith to restrict access to or availability of material that the provider or user considers to be obscene, lewd, lascivious, filthy, excessively violent, harassing, or otherwise objectionable,” irrespective of if such material is protected by the constitution (*Stratton Oakmont v. Prodigy Services Co.*, 2018).

Overruling *Stratton Oakmont*, this legislation issues ICSPs that make bona fide efforts to monitor and screen content immunity from legal actions based on user content generated or transmitted on their platforms. Nevertheless, the Act explicitly does not permit ICSP immunity from liability for specific offenses: violations of federal criminal law, communications privacy law, intellectual property law, and federal sex trafficking law (*Stratton Oakmont v. Prodigy Services Co.*, 2018).

However, not included in the legislation: what constitutes such bona fide voluntary action, which explicit actions separate platforms from publishers, and how these specific, yet ambiguous policy goals can be *efficiently* achieved.¹ At present, courts are progressively interpreting section 230 to broadly restrict the scope of potential civil and state law liability for ICSPs, thus fostering a safe environment for web-based corporations against a multitude of claims. How those companies do so is, evidently, up to them.

3. PLATFORM-BY-PLATFORM EVALUATION

As of now, technology companies and media platforms are left to self-regulate, experimenting on their own with various moderation strategies and models of platform governance. Essentially, individual companies are tasked with not only aligning their platform objectives with the needs of their users but to promote the principles of the common good as well.

3.1 Twitter

In an interview with *Boston College Magazine*, Colin Crowell, former vice president of global public policy and corporate philanthropy at Twitter, discusses the ramifications of Twitter flagging one of Donald Trump’s tweets for the first time (Figure 1). Signaling a new approach to combatting disinformation, Crowell asserts that “navigating the emerging and evolving online terrain of disinformation to protect the integrity of vital civic conversations, without succumbing to excessive censorship, is critical to safeguarding the internet as a vibrant platform for human expression” (Tempera, 2020). Here, Crowell echoes Twitter CEO Jack Dorsey’s overarching commitment to serving the public conversation. Although Twitter does not have an explicit policy on general disinformation, Twitter does present specific guidelines and policies on the following areas: violent threats policy, glorification of violence policy, platform manipulation, synthetic and manipulated media policy, and, most notably, civic integrity policy.

According to Crowell, “when you have a platform as large as Twitter, it is important to recognize when there is a need to help users understand what they are viewing with additional context,” and Twitter’s civic integrity policy does just that (Tempera, 2020). Updated in October of 2020 ahead of the presidential election, Twitter asserts they will “label or remove false or misleading information about how to participate in an election or other civic process” (Twitter, 2020). This policy includes but is not limited to posting or sharing content that may suppress participation or mislead people about when, where, or how to participate in a civic process. Further, Twitter explicitly commits to removing and labeling false or misleading information intended to intimidate or dissuade people from participating in a civic process, in conjunction with any intent to undermine public confidence in an election. On the same webpage, Twitter includes the subheadings: “What is not a violation of this policy?”; “Who can report violations of this policy?”; and “What happens if you violate this policy?” (Twitter, 2020). Thus, Twitter makes it abundantly clear both the ramifications and the qualifications of their policy violations in an effort to transparently combat negative externalities to society. But is Twitter doing to prevent the spread of disinformation with this approach?

In defense of Twitter’s civic integrity policies, Crowell praises the decision to take action. The flagging feature, according to Crowell, “provide[s] a screen that [says], basi-

cally, this tweet is in violation of Twitter rules, but it is remaining on the service in the public interest,” as figures like Donald Trump are democratically elected heads of state (Tempera, 2020). Firmly, Crowell asserts that “Twitter can and should take action when online speech risks offline harm,” touching on negative societal externalities like disenfranchising voters and downplaying risks of COVID-19 (Tempera, 2020). Previously, Twitter only had the binary choice of either removing a tweet or leaving it up; now, Twitter allows journalists and the public to comment, links access to factual information, and takes steps to limit the ability of content to reach viral spread (Tempera, 2020). In accordance with section 230, simply flagging tweets does not invoke publisher status on Twitter’s behalf; however, Twitter begins to stray from the comfort of the “neutral actor” position.² The existence of such policy pages represents an act in good faith on part of Twitter to screen for objectionable content, thus shielding them from civil and state liabilities. Nevertheless, Twitter is well within its right as an ICSP to prohibit attempts to use its services to manipulate or disrupt civic processes, along with distributing false or misleading information.

3.2 Facebook

In a testimony before the United States Senate Committee on the Judiciary, Facebook CEO Mark Zuckerberg verbalizes Facebook’s mission to “give people the power to build community and bring the world closer together” (Testimony of Mark Zuckerberg Facebook, Inc., 2020). Zuckerberg touts that Facebook removed false claims about civic processes and displayed more than 150 million warnings on posts, after review by independent third-party fact-checkers (Testimony of Mark Zuckerberg Facebook, Inc., 2020). However, in response to Twitter’s fact-check labels, Zuckerberg takes a different approach, “[believing] strongly that Facebook shouldn’t be the arbiter of truth,” in an interview with Fox News (Halon, 2020). Nevertheless, Facebook, too, makes an explicit commitment to stop the spread of misinformation.

Under the heading, “Working to Stop Misinformation and False News,” Facebook makes its objectives clear in fostering accurate information on its platform. Specifically, focus is given to three areas: disrupting economic incentives, building new products, and helping people make more informed decisions (Facebook, 2020). Citing financial motivations behind fake news, Facebook commits to removing the economic incentives for traffickers of misinformation – doing so through third-party fact-checking organizations, strict enforcement of their policies, and applying machine learning to assist response teams (Facebook, 2020). Reinforcing Zuckerberg’s stance against becoming arbiters of truth, Facebook is “building, testing and iterating on new products to identify and limit the spread of false news,” engaging with their community “Oversight Board” to elicit help in fact-checking (Facebook, 2020). In doing so, Facebook is explicitly making bona fide efforts to screen for misinformation, upholding an impartial position, rather than a publisher position in working with external, unbiased groups. Through the “News Integrity Initiative,” Facebook is pulling together over 25 funders and participants, including tech industry leaders, academic institutions, non-profits, and third-party organizations, to help people make informed judgments about what they read online.³⁵ As a result of this initiative, Facebook positions itself to advance global news literacy, bolster trust in journalism, and better inform the public conversation.

Irrespective of hate speech and promotion of violence violations, Facebook takes a hands-off approach to content moderation. Per the “Community Standards” page, Facebook makes its position clear: “We want to help people stay informed without suppressing productive public debate,” justifying the rationale behind not removing fake news from the Platform (Facebook, 2020). Rather, Facebook makes good faith efforts to reduce the circulation of misinformation by adjusting their algorithms so as to “display [fake news] further down in the news section,” thus averting viral spread (Facebook, 2020). Essentially, Facebook encourages users to decide for themselves what to read,

“Voluntary action superseded by profit in no way advances the effort on combatting the spread of misinformation; thus, there must be a disincentive to the 1 step forward, 2 steps back approach.”

what sources to trust, and what content to post, all the while attempting to not overstep their boundaries as a neutral actor.

3.3 YouTube

In the time leading up to the 2020 presidential election, a YouTube ad likening Democratic nominee Joe Biden to Venezuelan socialism circulated in the state of Florida (Donald J. Trump, 2020). Despite a published fact-check by the Associated Press, YouTube showed the ad more than 100,000 times in the eight days leading up to the election (Merrill & McCarthy, 2020). Trump went on to win the state of Florida by roughly 375,000 votes – the largest margin in a presidential election there since 1988 – and carried about 55% of the Cuban American vote (Merrill & McCarthy, 2020). In retrospect, this ad illustrates key gaps in the policing of misinformation by Google, the parent company of YouTube; while nominally prohibiting false claims in advertising, Google rarely takes down political ads (Google, 2020).

However, YouTube takes a more nuanced approach to this issue. Per the “How does YouTube combat misinformation” page, YouTube engages a range of practices: removing content in violation of policies, raising up authoritative sources for news and information, and reducing recommendations of borderline content and harmful misinformation (YouTube, 2020). In an attempt to satisfy the voluntary action conditions of section 230, YouTube algorithms go as far as to not proactively recommend content that comes close to violating Community Guidelines; thus, taking action to limit the spread of disinformation. To determine what qualifies as “harmful” misinformation, YouTube states that they consult “external human evaluators” and experts to determine whether content promotes unsubstantiated conspiracy theories, or inaccurate information – reviewing “hundreds of thousands of hours” of video each day (YouTube, 2020). Unarguably, YouTube explicitly makes commitments and takes action to remove objectionable content, within their rights as an ICSP. Despite these articulated commitments, no capacity exists in which YouTube can be held accountable for defaulting on their expressed promises on deterring misinformation.

Circling back to the YouTube ad; if the Associated Press fact-check does not qualify as an external expert evaluation on unsubstantiated conspiracy theories, what does? Negating their own policy, company spokeswoman Charlotte Smith claims that the campaign ad “does not violate our

policies...and we’re not going to attempt to adjudicate every claim or counterclaim” on the platform (Merrill & McCarthy, 2020). Albeit not a direct violation of section 230, this event underscores the urgent need for companies to be held accountable for what spreads on their platforms, rather than merely relying on an honor system for efficient platform governance. Given people watch over a billion hours of video any given day on YouTube, financial incentives could be a driving force behind the platform falling short of enforcing its policies (“Press - Youtube”, 2020). In 2020 alone, the Trump campaign spent \$106 million – \$37.2 million in the last month of the campaign – on both YouTube and Google search ads alone (Thompson, 2020). Incalculable, however, is the effect running these ads had on disenfranchising and dissuading potential Latin American voters in the state of Florida. With tens of millions of dollars in prospective ad revenue on the line, the clauses currently set forth under section 230 do little to counter any perverse commercial incentives at companies like YouTube. Thus, although YouTube makes voluntary efforts to publish their commitments like Twitter and Facebook, the commitments themselves appear vague and uncorroborated by decisive action.

3.4 Google

In 2019, Google was heavily criticized in a 2019 Senate Investigation for its role in spreading misinformation during the 2016 presidential election (Wells, 2019). In October of that same year, a Senate Intelligence Committee released a report describing just how fast misinformation can spread on the platform; just days after the 2016 election, a false news story claiming that Trump had won the popular vote ranked higher on Google than accurate stories (Cassady, 2020). Although a mixed bag in its history with politics, Google’s present-day initiatives to combat the spread of misinformation are centered around fact-checking.

Specifically, the “Google News Initiative” (GNI) is supporting “First Draft,” a nonprofit protecting communities from harmful misinformation, with a \$6.5 million grant (Mantzaris, 2020). With an immediate focus on coronavirus information, the funding goes directly to fact checkers fighting misinformation around the world. In response to misinformation circulating about COVID-19, Google is supporting journalism fellowships at Stanford University to “collate data from around the world and help journalists tell data-driven stories that have [an] impact in their communities” (Mantzaris, 2020). Additionally, Google says it

"There will always be somewhat of a tradeoff between disappointing people and promoting the common good."

has made Google Trends data available in “localized pages with embeddable visualizations,” in an effort to help journalists understand and meet people’s information needs around the world. However, despite the promise of these initiatives, they appear reactionary. In March of 2020, the Global Disinformation Index found that 1,400 sites spreading COVID-19 misinformation earned a collective \$76 million in ad revenue, with the vast majority coming from Google (Figure 2). Thus, Google seemingly understands the dilemma: they can take down a conspiracy theorist’s YouTube channel for making false claims about COVID-19; however, continuing to run ads on the website negates the entire purpose. Voluntary action superseded by profit in no way advances the effort on combatting the spread of misinformation; hence, there must be a disincentive to the “1 step forward, 2 steps back” approach.³

4. PROPOSALS AND IMPLICATIONS

Passing judgment on the regulation of free speech entails a balancing act, as Zuckerberg calls it, “of competing equities” (Testimony of Mark Zuckerberg Facebook, Inc., 2020). In some cases, the right thing to do from a safety or security viewpoint is not the most ideal for privacy or free expression; thus, there will always be somewhat of a tradeoff between disappointing people and promoting the common good.⁴

Deciding upon such tradeoffs is anything but straightforward and passing down this moderation to individual companies raises much ambiguity surrounding the enforcement of section 230. Given the relative ease of switching between platforms, augmentation of the statute is of the uttermost importance – working with technology companies, rather than against them.

4.1 Statutory recommendations

First, Congress should create a statutory exception in section 230(c) that permits civil liability against any ICSP’s complicity in the spread and circulation of disinformation. Not uncommon, last year lawmakers passed a bill that added a new exception to section 230 that positions platforms to be liable for any third-party content that facilitates sex trafficking (Romano, 2018).

In addition to modifications in this clause, section 230(c) must unambiguously specify what constitutes “any voluntary action taken in good faith” to provide clear guidance to all ICSPs on the explicit steps they must take (Stratton Oakmont v. Prodigy Services Co., 2018).

Parallel to Sloss (2020) in his push to hold companies accountable for complicity in mass genocide, a statutory exception that withdraws civil liability could also work in internalizing the negative externalities of disinformation. Under section 230(c), such an exception to liability would arise in the case that a company fails to prevent transmission of inaccurate information if that information: a) would be understood by ordinary readers as incitement or inducement to mislead or suppress people of factual information and the written law; and b) there is a significant risk that any recipient of the inaccurate information is exposed to harm. The statute should also include a duty for companies to remove such content within the 24-hour time frame since the content’s inception. Nevertheless, the statute should continue to preserve immunity from civil liability for any company that makes a reasonable, bona fide effort to comply with content removal, but is unable to do so for a justifiable reason. To do so, however, such bona fide efforts must be clearly defined in section 230(c).

Between Facebook and Twitter alone, the approaches to taking preventative steps in combatting misinformation are noticeably different. On the one hand, flagging violations and linking them to factual journalism raises concerns of anti-conservative social media bias; however, there is currently no evidence to support this exists (Ingram, 2019). On the other hand, allowing users to simply decide for themselves what to read does little by means of taking tangible, good faith steps in countering false information. Ideally, it is the work of journalists to hold those in power accountable and to provide context to readers; however, given the scale of platforms like Twitter and Facebook, the clauses in section 230 must recognize the need to take action. Thus, to define what proper good faith action is in practice, the legislation should mandate aspects of both the Twitter and Facebook approaches in outlining what such voluntary steps look like for all ICSPs. The approach should: require companies to take action to

limit the ability of disinformation to go viral through algorithmic modifications, flag inaccurate information linked to third-party fact checks, and allow content to be seen such that people can debate it, support it, refute it, or dissect it, and do so publicly.⁵

4.2 Consequential incentives

An exception to section 230 that withdraws liability from companies that perpetuate disinformation could have a preventative effect by providing a positive incentive for companies. Typically, the *mens rea* for civil liability is a negligence standard, rather than specific intent. Such a negligence standard would incentivize companies to adopt sensible measures to inhibit third parties from violating their community guidelines and policies on misinformation. In fact, given the global reach of major platforms like Twitter, Facebook, and Google, these companies arguably have greater power to prevent negative externalities to society than do some national governments.

One could argue that ICSPs do not need additional incentives to limit users from posting inaccurate information because they have already taken steps to address the problem. For example, after hearing about violence in Myanmar, Facebook removed accounts associated with the Myanmar military and hired Burmese language speakers to monitor content (Ellis-Peterson, 2018). However, Facebook did not take such actions until *after* users in Myanmar already used the platform to spark genocidal violence (Stecklow, 2018). Thus, a federal statute subjecting companies to potential civil liability would incentivize companies to act proactively to prevent harms before they occur, rather than issuing reactionary responses. To avoid liability, companies would need, among other things, to hire teams to specifically monitor objectionable content; hence, the liability risk provides a financial incentive for companies to incur that cost to avoid future adverse judgments. Without such an incentive, ICSPs would neglect to incur the costs of risk prevention until after it is too late.

Additionally, we can leverage aspects of behavioral theory in order to “nudge” platform users into taking their *own*

steps in combatting the spread of disinformation.⁶ In the introduction to their book *Nudge*, Thaler and Sunstein present a nudge as “any aspect of choice architecture that alters people’s behavior in a predictable way without forbidding any Options” (Thaler & Sunstein, 2008). Such an intervention closely mirrors what Twitter already does: flagging tweets in violation of its community guidelines, nudging users to follow the link to accurate information. As Thaler and Sunstein put it, “Putting the fruit at eye level counts as a nudge. Banning junk food does not” (Thaler & Sunstein, 2008). Twitter, through flagging, places accurate information at eye level, rather than banning it altogether. Along with linking accurate information, Twitter can also leverage advancements in machine learning in order to curate feed algorithms in such a way that presents information in an objective, unbiased manner. In totality, such behavioral nudges demand more in the way of freedom of choice and less so in the way of government constraint and compulsion.

4.3 “Revoke 230” is *not* the solution

As recently as December 2020, President Trump threatened to veto an annual defense bill unless Congress revoked section 230 of the CDA (Brandom, 2020). Just one year prior, in December of 2019, now president-elect Joe Biden, in an interview with *The New York Times*, said “section 230 should be revoked, immediately should be revoked, number one” (The New York Times Editorial Board, 2020). Given the Communications Decency Act is now over 20 years old, lawmakers are trying to amend the statute to best align with present-day needs; simply put, all-out revoking section 230 is not the solution.

Above all, section 230 serves one main purpose: protecting ICSPs from the liability for the speech of others on their platforms. If it were to be revoked, former Twitter VP Crowell suggests doing so “creates a dilemma for the companies because they would have to over censor and start taking down anything that might remotely run a liability risk,” noting it would cause a ripple effect in the timeliness of the internet (Tempera, 2020). Thus, before any content could be posted on an ICSP, it would essentially

“Revise, revoke, repeal — whatever ‘R’ word you choose — the debate over the future of section 230 boils down to one, simple idea: the law exists to protect people.”

have to be approved by lawyers, having the involuntary effect of making the largest companies more powerful. Larger companies, like Twitter and Facebook, have the financial means to afford legal teams; as Crowell puts it, “it would really create a mess” (Tempera, 2020).

Section 230, albeit not perfect, is essential to allowing platforms to exist while still within their discretion to do some moderation. Protecting everything from Facebook and YouTube to the recently rebranded 8chan, the central point of section 230 is to provide platforms with the certainty that they can adopt specific, good faith moderation practices that users deem necessary without fear of liability. Without this statute as it stands today, the entire internet environment would look vastly different, some platforms shutting down and others stopping moderation altogether.

4.4 Empirical evidence for a negative societal externality

“We’re not just fighting an epidemic; we’re fighting an infodemic” – Dr. Tedros Ghebreyesus, WHO Director-General 170

Reforming section 230 to account for disinformation draws reasonable skepticism. Notably, Matthew Waxman, a professor at Columbia Law School and specialist on national security law, states that “Disinformation is a broad category that’s tough to define, and resulting liability for its harms is very uncertain,” suggesting that there is some ambiguity to the negative externalities (Inside Cybersecurity, 2020). Waxman’s skepticism is mainly centered around disinformation as it relates to foreign campaigns; however, domestic disinformation “campaigns” pose real, calculable effects on the health and safety of U.S. citizens.

Bursztyn et al. (2020) presents the effects of news coverage of COVID-19 by the two most widely viewed cable news shows in the United States, *Hannity* and *Tucker Carlson Tonight*, on viewers’ behavior and downstream health outcomes (Bursztyn, 2020). Carlson warned viewers about the severity of COVID-19 from early February, while *Hannity* originally dismissed the associated risks before incrementally adjusting his position in late February. Via constructed epidemiological models, as exhibited in Appendices C and D, different effect sizes provide empirical evidence that misinformation is an important mechanism driving the observed effects on increased cases and deaths. Given notable, inherent externalities in a pandemic, misinformation may have detrimental effects far beyond those on viewers themselves by affecting disease transmission

trajectories in the broader population (Bursztyn, 2020). Although confined to television networks, this study sheds light on the potential effects media platforms have by disseminating misinformation, as exacerbated during a pandemic. Hence, misinformation on mass media of any kind can and does have empirically calculable consequences to society at large.

5. CONCLUSION

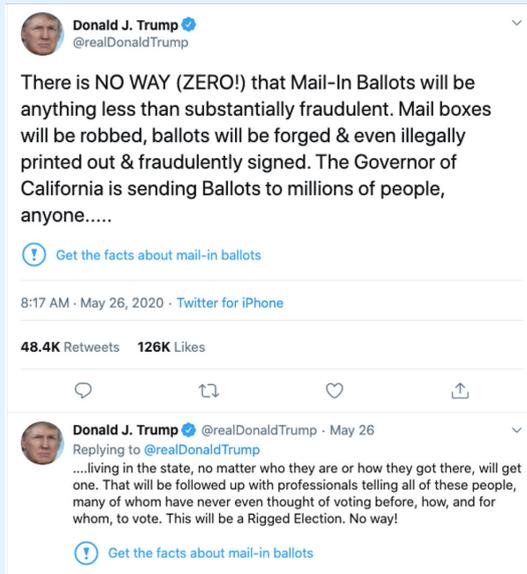
Revise, revoke, repeal – whatever ‘R’ word you choose – the debate over the future of section 230 boils down to one, simple idea: the law exists to protect people. How can we, as lawmakers and policy drafters, orient the clauses of section 230 such that the statute exists to protect *all* people? Looking forward, Congress must: a) enact a statutory exemption in section 230(c) that permits civil liability for any platform’s complicity in the spread or harboring of disinformation; and b) unambiguously define and recommend good faith steps all ICSPs can put into practice.

Integral to the main objectives of a section 230 modification is to ensure more reliable and truthful content appears, spreads, and lives on online platforms. It would be wrong to assume this is solely a debate over the future of free speech; thus, pleas to revoke section 230 in its totality are both unsubstantiated and grounded in misaligned priorities. Platforms like Facebook and Twitter, for example, are aggressively taking action to suppress the spread of disinformation; however, they are plagued by the subjectivity of their own policy decisions. Hence, there exists a deep desire for heightened collaboration and information sharing between the tech and social media industries and the U.S. government. In the very near future, the path of least resistance in determining how the internet should be governed is to solve these tensions and ambiguities together as a society, in a way people feel is both reasonable and equitable. To do so, lawmakers must continue to invite input from technology companies, citing their individual moderation approaches, as well as input from the public in order to make progressive strides in the forthcoming year.

SUPPLEMENTARY APPENDIX

Appendix A

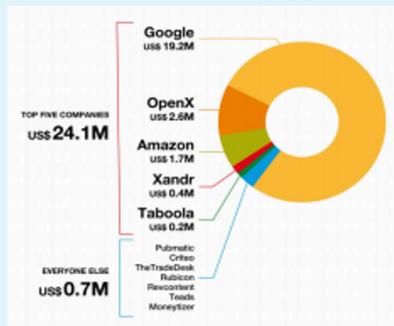
Figure 1: May 26, 2020 tweets made by Donald J. Trump



Notes: Pictured above is the first instance of Twitter flagging tweets made by the President of the United States. Marked with the label “Get the facts about mail-in ballots,” users, upon clicking, are taken to a “Twitter Moments” page, which links articles and tweets from journalists and experts that debunk misinformation claims. Brad Parscale, the Trump Campaign manager, labeled this action as a blatant display of Twitter’s political bias.⁷⁵

Appendix B

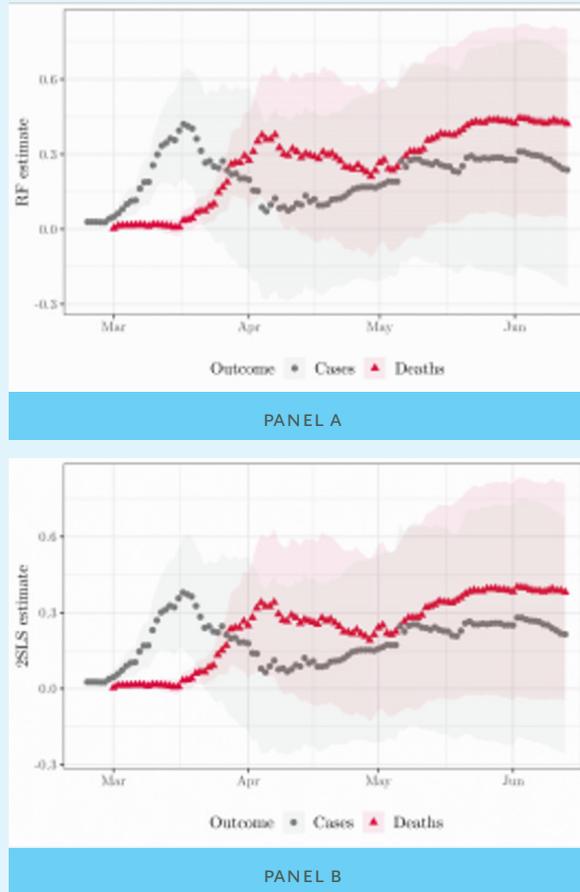
Figure 2: Share of ad revenues generated from COVID-19 disinformation sites



Notes: The top three companies shown (Google, OpenX, and Amazon) generate 95% of the ad revenues to the site in the sample. Google ad services alone delivers \$3 out of every \$4 that these sites earn in ad revenues. Important to note: for Google, the ad shares and revenues for Google AdSense/AdX and Google DFP have been combined.

Appendix C

Figure 3: Reduced-form and 2SLS estimates of effect of differential viewership on cases and deaths (extended)

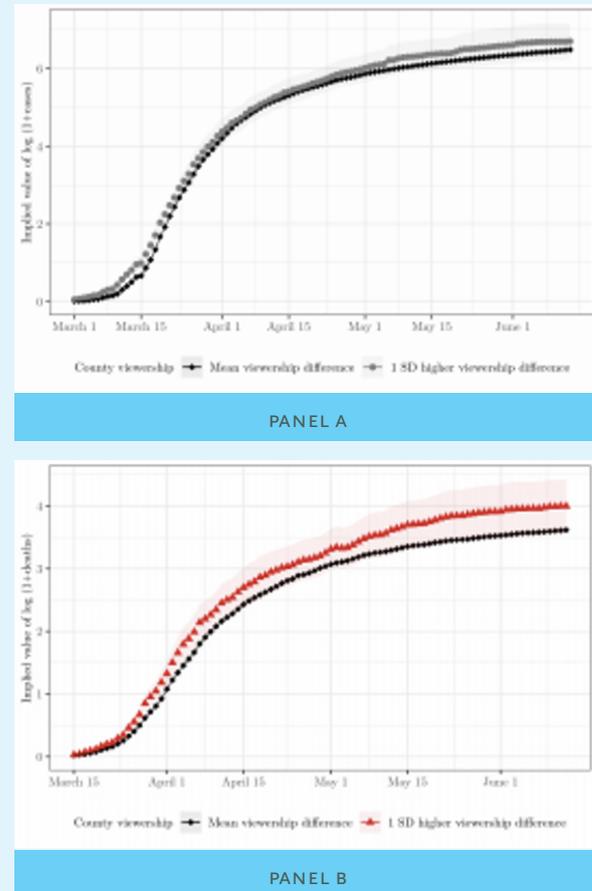


Notes: Figure 3 displays day-by-day reduced form (Panel A) and 2SLS (Panel B) estimates on log one plus cases and log one plus deaths. Panel A portrays day-by-day effects of the instrument, FoxShared, on log deaths and log cases, conditional on state fixed effects and a large set of controls: Fox News’ and MSNBC’s share of cable in January 2018, Fox News’ share of television in January 2020, the population density of the country, the log of the country’s

total population, the number of predicted TV's turned to non-Fox channels during Hannity, Tucker Carlson Tonight, and The Ingraham Angle, the population-weighted latitude and longitude, the percent in the country living in rural areas, the percent white, Hispanic, and black, the percent over the age of sixty-five, the share of men and women lacking high school degrees, the share of men and women lacking college degrees, the fraction of the population lacking health insurance, an age-adjusted measure of the average physical health in the county from 2018, the percent under the federal poverty line, log median household income, the unemployment rate, the 2016 Republican vote share, and the log total number of votes cast in 2016. Panel B presents day-by-day effects of the standardized difference in viewership of Hannity vs. Tucker Carlson Tonight, instrumented by FoxShared and controlling for state fixed effects and the same set of covariates as in Panel A. Standard errors are clustered at the DMA level and report 95 percent confidence intervals.

Appendix D

Figure 4: Implied COVID-19 curves



Notes: Panel A of Figure 4 plots, in black, the logarithm of (one plus the) mean number of cases in each day across all counties. In gray, the figure plots the implied counterfactual values (based on the 2SLS estimates) for a county with one standard deviation higher viewership difference between Hannity and Tucker Carlson Tonight. Panel B replicates Panel A, taking log one plus deaths as the outcome rather than log one plus cases. This is presented with 95 percent confidence intervals on the counterfactual estimates. Standard errors are clustered at the DMA level.

