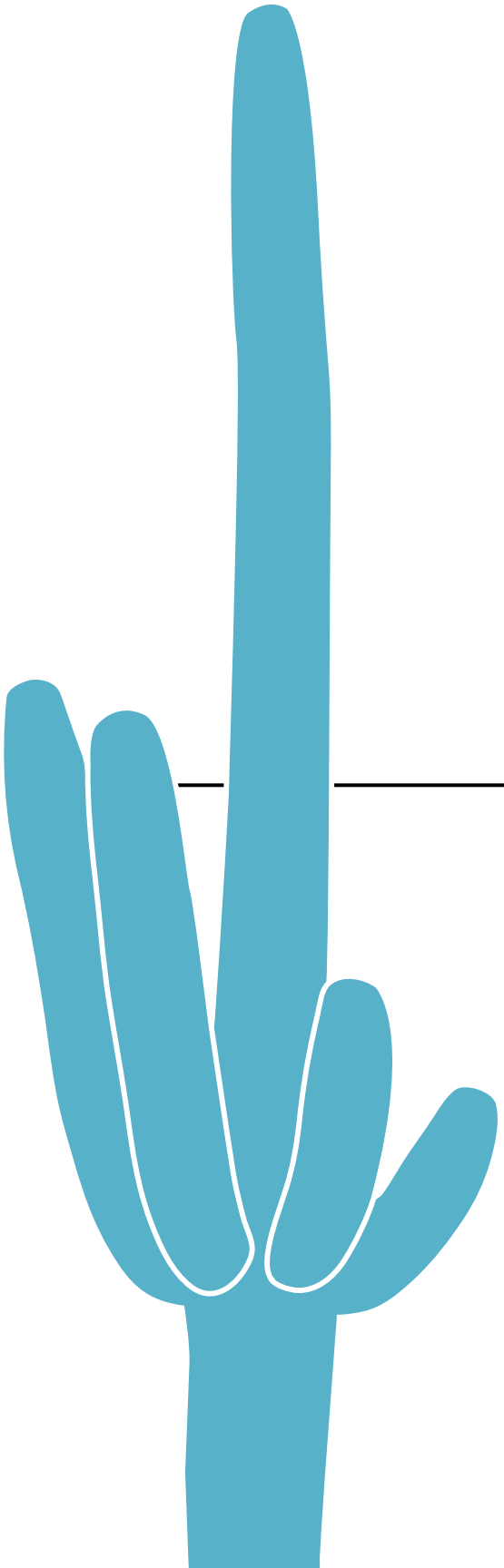
ARIZONA JOURNAL OF INTERDISCIPLINARY STUDIES

VOLUME 9 — SPRING 2023

RESEARCH, INNOVATION & IMPACT
Societal Impact

confluencenter
for Creative Inquiry



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The Arizona Journal of Interdisciplinary Studies is a student-led journal that publishes original undergraduate research from all fields of study, but with a special emphasis on interdisciplinary works that intersect with the humanities, arts, and sciences.

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INTRODUCTION FROM THE CONFLUENCENTER

The Confluencenter for Creative Inquiry is honored to