ENDNOTES

1. Here, “efficiency” denotes the completion of the core objectives: promoting further development, preserving the free market of ideas, allowing for innovation concurrent with user control, and to do so in a manageable, secure way. But, in a way least reminiscent of George Orwell’s “Big Brother” in 1984, yet still prevents the negative externalities of disinformation.
2. Important to note, commercial entities should not have the role of determining what constitutes fact over falsehood online. Linking factual articles to tweets gives rise to a multitude of ethical considerations regarding information and perspective biases, beyond the scope of this paper.
3. Evaluating platforms like Reddit and Yelp, for example, are key for future study on this issue, yet are outside the scope of this paper.
4. Again, ethical considerations arise when the onus falls upon companies, or any governing body, to determine the “right” thing to do. In a way, defaulting to the individual companies on platform moderation serves to limit the role and presence of government in our everyday lives.
5. For possible future study, it would be of importance to evaluate the various court interpretations of the term “publisher,” as it either relates or differs from the term “platform” in both legal provisions and court decisions.
6. The nuances behind both qualitative and empirical behavioral theory are crucial to examine in the context of this topic; however, they exist outside the scope of this paper.

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NEUROMORPHIC COMPUTING

Explaining how Projected SNN Training will Largely Impact our Interactions with Technology

WILL RIHERD

IN THE FACE OF INCREASINGLY LARGE COMPUTATIONAL DEMANDS AND THE IMPENDING HALT TO MOORE'S LAW, THE SEMICONDUCTOR INDUSTRY HAS BEEN FORCED TO RE-EVALUATE THE TRADITIONAL COMPUTING PARADIGM. CENTRAL TO THIS RE-EVALUATION HAS BEEN THE NOVEL DEVELOPMENT OF NEUROMORPHIC COMPUTING—AN APPROACH THAT, AT ITS CORE, SEEKS TO REPLICATE THE BRAIN IN SILICON. DESPITE CHALLENGES ON THE ALGORITHMIC FRONT, NEUROMORPHIC COMPUTING PROMISES A MASSIVELY PARALLEL, EFFICIENT, AND SCALABLE COMPUTATIONAL SOLUTION WITH LARGE IMPLICATIONS ON THE DAILY LIVES OF CONSUMERS. THE FUTURE OF THE TECHNOLOGY, HOWEVER, IS UNCERTAIN. WITH THE RISE OF HIGH PERFORMANCE AND QUANTUM COMPUTING AS PROMISING ALTERNATIVES, THE SEMICONDUCTOR INDUSTRY AT LARGE MUST CONSIDER THE EXTENT TO WHICH NEUROMORPHIC COMPUTING CAN EMERGE AS A VIABLE AND FEASIBLE SOLUTION IN THE COMING YEARS. IT IS VITAL, THEREFORE, TO UNDERSTAND THE THEORETICAL UNDERPINNINGS OF THE NEUROMORPHIC APPROACH AND PREDICT THE LIKELIHOOD OF ITS IMPLEMENTATION WITHIN THE NEXT DECADE.

INTRODUCTION

The human brain's efficiency has long fascinated scientists. From dynamically remapping neural connections to strategically limiting its conductive operations, the brain is able to process information at an unparalleled baseline state of 20 watts. It is no surprise that computer engineers at Intel and IBM are imagining a new era of computing inspired directly by neurobiology. While nascent in development, *neuromorphic computing* represents a fundamental digression from the way we think about traditional computers. It is, at its core, the novel attempt to replicate the brain in silicon—one that researchers hope will result in dynamic, strategically efficient, massively parallel systems that will redefine the way we interact with technology.

OVERVIEW, HISTORY, AND STATUS

Overview and History

Neuromorphic computing can be generalized as a method of computer engineering that is inspired directly by the human brain.¹ Neuromorphic computing was originally conceived in the 1980s by Caltech electrical engineering and computer science professor, Carver Mead.² It seeks to match the brain's efficiency and adaptability with an asynchronous approach to computer processing that fundamentally digresses from the traditional von Neumann computer architecture (i.e., the original separation of the central processing unit and memory on a chip).³ Rather than isolating these functions, neuromorphic computing combines processing and storage on individual "neurons." The resulting neurons are then characterized by both independence and connectivity: neurons are capable of firing *independently* of others, though they are selectively *connected* to neighboring neurons in the network.⁴ The outcome is parallel, asynchronous processing with an efficient flow of information.⁵ Neuromorphic computing, therefore, mirrors the brain in three key ways: 1) a consolidation of processing and memory, 2) selective mapping of neurons, and 3) massive parallelism.

It is important to note that neuromorphic computing is a *hardware* solution to meet a *software* demand. Specifically, neuromorphic chips are designed for the efficient performance of spiking neural networks (SNNs)—a novel algo-

rithmic approach that deviates from typical artificial neural networks (ANNs). SNNs are unique in that they 1) are not characterized by fully connected layers and 2) incorporate a temporal component; each "neuron" connects sparsely, and information is processed via a neuron's spike and the *timing* of each spike.⁶ The key result of the SNN architecture is that the network does not move one layer at a time (Pfeiffer and Pfeil). A given spike can propagate to higher layers without waiting for lower layers to be evaluated in their entirety, meaning salient information reaches the output layer quicker.⁷ While there are arguments over whether SNNs are preferred over traditional deep learning models, this paper focuses on the fact that event-driven, asynchronous SNNs stand in stark contrast to the sequential and central processing of data characterized by the traditional von Neumann architecture. In other words, SNNs do not run well on existing computer hardware, resulting in the need for a novel chip *specifically* designed for SNNs.

Current Status

While the original concept of neuromorphic computing emerged in the 1980s, the recent rise in neuromorphic research is largely the result of the perceived end of Moore's Law and the increasingly large computational demands of advanced software.⁸ Intel has emerged as a key player in such research, introducing its neuromorphic test chip, Loihi (pronounced Lo-ee-hee), in 2017.⁹ Despite remaining in the research phase, Intel has made significant progress incorporating the Loihi chip into progressively large neuromorphic systems. The largest to date is Intel's 2019 Pohoiki Springs with 768 chips.¹⁰ Intel has also established the Intel Neuromorphic Research Community (INRC)—a collaborative, interdisciplinary consortium of academic, government and industry organizations to advance neuromorphic research. The goal is to provide access to the Loihi test chip in order to refine and progress the company's research into a scalable, commercially viable product.

PREDICTIONS

Short Term (0-5 Years)

In the near future it is expected that 1) resources dedicated to neuromorphic research will increase, 2) neuromorphic computing will continue to show promising results in novel edge applications, and 3) the field will remain limit-

“Neuromorphic computing...is, at its core, the novel attempt to replicate the brain in silicon.”

ed on the algorithmic front. In terms of research and resources, in October of 2020, Intel announced a three-year contract with Sandia National Laboratories (a government nuclear research lab) to advance neuromorphic computing beyond edge applications to progressively complex computational problems. The result will be the development of increasingly large neuromorphic systems with the intent of integrating over one billion neurons. Creating a system with such neural capacity exhibits moderate uncertainty in the short-term. Given a) the progress Intel has made when it comes to scaling Loihi and b) the difficulty of integrating an increasingly large number of neurons, the project has an uncertainty factor of around two on the low- and high-end (i.e., the system will be developed within one half to two times the expected implementation time frame). Neuromorphic computing will also experience strong research in edge applications (particularly energy efficient robotics) as members of the INRC continue to deploy Loihi in real-time audio and video processing tests.¹¹

While Gartner predicts that traditional computing will hit a wall in 2025 (specifically mentioning neuromorphic computing as the leading technology for a shift in the computing paradigm), it is unlikely that a robust commercial product will be available within the next five years due to software limitations. Unlike traditional ANNs, SNNs lack a learning algorithm when it comes to parameter optimization: it is impossible to use gradient descent given the non-differentiable nature of spiking neurons (Soni).¹² Yann LeCun, the head of AI at Facebook, is a leading skeptic when it comes to neuromorphic implementation, writing that it is “premature to build a chip” when SNNs face a fundamental training challenge.¹³ There is also skepticism regarding the performance of the underlying SNNs; specifically, skeptics point to the fact that SNNs do not outperform ANNs (e.g. Convolutional Neural Networks) when it comes to traditional tests of image recognition (Pfeiffer and Pfeil).¹⁴

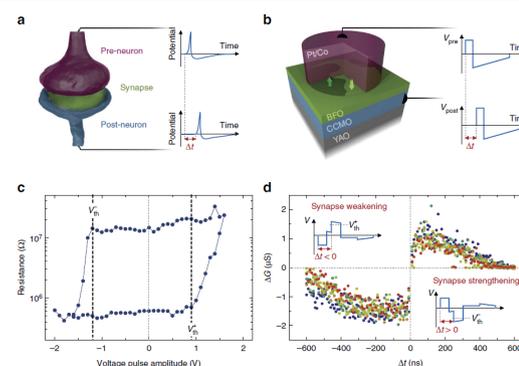
Medium Term (5-10 Years)

While SNNs currently face learning challenges, it is expected that within the next five to ten years, researchers will develop novel and efficient approaches to SNN training. Current advancements have largely been focused on implementing a form of transfer learning (i.e., a process by which parameters are optimized in one “place” and transferred to a new “place”). In March of 2019, Terry Sejnowski of The Salk Institute of La Jolla and his team were able to train a standard recurrent neural network (RNN) via gradient descent methods and transfer the

learned parameters to an SNN (Tiernan, “Neuromorphic computing finds new life”). While parameter transferring is a step in the right direction, Sejnowski admits that the next step—learning the SNN itself—is still “in the early days,” but that there is “going to be another big shift, which will probably occur within the next five to ten years.” Given both the difficulty and current progress of SNN training, there is moderate uncertainty regarding how quickly development will occur on the algorithmic front, with a general uncertainty factor of one and one-half to two times on the high-end. If an efficient learning rule is established, it is possible we will begin to see commercially viable neuromorphic chips within the decade, allowing for complex, energy efficient tasks on the “edge” (e.g., smartphones). Such commercial implementation, however, is highly dependent on the economic feasibility of widespread production, an aspect of neuromorphic chip development that is still in its infancy.

Long Term (10+ Years)

Although the future of SNN training and the economic practicality of neuromorphic hardware is uncertain in the near-term, it is possible that beyond 2030 we begin to witness a shift in the current computing paradigm. Such a shift would be characterized by the wide-spread use of neuromorphic chips in energy-constrained edge devices (e.g., mobile devices, computers, robotics, etc.). Sejnowski predicts that once the software is developed and the hardware is “sufficiently cheap,” the implementation of such chips will be “ubiquitous...like sensors in phones.” Abu Sebastian, Principal Research Staff Member at IBM Zurich, predicts that neuromorphic computing will play a vital role in the future feasibility of autonomous vehicles, making the point that you cannot “collect a frame, pass it



ARTIFICIAL SYNAPSES BASED ON FERRO-ELECTRIC TUNNEL JUNCTIONS (COURTESY OF WIKIMEDIA COMMONS)

through to a deep neural net, and wait for the response when you're traveling down a freeway at 70 miles an hour" (Greengard). The long-term draw of neuromorphic computing, is energy-efficient, on-board processing that is applicable to a wide range of technologies, from autonomous vehicles to independently operating interstellar spacecraft. Neuromorphic chips are also poised to play a large role in future medical devices and artificial body parts that can benefit from increasingly fast, on-site processing.

While neuromorphic architecture could become ubiquitous beyond 2030, it is important to note the false dichotomy between standard computer architecture and neuromorphic hardware.¹⁵ The promise of neuromorphic chips lies in the creation of an adaptive system capable of the efficient processing of highly noisy, increasingly complex, spatio-temporal data, *not* the high-speed processing of predictable, deterministic processes (Greengard). It is shortsighted, therefore, to view neuromorphic computing as a fundamental alternative to traditional computing: the two technologies are complementary to each other, excelling in tasks suited to their specific design. It is also important to note the uncertainty surrounding the long-term ubiquity of neuromorphic computing, namely, that there is a three-way race between neuromorphic computing, high performance computing, and quantum computing (Vorhies).¹⁶ Given the advancements of competing fields, it is possible the technology is outperformed before it is commercially viable (either by existing competitors or a novel approach yet to be developed). The future of computing, then, is largely undecided, with the only certainty being that our current computing paradigm will shift in response to the impending halt to Gordon Moore's 1965 prediction.

IMPLICATIONS

Consumers and AI Integration

Despite uncertainties regarding the path of computing, a future characterized by the widespread adoption of neuromorphic technology would have significant implications on the way consumers interact with digital devices. Peter Suma, co-CEO of Applied Brain Research, imagines a world in which neuromorphic technology enables an ex-

“The promise of neuromorphic chips lies in the cration of an adaptive system capable of the efficient processing of highly noisy, increasingly complex, spatio-temporal data”

tre integration of artificial intelligence into our daily lives (Ferry). Suma describes a future in which a technology like Siri transcends basic voice commands (i.e., a Siri that listens and sees all of your conversations and interactions). If you were to ask Siri what idea your friend Melissa came up with regarding your wife's birthday gift, the efficient, continuous, on-board processing of data made possible by neuromorphic computing would enable Siri to recall the conversation with your friend the week prior, bringing up both the idea and a variety of similar, personalized ideas. The salient point in Suma's eyes is that the efficiency of neuromorphic chips would enable the local storage of information, resolving widespread privacy concerns regarding consumer data. From autonomous vehicles to smart homes and edge devices, Suma's point is clear: the promise of neuromorphic technology is a future characterized by the extreme integration of artificial intelligence into our daily lives.

Semiconductor Industry

Research scientist at Hewlett Packard Enterprise, Suhas Kumar, summarizes the state of computing as a “huge rush to find something” that can continue the improvement in computer science that we have witnessed the past half century. Semiconductor manufacturers, therefore, are faced with a critical choice of whether to invest in risky chip research to compete in a future characterized by advanced computing technologies. While IBM has seen success with its TrueNorth system, Intel has exhibited the strongest commitment to neuromorphic research, evidenced by its continued progress in creating increasingly scalable neuromorphic systems. Intel's competitors are also faced with the challenge of determining the *type* of research they wish to undertake (i.e., whether they believe high performance or quantum computing will ultimately outperform the neuromorphic approach). Regardless, the challenge is clear: the computing industry will witness a shift in the coming decades, and the companies that lead this shift will capitalize on the widespread adoption of their novel technology.

Large Technology Firms

Beyond the semiconductor industry, large technology companies (e.g., Google, Facebook, Amazon, etc.) are faced with the decision to embark upon internal research regarding computing hardware. As deep learning processes continue to surpass the capabilities of existing technology, companies with large workloads and available capital are faced with the decision of whether to invest internally in chip development. In February of 2019, Facebook's Yann LeCun briefly described "internal activities" the firm was taking to address the growing computational divide, referencing Google's Tensor Processing Unit as another example of the type of internal efforts large technology firms are capable of taking (Tiernan, "Facebook's Yann LeCun"). While the future is uncertain, it is clear there is a demand for change, and the feasibility of neuromorphic hardware should figure prominently in the minds of firm leaders who are considering undertaking or continuing internal development activities.

CONCLUSION

From computer science and biology to mathematics, physics, and electrical engineering, neuromorphic computing is a cross-disciplinary challenge that requires a fundamental rethinking of the way computers operate. Neuromorphic research, however, is progressing: firms like Intel are leading the charge in chip development, and the success of their efforts will have large-scale implications on consumers, the semiconductor industry, and technology firms alike. It is vital, therefore, that business leaders consider the possibilities and threats of this novel technology, understanding that the future computing paradigm will be decided by innovative firms who are rethinking current processes.

ENDNOTES

1. The term neuromorphic means "taking the form of the brain" (Fulton III). Intel (a leader in neuromorphic research) summarizes neuromorphic technology as "chips that function less like traditional computers and more like the human brain" ("Intel Newsroom—Neuromorphic Computing").
2. It can be argued that the original notion of neuromorphic computing was first proposed in Alan Turing's 1948 paper, *Intelligent Machinery*. However, the concept is typically attributed to Carver Mead's 1989 *Analog VLSI and Neural Systems*, a paper in which Mead argued that chips with an increasingly dense collection of transistors could best communicate via a replication of

the brain's neural wiring.

3. The downside of traditional computer architecture is typically referred to as the von Neumann bottleneck—the notion that despite increases in processing speed, processors are forced to remain idle while data is transferred to and from the memory of a chip, resulting in increased latency.
4. Neuromorphic chips employ analog circuitry to transfer electrical signals between "neurons." The idea is that the system will be able to modulate the amount of electricity flowing between nodes, mimicking the fact that brain signals naturally have varying degrees of strength.
5. A key emphasis of neuromorphic computing is the selective mapping of neural connections. In order to operate at maximum efficiency, the brain uses only the specific neurons and synapses necessary to perform a given task. Neuromorphic systems, therefore, seek to emulate this efficiency by strategically and selectively forming connections between neighboring neurons.
6. Each "spike" in an SNN is a single-bit impulse that is analogous to an action potential in a naturally occurring neuron. A given node in the network is capable of spiking only if a state variable exceeds a given threshold.
7. In fully-connected ANNs, all nodes compute and send their output to the next layer at each time step, even if nothing has significantly changed, making the overall network computationally expensive. Conversely, SNNs employ neurons that process input separately and are only connected to local neighbors, implying that the entire layer does not need to be calculated for information to proceed to the next layer.
8. In 1965 Intel's co-founder Gordon Moore predicted that the number of transistors that could be placed on an integrated circuit would double every two years while costs remain constant / decline.
9. Loihi comprises 128 neuromorphic cores, 131,000 "neurons", and 130 million "synapses" (connections). The chip is named after an active submarine volcano off the coast of Hawaii that is set to emerge one day. The idea is that neuromorphic computing is analogously "emerging" and will eventually break the "surface" of the current computing environment.
10. In December 2018 Intel announced the creation of Kapoho Bay, Intel's smallest neuromorphic system consisting of two Loihi chips. In July of 2019 Intel was able to scale Loihi into their 64-chip Pohoiki Beach, representing the neural capacity of 8 million neurons. Most recently, Intel debuted its 768-chip Pohoiki Springs with a collective neural capacity of 100 million neurons. The chips reside in a chassis the size of five standard servers and is provided to members of the Intel Neuromorphic Research Community via a cloud-based system. Intel hopes it will emerge as a "tool for researchers to develop and characterize new neuro-inspired algorithms for real-time processing, problem solving, adaptation and learning" ("Intel Newsroom—Pohoiki Springs").
11. In July of 2020 the National University of Singapore ran an event-driven, visual-tactile perception test on Intel's Loihi chip

as well as various GPU systems to compare power consumption (Russel). The Loihi test chip slightly outperformed the GPU systems (in inferences per second) at significantly lower power consumption.

TABLE III
INFERENCE SPEED AND POWER UTILIZATION

	GPU	Loihi
Num. Inferences per second	616.63	749.23
Average Power (W)	60.24	1.34

It is important to note that Loihi's strong performance is largely the result of the entire system (in this case, robotic sensors, data formats, algorithms, and the Loihi architecture) being "re-engineered in an event-based paradigm" (Mike Davies, Director of Neuromorphic Research at Intel. See Russel). Put simply, when the system is consistent with Loihi's event-based architecture, neuromorphic hardware outperforms traditional GPU's when it comes to energy efficiency.

12. Existing deep learning algorithms depend on stochastic gradient descent and error backpropagation to efficiently "learn" a given ANN. Since SNNs operate in discontinuous, non-differentiable spikes, it is impossible to apply existing learning rules directly to SNN training (Pfeiffer and Pfeil).

13. At the 2019 International Solid State Circuits Conference in San Francisco, LeCun heavily criticized neuromorphic computing in his opening keynote address. While Intel's Mike Davies agrees that there is a lot of progress to be made on the algorithmic front, which he claims is "holding back the field," Yann's criticism resulted in a fireback from Davies citing the efficacy of neuromorphic chips in a December report produced by Applied Brain Research of Waterloo, Ontario. Davies's fireback was met with a detailed Facebook post by LeCun outlining the issues he sees with neuromorphic hardware, specifically citing the lack of an efficient training algorithm.

14. It is important to point out that SNNs are not optimized for performance on existing AI Benchmarks (e.g., ImageNet). Just how the brain is not optimized (but capable of) classifying an image that is quickly flashed on the retina, SNNs struggle with the typical frame-based test of software accuracy. The evaluation of SNNs, therefore, requires benchmark testing that emphasizes the functionality of spiking networks—i.e., "making decisions based on continuous input streams while moving in the real world" (Pfeiffer and Pfeil).

15. Dan Hutcheson, CEO of VLSI Research (an independent market analysis and consulting firm that tracks the semiconductor industry), describes the false dichotomy as follows: "Today's computers are very good at what they do. They will continue to outperform neuromorphic computing systems for conventional processing tasks. The technologies are complementary and so they will coexist." Adam Stieg, associate director of the California

NanoSystems Institute at the University of California at Los Angeles, further describes how "conventional von Neumann-based computing systems" perform very well with "high-speed, predictable, deterministic processes," but struggle with increasing complexity. The promise of neuromorphic computing, therefore, is the opening up of "an entirely new and unexplored area of computing"—one that allows us to "do things with computers that we couldn't have imagined in the past" (See Greengard).

16. High-performance computing (HPC) can be generalized as a process of optimizing chip architecture for existing deep learning algorithms (Vorhies). The majority of attention is currently placed on HPC, with large technology firms beginning to enter the chip manufacturing field by developing their own proprietary chips (e.g., Google's Tensor Processing Unit) (Tiernan, "Facebook's Yann LeCun"). Conversely, quantum computing is analogous to neuromorphic computing in that it represents a rethinking of existing computer architecture. Rather than operating in bits (0 or 1), quantum computing employs quantum bits (qubits) that can be set to 0, 1, or both simultaneously (Cho).

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THE DEMON OF THE BELFRY

Investigating the Evolution of the Penny Press and the Emmanuel Church Murders

SEAN STEBBINS

THE PENNY PRESS'S SENSATIONAL COVERAGE OF THE 1895 EMMANUEL CHURCH MURDERS (COMMITTED BY SAN FRANCISCO MEDICAL STUDENT THEODORE DURRANT) HIGHLIGHTED THEIR OBSESSION WITH DEVIANT SEXUALITY AND GRUESOME VIOLENCE. CONTEMPORARY NEWSPAPERS CONTINUALLY CITED DURRANT'S LACK OF ROMANTIC SUCCESS, HIGHLIGHTED HIS PECULIAR MEDICAL BACKGROUND, SPECULATED ABOUT HIS INTIMATE RELATIONSHIP WITH HIS MOTHER, AND EMPHASIZED THE MAIDENHOOD OF HIS TWO YOUNG FEMALE VICTIMS—ALL WHILE ENGAGING IN WHAT SCHOLAR KAREN HALTUNNEN TERMS THE "PORNOGRAPHY OF VIOLENCE." SCHOLARS HAVE NOT SUFFICIENTLY STUDIED HOW NEWSPAPERS AND OTHER MEDIA DURING THIS TIME ROMANTICIZED TRADITIONAL SEXUAL RELATIONSHIPS WHILE SIMULTANEOUSLY FETISHIZING VIOLENCE—ESPECIALLY IF THAT VIOLENCE WAS SEXUAL IN NATURE. THIS PAPER WILL ARGUE THAT RAPIDLY CHANGING CONCEPTIONS OF SEXUAL NORMALITY DURING THE GILDED AGE—AND THE CONFLICT BETWEEN REPRESENTATIVES ON BOTH SIDES OF THAT FIERCE DEBATE—MANIFESTED THEMSELVES IN THE IMPLICITLY, AND OFTEN TIMES EXPLICITLY SEXUALIZED COVERAGE OF DURRANT.

On April 3, 1895, William Henry Theodore Durrant—Theo, as his friends called him—made his way down 21st Street in San Francisco, California. A young student at Cooper Medical College, now Stanford Medical School, was heading to the Emmanuel Baptist Church, at which he was a Sunday school teacher. He was accompanied by 21-year-old Blanche Lamont, a fellow parishioner, and friend. Eventually arriving in the early afternoon, the pair entered the building one after the other. Though Durrant left the church at around 5 PM, Lamont was not seen again. Nine days later, Durrant entered the church with another parishioner—21-year-old Minnie Williams—before eventually leaving to attend a friend’s house party a few hours later. Williams, too, had disappeared. As word began to spread throughout the city of the two young women’s disappearance, suspicion turned on Durrant. Several witnesses had seen Theo enter the church with both women, and rumors of the young man’s purported romantic failures began to spread.

On April 13th, as a few women of the church decorated for the upcoming Easter holiday, one of them opened a cupboard—finding the unclothed and mutilated body of Minnie Williams. It was only a matter of hours before police had reached the church’s belfry, finding Blanche Lamont’s rotting, naked body draped across the floor, her blood-stained head stuffed between two wooden planks. Police arrested Durrant just two days after discovering the bodies. Doctors confirm both women were raped just before or even after death, and prosecutors charged Durrant with the murders of both women, sending San Francisco into a frenzy. Newspapers nationwide picked up the story, marveling at the ferocity—and significantly, the sexual brutality—of the so-called “Demon of the Belfry.”

The rise of the American penny press reached its height during the Gilded Age as newspapers across the country pumped out story after story detailing thrilling criminal investigations, daring feats of athleticism, astonishing

technological innovations, and most profitably: chilling murders. The penny press’s sensational coverage of Theodore Durrant highlighted their obsession with deviant sexuality and gruesome violence. Contemporary newspapers continually cited Durrant’s lack of romantic success, highlighted his peculiar medical background, speculated about his intimate relationship with his mother, and emphasized the maidenhood of Lamont and Williams—all while engaging in what scholar Karen Haltunnen terms the “pornography of violence.” This paper will argue that rapidly changing conceptions of sexual normativity during the Gilded Age—and the conflict between representatives on both sides of that fierce debate—manifested themselves in the implicitly, and often explicitly, sexualized coverage of Durrant.

CONTEXTUALIZING THE EMMANUEL CHURCH MURDERS

While there is no scholarly study of Theodore Durrant, there are books and articles that help contextualize his murders of Blanche Lamont and Minnie Williams and their obsessively sexual reportage. Jesse Battan’s articulation of the linguistic and political divide between Victorian moralists and members of the Free Love movement, for example, counteracts traditional notions of the Gilded Age as an era dominated by sexual repression. As John D’Emilio and Estelle B. Freedman point out in their comprehensive history of American sexuality *Intimate Matters*, Americans during the late nineteenth-century were far more accepting of non-traditional sex than they had been in prior decades as forces opposed to sexual suppression (like the Free Lovers) became significantly more prominent and birthrates across the country steadily declined¹. In her study of late-nineteenth-century sexuality, Freedman argues that during the Gilded Age, sex became less associated with procreation and more related to personal pleasure—a reality that engendered immense hostility on both sides of this new sexual divide². The conflict between tradition and liberation played out in all facets of American

“...prosecutors charged Durrant with the murders of both women, sending San Francisco into a frenzy. Newspapers nationwide picked up the story, marveling at the ferocity—and significantly, the sexual brutality—of the so-called “Demon of the Belfry”

society. However, it was especially pronounced in the penny press, which often made light of bizarre or eccentric sexual behavior to sell more newspapers.

In the early days of the Durrant case, the press obsessed over his rumored lack of romantic success as some harbinger of wrongdoing. Oliver Chan and Kathleen Heide's research on sexual homicide somewhat vindicates this suspicion, revealing that most sexual murders of adult women happen at the hands of adult men seeking sex, as Durrant was.³ James Alan Fox and Jack Levin's study of patterns common to different instances of "multiple homicide[s]" confirms that the desire for sex is often a chief motivation for crimes of passion⁴. Contemporary newsmen also suggested Durrant's status as a medical student—particularly his supposed interest in studying "female diseases"—all but proved his complete guilt. Herbert Kinnell's insightful research on potential connections between the medical field and serial homicide reveals several unambiguous realities relevant to this thesis: people interested in death seem to gravitate to the medical field⁵. Erich Fromm's psychological inquiry into motivations for violence further reveals the numerous links between necrophilia, which many of Durrant's classmates stated he had, and violence⁶. As the penny press at the time lacked access to this body of research, they indicated that the dominant force behind their relentlessly sexual coverage was likely a battle over sexuality at the time rather than well-sourced psychology.

Contrasting these sexual accusations with the ones later hurled at famous dancer, and Durrant's sister, Maud Allen speaks to the gendered dichotomy of sexual discourse in the late nineteenth-century. Toni Bentely's comprehensive review of numerous dancers reveals how the male audience commanded Allan to "cover up" during many of her performances despite her growing popularity among women, illustrating this gendered divide⁷. Lacy McDearmon's research detailing how Allan's career ended because of a highly publicized scandal involving a British parliamentarian who accused her of countless sexual "vices" illustrates the broader battle over sexuality during the Victorian Era—and the ways in which media sensationally exploited this battle to their own advantage with incidents involving both men and women⁸.

Newspapers often speculated about the unknowns of Durrant's murders in graphic detail, continually engaging in what Karen Haltunnen calls the "pornography of violence."⁹ Americans, she notes, developed a keen interest in horror and death during the mid-nineteenth century

that accelerated in later decades, peaking during the Gilded Age with thrilling stories of murder and violence being published daily in newspapers across the nation. Haltunnen explains that as interest in violence grew, so too did its "pornography," with books, newspapers, and other media detailing brutal crimes—like the Emmanuel Baptist Church murders—in increasingly graphic detail.

THEODORE DURRANT, ROMANTIC FAILURE

Newspapers that covered the Durrant story obsessed over his perceived romantic failures in several different ways but did so initially by exploring his failed attempts at an intimate relationship with both his victims: Blanche Lamont and Minnie Williams. An early report from the *San Francisco Call* explained how the two women "received a lover's attention from Durrant," with journalists already hinting at some sort of failed attempt at courtship¹⁰. When an acquaintance of Williams's informed readers that she had "indignantly repulsed" a marriage proposal from Durrant early last summer, the penny press confirmed its sexualized narrative¹¹. Reporters soon seized upon the claims of Blanche Lamont's aunt, Mrs. C. G. Noble, who testified to "the frequency of Durrant's visits at her house and his attentions to her niece," and lauded her assertion that Durrant had also "proposed marriage to Blanche last December, but had been refused when the girl learned he was engaged to another woman."¹² Papers also emphasized Durrant's supposed suggestion to Noble (before being arrested) that they search for Lamont's body together "in a house of ill-fame"—a brothel¹³. In the early days of his case, the penny press established Theodore Durrant as a



BLANCHE LAMONT AT HECLA, MONTANA WITH HER STUDENTS, 1893 (COURTESY OF WIKIMEDIA COMMONS)

sexually-deprived romantic failure who murdered to fulfill his brutal perversions, an inhuman monster so despicable he was even inclined to visit brothels while pretending to search for the bodies of women he killed. While some were later proven to be accurate, these relatively unfounded initial characterizations illustrate Gilded Age fetishizations of sexual violence.

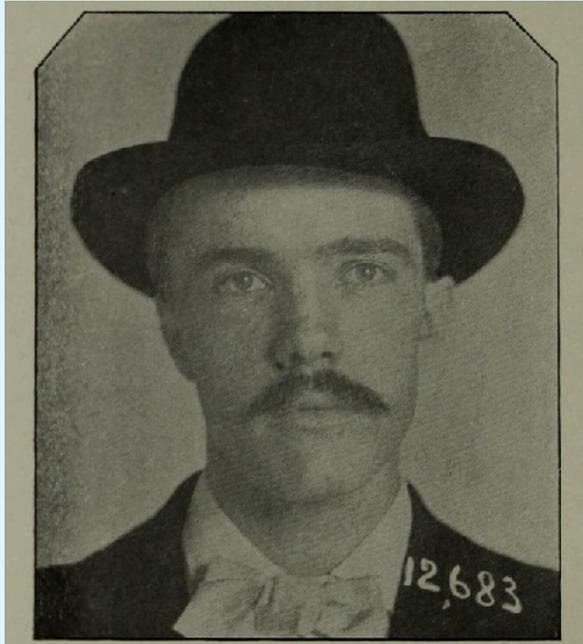
Another element of the penny press's obsession over Durrant's romantic failures relates to his physical appearance, which strongly suggested his guilt. *The San Francisco Call*, for example, diplomatically described how a murderer (not necessarily Durrant) "will not be generally attractive to other men, [who] will have a feeling of utmost repugnance for him [...]. For women, especially girls, he will be found to have a peculiar fascination, but he will lack the skill to use it shrewdly"—characteristics newspapers claimed Durrant *happened* to have¹⁴. A later story from *The Indianapolis Journal* contended that Durrant's "dominant" facial characteristics "are vanity and sensuality," and that the shape of his head "would indicate not only extreme sensuality, but that its owner would be inconsistent, changing the object of his admiration frequently."¹⁵ Months later, once Durrant's trial had begun, newspapers still editorialized about how Durrant's "clean-shaven lips reveal the coarse sensuality of his mouth," continuing to tie his physical features with sexual criminality¹⁶. Contemporary newspapers' fascination with Durrant's physical features—and their claims that those features somehow illustrate all manner of romantic perversions—reflect the intensifying Gilded Age sexual divide between those committed to traditional conceptions of heteronormativity and those seeking to change them.

Newspapers also explored Durrant's attitude toward women, casting him as an aggressively sexual (if often unsuccessful) womanizer who frequently solicited their company. *The Salt Lake Herald*, for instance, charged that "Durrant was more than passionately fond of women, and

at every opportunity sought their society," but that "he confined himself to the purer and better girls of his circle of acquaintances," like Lamont and Williams, who the press continually deified¹⁷. Others stunned readers with highly sexualized headlines like "The Man was as Licentious as He Was Pious," "Insulter of Women," "His Baseness was Boundless," or even "No Woman was Safe."¹⁸ And some newsmen unambiguously blamed Durrant's murders on his womanizing personality, with one paper directly stating that "no other motive for the crime can be assigned [than] passionate jealousy, which is known to have a wonderful power to transform the most peaceable into fiendish brutes."¹⁹ Again, Durrant's *actual* romantic proclivities—he often (though not always) did live up to his reputation in the press—are not entirely relevant. More significant is that the late nineteenth-century penny press exploited his rape and murder of two women to publish implicitly and explicitly sexual content for their readers, exposing the rapidly changing conceptions of sexuality during that time.

While the press continually covered Durrant's perversions in a general fashion, they did analyze some of his specific romantic failures from time to time, most notably with a woman named Lucile Turner. On one soon-to-be infamous occasion, Durrant accosted Turner, another parishioner at the Emmanuel Baptist Church like Lamont and Williams, and asked "if she had never been examined. She was somewhat surprised at his question and answered no. Durrant then said she ought to be and that he could do it."²⁰ Turner's testimony engrossed journalists covering Durrant, and they referred to it throughout their coverage of the case²¹. The press also took special care to note Durrant's unusual apprehension during Turner's testimony, a break from what they characterized as his typically unfeeling demeanor: "During Miss Turner's examination," one paper noted, "Durrant looked very pale and anxious, and has not shown such pronounced symptoms since his arrest."²² For contemporary journalists, the Turner incident was a goldmine. It offered readers licentious details

“Months later, once Durrant’s trial had begun, newspapers still editorialized about how Durrant’s ‘clean-shaven lips reveal the coarse sensuality of his mouth,’ continuing to tie his physical features with sexual criminality.”



THEODOR DURRANT'S MUGSHOT
(COURTESY OF INTERNET ARCHIVE)

day after day and perfectly conformed to their already well-established narrative of a sex-deprived monster whose romantic failures had triggered a murderous rampage—the perfect story for an American populace that craved scandalous sexual details like never before.

The Lucile Turner episode presented the penny press with a profitable window into one of Durrant's specific romantic failures, but they relentlessly published details about his generally "poor luck" with women, too. *The Call*, for instance, reported the vague remarks of several different people throughout the course of the case, all of whom remarked things like "from what I knew of Durrant he was not of the kind of men who are very successful in making love to young women."²³ Another man offered his investigative services and insisted that he had "located three young women who claim to have been taken into the church by Durrant and compelled to leave the edifice on account of his improper conduct."²⁴ Other papers, like *The Arizona Republican*, discussed an instance in which Durrant escorted another young parishioner to a room in the Emmanuel Baptist Church, left her there for a few minutes, "and returned entirely nude," further feeding into the sexual narrative²⁵. Newsmen often followed detectives at

tempting to track down women rumored to be former lovers of Durrant, like one case in which investigators traveled to neighboring San Jose "looking for a young lady who is said to have received insulting proposals from Theodore Durrant, who selected Emmanuel church as the place for his attempt."²⁶ Even the strategy of Durrant's own lawyers hinged on the same kinds of sexual details being published by the press. *The Salt Lake Herald* reported less than a month after Durrant's arrest that the defense would try to demonstrate his innocence by proving that "he did not have a reputation as a lady-killer; that another member (now an ex-member) had; that this person was one whom all the young ladies of the church distrusted; that he frequently took liberties with them; that upon one occasion he was alone with a young lady in the vestry and that his actions were such as to cause her to have a serious hysterical attack."²⁷ The barrage of details about Durrant's romantic ineptitude with a variety of women solidified his initial image in the penny press as a sexual freak driven to murder. But that barrage also underscored the penny press's obsession with the most erotic aspects of his character possible rather than with the main bulk of evidence in an apparent effort to appeal to their sex scandal-driven readers.

INVESTIGATING DURRANT'S PAST

While they did devote much of their sexual reporting to his romantic mishaps, the press also examined other aspects of Theodore Durrant's past through a sexual lens, beginning with his time at Cooper Medical College. "Durrant was looked upon as queer when at college," one *Call* report notes, going on to explain how even though he "was fond of the society of women he declared the year he entered college that his relations with them had never been intimate."²⁸ Newsmen also jumped on comments from fellow students admitting that "he spoke strangely about women from time to time and read much on subjects which are safest in the hands of hard headed specialists," indicating a "trend of mind which dwells upon the morbid."²⁹ Other papers directly linked Durrant's medical schooling with his sexual perversions, one story describing how some faculty at Cooper believed "Durrant was afflicted with psycho-mania sexualis, a not unknown though infrequent mental disease," another simply inquiring, "Durrant studied surgery. Did he study murder at the same time?"³⁰ A particularly scathing assessment of Durrant's character out of *The New York Tribune* went even further:

"Medical experts who have studied Durrant's case unite in declaring that he is an abnormal crank, whose perverted

nature has been stimulated by the study of sexual crimes. His medical college associates say that in private talk about women he revealed a foul imagination, and that his fondness for discussing topics that are usually ignored, even between men, gave him the reputation of being an erotic maniac. As assistant superintendent of the Emmanuel Sunday-school he performed all his duties in an irreproachable way, but since his arrest it is known that he insulted several young women and that he was in the habit of making weekly visits to the local [brothel].”³¹

Rather than focusing on Durrant’s bungled attempts at romance, these reports confirm newspapers’ narrative of his sexual perversions by approaching them from an altogether different angle—medicine. They exemplify the penny press’s fixation upon Durrant the sexual maniac rather than Durrant the murderer and illustrate the growing divide between forces opposed to and supporting changing conceptions of sexual norms during the Gilded Age.

Contemporary newsmen further directed their readers’ attention to rumors that Durrant committed the murders, as one paper put it, “for the purpose of medical investigation,” fueling sexualized narratives of his crimes even further.³² It is known that Durrant was an ardent medical student and took a great interest in diseases of women,” one report from *The Herald* read, “and being



EMMANUEL BAPTIST CHURCH, WHERE DURRANT MURDERED TWO WOMEN PARISHIONERS IN 1895
(COURTESY OF OPENSE HISTORY)

unable to conduct his investigations in any legitimate manner, murdered the girls for that purpose.”³³ Journalists turned to his suggestion to Miss Lucile Turner “that she allow him to make a medical examination of her, [him] telling her that he knew of a good place in the church where it could be done without anyone being the wiser” to link an already well established aspect of their coverage to these rumors³⁴. Ironically, even by publishing dismissals of such reports, newspapers gave them more credence, one article outlining in great detail the rumor “that Blanche Lamont was lured to the church by Durrant’s promise to perform a criminal operation on her to save her from disgrace” before briefly admitting that “the city autopsy physician [stated] the rumor was without foundation.”³⁵ Ultimately, the more analysis the penny press devoted to Durrant’s supposed medically-motivated investigative appetites, the more they became part of the story. Newsmen recognized this fact and intensified the practice anyways, reflecting their preoccupation with the sexual aspects of the Emmanuel Baptist Church murders before all others.

Another part of Durrant’s past scrutinized by newspapers relates to his actual academic performance at Cooper Medical College, which most outlets depicted as suspiciously strong. “[Durrant] read textbooks, crammed science for his examinations and is said by his family to have read little or none of the lighter literature of the day” alleged one story from the *Call*, hinting at Durrant’s supposed peculiarity.³⁶ His standing in none of his classes fell below 97 percent” read another out of *The Herald*, the author concedes that “Theodore Durrant is the last man whom anybody would suspect of committing a murder.”³⁷ Even in jail, as multiple outlets discussed, “Durrant is studying medical books and says upon his release he will continue his course until graduation”—an interest that surely bordered on an obsession³⁸. Newspapers’ juxtaposition of these details chronicling Durrant’s academic success with the aforementioned side effects of studying modern medicine constitutes another example of their sexualization of the Emmanuel Church murders. While not as explicit as lengthy tirades explaining Durrant’s many perversions, these kinds of oblique associations nonetheless contributed to the penny press’s erotic narrative of Durrant and his crimes.

Outside of his *actual* experience as a medical student, newspapers littered their stories with a variety of psychosexual speculation regarding Durrant’s past behavior, all of which conveniently played into their depiction of him as a romantically deprived carnal maniac. Durrant’s main in-

terest, as newsmen had already established, was his medical studies—but one story claimed that because he “was very much interested in his studies and work, fond of describing the horrors of a dissecting room,” he had in fact lost “any feeling of reverence for the human body.”³⁹ When the city’s autopsy physician concluded his report, several stories almost *excitedly* noted the fact “that the murdered girl had been outraged [raped] prior to the murder,” adding an entirely new element to the existing sexual narrative⁴⁰. Other stories made light of “expert” opinion linking Durrant’s academic interests with seal violence, like that of police surgeon Summers, who claimed medical backing for the theory that there were “men whose animal passions could not be aroused without the sight of blood,” and insisted that “the post mortem examination clearly proves that the victims were killed and afterwards outraged.”⁴¹ An incredibly early report from *The Herald*—released mere days after Durrant’s arrest—testified to his “Jekyll-Hyde character”: “In Emanuel church he was noted for his religious fervor. Other residents of the Mission district say he was a frequenter of saloons, played cards and billiards in wine rooms, nightly visited with other youths saloons with side entrances for women. His classmates at the medical college say that Durrant was blasphemous and flippant in conversation, especially about women.”⁴² Reporters gravitated towards the most outrageous and openly erotic elements of the Durrant case in an unprecedented way, and often without much evidence. The uniformity of their narrative—and the fact that papers favored the sexually eccentric over the accurate—underscores the ways in which the changing sexual values and attitudes of the Gilded Age impacted reportage of Durrant.

SCRUTINIZING DURRANT’S PRESENT

Another angle in the penny press’s coverage of the Durrant case sought to examine not his past, but his present.

“To the American penny press, Durrant’s lack of emotion in court and jail, his already well-established sexual perversions, and the fact that women flocked to see him throughout the legal proceedings (despite his apparent guilt) confirmed his status as a carnally-motivated villain that defied every traditional conception of sexuality”

More specifically, his behavior following his arrest. Journalists initially directed this kind of reporting at Durrant’s deportment in court and jail, which they claimed illustrated his guilt in the same implicitly sexual manner his romantic failures had. Articles marveled at Durrant’s lack of emotion throughout the legal proceedings, especially when the evidence was stacked against him. One report noted that “whether their testimony is strong against him or only inferentially accusing, his expression is the same. [...] He talks very little to his lawyers, pays absolutely no attention to the crowd [...], and watches the proceedings with unconcern.”⁴³ Other papers mentioned his “calm, imperturbable expression,” his “stolid indifference,” or his “air of unconcern,” hinting at an almost unnatural level of disinterest in his fate.⁴⁴ Reports discussing Durrant’s behavior in jail were no different—“Durrant keeps up his wonderful composure,” one article observed, adding that at “about 10 o’clock yesterday morning several students, the majority being ladies [...] paid him a visit.”⁴⁵ To the American penny press, Durrant’s lack of emotion in court and jail, his already well-established sexual perversions, and the fact that women flocked to see him throughout the legal proceedings (despite his apparent guilt) confirmed his status as a carnally-motivated villain that defied every traditional conception of sexuality.

Many newspapers’ vilification of Durrant’s deportment in the courtroom reached entirely new heights during discussions of violence, especially when that violence was sexual in nature. Newspapers described how Durrant “showed no emotion” during descriptions of Minnie Williams’s brutal rape and murder, sitting “calm and unconcerned” with “about the same degree of interest that is manifested by the Sphinx as it gazes over the sands of Egypt.”⁴⁶ Descriptions like these hardly stood out. According to many newsmen, the person in whom the evidence “produces the least mental perturbation is the prisoner itself,” this particular

author choosing to revoke Durrant's humanity by simply referring to him as "it."⁴⁷ The same article cast Durrant as "an enigma, a monster of crime and depravity"—a man whose sexual crimes were so heinous he no longer deserves that title⁴⁸. These reports continually ostracized Durrant in truly remarkable ways. However, their main objective was to single out the sexual nature of his crimes as the thing that held the most significance. By portraying Durrant as a violent sexual freak who listened to recitals of savagery "with no more emotion than he would display at a college lecture," the penny press solidified their unabashedly erotic narrative to please their voracious readers' yearning for that kind of content in ways Americans had not in prior decades⁴⁹.

In addition to their use of his cold demeanor as evidence of sexual impropriety, the penny press also examined Durrant's many female admirers as a means of amplifying the sexual undertones of their reporting. The first incident discussed by the national press occurred on April 24th, shortly after Durrant's arrest, when "a female crank" claiming to be "a Gypsy queen" talked briefly with Durrant in his cell before announcing to a pool of reporters "he is not the man."⁵⁰ The episode sparked visits from women around the Bay Area, a development which journalists seized upon. "Women are Daft Over Durrant" declared one *Silver Blade* headline, its author marveling at how "the county jail is besieged with women daily, anxious to see Durrant and leave flowers for him."⁵¹ Other articles reviewed the young women "who seem to regard [Durrant] as something of a hero," visiting his jail cell "to gape at him through the bars."⁵² Stories of his female admirers perfectly played into the already well-grounded sexual nature of his crimes, with Durrant now appearing as some sort of hypnotic force with unnatural sexual charisma—at least enough to convince "foolish women," as one author lamented, of his innocence⁵³. Such stories typified the sexualization of the Emmanuel Baptist Church murders, exposing yet more instances of the penny press's obsession with the most erotic elements of his crimes.

Gilded Age newsmen further pointed to Durrant's close relationship with his mother as evidence of his guilt thanks to some kind of troubled upbringing, often implying possible sexual impropriety. *One Call* report, attempting to find a justification for Durrant's imperturbability in the courtroom, guessed that "the proximity of the mother of the defendant may have something to do with his easy manner."⁵⁴ What began as a series of seemingly innocent remarks about a mother and her son's close relationship quickly spiraled out of control with speculative innuendo soon dominating all discussion of Durrant's mother. A story out of *The Louisiana Populist*, for example, found that "his mother is his staunchest advocate, just as was the aged mother of [infamous murderer and medical student] Carlyle Harris, whose history in some respects resembles that of Durrant's."⁵⁵ Another story from *The Seattle Post-Intelligencer* speculated that a young miscreant out of Spokane, Washington named Karl Gerulff—"the son of a prostitute [and] a born criminal"—compared quite fittingly with "[monstrosities] like Tom Blanck or Theodore Durrant," other criminals said to have troubled upbringings⁵⁶. Newspapers' scrutiny of Durrant's relationship with his mother indeed stemmed from, at least in part, nineteenth-century conceptions of women as mothers (and therefore the primary architects of their children's future behavior). But articles discussing their interactions, especially given the totality of their licentious coverage, unquestionably took on some sexual undertones, another reality that exposes the penny press's fetishization of sexual violence.

Significantly, papers' coverage of Durrant's mother actively excluded his father from nearly all discussion of his crimes. One article from the *Call* took this exclusion to almost comical levels—after briefly mentioning Durrant's father's entrance into the courtroom, the author remarked that "all eyes were turned in that direction to see if the mother of the prisoner would follow."⁵⁷ Of their interactions in the courtroom, one journalist alluded to an unusually intimate relationship, writing: "The mother of the prisoner was, naturally, the object of a good deal of curiosity. But very few in the courtroom had seen her before, and

"What began as a series of seemingly innocent remarks about a mother and her son's close relationship quickly spiraled out of control with speculative innuendo soon dominating all discussion of Durrant's mother."

were anxious to see how she was bearing up under the ordeal of her son's imprisonment and approaching trial. Those who expected to see red eyes and tears and agony was depicted upon the face of the unfortunate woman were disappointed. Her eyes were bright, there were no traces of tears, and no agony was reflected in the countenance of the prisoner's mother. She was calm—more than calm—talking to her son and smiling cheerfully upon him during the entire day in court.”⁵⁸ The author followed this passage with a single line mentioning the presence of Durrant's father. Again, while much of this undue focus on Durrant's mother can undoubtedly be attributed to nineteenth-century conceptions of women as the parents responsible for raising children, the penny press's conscious *exclusion* of his father from the conversation underscored the implicitly sexual narrative they established from the very beginning of his case.

ROMANTICIZING LAMONT AND WILLIAMS

Though they devoted the vast majority of their coverage to Theodore Durrant himself, newspapers sexualized the Emmanuel Baptist Church murders in another way: by emphasizing the maidenhood of his victims. Blanche Lamont in particular, received much praise from the press, who frequently reiterated her womanhood. The day after her disappearance, for example, the *Call* published a story concerning “a beautiful girl” that had⁵⁹ gone missing, establishing her femininity from the outset. A subsequent report alleged Lamont “had a filled-in frame and was a romantic,” paving the way for later stories that outlined Durrant's exploitation of those characteristics⁶⁰. Indeed, after Durrant's arrest, papers highlighted witness testimony to this effect. One acquaintance, Dr. Vogel, told the *Call* that “Blanche was such a good girl that she thought everybody was as good as she was and she might have been taken advantage of.”⁶¹ An early assessment from *The Herald* epitomized journalists' portrayal of Lamont, the innocent victim of an erotic maniac, describing her as a “slender, graceful, well dressed, brown-haired, accomplished [...]. She was simply a very pretty girl, romantic, according to some of her school friends, intensely matter-of-fact according to her relatives.”⁶² Emphasizing Lamont's femininity alone would not necessarily have constituted a sexualization of the murders. But given that reporters juxtaposed such fawning descriptions of romantic purity with gruesome ones outlining sexual brutality, they clearly sought to create an apparent dichotomy between Durrant and his victims with sex at its center.

The penny press subjected Minnie Williams to similar treatment. However, given her temperamental differences from Lamont, they highlighted distinct aspects of her character that could have (in their narrative) contributed to her murder. However often reporters brought up Blanche Lamont the *romantic*—“the picture of the girl in the Fireside Companion stories who has adventures among the traps of a great city,” according to one report from *The Herald*—they just as often brought up Minnie Williams the *vulnerable*⁶³. Shortly after her disappearance, for instance, the *Call* wrote that Minnie Williams, “frail, weak, [and] inexperienced,” had vanished⁶⁴. Whereas reporters had argued Lamont's confident personality and extensive romantic experience could have gotten her into trouble with potential wrongdoers, with Minnie Williams, they claimed the opposite: her romantic, and, yes, sexual “inexperience” made her an easy target for predators like Durrant. From opposing, nearly contradictory angles, Gilded Age newsmen had identified both women's unique susceptibilities that had contributed to their murder—doing so through an exclusively sexual lens.

Newsmen usually published stories discussing each victim individually, but they likewise sought to uphold their joint maidenhood by grouping Lamont and Williams together from time to time. Some San Franciscans accomplished this job for them. Judge Conlan, the justice presiding over Durrant's case, personally informed the *San Francisco Call* of the unfortunate nature of his crimes: “[Jack the Ripper's] crimes had for their victims women of bad character,”⁶⁵ he argued, suggesting it was Lamont and Williams's sexual purity that made Durrant's murders all the more unacceptable. If, like Jack the Ripper, he had simply murdered prostitutes, perhaps the public outcry would not have been so severe. The *Call* further summarized the remarks of a Rev. Mr. Boynton (of San Francisco's First Baptist Church), who launched into a protracted tirade during one sermon that instructed women of the city to “promise themselves ‘I will not go anywhere, under any pretext whatever, unless accompanied by my father or my brother. I will not enter anyplace where there are not others.’”⁶⁶ Opinions like those of Conlan and Boynton dominated reporting on Durrant's murders, at least during discussions of his victims. And while they certainly exposed the misogynistic conceptions of womanhood that pervaded late nineteenth-century America, they also exemplified the kind of sexual division the press sought to establish between Durrant, the savage, and Lamont and Williams, the romantically vulnerable.

THE “PORNOGRAPHY OF VIOLENCE”

Another phenomenon present in nearly all newspaper coverage of the Durrant case is something historian Karen Haltunnen terms “the pornography of violence”—that is, nineteenth-century America’s widespread fetishization of violence through its “pornography” in books, papers, and other media—all of which featured descriptions or images of vicious crimes in increasingly graphic detail⁶⁷. The penny press’s coverage of the Emmanuel Church murders embodied this pornography to the extreme. An early report from the *San Francisco Call* detailed how a “knife had been driven again and again and again into [Minnie Williams’s] breast” before delving into the minutiae of Durrant’s violent acts in later coverage⁶⁸. Durrant “cut her wrist so that she would bleed to death, and to complete the murderous work, had driven a knife to her heart and in a bestial fury slashed her breasts,” one story out of *The Wichita Daily Eagle* read, concluding that “the stabbing and slashing was done after the girl was dead.”⁶⁹ Ironically, the violent pornography cultivated more violent pornography, much of this variety speculative. *Call* reporter John McNaught, for example, informed his readers of the (unquestionably racialized) divide between what he called the “brute” and the “fiend,” the latter of which Durrant must be:

*“There are just two classes of criminals who outrage women and murder them. One of these is the low, brutish criminal whose lust and ferocity are tempered by an intellect hardly sufficient to lift him above the level of a gorilla. The second is the man of intellect whose intelligence is distorted by a species of sexual madness growing out of some perverse diabolism of nature. All criminal history attests that only these two classes often, the brute and the fiend, commit crimes of this kind.”*⁷⁰

As violent speculation ran wild, other stories began condemning the Emmanuel Baptist Church itself, one report from *The Anaconda Standard* claiming “a stain of human blood marks its history.”⁷¹ The author, apparently horrified,

went on to detail how one of the church’s former pastors “killed a newspaper proprietor,” while another, he added rather abruptly, “blew out his brains.”⁷² Such absurd descriptions epitomized the pornography of violence produced by Durrant’s murders, with newsmen devising evermore outlandish reports to satisfy the insatiable public.

While newspapers certainly fetishized all types of violence in the Durrant case, they especially did so if that violence was sexual in nature. In the immediate aftermath of the murders, newsmen raved whenever the police released shocking details, as in one *Call* report which gawked at their discovery that the murderer had shoved “a portion of [Lamont’s] underclothing” down her throat⁷³. Indeed, such outrageously sexual details sent both newspapers and readers into a frenzy. Another *Call* story almost gleefully recounted how Lamont’s dress “had been unbuttoned and then torn from the body through impatience,” leaving her lying on the floor of the church’s belfry “absolutely nude.”⁷⁴ Reporters even *complained* of a lack of excitement as the months went on—(authorities had finished collecting most of the facts over the course of April and May 1895)—the volume of licentious details released on a weekly basis waning accordingly. *The Herald*, for example, lamented that “as the trial progresses interest in it seems to lag,” somberly describing how “the crowd of morbidly curious people who have assembled at the courtroom door day after day is growing less” as newspapers ran out of new Durrant-related “pornography” to distribute. However, such sobering realities failed to dissuade the penny press, which found entirely new, and unconventional ways to fetishize the murders.

One facet of this unorthodox approach involved reporting on the astonishing July 1895 development concerning a San Francisco playwright who planned to dramatize Durrant’s murders in his theatrical production. Manager of San Francisco’s Alcazar theater W. R. Daily, reported *The*

“Another visual assessment out of The Louisiana Populist depicted two versions of Durrant posing as Robert Louis Stevenson’s infamous villain Dr. Jekyll and Mr. Hyde, complemented by illustrations of a knife embedded in a skull”

“Ultimately, print coverage of “the Demon of the Belfry” and his crimes during the Gilded Age underscores the ways in which media dramatically shapes public perception, an enduring reality that continues throughout the contemporary United States”

Oregon Mist, “closed arrangements with Richard C. White to make a dramatization of the Durrant case,” adding that “Mr. Daily believes that there is plenty of material in the story of the Emmanuel church murders.”⁷⁵ Lacking substantive coverage as Durrant’s attorneys took their time selecting jurors, the penny press milked the theatrical development for weeks. Reporters amplified the divide between those eager to see the performance and others, like the pastors discussed in one *Herald* report, who believed the play would “demoralize the community.”⁷⁶ As it became increasingly clear the play would not end up being performed, *The Dalles Times-Mountaineer* went so far as to entertain the theory that “if the fiend Durrant is acquitted of the charge against him he will be engaged at a remunerative salary to play the leading role in the play based on upon the heinous crimes.”⁷⁷ In short, the penny press spent nearly a month producing new “pornography” by fetishizing the outrage over a theatrical production, the play itself a fetishization and pornographic offshoot of Theodore Durrant’s violent crimes. Such absurdities exemplified the pornography of violence produced by the penny press in their obsessive coverage of the Emmanuel Church murders.

Another way the penny press fetishized the murders when they lacked new developments involved publishing readers’ violent poetry. The *Call*, for instance, published a “remarkable” poem by a man named George King, who put his unique spin on the church murders:

“Into the church they were decoyed by some fiend, but I won’t speak his name. / There to commit the bloody deed, he understood the game. [...] There he did assault her [Williams] in a fiendish way, / Then took her life by strangling, that’s what the Coroner’s jury say. [...] The perpetrator of the deed did it in cold blood, / More than human nerves he had, his business he understood. [...] Young girls all take warning by the two innocent girls’ sad fate, / And be aware of all false young men, with them don’t stay out late. [...] Mothers

all take warning by this sad affair, / Guard your girls day and night, of them take good care, / For if you don’t some day you may rue it when it is too late, / So remember well and bear in mind the two innocent girls’ fate.”⁷⁸

Newspapers littered their discussions of the church murders with similarly targeted poetry, highlighting the manner in which they relentlessly pumped out, or at the very least gave voice to Durrant “pornography.”

Newspapers further accompanied their reportage with various gruesome illustrations that escalated their pornography of violence for voracious readers to new levels, visually. *The Dalles Times-Mountaineer*, for instance, positioned several illustrations of Blanche Lamont’s rotting, naked corpse, the blood-stained floor of Emmanuel Baptist Church, and one of the knives used to stab Minnie Williams next to their discussion of Durrant’s romantic failures, rather heavy-handedly establishing their belief (or rather, lack thereof) in his innocence.⁷⁹ Another visual assessment out of *The Louisiana Populist* depicted two versions of Durrant posing as Robert Louis Stevenson’s infamous villain Dr. Jekyll and Mr. Hyde, complemented by illustrations of a knife embedded in a skull. At the bottom of the drawing, a snake slithered past Durrant’s feet.⁸⁰ Because the cost of photography precluded most news outlets from using it during the late nineteenth-century, the penny press took an illustrative approach instead. Their quest to reveal the most licentious and sensational details of the Emmanuel Church murders— they produced yet another variety of violent pornography that overshadowed the entirety of their coverage of Durrant.

MAUD ALLAN, DURRANT’S FATE, AND CONCLUSION

Durrant’s sister, erotic dancer Maud Allan, suffered similar treatment at the hands of the press a few years later after a brief (but successful) career in Europe. Whereas Durrant’s accusers often straddled the line between implicitly

and explicitly defining his sexual misdeeds, critics of Allan and her rumored homosexuality showed no such hesitation. They characterized Allan and her rumored sexual “degeneracy” as the antithesis of Lamont and Williams, idols of traditional nineteenth-century womanhood⁸¹. Scholars Toni Bentley and Lacy McDearmon have chronicled Allan’s very open vilification in the British and American press because of those accusations, exposing the gendered dichotomy of sexual discourse in the Victorian era—and how the media theatrically exploited this discourse with events involving both men and women⁸².

Eventually, interest in the Emmanuel church murders and their licentious details waned. After a media storm following the jury’s ruling, which found Durrant guilty of murder on November 23, 1895, public interest moved elsewhere. The court sentenced Durrant to death by hanging, and police transported him to San Quentin prison just north of San Francisco shortly after the conclusion of his trial—decisions which won much media praise. Though he maintained his innocence and appealed the court’s ruling several times, (generating the occasional article in the *San Francisco Call*, *The Herald*, or other papers that had covered his case), he was ultimately executed at San Quentin on January 7, 1898, with his mother by his side.

The late nineteenth-century penny press’s overtly sensual coverage of the Emmanuel Baptist Church murders influenced Theodore Durrant’s conceptions, his crimes, and his victims in a sexual way, and was itself the product of changing conceptions of sexuality during the Gilded Age. Both entire newspapers and individual journalists romanticized Blanche Lamont and Minnie Williams, whom they cast as icons of traditional sexuality, while simultaneously fetishizing Durrant’s violence—particularly its sexual aspects. Their emphasis on his romantic failures, scrutiny of his academic career, and sentimentalization of his victims all contributed to the development of his extraordinary image in the American public’s mind: not a murderer driven to kill in traditional ways by traditional means, but a sexual deviant hell-bent on destroying traditional notions of sensuality. Again, such representations influenced Theodore Durrant’s public knowledge in specific, but they also—and more importantly— influenced the public’s conceptions of sexuality more generally. Ultimately, print coverage of “the Demon of the Belfry” and his crimes during the Gilded Age underscores how media dramatically shapes public perception, an enduring reality that continues throughout the contemporary United States.

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38. "Durrant Runs a Big Bluff," *The Salt Lake Herald*, 10 May 1895, 1.
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41. "Looks Dark," *Arizona Weekly Citizen*, 20 April 1895, 3.
42. "Looks Dark for Durrant," *The Herald*, 16 April 1895, 1.
43. "Told on the Witness Stand," *The Herald*, 24 April 1895, 1.
44. "Durrant Murder Case," *The Record-Union*, 24 July 1895, 1; "Miss Lamont's Death," *The Indianapolis Journal*, 2 May 1895, 5; "Same Old Bravado," *The Salt Lake Herald*, 30 May 1895, 1.
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62. "Blood Stained the Church," *The Herald*, 15 April 1895, 1.
63. *Ibid.*, 1.
64. "Blacker Grows the Cloud Over Emmanuel Baptist Church," *San Francisco Call*, 15 April 1895, 3.
65. "Must Stand Trial," *San Francisco Call*, 3 May 1895, 5.
66. "Clews Still Lead to Durrant," *San Francisco Call*, 18 April

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71. "Verdict of the Jury," *The Anaconda Standard*, 20 April 1895, 1.

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WRESTLING WITH GIANTS

Probing the Pertinence of Antitrust Law for Big Law

LUC RIORDAN

IT IS UNQUESTIONABLE THAT THE COMPANIES THAT HOLD THE PUBLIC EYE TODAY ARE MOSTLY FROM THE TECHNOLOGY SECTOR. GROWING RAPIDLY FROM THE 1990S AND ONWARDS, THE CURRENT LEADERS IN THE FIELD NOW SEE THEMSELVES AT THE CENTER OF CONCERNS OVER MONOPOLY AND TRUST FORMING ISSUES THAT HAVE LED TO RENEWED INTEREST FROM THE US ATTORNEY GENERAL'S OFFICE. TRUST BUSTING HAS BEEN A STAPLE OF AMERICAN COMPETITION LAW, PARTICULARLY IN THE PAST FEW DECADES AND FOCUS IS NOW BEING TURNED ON THE SOCIAL MEDIA GIANTS THAT HAVE BECOME KEY PLAYERS IN EVERYDAY LIFE. THIS PAPER LOOKS TO ANALYZE THE REASONS FOR SUCH ACTION AND THE CONCERNS SURROUNDING LITIGATION OF THIS TYPE WITH PARTICULAR REFERENCE TO CURRENT COMPLAINTS AGAINST GOOGLE, FACEBOOK AND MICROSOFT. WHILE SHOWING THE BENEFITS OF ACTION TO PROTECT LEGITIMATE COMPETITION, THE PAPER SEEKS TO CAUTION AGAINST THE NOTION OF OVERLITIGATION AND THE PERVERSE INCENTIVES IT MAY PROVIDE. FINALLY, IT OFFERS SOME ALTERNATIVES TO THE STANDARD TRUST-BUSTING SOLUTION OF COMPANY BREAKUPS TO ACCOUNT FOR THE ADVENT OF THE DIGITAL AGE IN WHICH THESE TECH GIANTS EXIST.

INTRODUCTION

Of the ten most valuable companies in the world as of November 3rd 2020, seven are technology companies, with five of those seven based in the United States and leaders in their respective sub industries. Google, through Alphabet Inc., Facebook and Microsoft are three of these companies that have come under scrutiny for allegations of monopolistic or monopoly-forming behavior that could violate competition law of the United States in order to benefit themselves to an outsized degree. As the age of industrial power in the United States has waned, these types of companies have risen to take the place of the JP Morgans and Standard Oils, at least in the eyes of consumer groups and trust-busting minded politicians of Capitol Hill. However, the fears of these groups are not entirely unfounded. Dating back to the earlier telecoms boom and the rise of AT&T, there have been fears of a growth of a new age of Robber Barons in the technology field that could come to dominate competition, forming their own trusts and ensuring that control of their markets is uncontested.

Dissent appears in this topic over whether or not so-called 'high technology' should be considered to fall under the purview of antitrust law, and there was considerable opposition to *United States v. Microsoft Corp.* in the academic world, with a combined 240 economists from institutions across the country coming together to warn of the dangers of overzealous enforcement of antitrust measures. Worried that this prosecutorial appetite would hamper innovation, scholars wrote an open letter that demonstrated the complexity of the issue and raised the question of how far to go when it came to efforts to protect competition and consumers from monopolistic tendencies.

In this paper, I intend to lay out a brief history of antitrust in the United States and how it relates to the technology industry, focusing on a few major cases that relate to ongoing investigations being conducted by the Department of Justice and Federal Trade Commission today. I will attempt to show the damages that monopolies can have on an economy, relating these to actions undertaken by certain companies before discussing the merits and demerits of enforcement and current laws enforced in the present day. The issue at hand is not solely an economic one, as even being perceived as a monopoly can prove to be detrimental to a company's image, adding increased social costs to real or perceived economic costs. Greater scrutiny and an increase in bureaucratic oversight can hamper development as more resources are dedicated to litigation, fact finding,

and lobbying to counteract these developments. Ultimately, there seems to be little agreement on the facts of antitrust measures going forward, with a general fear of 'big tech' and concerns over innovation incentives and protectionism weighing down the progress of the issues.

Criticism of antitrust action is not likely to recede whether it be related to increased or decreased measures, but as the United States raises new concerns regarding the nature of companies in the the technology field like Facebook and Google, there is likely to be increased discussion that relates to how far to go with the current and following rounds of antitrust action undertaken. However, the end goal will likely always remain the same in the technology industry and the general idea underpinning all antitrust regulation: ensure innovation and a lower barrier to entry is protected while making sure that no one individual or cartel can exert undue control over the market.

HISTORY

Monopolization and anti-competitive actions have spanned the history of the United States, dating back to the progressive era and the Robber Barons who dominated much of the early industrialization of the North American continent. More recently, there have been serious instances where the issue of monopolization was brought to the forefront of the legal and political world, based on the understanding of the Sherman Act of 1890.

The Sherman Act sought to ensure that no one company, or grouping of companies, could accrue so much power that they were able to dictate the nature in which trade, primarily with foreign powers but also across state boundaries, to allow for free competition and avoid the associated costs that could arrive with a coercive monopoly in the United States.

Trust Busting and enforcement of the antitrust laws in the United States were prominent in the Progressive Era of the early 1900s. Theodore Roosevelt was particularly prominent in this effort and presided over one of the largest antitrust efforts of the era with the Northern Securities Co. case ruled to have violated competition law in 1904. The case held that the merger of the Great Northern and Northern Pacific railroads was unlawful as it would have created an effective monopoly over railroad traffic in the Western half of the United States, and at the time would have become the single largest company in the world. The major consideration underpinning the judgement was the

assertion that by combining these two railroads under a single holding, they would cease to be in competition with each other and would therefore constitute the creation of a restraint on interstate commerce (*Northern Securities Co. v. United States*, 1904).

More recently, technology companies have become the target for much of the antitrust action undertaken in the last forty or so years. AT&T became a target in the case in 1982, breaking up the company's local holdings into separate Regional Bell Operating Companies. It was suspected that AT&T was using profits from Western Electric in order to subsidize the operation of their telecoms network. Eventually a settlement was reached where the company was found to be in breach of US antitrust law and was ordered to divest from their network of Bell companies and relinquish control of the Yellow Pages, creating the regional bell operating company system (Enis & Sullivan, 1985).

Twenty years later, Microsoft came under attack for what was perceived to be acting in an uncompetitive manner. Much of the complaint, filed by the US attorney general and twenty other states' attorney generals, was based on the belief that the bundling of Microsoft programs into their operating system was in the pursuit of a monopoly. This act was alleged to give away a Microsoft-created product for free in order to further the control of the market that they already enjoyed. Specifically, Microsoft was alleged to have forced the inclusion of Internet Explorer into the Windows suite, claiming it was an integrated feature of Windows and not an extra product that they were bundling into the separate Windows product. The court held that the bundling of Microsoft's own browsing program was indeed a violation of the Sherman Act and therefore anti-competitive. Judge Jackson ordered the breakup of Microsoft into software development and operating system development components, but this was later reversed by an appeals court (*United States v. Microsoft Corp.*, 2000). After this we see the continuation of antitrust laws in technology and telecoms focused on software and programs with the more recent filings against both Facebook and Google. In the past few months, the CEOs of Amazon, Facebook, Twitter and Google all appeared before Congress in order to testify over their practices in the virtual space and whether or not these actions have constituted a violation of US competition law. In a 2010 article, Fortune stated that, "it's safe to say social networking is Facebook" demonstrating just how prominent that company in particular is in the popular imagination (Kevin Kelleher, 2010). However, popular

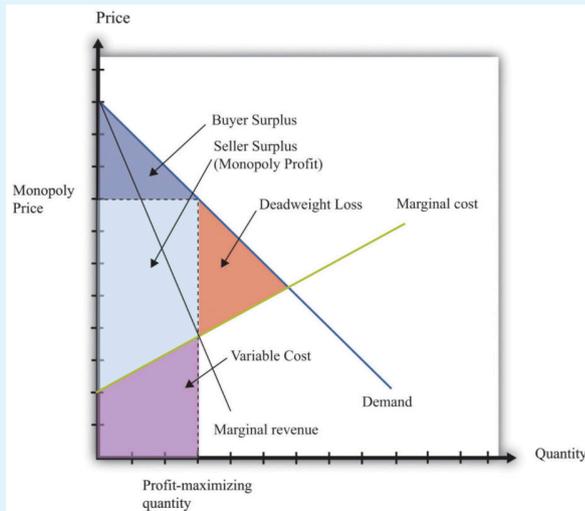
image is not the only aspect in which these companies are seen as juggernauts of industry. As with Microsoft becoming involved in action by the federal government, recent months have seen the growth of the Department of Justice and Federal Trade Commission interest in pursuing action against both Facebook and Microsoft under the provisions of the Sherman Act. In complaints issued on October 20, 2020 and December 9, 2020 respectively, the federal government seems to be increasing their interest in antitrust action. Citing both the 1974 and 1998 cases against AT&T and Microsoft, Deputy Attorney General Rosenstein called the suit against Google, "[an enforcement of] the Sherman Act to restore the role of competition and open the door to the next wave of innovation ... in digital markets" (Office of Public Affairs, DoJ, 2020).

Additionally, and more recently, the filing of a suit against Facebook may be one of the largest and most expansively supported actions taken by the FTC in technology antitrust cases. Supported by an investigation from "attorney generals of 46 states, the District of Columbia and Guam" the complaint issued on December 9, 2020 describes the anti-competitive actions of Facebook as including the strategic acquisitions of growing competitors WhatsApp and Instagram (Office of Public Affairs, FTC, 2020). It also focuses on platform conduct that required companies developing applications that could interface with Facebook to refrain from creating any competing products, effectively locking the developers into subservience to Facebook's own applications. The complaint specifically cites the case of Vine, a social media app launched by Twitter, that was denied access to friends lists originating from Facebook due to the perceived threat the new application represented (Office of Public Affairs, FTC, 2020). This suit is not without merit, as Consumer Watchdog submitted a complaint to the FTC alleging anti-competitive practices in Facebook's gaming department, requiring that developers using Facebook as a social aspect of their games exclusively use Facebook Credits. Consumer Watchdog estimated this would bring in \$2.1 billion in 2011 alone (Simpson, 2011).

ANALYSIS

From an economic theory standpoint, the issues present in monopolization cases are clear. Monopolization is harmful by nature due to the incentives to maximize the individual profit of monopolists rather than producing at the free market equilibrium. As shown by even the most basic economics textbook, a monopolist will not produce at the intersection of the supply and demand curves, but will

instead produce at a point where marginal revenue equals marginal costs, creating a market where a smaller quantity of goods are produced for a higher price than we would see in even a marginally more competitive market. Additionally, monopolized markets will see issues arise with consumer and producer surplus.



GRAPH 1: GRAPH ILLUSTRATING THE SHIFTS IN PRICE AND QUANTITY SUPPLY AS A MARKET CHANGES FROM A PERFECTLY COMPETITIVE MARKET TO A TRUE MONOPOLY. (COURTESY OF SAYLORDOTORG.GITHUB.IO)

As the number of suppliers drops to a single one and production shifts back on the price-quantity scale, we will see a combined increase in producer surplus with a similar, but not equal, decrease in consumer surplus along with the deadweight loss of this monopolized market. Therefore, we can see that there is a clear and basic need for action to be taken against monopolizers, since the presence of these market practices leads to not only a decrease in the well-being of consumers but also for society as a whole in the deadweight loss. All this for the benefit of just an individual company or consortium.

As it relates to technology companies, there are some economic concerns that arise as the government looks to prevent the formation of monopolies in the market—chief among these being the network effects that are so prominent in the technology industry. In the Department of Justice suit against Microsoft in 1994, competitors of Microsoft submitted a brief with a warning of the network effects

that were far more prominent in technology than in almost any other market (Elzinga et al., 2001). The economic section of this brief argued that by allowing Microsoft to grow to such an extent, that the simple nature of their products would lock users into their use, which could lead to the crowding out of potentially superior technology.

Monopolization in the technology market is not just about the nature of the market itself, nor is antitrust law limited to simply growing too large through that. The Sherman Act outlaws assaults on competitive practices, and this concern in the tech industry was raised by Cornell and Cessna when discussing the effects that acquisitions can have on the technology market. Citing the idea of ‘Killer Acquisitions’, the article talks about predatory practices in mergers and acquisitions that are outlined in the Sherman Act as anti-competitive actions (Cornell & Cessna, 2019). According to their article in *Competition Law International*, these acquisitions can be termed ‘acquihires’ due to their goal of taking in talented workers while denying the acquired firms the ability to present new products to the market. Data from 2020 may support this assertion of strategic and anti-competitive acquisitions, with a total of 406 mergers and acquisitions in the technology service sector in 2020 with a combined value of over \$114 billion. As seen in Graph 2, the technology sector had the second largest number of mergers and acquisitions behind only commercial services but outperformed all other sectors in value by at least \$70 billion. In fact, the only sector coming anywhere near that number being the health services industry with only \$41.8 billion in value from 108 transactions. This suggests that the technology market is seeing vast consolidation of valuable companies that completely outpaces the rates of consolidation of other industries.

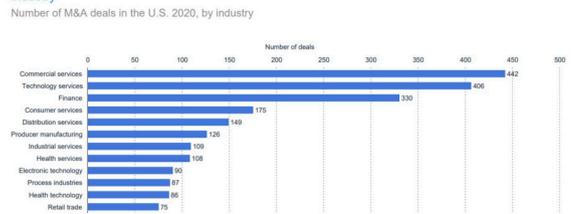
Linking this back to the concerns of network effects brought to the forefront in the 1994 case, there is a clear concern here that domination of the technology market can lead to the dumbing down of the field with inferior products, with market share protected only by the size of the networks and financial power given to them and the use of said power to absorb smaller firms that may threaten their dominance.

Even though the fears of monopoly are clear in the already mentioned Microsoft case, there is a key factor that does cast some doubt on how truly anti-competitive Microsoft was in their actions leading up to the suit. An open letter, published by The Independent Institute and run in both the Washington Post and New York Times, decried the suit

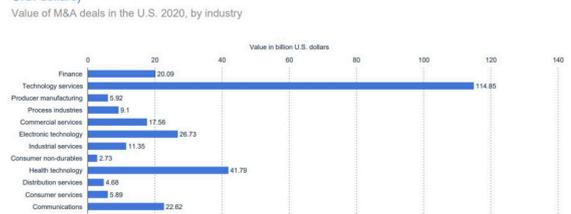
brought against Microsoft as nothing more than action that would benefit none but the company's competitors. The letter, signed by 240 economists from across the United States, claimed that by allowing the action to go forward, the government would in effect be hampering the innovation of the technology industry that had driven Microsoft to its position of dominance in the market. The signatories claimed that consumers saw falling prices rather

than rising, suggesting that monopoly power was not being exerted by Microsoft and that the dominance of Bill Gates' company could be attributed to the free markets and dynamism of technology. This dynamism was also credited with driving competitors of the company in 1994 to provide the economic brief mentioned earlier. Decrying actions that were being taken as protectionist, the letter warned that too much government overreach into the market would invariably lead to a situation where "Successful innovators are penalized, scale economies are lost, and competition is thwarted, not enhanced. Instead of preventing prices from rising, antitrust protectionism keeps prices from falling" (The Independent Institute, 1999).

Number of merger and acquisition deals in the United States from November 2019 to April 2020, by industry



Value of merger and acquisition deals in the United States in September 2020, by industry (in billion U.S. dollars)

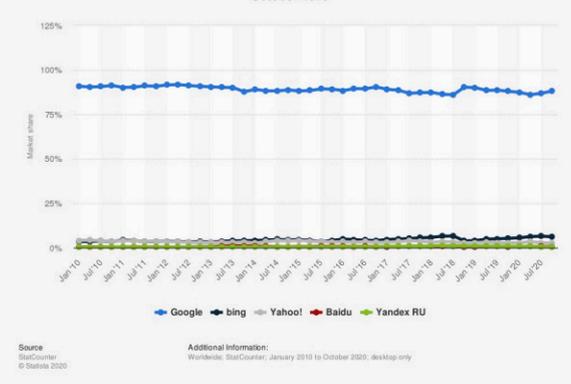


GRAPH 2: GRAPHS SHOWING THE NUMBER AND VALUE OF MERGERS AND ACQUISITIONS IN SELECTED INDUSTRIES. (COURTESY OF STATISTA)

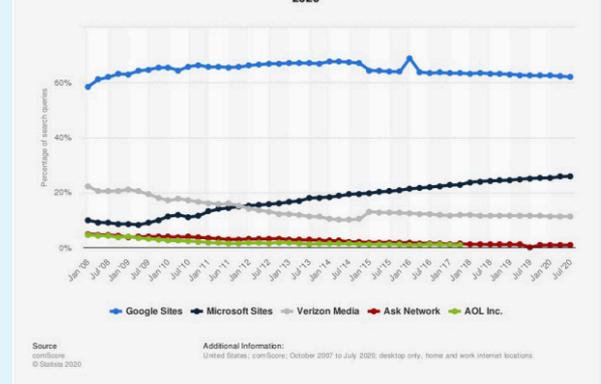
In terms of the formal determination of what is a monopoly, the United States has a relatively robust understanding that allows for market domination but likely not complete control. "A rough rule of thumb in the United States is that a 90% share of a well-defined relevant market is a monopoly, 66% may be a monopoly, and 33% clearly is not." (Waller, 2012, p. 1776) As it pertains to both Google as a search engine, it is almost certainly a monopoly.

Over the last 10 years, Google has maintained between 86% and 92% of the global search engine market, making it by definition a monopoly or near monopoly by the standards of the United States, while in the United States alone, there is less clear evidence of this with market share maintained only a little over 60%. Since 2008 we can see that it did peak at 68.8% in January of 2016, but this would only make it a likely monopoly by US standards.

Worldwide desktop market share of leading search engines from January 2010 to October 2020



Share of search queries handled by leading U.S. search engine providers as of July 2020



GRAPH 3: GRAPHS SHOWING GLOBAL SEARCH ENGINE MARKET SHARE AND DOMESTIC US SEARCH QUERY SHARE BY SELECT SEARCH ENGINES. (COURTESY OF STATISTA)

When we consider the growth of Microsoft market share in search query handling, which peaked in July 2020 at 25.9%, it becomes questionable as to how strong is Google's monopoly over this aspect of technology. In 1994, the antitrust case against Microsoft was driven in part by evidence brought to the judge by Gary Reback, an attorney for some of Microsoft's competitors. The evidence consisted of a 96-page amicus brief that provided details he claimed was pertinent to the case (Elzinga et al., 2001, p. 637). The clients represented by Reback were kept confidential, which raises some questions regarding the incentives for antitrust action in the technology sphere, especially when you consider that Reback was also involved in lobbying for such action against Microsoft before the suit was brought (Elzinga et al., 2001, p. 637). Fighting against calls to break up Microsoft in 1995, the Department of Justice had called the attempt a remedy that might advance the interests of Microsoft's competitors but would invariably act against the interests of the public. They claimed that the actions of Microsoft had brought benefits to the technology sector as a whole, increasing the rate of innovation and providing a lower barrier to entry for new firms (Elzinga et al., 2001, pp. 640–641).

Year	Number of Firms
1990	6,970
1992	7,617
1994	8,143
1996	9,972
1998	10,236
2000	11,061

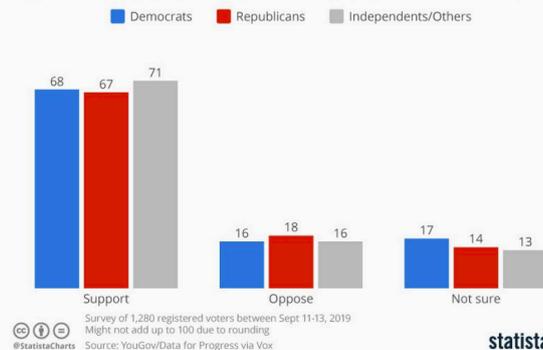
TABLE 1: CORPORATE TECHNOLOGY INFORMATION SERVICES, CORPTECH DATABASE, UNPUBLISHED TABULATION (2000)

Table 1 includes the findings from Corptech as to the number of software firms in the market around the time of the suits against Microsoft. While Microsoft may have shown dominance in the market, it is clear that they could not have been acting as an effective monopoly with firm formation occurring in such a way. By allowing for suits that target industry drivers, there is ample incentive for companies to latch on to these actions if it will reduce the market share of their competitors. As discussed before, a concern with the technology industry is the presence of strong network effects that could drive monopolization. Yet, should monopolization be avoided, hindering companies for fear

of these effects could hamper the growth of the industry as a whole in favor of what would ostensibly become a cartel that controls development for their own needs. Potential monopolization in technology has not only created vast economic reserves for the companies suspected of the practices but has also given them vast lobbying power and a reputation in the eyes of the American public as predatory corporations that seek nothing more than the extension of their monopoly power in the market.

Majority of Americans in Favor of Breaking up Big Tech

Support for breaking up big tech companies to level playing field for all content (in percent)



GRAPH 4: THE BREAKDOWN OF OPINION REGARDING BREAKING UP 'BIG TECH' BY POLITICAL AFFILIATION IN THE UNITED STATES (COURTESY OF STATISTA)

Graph 4 displays a breakdown of just how pervasive the idea of monopolization in the technology industry has become in the United States. Indeed the attitudes expressed here are not only held by the average public, but also by academics. Discussing the classification of social media in 2013, Adam Thierer referenced academic Zeynep Tufekci and her categorization of Facebook and Google as potential "social utilities" that are at risk of becoming corporatized regardless of their nature as "essential to one's social existence" (Thierer, 2013, p. 254). However, this approach to classifying social media is warned against in the article, regardless of the beliefs of academics. Thierer argues that while networks like Facebook and Twitter provide strong networked services, they are not the endpoint of social media interaction, pointing out that applications like Friendster and MySpace have faded from the spotlight despite being dominant (Thierer, 2013, p. 275).

So far, antitrust law has seemed to work well as a measure against monopolization in technology, as it allows for the flexibility of the government in whether to break up com-

panies-as was the case with AT&T-or to allow companies to continue to exist as they were with simple changes to their own business practices-as was the case with Microsoft in 1994. However, in his testimony to Congress in October of 2020, Bill Baer of the Brookings Institute warned of underenforcement of antitrust measures (Baer, 2020). He claimed that the standards for antitrust action were far too high and had led to consolidation of firms in markets that would have been quashed in the 1990s. Highlighting the overturned decision against Microsoft in 2001, he stated that antitrust action is “too cautious, too worried about adverse effects of ‘over enforcement’ (so called Type I errors)” (Baer, 2020) and that consequently the minimum standard for enforcement was higher than the given black letter law standard of a preponderance of evidence. This fear of error is present in Elzinga et al.’s article on the cases against Microsoft, stating, “as in medicine, antitrust remedies must be considered for their side effects. The antitrust parallel to the hippocratic oath’s “do no harm” is “don’t make it worse.” (Elzinga et al., 2001, p. 689). Baer went on to decry current antitrust law as omitting the presumption that certain behaviours were likely to lead to the reduction of competition. This would then allow defendants in any antitrust case to simply claim that they were only acting in the same way that any other company would in their position. Baer’s final criticism on antitrust actions as of 2020 was not the law itself but the lack of resources available to those enforcing it. In fact, his assertion was not so much a call to action but a call to observation: “But second, more resources would allow for after-action studies of what happened in markets where the agencies decided not to bring enforcement actions or where the courts rejected an antitrust challenge. Developing that data would allow the antitrust enforcers to demonstrate to the courts what happens when there is under-enforcement” (Baer, 2020). This evaluation of the current state of law could avoid the pitfalls of the Type I errors he mentioned earlier in his testimony, as further understanding of how the market reacts to actions considered potentially anti-competitive could allow for a more concrete understanding of the ways

in which these actions affect the market. This can avoid either the problem of overenforcement or underenforcement that has damaged antitrust action over time.

CONCLUSION AND IMPLICATIONS

So far, the only unifying factor that we can see in antitrust law today is that there is little consensus on where it should go in the future. As discussed, there have been calls for the breakup of larger companies, particularly for Microsoft in the cases brought against them by the federal government between 1990 and 2001. All the while, there has also been pushback against this kind of bureaucratic involvement in the market from economists that credit control over the market to the dynamism of technological development and the natural flow of economic cycles. Yet what can be agreed upon likely is that there is too much that is currently unclear in antitrust measures as it pertains to technology.

Some broad conclusions can be drawn about the state of the technology market to give future policy makers an idea of what they are dealing with. Looking back to the analysis section, we can see that this sector of the economy is potentially the single greatest value creator of any market in which economic activity currently takes place. That provides lawmakers with a clear dilemma with regulation. Obviously the government would want to encourage growth of economic activity in this field, as more activity provides more jobs and higher tax income from profitable companies and employed citizens. However, this kind of market also incentivizes practices that the government may deem unwanted. The Department of Justice complaint filed this year details the practices said to be used by Google to ensure its dominance in such a valuable market, claiming the use of exclusivity agreements and irreversible pre-installations of their own products on devices regardless of the desires of customers. So a balance must be struck that must prevent exploitation but, as the Independent Institute warned in 1999, does not result in restrictions that muzzle innovation in the field.

“...a balance must be struck that must prevent exploitation but, as the Independent Institute warned in 1999, does not result in restrictions that muzzle innovation in the field.”

Additionally, there is a worry that over-enforcement of these actions as the opening of cases into a competitor by the government may provide a perverse incentive for companies to submit evidence or lobby the government to break up individual companies that have gained a dominant spot simply because of their business acumen, technology, or just random chance that the Sherman Act does allow for in a competitive market. Legislators and regulators must therefore be wary of being overzealous in their approach to the topic at hand, lest they create a less competitive market in search of just the opposite. Antitrust law can be tricky for these reasons and the success of the technology industry may be down to the laissez-faire approach the government in the United States has taken, as opposed to the stricter regulation that befalls the European markets. The public perception of companies in the technology sector does leave the average viewer wondering what can be done to restore trust in the technology sector and allow for the innovation that has led to such a growth of economic activity.

The most prominent of ideas that could be implemented to answer the problem may be by protecting personal data as a way to reduce the control that large companies exert, particularly on social media. The largest concern about social media control has to do with the level of control to which they exert over the choice of platform. With the acquisition of Instagram and WhatsApp, Facebook was able to allow users to port their data from one platform to another, expanding their network between these three apps and creating a closed system that was mutually beneficial between them. Twitter data cannot be shared across these apps and in a similar way, Google can port data between devices that use their search engine and create a history and profile from a user's queries. Effectively, these companies control a user's data that they input into their network and can effectively lock them in using that data as a 'sunk-cost'. If a user has spent so much time on one platform or network, why would they switch over to another that requires them to build a completely new profile? No matter if the technology on this new network is superior, they simply do not have the interconnectivity that the original network provides.

The *MIT Technology Review* suggests that this policy of data regulation is the best way forward and indeed implies a breakup of technology companies would be more inefficient and costly than simply regulating their practices (Chen, 2019). By removing a user's data from the control of social media giants, the government could successfully

eliminate much of the detrimental lock-in network effects of 'big tech' and provide a jumping off point for increased innovation. Instead of exclusive access to data that user's provide to technology companies, the government could legislate to give control of said data back to consumers or mandate that data be considered an integral part of the online persona of internet users. These users would then be able to lend out that data to platforms and remove it at will. By doing so, technology companies would simply be purveyors of platforms for the data, turning the market from one driven by the collection and control of data to one that would again reward technology and innovation rather than consolidation.

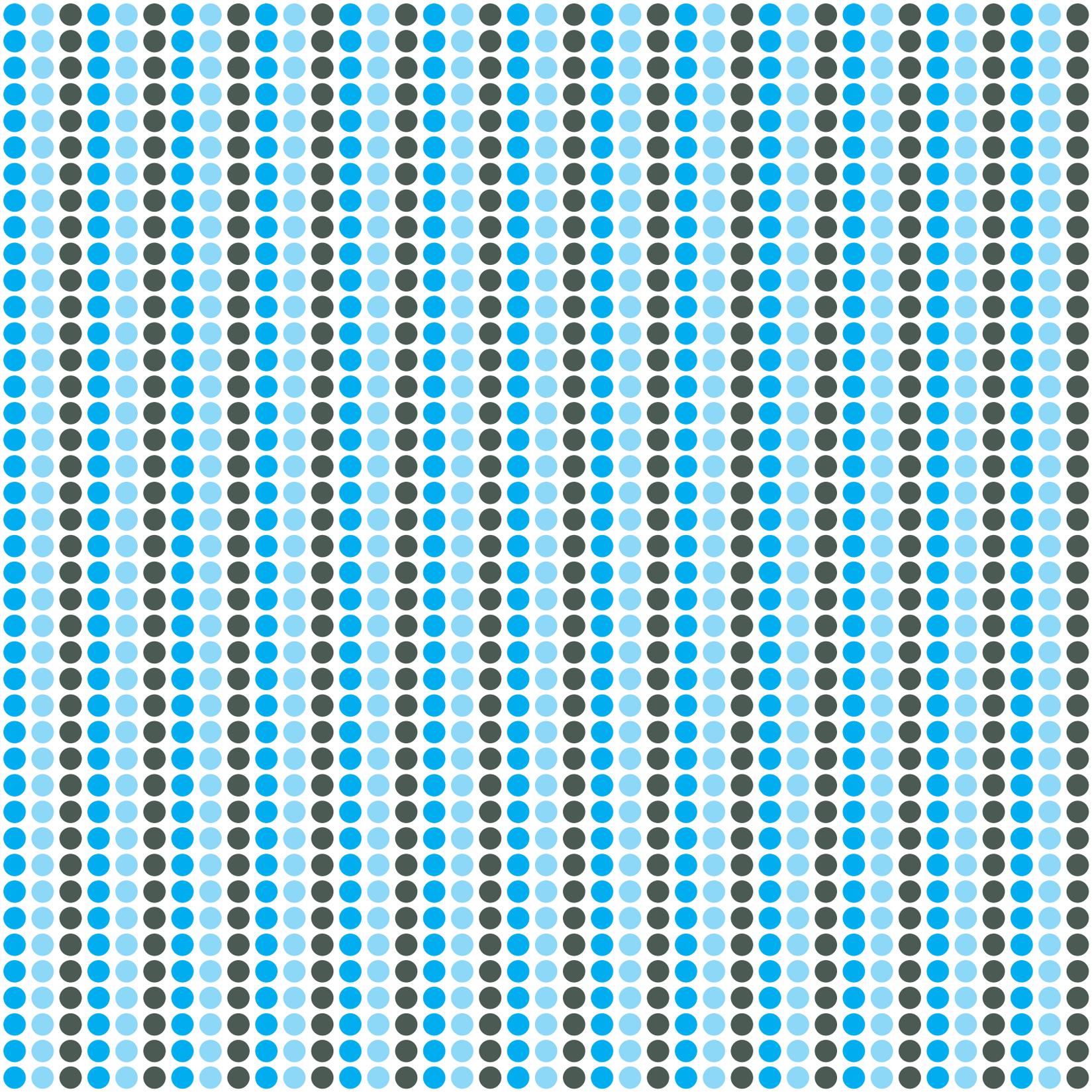
This does raise some questions about what kind of data could be shared across platforms and how those platforms could use said data. However, by forcing data to be shared between platforms the advertising market could be opened up as more suppliers enter the market and the barrier to entry for new firms in the social and technology space would be lowered by the newfound prevalence of data in the market.

Ultimately we would hope to see this policy boost the rate of innovation in the technology sector as mentioned, but some will be at a disadvantage, even as the market would likely grow. Facebook, Twitter, Google, and other technology giants would naturally see their market dominance decrease, particularly in social media, as Google seems well insulated in the search engine market. Depending on what legislation or amendments to the Sherman Act are passed, there would likely be litigation that challenges the nature of the data in a similar way to the 2000 Microsoft case, potentially claiming said data as a feature of the products and not separate entities over which they exert uncompetitive control. However, should a hands-off approach be taken, as suggested in Bill Baer's testimony to the House Committee on the Judiciary, a more scientific approach could lead to more concrete standards of what actions truly lead to monopolistic consolidation. Ultimately, the nature of the technology sector is unlikely to change drastically with new antitrust measures undertaken. Based on previous cases, if the court rules against Facebook and Google, there will likely be a challenge and potential settlement that allows for the maintenance of the companies but forces them to release data that they previously held exclusively and orders them to refrain from exclusivity deals, such as Google's deal with Apple as cited in the DoJ complaint of this year (Office of Public Affairs, DoJ, 2020). Ultimately, Americans may dislike "Big Tech," but many

believe they cannot live without it. Facebook and Google are unlikely to disappear in the same way that Microsoft is still a major player in the technology industry. However, should more effective standards be determined, we should hope to see a new growth in technology innovation that may upset the power of the established juggernauts.

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FOOD FOR THOUGHT

Researching nutrition's mitigating effects on the Pathogenesis of Alzheimer's Disease

CAROLINE COHEN

THIS PAPER DESCRIBES THE CONNECTION BETWEEN THE FOODS WE EAT AND OUR BRAIN HEALTH. IT ASSESSES THE EFFECTS OF CERTAIN NUTRIENT GROUPS ON THE BRAIN AND THEIR ROLE IN THE PATHOGENESIS OF ALZHEIMER'S DISEASE (AD), SPECIFICALLY THE BRAIN ABNORMALITIES ASSOCIATED WITH IT, INCLUDING TAU TANGLES, AMYLOID-BETA PLAQUES, AND OXIDATIVE STRESS. THE INTAKE OF A HIGH FAT DIET, WITH SATURATED FATS IN PARTICULAR, HAS BEEN SHOWN TO AGGRAVATE BETA-AMYLOID PROTEIN ACCUMULATION AND THE FORMATION OF TAU TANGLES, WHEREAS A DIET LOW IN SATURATED FAT AND HIGH IN N-3 FATTY ACIDS HAS BEEN SHOWN TO REDUCE AMYLOID-BETA PLAQUE FORMATION AND LESSEN COGNITIVE DECLINE. AN ANTIOXIDANT-RICH DIET IMPROVES LEARNING AND MEMORY IN MICE AND COMBATS THE HEIGHTENED OXIDATIVE STRESS FOUND IN AD BRAINS. THE MIND AND DASH DIETS HAVE BOTH BEEN SHOWN TO DIMINISH ALZHEIMER'S INCIDENCES, BUT THE MIND DIET PROVES ITSELF TO BE MORE IMPACTFUL THAN THE DASH DUE TO ITS SPECIFIC EMPHASIS ON THE CONSUMPTION OF FOODS HIGH IN ANTIOXIDANTS.

NUTRITION'S DETERMINATION OF OVERALL HEALTH

Food has effects on your body and overall health that may not be completely obvious from the outside. Many people believe that regardless of food choices, having a smaller body frame means being healthy. However, nutrition research has shown that certain nutrient groups have various effects on the body, including the brain, that prevent or promote the development of diseases and other health problems. Following a nutrient-specific diet plan over one's lifespan can serve as a preventative measure for the development of Alzheimer's disease (AD). Numerous studies suggest that guided consumption of vitamin C, vitamin E, antioxidants, and essential fatty acids can mitigate the progression of amyloid-beta plaques, tau tangles, and oxidative stress, thus constituting a preventative and therapeutic, non-pharmaceutical approach to tackling AD.

ALZHEIMER'S RISK FACTORS AND COMMON BRAIN ABNORMALITIES

The hallmark brain markers found in AD patients are primarily tau tangles and amyloid-beta plaques. The presence of both of these lead to the impairment of memory that characterizes the illness. The accumulation of beta-amyloid protein forms these plaques and triggers both synaptic and memory loss, therefore facilitating AD development (Nakandakari et al., 2019). Tau tangles are composed of aggregated tau proteins that interfere with cellular mechanisms, ultimately causing the cell to die (ibid). The diminishing size of the brain is a result of neuronal and synaptic death, which are more strongly correlated with the memory loss in AD than beta-amyloid plaques and tau tangles (Samadi et al., 2019). Slowing the progression of plaques and tangles would elicit cessation, or at least slowing, of the development of the illness and is something that nutrition can feasibly do.

In addition to these precursors, obesity is a main risk factor for AD (Szczechowiak et al., 2019). This is widely unknown, for it is not typically mentioned among the commonly known health risks associated with obesity such as diabetes, hypertension, and atherosclerosis. Given the rising rate of obesity today, the associated risk of Alzheimer's with obesity should be made known to the public. The current lack of awareness stems directly from the common disassociation made by consumers between what they eat and their health beyond body weight. Food is meant to nourish and fuel the body, but when food choices are made ignorantly, they may lead to unexpected risks.

FAT CONSUMPTION AGGRAVATES BETA-AMYLOID PROTEIN ACCUMULATION AND FORMATION OF TAU TANGLES

High fat consumption has been shown to exaggerate beta-amyloid and tau protein aggregation. Nakandakari et al., 2019 conducted a study in which mice were given either standard chow or a short-term high-fat diet to assess the effects of a high-fat diet on the AD precursors. It was shown that consumption of the high-fat diet increased beta amyloid content and tau phosphorylation, which leads to tau tangles and neuronal death. The high fat diet was shown to trigger apoptotic alterations in the hippocampus, thus catalyzing the diminishing size of the hippocampus in AD.

Next, the researchers looked specifically at the impact of saturated fats, which are believed to be the most unhealthy and are recommended to be consumed in moderation. They directly applied palmitate, a component of saturated fatty acids, to neurons and microglial cells over a ten-day period. Direct application of palmitate increased beta-amyloid and tau protein content. These results suggest that diets in saturated fat, amplify the production of beta-amyloid plaques and tau tangles. Saturated fat is therefore a nutrient that should be consumed sparingly due to its neurodegenerative effects (Nakandakari et al., 2019).

“The diminishing size of the brain is a result of neuronal and synaptic death, which are more strongly correlated with the memory loss in AD than beta-amyloid plaques and tau tangles.”

Another study conducted by Theriault et al. in 2016 replicated these results with mice being fed a high-fat diet containing high levels of saturated fatty acids for four months. It was found that the mice given this high-fat diet showed increased amyloid-beta content in cerebral microvasculature compared to control animals (Theriault et al., 2016). These results support the hypothesis that a high-fat diet exacerbates the development of AD.

POSITIVE EFFECTS OF A DIET LOW IN SATURATED FAT: THE MIND DIET

The Mediterranean-DASH Intervention for Neurodegenerative Delay (MIND) diet focuses on the consumption of plant-based foods and fish to limit the intake of animal food sources and saturated fats. This diet is a hybrid between the Mediterranean diet and the Dietary Approaches to Stop Hypertension (DASH) diet, created with the goal of improving brain health. The MIND and DASH diets are compared later in this paper to examine the varying effectiveness of each due to a key difference in foods incorporated. Following the guidelines of the MIND diet has been shown to slow the development of the typical precursors of AD. When studied in mice, it was found that high intake of n-3 fatty acids from fish sources had the opposite effects of saturated fat. N-3 fat consumption was found to decrease beta-amyloid formation and oxidative stress and increase synaptic proteins and dendritic spine density (Berendsen et al., 2018 as reviewed by Samadi et al., 2019). This increase in synaptic proteins and dendritic spine density serves as a preventative mechanism from AD symptoms, given that losses in these entities have the greatest association with the memory impairments seen in AD.

The n-3 fatty acids found in fish typically include omega-3, docosahexaenoic acid (DHA), and eicosapentaenoic acid (EHA) (Vauzour et al., 2015 as reviewed by Szczechowiak et al., 2019). All of these components have been shown to improve neuronal transmission and regulate the excitability of neuronal membranes, thus improving memory and learning in healthy, non-AD individuals (ibid). Additionally, it has been found that these n-3 fatty acids can promote immunity in patients who have been diagnosed with mild

cognitive impairment and have therefore not yet progressed to the level of decline that would constitute their impairment as AD. This immunity refers to n-3 fatty acids promoting the phagocytosis of amyloid-beta proteins, therefore dissolving plaque aggregation and reducing memory loss symptoms (Fiala et al., 2017 as reviewed by Szczechowiak et al., 2019).

An additional study conducted by Schaefer et al. in 2006 reported these same results of further deteriorating memory. Elderly people were given a questionnaire regarding their fish intake habits and were then placed into quartiles based on their levels of consumption of fish that is high in DHA. Those found to consume the most DHA-containing fish had a 47% lower risk of dementia relative to those in the bottom three quartiles (Schaefer et al., 2006). This further demonstrates that DHA consumption in fish is correlated with lower risk of cognitive decline.

THE MIND DIET IS EASIER TO FOLLOW AND MORE EFFECTIVE THAN DASH

A well-balanced diet is one that naturally contains all of the vital nutrients without the need for supplementation. An example of a diet within this category is the DASH diet, which emphasizes the consumption of non-processed, plant-based foods and limits the intake of animal products and other foods high in saturated fat (Samadi et al., 2019). Studies of this diet in elderly people show that subjects who followed the diet the most strictly and received high DASH diet scores, were seen to have a 39% reduction in Alzheimer's incidence compared to those who received the lowest DASH diet scores (Morris et al., 2015). Evidently, following a healthful, plant-based diet has the ability to lower the risk of Alzheimer's development considerably.

One study conducted by Morris et al. in 2015 observed that those following the MIND diet had an even greater preventative effect on Alzheimer's incidence than did those following DASH. The DASH and MIND diets focus on the same target and avoidance foods, but the MIND diet specifically incorporates berries and green leafy vegetables. As a result of this addition, MIND diet consumers were

“...the mice given this high-fat diet showed increased amyloid-beta content in cerebral microvasculature compared to control animals.”

shown to have slower cognitive decline than DASH consumers. Those who complied most strongly to the MIND diet and fell into the top tertile of MIND diet scores had a 53% reduction in the incidence of AD, compared to those who fell in the lowest tertile of MIND diet scores. Those who fell in the middle tertile of MIND diet scores still had a 35% reduction in the rate of AD development. Even low compliance showed significant results, similar to those with the greatest compliance to DASH. This indicates that the DASH diet must be followed strictly to achieve the same results as a loose following of the MIND diet (Morris et al., 2015).

It is important to note that the DASH diet's guidelines are far more demanding than those of the MIND, and yet the MIND diet is more powerful even at low compliance. To achieve a high MIND diet score, consumption includes only two servings of vegetables per day, two servings of berries per week, and only one serving of fish per week (Morris et al., 2015). In contrast, a high DASH diet score requires three to four servings of fruits and three to four servings of vegetables per day, in addition to six or more servings of fish per week (ibid). The MIND diet is far easier to follow and results in greater protection against AD. So what is it that makes the addition of blueberries and green leafy vegetables so significant? This answer lies within the high antioxidant content of these additions compared to other fruits and vegetable choices that may be made in the DASH diet due to no specification.

ANTIOXIDANT TREATMENT IMPROVED LEARNING AND MEMORY IN MICE

Oxidative stress refers to a damaging interaction between reactive oxygen species (ROS) and vital compounds in their surroundings in the brain that are associated with the amyloid beta plaque and tau tangle precursors (Huang et al., 2016). Oxidative stress is caused by an imbalance between antioxidants and oxidants, which occurs due to either decreased antioxidant defense or increased free radical concentration. Free radicals contain at least one unpaired electron in their valence shell, which comes from the reduction of the oxygen in water. This reduction reac-

tion creates strongly reactive hydroxyl radicals, which are a type of ROS. These reactive hydroxyl radicals react with fats, proteins, nucleic acids, and other molecules and alter their functions and structures. Oxidative stress occurs when ROS molecules are created in excess concentrations, thus creating the imbalance between antioxidants and oxidants. Antioxidants serve to prevent the formation of ROS and are therefore an important component in protecting the brain (ibid). Cells in the body typically contain antioxidant defense mechanisms to protect against oxidative stress on their own, but it has been found that AD patients have low levels of these anti-oxidative molecules in their cells (Ansari et al., 2010 as reviewed by Thapa et al., 2017). This suggests that these low levels of endogenous antioxidants may contribute to the ROS overload that produces oxidative stress in AD patients. This endogenous anti-oxidative mechanism diminishes with age, therefore putting elderly people at a greater risk for developing AD (ibid). This demonstrates the importance for the elderly population and those knowingly at risk of AD to consume antioxidants through food sources.

Studies have tested the effects on oxidative stress of distributing the antioxidant ascorbic acid to mice, where it was shown that ascorbic acid and vitamin E treatment promoted facilitatory effects on memory retrieval and learning (Shahidi et al., 2008 as reviewed by De Oliveira et al., 2019). High levels of anxiety have been proven to impair learning capabilities and memory. The ascorbic acid given to the mice served to decrease oxidative stress and lower their anxiety levels, thus increasing their ability to both learn and draw from their memories (Hasanein et al., 2010 as reviewed by De Oliveira et al., 2019). The second portion of the study gave vitamin E in addition to the ascorbic acid to diabetic mice, in whom they found both improved memory and reversal of memory deficits (ibid). This addition of antioxidants in both groups served to diminish oxidative stress by reestablishing the balance between oxidants and antioxidants in the brain, thus mitigating the problems of memory loss seen that result from oxidative stress. It can therefore be concluded that consuming foods rich in antioxidants have the ability to reduce oxidative stress and improve deficits in learning and

“...the DASH diet's guidelines are far more demanding than those of the MIND, and yet the MIND diet is more powerful even at low compliance.”

memory seen in AD and could thereby be used as a potential therapeutic or prevention mechanism for the disease.

THE MIND DIET IS MORE EFFECTIVE THAN DASH DUE TO ITS EMPHASIS ON ANTIOXIDANT INTAKE THROUGH BERRIES AND LEAFY GREEN VEGETABLES

The MIND specifically incorporates berries as a guideline for its fruit intake, which contain higher levels of antioxidants than other fruits. A study conducted by Joseph et al. in 1999 shows the power of berries in mitigating oxidative stress which explains the heightened effectiveness of the MIND diet over the DASH, which does not specify berry consumption. The study was done on adult rats to determine the effects of both blueberry and strawberry consumption on brain health. Rats were given blueberry or strawberry extract in their water for eight weeks. After the eight week period, the effects on oxidative stress were measured based on the production of ROS in the rats' brain tissues. Results showed that the rats that consumed strawberries and blueberries showed greater oxidative stress protection than the rats in the control group, with the blueberry group showing slightly higher protection than the strawberry group (Joseph et al., 1999). Blueberry extract has been shown to reduce oxidative stress in the brain by increasing the synthesis of glutathione, which is an antioxidant (Brewer et al., 2010 as reviewed by Subash

et al., 2014). Berries contain higher antioxidant content than most other fruits, which is why they are added to the criteria of the MIND diet and is ultimately what makes it more successful in reducing the risk of Alzheimer's. While the research on the effects of green leafy vegetables on the brain is inconclusive, it can be speculated that due to their high vitamin E content, their impact is the same as was shown in the study conducted by De Oliveira et al. in 2019.

CONCLUSION

Figure 1 shows the relationship between eating a healthy diet and having a healthy brain. In this context, a healthy diet is classified as a high intake of antioxidants and n-3 fatty acids, and an unhealthy diet consists of high consumption of saturated fats, trans fats, and simple carbohydrates. As has been outlined in this paper, the nutrients in the healthy diet decrease oxidative stress, thereby decreasing amyloid-beta plaque and tau tangle formation, thus mitigating the effects of AD. In contrast, consuming the nutrients within the unhealthy diet produces the opposite effects in each component. These effects serve to deem a healthy diet as a neuroprotective mechanism, and an unhealthy diet a neurodegenerative mechanism.

Nutrition is a non-pharmaceutical approach to decrease risk against AD, which is a highly feasible and easily

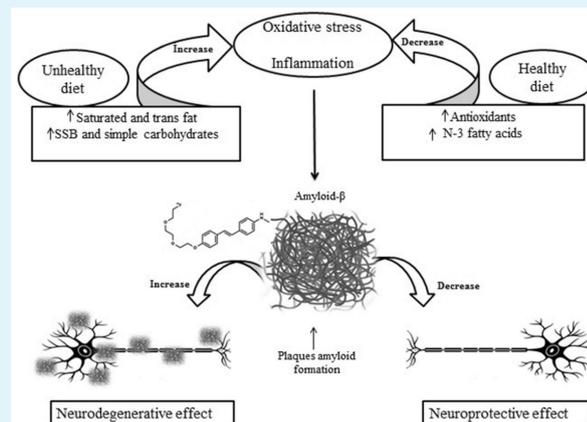


FIGURE 1: DEPICTS THE INFLUENCE OF VARIOUS NUTRIENT GROUPS ON FACTORS THAT PLAY A ROLE IN THE PATHOGENESIS OF ALZHEIMER'S. IT DEMONSTRATES TWO SPECTRUMS OF NUTRITION DECLARED AS HEALTHY VERSUS UNHEALTHY AND WHETHER THEIR NUTRIENTS HAVE BEEN SHOWN TO ADMIT NEUROPROTECTIVE EFFECTS OR NEURODEGENERATIVE EFFECTS, RESPECTIVELY. THIS GRAPHIC LAYS OUT THE DIRECT CONNECTION BETWEEN DIET AND BRAIN HEALTH THAT CAN PROTECT FROM OR CONTRIBUTE TO THE DEGENERATION OF THE BRAIN IN ALZHEIMER'S DISEASE. (FROM SAMADI ET. AL)

controllable factor that individuals can take upon themselves with minimal effort. Given the little knowledge of the average person about the connection between the foods they eat and their brain health, the government should distribute a public service announcement to promote the importance of nutrition and how it can impact not just your weight and your heart, but also the brain. There are many claims about other nutrient groups, such as foods high in zinc and aluminum, however the evidence found is limited. With the current research available, it is difficult to deduce the details to make a nutritional approach concretely effective. These gray areas include the duration of time this dietary approach needs to be followed for it to be effective, as well as how strictly. While one may argue that there are too many alternative factors involved to report a connection between food and the brain, with the few therapies available for Alzheimer's currently, any step toward a potential cure should be considered. We ought to take advantage of such scientific findings and promote more informed consumption as a society to increase longevity and influence the factors that contribute to chronic illness where we can.

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THE CONTINUING CONTAINMENT

Evaluating the Trump Administration's China Containment Strategy on Eastern Regions and Beyond

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THERE EXISTS A SHIFTING BALANCE OF POWER IN EAST ASIA. CHINA, THE RISING POWER, IS ATTEMPTING TO DISMANTLE AMERICAN HEGEMONY IN THE INDO-PACIFIC. TO COUNTER GROWING CHINESE CAPABILITIES, THE TRUMP ADMINISTRATION HAS ADOPTED A POLICY OF ACTIVE CONTAINMENT, ESCALATING U.S.-CHINA TENSIONS. THIS PAPER WILL EXPLORE CHINA'S RISE FROM THE PERSPECTIVE OF GREAT POWER POLITICS, ESTABLISH THERE IS A POWER TRANSITION, AND LASTLY, ARGUE THAT THE TRUMP ADMINISTRATION'S CONTAINMENT STRATEGY HAS BEEN FUNDAMENTALLY COUNTER-PRODUCTIVE TO AMERICAN INTERESTS IN THE REGION AND UNSUCCESSFUL AT MODERATING CHINESE BEHAVIOR. LESSONS CAN BE DRAWN FROM THE TRUMP ADMINISTRATION'S MISTEPS THAT CAN BE USED TO FORMULATE MORE EFFECTIVE CHINA POLICY UNDER THE BIDEN ADMINISTRATION.

INTRODUCTION

In East Asia, a power transition is occurring in which China is actively trying to displace the U.S. as the primary regional hegemon. China's rising military and economic capabilities, and the U.S.' diminishing capacity to balance China's rise, have contributed to a shifting balance of power in the region. In response, the Trump administration has adopted a policy of active containment to constrain China's rise, escalating Sino-U.S. tensions. These tensions have led academics such as Graham Allison to warn about the "Thucydides trap," which assumes that the U.S. and China are "destined for war."¹ Such tensions have seen Washington, as realists such as John Mearsheimer have predicted,² move to curtail the number of Chinese students studying at American universities, launch a trade war, and bolster deterrence-building in the Indo-Pacific through cooperation with security partners. This paper will outline China's objectives in the region, establish a power transition, and argue that Trump's China strategy has been fundamentally counter-productive to U.S. objectives in the region and unsuccessful in moderating Chinese behavior. Instead, containment has exacerbated Chinese concern regarding strategic encirclement, compelling Beijing to double down on assertive behavior in the Taiwan Strait and the South China Sea. Lessons from containment can be drawn to formulate a more effective American strategy to confront China's continued rise.

MARITIME HEGEMONY

For states to consolidate maritime hegemony, it is necessary for them to first eliminate threats along their continental periphery. This was true for Great Britain and the United States, the only great powers to have existed in the past two hundred years. Great Britain was able to project its naval capabilities overseas because of maritime buffers that separated it from continental Europe, both against France³ and Germany.⁴

The United States could not consolidate regional hegemony until it possessed the land borders necessary to enable

naval buildup. When the U.S. first gained independence in 1783, it faced a perilous periphery, with threats on all sides. The British and Spanish Empires surrounded the country, and hostile tribes of Native Americans continued to control large swaths of territory⁵. The U.S. responded by instigating an aggressive campaign of expansionism under the guise of 'manifest destiny'. Throughout the 17th century, the U.S. gained continental-based security through a series of purchases from European and other North American powers.⁶ The U.S. then set out to achieve regional hegemony by pushing European powers out of the Western hemisphere through the Monroe Doctrine of 1823. At that time, the United States did not have the capabilities to fulfill the doctrine's objectives. By the end of the 19th century, however, the U.S. had pushed the great European powers out of its backyard, allowing the U.S. to consolidate regional hegemony and ultimately, great power status.⁷

China is now in a similar position to how the United States was at the end of the 19th century. Traditionally, China has had a contentious periphery: seven out of fifteen of the largest countries in the world, with a collective population of over 90 million, border China. Five of those countries have engaged China in a war since 1949, and Beijing maintains border disputes with nearly all of its neighbors. Over time however, China has gradually eliminated threats along its borders. Tensions stemming from the Sino-Soviet split have disappeared as Sino-Russian ties grow increasingly robust.

Furthermore, Russia's preoccupation with NATO forces in Western Europe, and domestic challenges in a slowing economy, declining population, and growing internal unrest, has rendered Moscow unable to balance China's rising military capabilities.⁸ Relative to China, Russia is a declining power. Likewise, India does not possess the military, economic, or technological capabilities to balance China or challenge Chinese security. GDP and technology gaps expand between Beijing and New Delhi every year, rendering India a declining power.⁹ Having consolidated a

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“Similarly, China’s military rise has been facilitated by increasingly robust economic capabilities that have enabled China to contest the U.S. for hegemony in the maritime domain”

secure periphery, China has “followed in Uncle Sam’s footsteps,”¹⁰ and invested significantly in consolidating robust naval capabilities.

POWER TRANSITION IN EAST ASIA

As Paul Kennedy notes, the rise and fall of great powers is most often the result of “differentials in growth rates and technological change, leading to shifts in the global economic balance, which in turn gradually impinge upon the political and military balances.”¹¹ Under Kaiser Wilhelm and Bismarck, Germany’s rise was enabled by rapid expansion in industrial potential that allowed it to instigate a naval buildup outpacing shipbuilding rates seen in Great Britain and France.¹² Similarly, China’s military rise has been facilitated by increasingly robust economic capabilities that have enabled China to contest the U.S. for hegemony in the maritime domain.

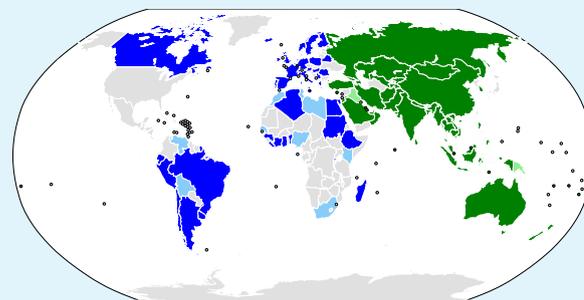
ECONOMIC TRENDS

Since Deng Xiaoping’s economic reforms in 1978, China’s economy has grown at astonishing rates. Between 1979 and 2018, China’s annual real GDP growth averaged 9.5% a year—essentially, China’s economy doubled in size every eight years.¹³ China’s GDP, measured according to domestic purchasing power, is already more significant than that of the U.S., and is also on the verge of overtaking the U.S.¹⁴ to become the world’s top consumer goods market.¹⁵ By 2049, China aims to be a fully developed nation.¹⁶ By 2050, China’s economy is projected to be the world’s largest, surpassing that of India and the U.S, projected to rank second and third respectively.¹⁷

As economic trends continue to favor China, Beijing has steadily become the primary architect for Asian-Pacific economic relations. Long dissatisfied with structural disadvantages it perceives in U.S.-dominated multilateral financial institutions, Beijing has actively sought to create its own. In 2015, for example, China launched the Asian Infrastructure Investment Bank (AIIB), which has since become a mechanism for Belt and Road Initiative (BRI)

financing and RMB internationalization.¹⁸ In the AIIB, China’s vote share is disproportionately large at 28.7%, compared to that of the second-largest AIIB nation, India, which has 8.3%.¹⁹ China also maintains de facto voting power over important issues, such as deciding the board of directors’ size and election of the president.²⁰ Despite stark U.S. warnings cautioning allies not to partake in the AIIB, U.S. security partners such as the United Kingdom, France, Germany, Australia, and South Korea joined the initiative. The creation of the AIIB and the subsequent reactions of U.S. allies led to concerns in Washington about its ability to sustain leadership in international economic order²¹.

China has also steadily become the primary architect of trade relations in the Asia-Pacific. The CCP has long prioritized the creation of trade flows, setting up trade zones in Shanghai in 2013 and Tianjin, Guangdong, and Fujian in 2015. Beijing also signed FTAs with countries such as Switzerland, Australia, and South Korea in 2015.²² Xi linked free trade with the BRI in 2014, stating that “radiating Belt and Road” would “gradually build a network of



POTENTIAL SIGNATORIES, SIGNATORIES AND PARTIES TO THE ASIAN INFRASTRUCTURE INVESTMENT BANK
GREEN: MEMBERS (REGIONAL)
LIGHT GREEN: PROSPECTIVE MEMBERS (REGIONAL)
BLUE: MEMBERS (NON-REGIONAL)
LIGHT BLUE: PROSPECTIVE MEMBERS (NON-REGIONAL)
(COURTESY WIKIMEDIA COMMONS)

free trade zones.”²³ Through enabling 6 trillion USD in new trade,²⁴ the BRI also provides opportunities for China’s export-oriented economy. The recent promulgation of China’s first multilateral trade deal, the Regional Comprehensive Economic Partnership (RCEP), further bolsters China’s status as an economic leader.²⁵ RCEP will cover 48% of the world’s population, 30% of total world GDP, and 28% of global trade flows.²⁶ Shenmeng Hui and Li Tianguo, researchers at the state-affiliated Chinese Academy of Social Sciences (CASS), estimate that RCEP will add 0.22% to real GDP growth and 11.4% to China’s total exports.²⁷ Chinese elites have also extensively discussed the prospects of joining the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).²⁸ The U.S., notably, is absent from both these agreements. Chinese elites have asserted that China should capitalize on Washington’s recent skepticism of free trade to further its economic objectives. Wang Huiyao for example, president of the state-affiliated China Center for Globalization (CCG), has written that “the 2017 withdrawal of the U.S. from TPP” has provided “China the window to join the CPTPP.”²⁹ As the U.S. retrenches from the liberal economic order Washington created, China’s global leadership has become increasingly notable.

Thus, China has actively pursued the internalization of the RMB to decrease its reliance on the USD. In 2008, the Governor of the People’s Bank of China, Zhou Xiaochuan, criticized the status quo international monetary system and called for an international reserve currency “disconnected from economic conditions and sovereign interests of any single country.”³⁰ Chinese concerns were exacerbated by the 2008 U.S. financial crisis, which sparked anxiety about the volatility of the USD.³¹ Xiao Lisheng, deputy director of the International Finance Research Office at the CASS Institute of World Economics, has argued that RMB internationalization can minimize the impact of “external shocks or crises” and thus improve China’s “financial security level.”³² Through the creation of the Cross-Border Inter-Bank Payments System (CIPS), a funds transfer system created to process RMB transactions independently of the American-dominated SWIFT, China has pursued RMB internationalization. Between 2017 and

2018 for example, CIPS processed an additional 26 trillion RMB, enabling an 80% increase in the number of global RMB transactions.³³

Through initiatives such as Made in China 2025 (MIC 2025), China has also pursued growth via high-tech, advanced industries in information technology, artificial intelligence, aviation, and energy vehicle sectors. The plan’s primary goal is also to achieve self-sufficiency in tech, aiming, for example, for 70% self-sufficiency in core imports and basic materials for Chinese aerospace and telecommunications industries.³⁴ Chinese Vice-Premier Liu He recently stated that China will continue to bolster technological capabilities to accommodate growing demand from a wealthier population while also citing foreign containment in Chinese tech sectors as a reason to pursue increased self-sufficiency in tech.³⁵ Through compelling foreign firms to enter into joint ventures with Chinese ones in exchange for market access, the provision of government subsidies of over 426 billion USD, acquisition of foreign firms, and improved human capital, MIC 2025 has motivated substantial improvements in China’s high-tech sectors.³⁶

Experts note that China’s severe economic challenges, including negative total factor productivity (TFP),³⁷ overcapacity afflicting its state-owned enterprises (SOE’s), rising youth unemployment, and associated internal unrest among others, could stymie planned improvements in China’s military capabilities. Beijing, however, will likely do everything possible to keep its economic growth afloat, including artificially propping up its economy. Thus, it would be remiss to assume that China’s economic challenges will restrain its expansionist foreign policy vision; in fact, the opposite may occur. As Jack Levy’s “scapegoat hypothesis” suggests, states may instigate conflict abroad to distract from growing discontent at home.³⁸ Particularly vulnerable is Taiwan, which expects U.S. intervention during prospective cross-strait conflict under the provisions of the 1979 Taiwan Relations Act (TRA). Furthermore, China’s economic troubles must be assessed relative to those afflicting the U.S. economy. In 2020, the American economy is expected to contract by 8% and rebound by 5.2% in

“Thus, military trends provide the most accurate measure of power in security competition. Particularly important are China’s growing maritime capabilities.”

2021,³⁹ in contrast to China's economy, which is expected to grow by 2% in 2020 and 7.9% afterwards.⁴⁰ Relative to China, the U.S. is a declining power.

Economic power, however, is of secondary importance to military power. As John Mearsheimer notes, states maximize survival over the preservation of economic ties.⁴¹ Furthermore, Robert Ross notes that economic power is not “fungible in international security affairs”, pointing out that Chinese market control over Singapore, Malaysia, and Australia grew at the same time those countries were deepening defense ties with the U.S.⁴² Thus, military trends provide the most accurate measure of power in security competition.

MILITARY TRENDS

Military trends in East Asia, similar to economic trends, are favorable for China. China's primary goal in East Asia is to displace the U.S. as the primary hegemon in the region. Having eliminated threats along its continental periphery, China has investigated significantly in bolstering its naval capabilities to counter U.S. maritime hegemony in the Indo-Pacific. To this end, China has actively increased its fleet size while aggressively pursuing military modernization. Between 2010 and 2017, the number of PLA Navy (PLA-N) vessels increased from 210 to 320, making it larger than the U.S. navy.⁴³ It has also accelerated the production and commission of destroyers, frigates, corvettes, and submarines. Between 2015 and 2017, China launched almost 400,000 tons of new naval vessels, twice the output of American shipyards during the same period.⁴⁴ Robert Ross estimates that by 2033, China could possess a fleet consisting of 430 surface ships and a hundred submarines.⁴⁵ A 2016 U.S. Naval War College study estimated that the PLA-N could possess an active fleet of 530 warships and submarines by 2030.⁴⁶ Chinese naval spending indicates that an emphasis on bolstering maritime capabilities will persist. Between 2015 and 2021, Chinese defense spending is expected to increase 55% from 167.9 billion to 260.8 billion USD, with the PLA-N's share of the budget increasing 82% from 31.4 billion to 57.1 billion

USD.⁴⁷ Additionally by 2023, China is expected to launch a new aircraft carrier, its third following the commission of the Liaoning and Shandong.⁴⁸

At the same time, the PLA-N has undergone substantial modernization. In 2010, less than 50% of PLA-N ships could be classified as modern; by 2017, over 70% of PLA-N ships were modern.⁴⁹ The PLA-N has acquired capabilities in carrier operations and ballistic-missile submarine patrols,⁵⁰ and has benefited from increasingly sophisticated ship-launched and air-launched cruise missiles with precision targeting capabilities.⁵¹ China's submarines, for example, are now equipped with 290 nm-range YJ-18 anti-ship missiles.⁵² The PLA-N has also shown improved command, coordination, and operational capabilities, integral to what Barry Posen calls the “command of the commons.”⁵³ In April 2018, the PLA-N's new aircraft carrier Liaoning conducted its first carrier strike group operations in the Philippine Sea.⁵⁴ In August 2020, the PLA-N demonstrated the ability to conduct military drills in four regions across the eastern Pacific ocean simultaneously.⁵⁵ It has also shown an ability to assert global presence. In August 2018, U.S. Chief of Naval Operations Adm. John Richardson stated that the PLA-N is “ready and capable of operating wherever Beijing wants,” noting that the PLA-N had already conducted operations in the North Atlantic.⁵⁶

Simultaneously, China's intermediate and long-range ballistic missile capabilities have improved. Long-range DF-15s, of which the PLA could have 730,⁵⁷ can strike U.S. bases in Japan, the Korean peninsula, and targets in Taiwan and India. They have been shown to be highly precise, with a circular error probability (CEP) of less than fifty meters.⁵⁸ In August 2020, China successfully tested the DF-21D and DF-26B “carrier-killer” and Guam-killer” missiles in the South China Sea.⁵⁹ Wang Xiangsui, a former PLA colonel, has stated that the missiles could hit a moving target.⁶⁰ Andrew Erickson estimates that China may have more than two hundred DF-26 missiles in its arsenal.⁶¹ China's strides in missile R&D has also led to the creation of the DF-5B liquid-fueled intercontinental ballis-

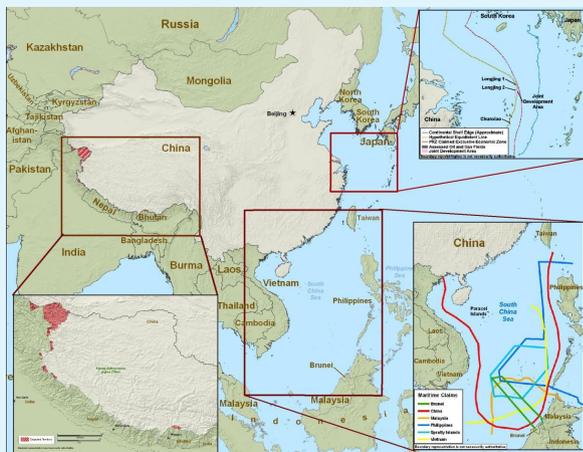
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tic missile (ICBM), and the JL-2 submarine-launched ballistic missile (SLBM), the latter of which can equip China’s Jin-class ballistic-missile submarines.⁶² Such improvements have made U.S. bases in areas of Southeast Asia vulnerable to Chinese ballistic missiles.

Meanwhile, U.S. navy capabilities are diminishing. In twelve years, the U.S. navy will consist of 237 ships, a decrease from the 282 currently in its fleet.⁶³ Moreover, the U.S.’ capacity to respond to China’s growing capabilities is constrained. In 2015, the U.S. developed a plan to increase the size of the active fleet to 308 ships by 2022.⁶⁴ In 2017, the Trump administration announced its desire for a 355-ship navy.⁶⁵ To reach 355 ships, however, the navy would have to increase its budget by 50% more than the average of the past six years.⁶⁶ A shift in spending would also inevitably entail decreased spending on the army and air force, a move that would spark fighting in the Pentagon.

Compounding these problems are challenges facing other service branches and prior U.S. commitments in Europe



CHINA'S ONGOING TERRITORIAL DISPUTES (COURTESY OF WIKIMEDIA COMMONS)

and the Middle East. First, rising demand for additional funding from other service branches hinders the navy’s ability to receive the resources necessary for U.S. balancing of the PLA-N. In a 2020 report, for example, retired Gen. Mike Holmes (USAF) warned that “because the Air Force has not been allocated enough money to maintain the number of units required to meet current demands, ensure the readiness for countering peer adversaries, and transform force structure to meet the new threats, the service is at a breaking point.”⁶⁷ Second, the U.S. still has to contend with challenges posed by developments in the Middle East, in addition to a prolonged campaign of Russian expansionism. This stands in stark contrast to China, whose navy’s primary goal is to consolidate maritime hegemony in its region. The PLA-N already possesses geographical advantages over the U.S. in this regard, given the proximity of contested areas in the South and East China Sea to Chinese port facilities. In this sense, the U.S. is languishing under what Paul Kennedy describes as “imperial overstretch,” in which the global commitments of great powers become too costly to maintain.⁶⁸ Hal Brands and Evan Montgomery argue that the U.S. must inevitably “pare back its commitments to bring them into alignment with existing resources,” a move that would inevitably diminish Washington’s global credibility.⁶⁹ Analysts note that congressional budgetary irresponsibility, in addition to hesitancy within the navy to advance necessary reforms, are challenges that hinder plans to bolster naval capabilities.⁷⁰

American naval leaders have already warned of diminishing American maritime capabilities vis-à-vis China’s. In 2018 the commander of U.S. Indo-Pacific Command, Adm. Phillip Davidson, testified that in all scenarios “short of a war with the United States,” China is “capable of controlling the South China Sea.” He also warned that “there is no guarantee that the United States would win a future conflict with China.”⁷¹ In February 2020, the U.S. Office of Naval Intelligence stated that by 2030, China’s force of “major surface combatants” including aircraft

carriers, destroyers, frigates, and corvettes will exceed those possessed by the U.S.⁷² In December 2020, retired Adm. Joe Sestak warned that the “Navy has now lost its assured command of the seas- for the first time in the post-World War II era – to China in the Western Pacific.”⁷³

TRUMP CONTAINMENT STRATEGY

In response to China’s rise and growing assertiveness, the Trump administration has espoused a policy of containment, as is consistent with the behavior of any declining power. Great power competition has since become a central theme of U.S. foreign policy, as exemplified by the 2017 National Security Strategy (NSS) and 2018 National Defense Strategy (NDS).⁷⁴ Elbridge Colby and Wess Mitchell, two former Trump administration officials, wrote in Foreign Affairs that “beneath today’s ephemeral headlines, it is this shift, and the reordering of U.S. military, economic, and diplomatic behavior that it entails, that will stand out and likely drive U.S. foreign policy under president from either party for a long time to come.”⁷⁵

RHETORIC, HUMAN RIGHTS, SANCTIONS

The first element of Trump’s containment strategy is rooted in heightened criticism of China in official statements, briefings, and strategies. In October 2020, National Security Advisor Robert O’Brien named China “the threat of the century.”⁷⁶ In December 2020, Director of National Intelligence (DNI) John Ratcliffe asserted that China was “national security threat no.1” in an op-ed published in the Wall Street Journal.⁷⁷ The Trump administration has also emphasized China as a national security threat in several strategic documents, including the NSS and NDS, which labeled China a ‘revisionist power’. In November 2020, the policy planning staff at the State Department also released a 70-page paper titled “The Elements of the China Challenge”, which details a U.S. response to China’s “hegemonic ambitions” and desire to “revise the world order.”⁷⁸

On human rights issues, the U.S. has actively emphasized the plight of the Uyghurs in Xinjiang and the pro-democracy movement in Hong Kong. In October 2020, Robert O’Brien stated that “something close to genocide” was occurring in Xinjiang.⁷⁹ In December 2020, the U.S. officially banned imports of all Chinese cotton products made by the Xinjiang Production and Construction Corps (XPCC) due to concerns regarding forced labor.⁸⁰ Washington has also made symbolic moves to highlight its support for the Uyghurs. In October 2019, the White House appointed Uyghur-American Elnigar Iltebir to be the director for China affairs at the National Security Council (NSC).⁸¹ A similar story exists with Hong Kong. In November 2019, Trump signed the Hong Kong Human Rights and Democracy Act, authorizing the U.S. to sanction Hong Kong officials. The administration also signed an executive order ending Hong Kong’s preferential trade status with the U.S. following Beijing’s imposition of the National Security Law (NSL).⁸² Moreover, Washington has actively rallied allies to partake in such causes. In November 2020, for example, the five-eyes intelligence-sharing alliance of Australia, Canada, New Zealand, the UK, and the U.S. released a joint statement urging China to revise their imposition of authoritarian measures in Hong Kong.⁸³ In October 2020, the State Department appointed Assistant Secretary of State Robert Destro to be Special Coordinator for Tibetan Issues, signaling a renewed commitment to raising awareness for the issue of religious repression in Tibet.⁸⁴

The U.S. has also put pressure on China through high-profile diplomatic challenges. In July 2020, the U.S. ordered China to shut down its consulate in Houston, labeling it a hub for Chinese espionage and influence operations. This prompted the Chinese to shut down the U.S. Consulate-General in Chengdu.⁸⁵ In June 2020, the State Department imposed new limits on the number of Chinese journalists allowed in the U.S., and designated specific Chinese media entities as “foreign missions,” asserting that the latter were “essentially owned by the

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PRC.”⁸⁶ Furthermore, in several key speeches, American officials have designated China as the U.S.’ primary national security threat. This began in October 2018, when Vice-President Mike Pence delivered confrontational remarks at the Hudson Institute.⁸⁷ In July 2020, U.S. Secretary of State Mike Pompeo delivered a speech called “Communist China and the Free World’s Future,” asserting that engagement with China had failed.⁸⁸ In September 2020, President Trump lambasted China for its mishandling of the COVID-19 pandemic in front of the UN General Assembly.⁸⁹ The U.S. has also specifically targeted CCP officials for sanction and punishment. In July 2020, the Trump administration imposed sanctions on Chinese Politburo member Chen Quanguo for his involvement in human rights abuses in Xinjiang.⁹⁰ In December 2020, the Trump administration also released new guidelines limiting all members of the CCP to single-entry visas.⁹¹



U.S. DEPARTMENT OF JUSTICE AMONG OTHERS ANNOUNCED 23 CRIMINAL CHARGES AGAINST HUAWEI & ITS CFO WANZHOU MENG (COURTESY OF WIKIMEDIA COMMONS)

ECONOMIC REALM

The second element of the Trump administration’s containment strategy has occurred in the economic realm, where the U.S. has actively sought a redress of trade concerns regarding a growing trade deficit, the dumping of Chinese products such as steel, and lack of intellectual property (IP) rights, through relying on tariffs and coercive economic measures. In 2018, the Trump administration imposed a 25% tariff on Chinese imports worth a collective 34 billion⁹² USD. Following the imposition of retaliatory tariffs by Beijing, the U.S. imposed 10% tariffs on Chinese imports worth an increased total of 200 billion USD.⁹³ Following negotiations over the Phase One trade deal, tariffs were reduced, although they have remained. The U.S. has reduced tariffs to 7.5% on Chinese imports worth 120 billion USD, and China has reduced tariffs on U.S. goods worth \$75 billion from 15% to 7.5%.⁹⁴ In August 2019, the U.S. also labeled China a currency manipulator, noting that China’s central bank has arbitrarily weakened the RMB on several occasions.⁹⁵ In December 2020, Trump is also expected to sign a bill that prevents Chinese companies from listing on American stock exchanges, unless they submit to U.S. auditing standards.⁹⁶

Furthermore, the Trump administration has sought to contain the success of Chinese technology giants such as Huawei, instructing Canadian authorities to arrest its CFO in 2018,⁹⁷ issuing new export controls in May 2020, and officially naming Huawei a national security threat in June 2020.⁹⁸ In November 2020, NSA Robert O’Brien named Huawei “the number one concern for democracy going forward.”⁹⁹ To this end, the U.S. has actively pressured allies to espouse similar policies against Huawei, including Great Britain and India.¹⁰⁰ It has also placed Huawei, along with telecom firms such as ZTE, on “entity lists” published by the Commerce Department, which essentially prohibits

American firms from conducting transactions with them.¹⁰¹ China's Ant Group, formerly known as Alipay, has also been blacklisted.¹⁰² The Trump administration has also placed thirty-five Chinese companies with alleged links to the PLA on defense blacklists, most recently adding chip making giant SMIC and gas producer CNOOC.¹⁰³ Such moves block their access to U.S. investors and restrict their supply of critical equipment from American suppliers. American concerns regarding semiconductor supply-chain security have also motivated the Department of Commerce to bar entry for Chinese firms, mandating companies to obtain a license before they can be allowed to provide goods and services to firms such as SMIC.¹⁰⁴ In November 2020, the U.S. drafted another list of eighty-nine Chinese firms with ties to the PLA.¹⁰⁵

MILITARY REALM

The third element of Trump's containment strategy is in the military realm, where the United States has actively built an emerging coalition in the Indo-Pacific to check China's increasing assertiveness in the East China and South China Seas. Together with members of the "Quad," namely India, Japan, and Australia, the U.S. has increased the number of Freedom of Navigation Operations (FONOPS) it conducts in the South China Sea and has participated in a growing number of multilateral naval exercises. In November 2018, Secretary of Defense James Mattis stated that the U.S. would "demonstrate resolve through operational presence in the South China Sea."¹⁰⁶ Between 2018 and 2019 alone, U.S. navy vessels sailed in a twelve-mile range of Chinese-claimed territory over twelve times, a substantial increase in numbers seen during the Obama administration.¹⁰⁷ In November 2020, naval ships and aircraft from all Quad members participated in the Malabar 2020 Exercises, in the Bay of Bengal.¹⁰⁸ In the same month, the U.S. navy conducted a four-day mine warfare exercise with naval vessels from the Japanese Maritime Self-Defense Force (JMSDF).¹⁰⁹ Defense ties between the U.S. and Indo-Pacific partners have also deepened. In November 2020, for example, NSA Robert O'Brien announced the delivery of precision-guided missiles among other weapons to the Philippine military, while affirming that an attack on a Philippine vessel in its territorial waters would trigger American defense obligations.¹¹⁰ American defense contractors have also cooperated with Japan to

produce joint weapons capabilities, most recently completing the development of the SM-3 ballistic missile interceptor, which was successfully tested in November 2020.¹¹¹

The U.S. has also actively expanded defense ties with Taiwan, which China considers a wayward province. Arms sales to Taiwan have occurred at a far greater frequency, and weapons sold to Taiwan have become increasingly sophisticated. In 2018, the Trump administration approved the sale of submarine-related subsystems to aid Taiwan's fledgling indigenous submarine program.¹¹² In July 2020, the U.S. approved the sale of Patriot missiles to replenish Taiwan's aging arsenal.¹¹³ In October 2020, the U.S. approved the sale of AGM-84H SLAM-ER missiles and HIMARS batteries, which when deployed in Taiwan, will be capable of striking targets on Chinese bases and airfields.¹¹⁴ The U.S. navy has also conducted operations aimed at bolstering deterrence in the Taiwan Strait. In June 2020 for example, the Aegis destroyer USS Russell crossed the Taiwan Strait.¹¹⁵ Moreover, the U.S. has adopted additional advisory and logistical support roles for Taiwan's military. In June 2020, the U.S. Army took the rare move of publicizing joint military training between American and Taiwanese special forces in annual "Balance Temper" training sessions.¹¹⁶ In November 2020, officials from Taiwan's Naval Command confirmed reports that members of the U.S. Marine Corps' (USMC) Marine Raider Regiment had conducted training alongside Taiwanese troops in Taiwan.¹¹⁷ In the same month, two-star Navy admiral Michael Studeman, who oversees U.S. military intelligence in the Asia-Pacific, paid an unannounced visit to Taiwan.¹¹⁸

Lastly, the U.S. has highlighted the Indo-Pacific as the priority theater for its armed forces now and moving into the future. In June 2020, three U.S. aircraft carrier strike groups conducted simultaneous operations in the Indo-Pacific in a robust show of force.¹¹⁹ In September 2020, the Ronald Reagan carrier strike group integrated over eleven-thousand personnel and one hundred aircraft between four service branches to conduct Operation Valiant Shield in the Philippine Sea.¹²⁰ The following month, the South China Sea Probing Initiative (SCSPI) released a report stating that U.S. spy planes had conducted flights targeting China sixty times across the span of September.¹²¹ In October 2020, a Chinese military spokesperson stated that

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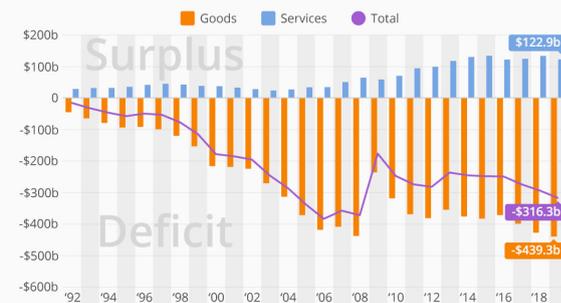
the USS John McCain had entered disputed waters near the Paracel Islands.¹²² In November 2020, the U.S. Secretary of the Navy called for the establishment of a U.S. 1st Fleet, to be based at the intersection of the Indian and Pacific Oceans.¹²³ It has also sought increased engagement with allies to facilitate U.S. hegemony. In October 2020 for example, Secretary of State Mike Pompeo urged Indonesia to find “new ways” of cooperation in the South China Sea.¹²⁴ Lastly, the Pacific Deterrence Initiative, recently authorized by the 2021 National Defense Authorization Act (NDAA), will see the U.S. allocate an additional 6 billion USD in military funding to bolster deterrence in the Indo-Pacific.¹²⁵

EFFECTIVENESS AND CHINESE RESPONSES

The Trump administration’s containment policy has not led to productive trade relations with China, stability in the Indo-Pacific, or more robust alliances. Washington’s trade war has hurt the American taxpayer and firms more than it has the Chinese economy. More FONOPs and increased cooperation with the Quad have not compelled China to moderate its assertive behavior in the South China Sea. The imposition of sanctions on Chinese officials over human rights concerns, has similarly not compelled China to cease its campaigns of ethnic cleansing and repression in Xinjiang and Hong Kong, respectively. Instead, China’s exports have grown while the U.S. trade deficit has ballooned, Chinese military activity in the South China Sea and Taiwan Strait has increased, and vulnerabilities in U.S. alliance structure have become more apparent. China’s economic and military capabilities, furthermore, continue to grow. In this sense, Trump’s containment policy

Trade Deficit Climbs to Decade High in First Half of 2019

U.S. trade balance in goods and services trade for the first six months of 1992-2019



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AMERICAN GLOBAL TRADE DEFICIT
(COURTESY OF STATISTA)

has failed to reverse trends favoring China in power relations with the U.S.

TRADE WAR VULNERABILITIES:

Despite the Trump administration’s touted successes, the U.S.-China War has imposed high costs on American taxpayers rather than Chinese firms. The nonpartisan Tax Foundation notes that the U.S.-China trade conflict has imposed 80 billion USD worth of new taxes on the American public due to U.S. tariffs on thousands of Chinese products.¹²⁶ Tariffs imposed by the administration are estimated to reduce long-term GDP by 0.23%, wage levels by 0.15%, and result in the loss of over 179,000 full-time jobs.¹²⁷ A September 2019 study by Moody’s Analytics was even more pessimistic, estimating that the trade war had already decreased U.S. real GDP by 0.3% and resulted in the loss of 300,000 American jobs.¹²⁸ Furthermore, a report from the Federal Reserve Bank of New York and Columbia University concluded that the trade war would result in the loss of 316 billion USD for the U.S. economy by the end of 2020.¹²⁹ Especially hurt are U.S. soybean, pork, and dairy farmers, who have seen revenue decline as China’s tariffs hurt exports.¹³⁰ Concerns prompted a spokesperson for the American Farm Bureau to warn that farmers have “lost the vast majority of what was once a \$24 billion market in China.”¹³¹

Furthermore, the trade war has not succeeded in achieving its primary goal of lessening the U.S. global trade deficit. In October 2020, the U.S. trade deficit ballooned to 67.1 billion USD, a fourteen-year high.¹³² The trade deficit with China has not decreased substantially either. Between 2017 and 2018, the U.S. trade deficit with China in goods actually grew from 375 billion to 418 billion USD, although it has since decreased to \$252 billion in 2020.¹³³ Additionally, the trade war has not succeeded in slowing China’s economic growth. China’s economy is projected to grow even amidst the COVID-19 pandemic, and growth in exports recently reached its highest rate since February 2018. The amount of Chinese exports in December 2020 was 21.1% greater than total exports in December 2019.¹³⁴ Firms such as Huawei have also continued to see growth in revenue, hitting a record 122 billion USD in profits during the 2019 fiscal year.¹³⁵

Moreover, targets in the Phase One trade deal have been shown to be simply unrealistic. In the first half of 2020, China had only purchased 23% of the goods they were supposed to purchase annually. China has pledged to

spend an additional 60 billion USD on American goods in 2018, but this would be practically impossible, given that American exports to China have declined significantly year-on-year.¹³⁶ Lastly, the trade war has bolstered perceptions among Chinese elites that Washington feels threatened by its rise, reinforcing Chinese confidence. Wei Jianguo, a former top Chinese trade official, has stated that “the essence of the trade war is to destroy” an increasingly capable China.¹³⁷ Fu Ying, former Vice Minister of Foreign Affairs, has stated that U.S. policy towards China is to “slow it down through suppression”, as it contends with a fight “the declining superpower cannot afford to lose.”¹³⁸ As the U.S. pushes economic containment, Chinese elites become increasingly aware of the shortcomings in U.S. capacity to respond effectively.

COMPOUNDING CHINESE FEARS OF ENCIRCLEMENT:

Trump’s China policy has also exacerbated Chinese fears regarding its external security infrastructure, motivating increased assertiveness from the PLA, as opposed to less. Fears regarding encirclement were particularly evident following Obama’s pivot to Asia in 2012, and have accelerated rapidly in the context of U.S. containment policy.

The pivot to Asia first emerged in 2011, when Secretary of State Hillary Clinton wrote an article in Foreign Policy titled “America’s Pacific Century”. Clinton affirmed that “the future of politics will be decided in Asia”, and that the “United States will be right at the center of the action.”¹³⁹ Through “forward-deployed diplomacy”, Clinton articulated U.S. desire to “build a web of partnerships and institutions across the Pacific that is as durable and as consistent with American interests...as the web we have built across the Atlantic.”¹⁴⁰ In 2012, U.S. Secretary of Defense Leon Panetta said that the U.S. military would bring “enhanced capabilities to this vital region.”¹⁴¹ Key features of the Obama administration’s “Pivot to Asia” included the proposed deployment of 60% of U.S.’ submarines to the Asia-Pacific by 2020.¹⁴² During the pivot, the U.S. announced arms sales to Taiwan,¹⁴³ started annual exercises with the Vietnamese Navy, expanded naval exercises with Japan, signed new arms agreements with the Philippines, and bolstered U.S. military

capabilities on the Korean peninsula.¹⁴⁴ In 2012, Australia, Japan, and South Korea participated in U.S.-Philippine military exercises for the first time.¹⁴⁵ In November 2011, Clinton announced U.S. opposition to bilateral negotiations over China’s territorial claims, opting to support ASEAN’s calls for multilateral talks. In 2012, she asserted that Chinese claims violated the law of the sea.¹⁴⁶ This contrasted with the approach of previous administrations, which emphasized only U.S. interests in freedom of navigation and peaceful dispute settlement.¹⁴⁷

Chinese leaders understand that Beijing’s own aggressive maneuvering, rooted in rising confidence and regional ambitions, was the catalyst for these developments. Regardless, they have long viewed these attempts as a multilateral effort to encircle China with a network of U.S. allies.¹⁴⁸ In the 2000s, former President Hu Jintao said in private deliberations that “the United States has strengthened its military deployments in the Asia-Pacific region. They have extended outposts and placed pressure points on us from the east, south, and west. This marks a great change in our geopolitical environment.”¹⁴⁹ PLA Air Force colonel Dai Xu warned in 2010 that American interests in Japan, the South China Sea, India, and Afghanistan create a “C-shaped encirclement ring” that restricts China’s “strategic space.”¹⁵⁰ A Ministry of Defense White Paper, published in 2015, asserted that China must “safeguard its national unification, territorial integrity, and development interests” as “the world economic and strategic center of gravity is shifting ever more rapidly to the Asia-Pacific region.”¹⁵¹ The Trump administration has exacerbated these concerns through bolstering force posture in the region, and expanding security cooperation with China’s neighbors in the Indo-Pacific.

While these deterrence-building moves are perceived as defensive by Washington, they are likely perceived differently in Beijing, given challenges associated with Robert Jervis’ notion of the “security dilemma.”¹⁵² Jervis contends that it is difficult for states to differentiate between offensive and defensive capabilities. The deployment of ballistic missile defense by an actor may be defensive in orientation for example, but it still increases the threat perception

“Trump’s China policy has also exacerbated Chinese fears regarding its external security infrastructure, motivating increased assertiveness from the PLA...”

other states hold of the actor given that it diminishes their offensive capabilities. This happens despite neither side intending to escalate tensions.¹⁵³ Moreover, in an anarchic structure, the intentions of other states are always obfuscated, leading to potential misconceptions in any great power relationship.

In response to increased American activity in the region, China has ramped up military activity. In Ladakh during June 2020, the PLA engaged in skirmishes with Indian troops, ultimately claiming the lives of twenty. Gen. Zhao Zongqi, head of the PLA Western Theater Command, has suggested that the motivation behind China's attack was to ensure it did "not appear weak" during "exploitation by the U.S."¹⁵⁴ In the Taiwan Strait, on an almost-daily basis, PLA Air Force (PLAAF) Y-8 and Y-9 surveillance aircraft have incurred on Taiwan's declared Air Defense Identification Zone (ADIZ). In October 2020, Taiwanese Defense Minister Yan De-fa announced that Taiwan's air force had scrambled fighters 2,972 times throughout the year, marking a 129% increase in scrambles from 2019. This had aroused worries among analysts that China is pursuing 'grayzone' warfare through gradually weakening Taiwan by exhausting its air force.¹⁵⁵ The PLA has also conducted an increased number of drills and exercises aimed at Taiwan.¹⁵⁶ On Taiwan's National Day in October 2020, the PLA conducted a large-scale exercise featuring drones, special forces, and airborne troops meant to simulate an invasion of Taiwan. Following the exercise, the PLA announced a four-day, live-fire exercise in the Taiwan Strait. In the South China Sea, Chinese assertiveness has been growing as well. In May 2019, China deployed its Coast Guard to harass Vietnamese and Malaysian vessels servicing a drilling platform off Vietnamese waters.¹⁵⁷⁻¹⁵⁸ In March 2020, China built two new research stations in Fiery Cross Reef and Subi Reef in the Spratly Islands, equipping them with defense silos and runways that can support PLA air force (PLAAF) fighter jets.¹⁵⁹ In April 2020, Vietnam lodged an official complaint after a Chinese maritime surveillance vessel sunk a Vietnamese shipping boat.¹⁶⁰ In July 2020, the PLA-N conducted exercises in the South China Sea centered around amphibious assault activities.¹⁶¹

Thus, it is clear that increased deterrence-building in the Indo-Pacific has not moderated China's military assertiveness. Instead, it has compounded long-held Chinese fears of encirclement, driving increasingly aggressive behavior as Beijing seeks to discourage renewed American commitment to the Indo-Pacific. The beginnings of an arms race and naval buildup between the two sides, as seen prior to

WWI between Britain and Germany, have substantially decreased the prospects for peace and stability in the region.

CONCLUSION

Ultimately, the Trump administration's containment policy against China has failed to slow China's economic growth or moderate assertive Chinese behavior. Instead, the Chinese have benefited from continued growth in export demand, seen record profits for flagship companies such as Huawei, and ramped up military activity in the Taiwan Strait and the South China Sea. The U.S.-China trade war has provided comprehensive proof that decoupling with China is unfeasible, and that full-fledged, Mearsheimer-style containment against Beijing does nothing but exacerbate Chinese insecurities regarding strategic encirclement, motivating arms races and thus, regional instability.

This is not to say, that decline is inevitable. Indeed, the U.S. - the only multicultural great power in the history of the world - possesses a host of advantages in its geography, and pre-existing economic, military, and technological capabilities that could be leveraged to sustain the continuation of Pax Americana. Under President-elect Biden, Washington is expected to eschew an isolationist mentality, bridge divisions at home, and place renewed emphasis on American alliances. It is also expected to upgrade U.S. defense capabilities, specifically in high-tech domains such as AI and 5G, make C4ISR networks more resilient, and test new joint operational concepts such as multi-domain operations as part of a broader shift in defense policy away from power in mass.¹⁶² Whether the Biden administration succeeds in these endeavors will determine whether this remains the American century.

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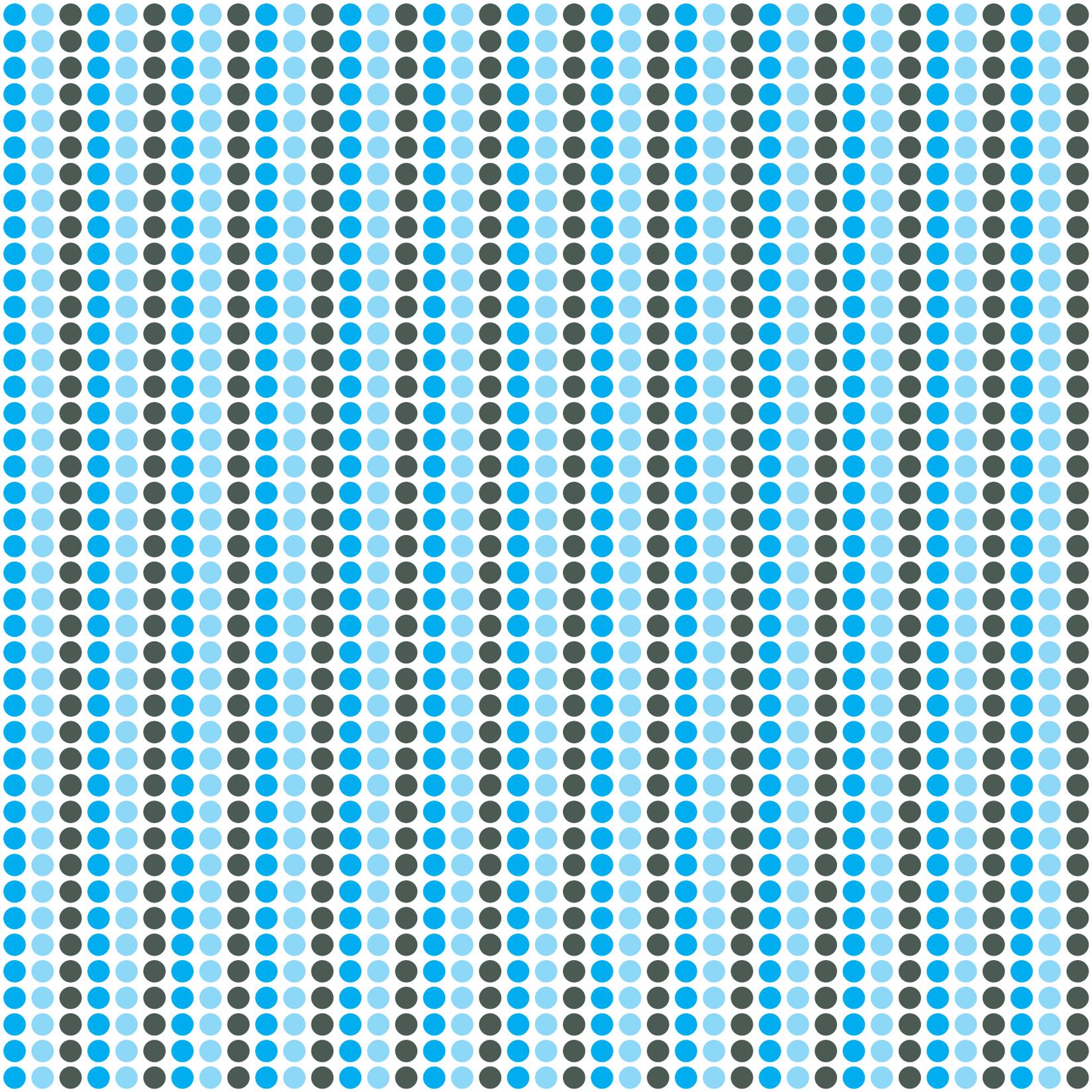
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THE FORCE ON THE FRONT

Analyzing the Police Sympathy for the Christian Front Movement in Brooklyn from 1938-1940

SIOBHAN PENDER

POLICE INVOLVEMENT IN THE CHRISTIAN FRONT MOVEMENT IN BROOKLYN, NY GREW UNNOTICED FROM 1938-1940, RESULTING IN ANTI-SEMITIC VIOLENCE EVEN AFTER THE POLICE COMMISSIONER AND MAYOR WERE FORCED TO ADDRESS THE ISSUE AFTER THE ARREST IN 1940 OF 17 CHRISTIAN FRONT MEMBERS ACCUSED OF PLANNING TERRORIST ACTIVITIES. THE CHRISTIAN FRONT WAS ABLE TO GROW IN AN AREA LIKE BROOKLYN DUE TO ITS HIGH POPULATION OF IRISH-CATHOLICS, AND SINCE THE CHRISTIAN FRONT WAS A RELIGIOUSLY-BASED ANTI-SEMITIC GROUP LED BY AN IRISH CATHOLIC PRIEST, THESE PEOPLE ALIGNED WELL WITH THE MOVEMENT'S BELIEFS. WITH A LARGE IRISH-CATHOLIC POLICE FORCE, IT IS EVIDENT THAT THE POLICE NOT ONLY HAD MEMBERSHIP IN THE CHRISTIAN FRONT BUT ALSO THOSE SYMPATHETIC TO THE MOVEMENT. THE STRONGHOLD OF THE CHRISTIAN FRONT AND THE ANTI-SEMITIC BELIEFS PREVALENT THROUGHOUT THE NYPD RESULTED IN THE CREATION OF AN ENVIRONMENT WHERE ANTI-SEMITIC ATTACKS COULD PROLIFERATE UNADDRESSED, AND WHERE IRISH CATHOLIC NATIONALISTS COULD SPREAD AND IMPOSE THEIR BELIEFS OF ANTI-SEMITISM AND THROUGH THEIR POSITIONS OF POWER IN A LAW ENFORCEMENT ROLE.

INTRODUCTION

There is significant evidence of police membership in the Christian Front in the 1930s and 40s in New York City and largely in the borough of Brooklyn, drawing on support from the sizable Irish Catholic population of this area and the enticing leadership of Irish Catholic Priest Father Coughlin (Milner, 1971). The legacy of the CF and of Father Coughlin on the national level was strongly shaken with the 1940 arrest of seventeen Brooklyn-based members, after the FBI discovered their terror plot created to destroy Jewish businesses, blow up areas of New York, and assassinate members of Congress; however, in Brooklyn there still remained strong support from their Irish-Catholic members (Vials, 2014). In this paper, I would like to argue that upon an examination of primary documents such as newspapers from the time of the 1940 FBI arrest of CF radicals as well as other scholarly works on police and radical groups, the Christian Front was able to grow in popularity in Brooklyn due to its population of Irish-Catholics and large participation in the police force. Therefore policemen held these anti-Semitic beliefs and potential CF membership at the time. This fact is further emphasized by the lack of police action against the many anti-Semitic attacks, especially from Irish gangs, as well as



CHARLES COUGHLIN, LEADER OF THE CHRISTIAN FRONT
(COURTESY OF WIKIMEDIA COMMONS)

the tendency for the police to not address those accused of CF membership in their ranks, even after the 1940 FBI raid and arrest of the radical Christian Fronters in Brooklyn.

IRISH CATHOLIC AMERICAN INVOLVEMENT

It is important to consider the cultural background of the people who made up the CF group in NYC. There are connections between the fascist movement in Ireland and similar beliefs being held by Irish-Americans in the Brooklyn borough. These beliefs were similarly espoused by the CF, so it is no surprise that a large part of their membership was Irish Americans who likely grew up in this ideology which had ingrained in it an inherent refusal to distinguish between Communists and Jews and denouncing both groups. The Christian Front was a religious organization with a largely Irish Catholic membership base, which enabled the large population of Irish-Catholic Americans in Brooklyn during the 20th century to drive the membership of the CF in this area. As Fein notes in his work, “[a]nother important aspect of the membership of the Christian Front was that it was a religiously based organization, led by an Irish Catholic priest. As was the case with so much of the CF’s ideology, its religiously-based anti-Semitism derived directly from Coughlin and his program of social justice,” making it an organization with a religious basis for its anti-Semitism (Fein, 2009).

THE ROLE OF ANTI-SEMITISM

Catholic anti-Semitism, especially from Irish Catholics, grew from the deicide accusation of the Jews being responsible for Jesus’ death that was propagated by priests and nuns in Catholic schools and churches for centuries; this sentiment became increasingly severe during the 1930s, which resulted in a dangerous environment for Jews in the Northeast, where heavily Catholic populations resided, such as in Brooklyn, NY (Norwood, 2003). In New York City during the time of WWII, Irish Catholic youths terrorized Jews in the streets. This was inspired by the Christian Front and its anti-Semitic gangs, which had a “deliberate policy of provoking violence against the Jews” (Norwood, 2003). “Young Christian Front hoodlums in the German, Irish and Italian communities were fond of Jew-bashing,” and the areas in New York in which these assaults of Jews occurred the most were known to be heavily Irish American neighborhoods, and the Christian Front was considered to be made up of almost entirely all Irish and Catholic individuals (Murray, 2018).

Even before the arrest, the police were accused of being hesitant to reply to anti-Semitic hate crimes or assaults. The culture surrounding Irish-Americans' reluctance to act, and even their voicing of anti-Semitic rhetoric and committing violence against Jewish people, was already established prior to the rise of the Christian Front and the subsequent Irish— and police—involvement. Therefore, this anti-Semitic behavior did not just simply dissipate following the 1940 arrest of CF radicals, even as the CF nationally lost its credibility due to its association with a terrorist group. They remained prevalent in the populations of Irish Catholics in Brooklyn who still held the same sentiments promoted by the Front.

In New York, a significant number of policemen were Christian Front members or sympathizers, which resulted in a general disinterest in protecting the safety of Jews who were being attacked in the streets by these anti-Semitic, Christian Front gangs. According to a *New York Post* columnist Victor Riesel, the FBI director J. Edgar Hoover had supplied Mayor LaGuardia with a list of 1,500 policemen who had applied to be members of the Christian Front, which the city government never took disciplinary action against (Norwood, 2003). Some of the Jewish merchants who had been picketed by Christian Fronters had reached out to New York Police Commissioner Lewis Valentine to ask for police help against these anti-Semitic harassment, but perhaps due to the fact that nearly two thirds of New York's policemen were Irish-Americans who may have held anti-Semitic sentiments, the merchants were told that the police could not help in preventing "peaceful picketing" (Norwood, 2003). Additionally, Mayor LaGuardia viewed the anti-Semitic "incidents" in New York as "sporadic and unorganized," and therefore the police remained unsympathetic to calls to take action to stop the violence; it was even reported that the New York police would often describe acts of anti-Semitic vandalism as "boyish pranks" rather than actual crimes, diminishing the significance of the threat to Jewish people in NYC (Norwood, 2003).

“In New York, a significant number of policemen were Christian Front members or sympathizers, which resulted in a general disinterest in protecting the safety of Jews who were being attacked in the streets by these anti-Semitic, Christian Front gangs.”

THE 1940 FBI ARREST AND THE POLICE REACTION

The 1940 FBI arrest notably sparked questions about the other members of the Christian Front organization, which in turn led to the quest for police members either sympathetic to or participating in the CF. This sympathetic nature of the police had enabled the CF to grow and proliferate in the 1930s since its population included Irish Catholic nationalists. Ten of the arrested Christian Front members in 1940 were Irish-Americans, who the FBI believed imitated Irish Republican Army (IRA) techniques in manufacturing explosives. The federal government's arrest of these activists on charges of conspiring to overthrow the US government and steal ammunition from a National Guard armory did not significantly undermine the support for this group in Irish Catholic neighborhoods. In fact, anti-Semitism continued to increase there, even as Coughlin and his Christian Front began to decrease in nationwide popularity (Norwood, 2003).

The public pressure following the 1940 arrest to address the question of whether NYPD members were part of the Christian Front required the Mayor and the Commissioner to take action. As noted in the 1940 newspaper article from the *Daily Worker*, “[r]eacting to persistent demands that the Police Department be probed for existence of cells of the terrorist Christian Front, Police Commissioner Lewis Valentine yesterday ordered all cops in the city to state whether they were ever connected with the Front or the Nazi Bund.” The Police Commissioner Valentine ordered the distribution of a questionnaire to all policemen in the force, asking them to answer about their political habits, for the first time addressing the public demands to search out for subversive activity within the force. As noted by Gene Fein in his dissertation, “[t]he arrest of the [Christian] Fronters [in NYC] gave Mayor LaGuardia enough political currency to address the charges of police laxity in anti-Semitic matters that plagued his office since 1938...The mayor ordered investigations commissioner William Herlands to investigate police membership in the

Christian Front” (Fein, 2006). While almost all but a few of the policemen filled out this questionnaire, “Fronters denied that membership interfered with the ability of police officers to do their jobs. They said it should make no difference to the city what police officers’ activities were while off-duty” (Fein, 2006). When it was reported that the New York Fire Department had firemen with membership in the Christian Front, this sentiment was similarly echoed by Fire Commissioner John J. McElligott who was quoted as saying:

‘What laws are being violated by being members of these organizations, including the Christian Front? I hold no brief for anti-Semitism or anti-religious groups, but a fireman’s first job is to be a good fireman, and his second is to be a good citizen. If he is both, and violates no laws, I am not inquiring into anything else.’ (Norwood, 2003)

This statement is very similar to the words of the Fronters who opposed the distribution of the survey amongst the police department, which demonstrates the reluctance of the leaders of the police and fire department to identify and investigate radicals within their forces.

The intention of the questionnaire that Mayor LaGuardia ordered was “chiefly for the protection of the men themselves,” so that they could disprove the accusations that the police force had a large number of officers that were also Christian Front members. The Mayor asserted that the questionnaire would demonstrate that police in the Christian Front are “few and far between,” and that those who did join or had filed for membership applications did so under the assumption that it was for a religious or fraternal



GERMAN AMERICAN BUND RALLY, NEW YORK, MADISON SQUARE GAREN, FEBRUARY 1939 (COURTESY OF WIKIMEDIA COMMONS)

organization (*The Brooklyn Daily Eagle*, 1940). The motivation for the distribution of the questionnaire resulted from an inquiry from the year before, “when word reached Mayor LaGuardia and Mr. Valentine that one patrolman had boasted that several Manhattan precincts were “controlled by Christians” and they were “getting rid of all the Jews” in those precincts (*The Brooklyn Daily Eagle*, 1940). The decision to investigate these statements from the patrolman came after organizations in NYC interested in combatting anti-Semitism and racial prejudice protested to the Mayor and the Commissioner of long previous inaction on the part of the police to address anti-Semitism.

In New York City and in Boston, it was shown that a large proportion of the police force was made up of followers, and not necessarily declared members, of the revolutionary Christian Front (Ziff, 1944). As noted in the *Daily Worker* 1940 newspaper article, “[t]he Non-Sectarian Anti-Nazi League to Champion Human Rights charged last month that 40 members of the Police Department were members of the Christian Front. Valentine said they know who are the members of the Christian front,” and that there is an ongoing investigation (*Daily Worker*, 1940). From the survey sent out, “[o]nly twenty-seven admitted to being members of the Christian Front at the time of the survey, although 407 admitted having been members in the past. Most claimed to have joined the Front because they thought it was a religious organization. All previous members had voluntarily quit before the questionnaire was sent out” (Fein, 2006). The ideals and goals of the radical anti-Semitic group were held by many officers, evidenced by either their previous membership within the CF or by their lack of action in addressing anti-Semitic incidents.

Not only were police criticized for their overall inaction to address anti-Semitic attacks, but also the police force was accused of ignoring and disregarding Christian Front membership in their force, even after the 1940 FBI arrest. The Mayor and the Police Commissioner were publicly criticized in one of these articles from 1943 for not condemning the police officer James L. Drew who was accused of subversive activities, including anti-Semitic affiliations, three years after the FBI arrest. This clearance was met with opposition and disapproval, as Corporation Counsel Deau Wilkinson concluded that Drew “should be found guilty and dismissed from the service.” Commissioner of Investigation William B. Herlands was another expert who concurred with the sentiment that Drew should be dismissed, and after hearing that Drew was cleared,

Herlands commented, “The Police Commissioner’s decision in the Drew case is a major defeat on the home front... in my opinion the Police Commissioner’s decision is contrary to the evidence and sound public policy. I am at a complete loss to understand the basis for his decision” (Margoshes, 1943).

Drew admitted to consorting with “the Jew-haters of the McWilliams outfit, with the fascists of the Christian Front, with Bundists of the Nazi persuasion” (Margoshes, 1943). Through his involvement in this fascist groups, he had in his possession “a great quantity of anti-Semitic and anti-American propaganda material,” further mounting the evidence against him for his involvement in these anti-Semitic organizations (Margoshes, 1943). After the exoneration of James Drew, Dr. Margoshes, editor of *The Day*, declared that Drew was only one of the many NYC police officers who held “subversive, anti-democratic, and anti-Semitic views,” even in the years following the distribution of the questionnaire regarding police involvement in subversive groups that was intended to seek out this membership (Margoshes, 1943). Such divisiveness and criticism of the police handling of the CF members within their organization reflects the sentiment that the lenient sentiment of the police enabled the CF to flourish and attract membership not only from the population of Brooklyn but also from within the police force itself.

DELAYED REACTION AND CRITICISMS

Police Commissioner Louis Valentine did not explain why the city government waited so long to seek out the subversives within the NYPD, but this delay was likely due to the nature of the police force and the prevalence of anti-Semitic sentiments in alignment with the movement of the Christian Front. The “Catholic supporters of the Christian Front expressed indignation. They complained that the survey was a violation of civil rights and demanded an apology from the mayor” (Fein, 2006). The questions

from the survey asked about their involvement in any “subversive” group, such as a Nazi, Fascist, or Communist organization, interestingly grouping fascism and communism together, as they were viewed during this time as opposing perspectives, but were associated together in this survey. From the *Daily Worker* in February 1940, the journalist noted that,

“The Commissioner, however, failed to differentiate between the reactionary Front and Bund from the working class, the Communist party. He said his probe was aimed at the Christian Front, but the questionnaire sent out to 20,000 policemen to only asked if they were members of the Front, but also: “Have you ever been a member of any subversive, Communist, Bund and Fascist organization?” Linking of the word “Communist” with “Bund and Fascist,” a dangerous confusion, was seen as opening the way for a local police drive against not only Communists but other labor leaders under the pretext of fighting such subversive forces as Coughlinites and Nazi terror and anti-labor gangs.” (*Daily Worker*, 1940).

Publications such as the *Brooklyn Tablet* deemed the questionnaire “the police inquisition” and considered it to be a hypocritical procedure due to the “known atheists, radicals and Communists” found in the city government. The mayor was oftentimes accused of being a communist, and Gene Fein notes in his dissertation, “[t]he questionnaire was viewed as part of LaGuardia’s plan to discredit the Front because officers who dropped out of the CF were forced to say they had left because it was a “subversive group.” When only twenty-seven policemen admitted to being Christian Fronters, the mayor, who was “surrounded by communists and a few phony Catholics,” immediately called for an investigation,” indicating his hypocrisy – as viewed by CF sympathizers – in cracking down on subversives within the police force but not his own government (Fein, 2006).

“The questions from the survey asked about their involvement in any ‘subversive’ group, such as a Nazi, Fascist, or Communist organization, interestingly grouping fascism and communism together, as they were viewed during this time as opposing perspectives...”

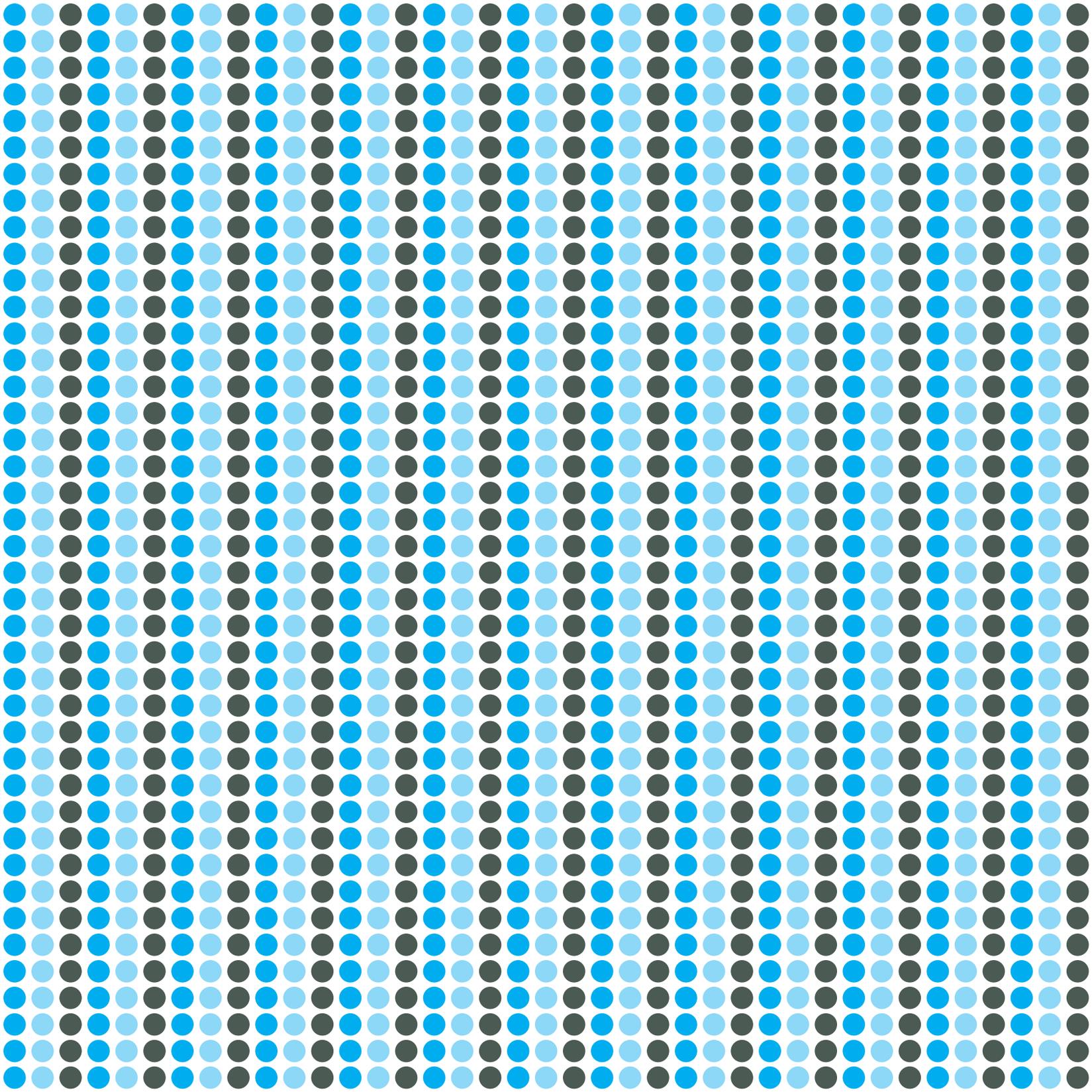
CONCLUSION

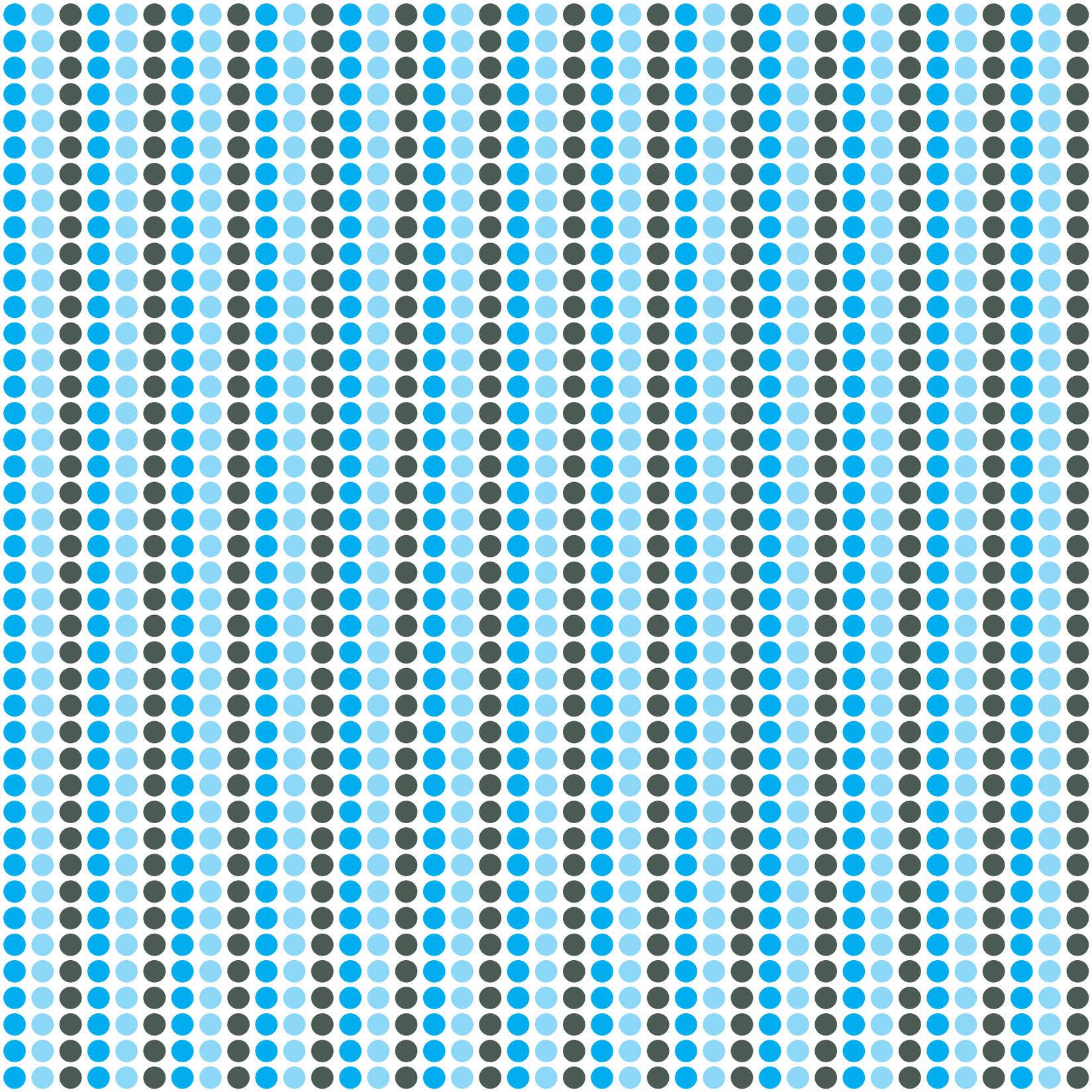
In this paper, I have argued that the police involvement in the Christian Front movement in Brooklyn, NY grew unnoticed, resulting in the proliferation of anti-Semitic violence in these regions, even after the Police Commissioner and Mayor were forced to address the issue after the arrest in 1940 of 17 Christian Front members accused of planning terrorist activities. The Christian Front was able to grow in an area like Brooklyn due to its high population of Irish-Catholics, and since the Christian Front was a religiously-based anti-Semitic group led by an Irish Catholic priest, these people aligned well with the movement's beliefs; it was here that the CF was able to garner and maintain strong support, even after a scandal such as the 1940 FBI arrest that otherwise discredited the group nationwide.

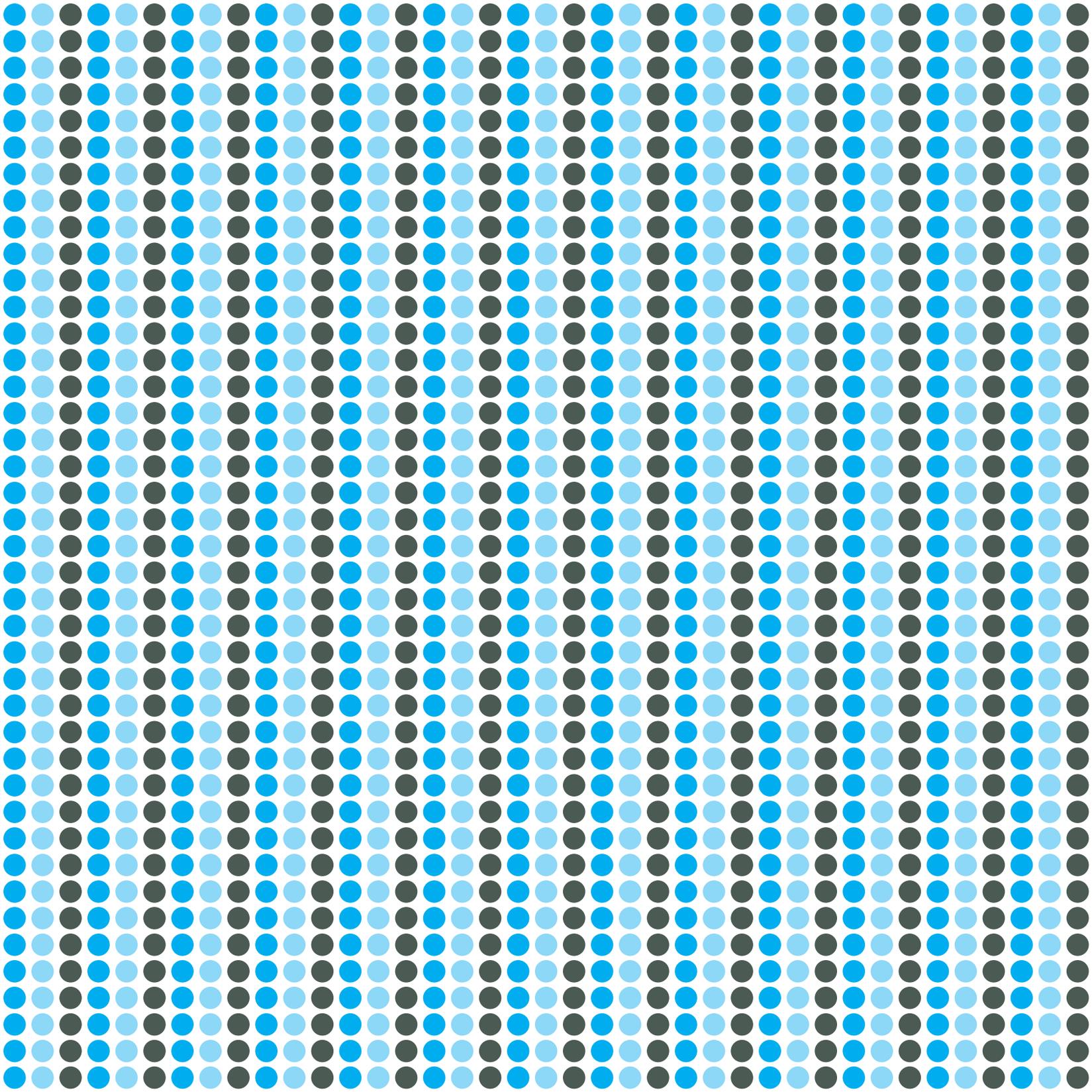
These facts are evidenced by the lack of police action to address anti-Semitic issues in NYC, in the times before the 1940 arrest of the CF radicals but also in the years after, as the beliefs did not dissipate with the downfall of Coughlin and the CF's national popularity due to their association with the terrorist group, but were maintained in areas with substantial Christian Front membership (Vials, 2014). The stronghold of the Christian Front and the anti-Semitic beliefs prevalent throughout the NYPD resulted in the creation of an environment where anti-Semitic attacks could proliferate unaddressed, and where Irish Catholic nationalists could spread their beliefs of anti-Semitism and impose them through their positions of power in a law enforcement role.

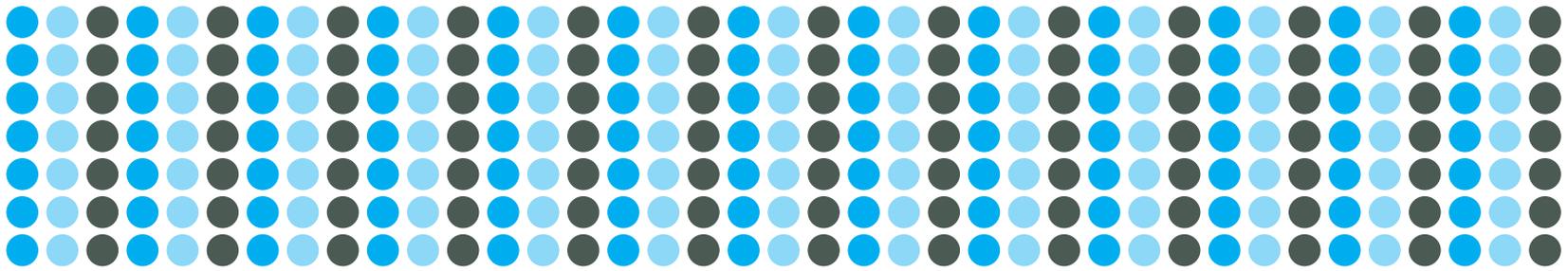
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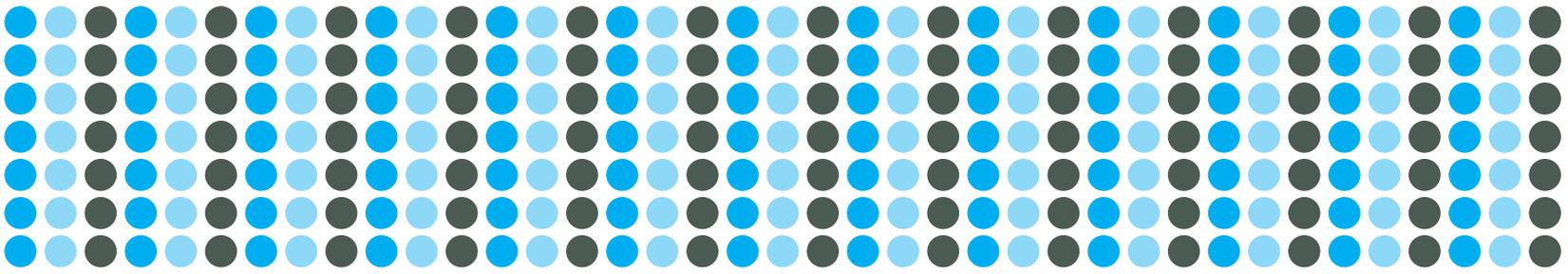
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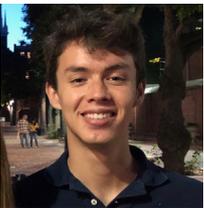
LUC RIORDAN

is a current senior at Boston College finishing his undergraduate degree in Economics with a minor in History, previously attending Tonbridge School in Kent, United Kingdom for his high school education. While at Boston College, his studies have focused on economic development while exploring the idea of the intersection of Law and Economics. He gained an interest in the subject of regulated companies after an internship with Heathrow Airport's finance division and is now looking at the possibility of Law School after graduation.



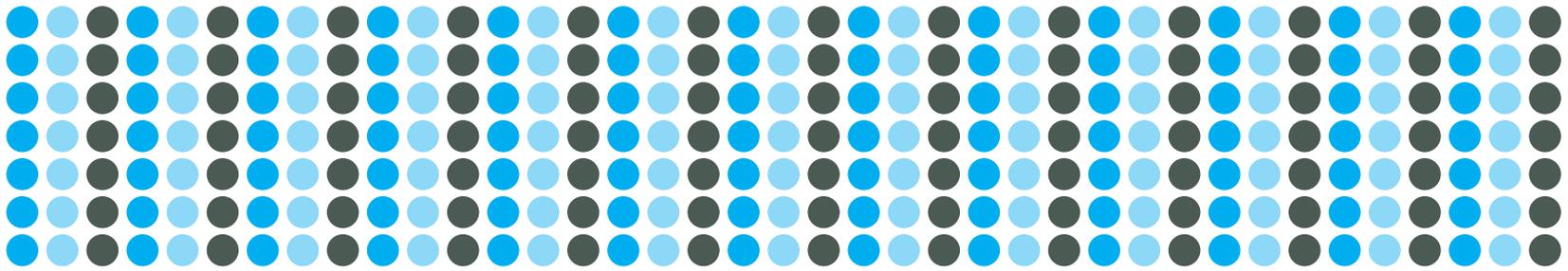
CZAR SEPE

will graduate with a degree in political science and history this spring. Czar is interested in the interplay between history, politics, and conflict, writing his senior thesis on the relationship between power-sharing agreements and ethnic tensions in Northern Ireland and Lebanon. In previous undergraduate journals, he wrote articles in the fields of international relations and philosophy. Czar was the 2019 Omar Aggad Fellow, awarded for his language studies in Beirut.



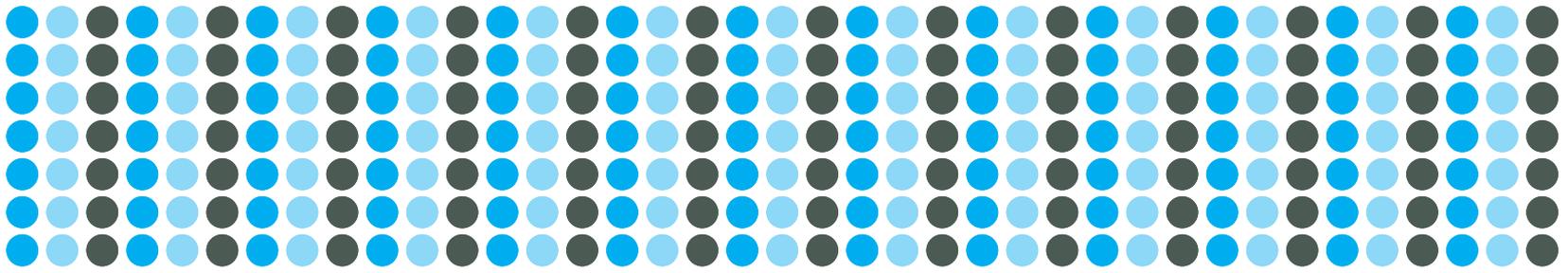
SEAN STEBBINS

is a sophomore in the Morrissey College of Arts and Sciences double majoring in History and Political Science. He is from San Jose, California, and graduated from Bellarmine College Preparatory in 2019. Spurred by time spent with his history-loving grandfather, his academic interests include 19th century colonialism, the Cold War, and American politics. Sean has helped conduct undergraduate research on 19th century Qing-British relations and the American crack cocaine epidemic throughout his sophomore year, and he plans to attend law school.



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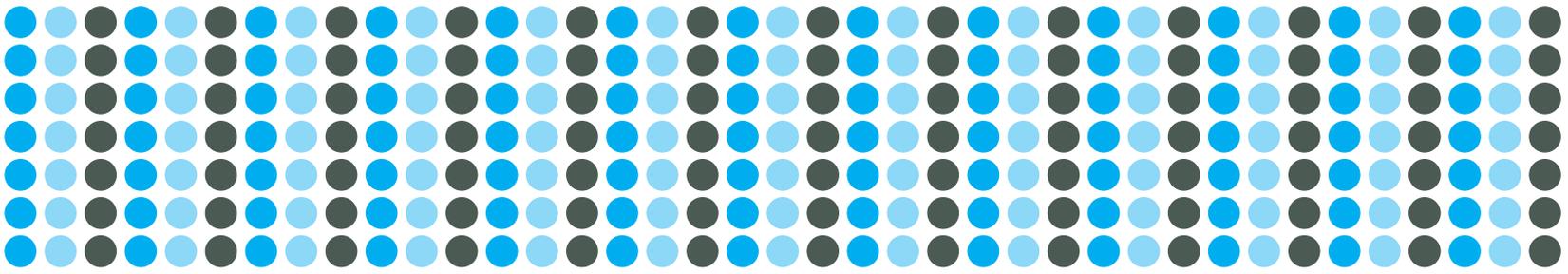


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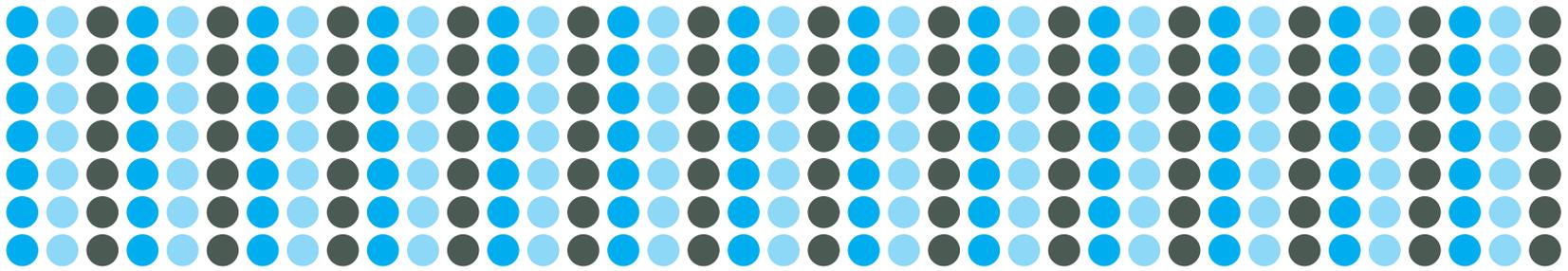
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LIST OF ARTWORK

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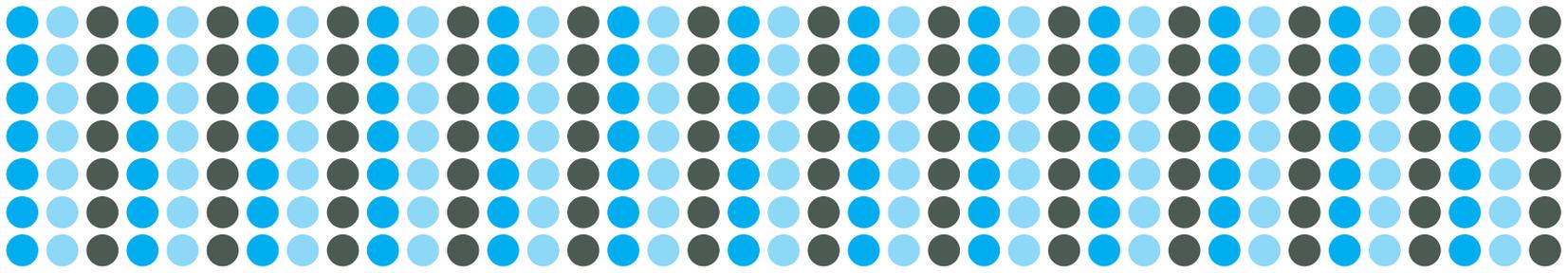
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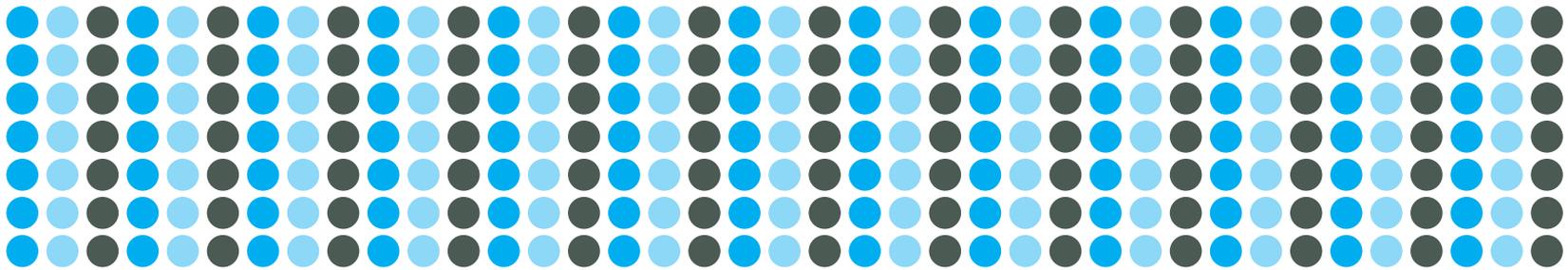
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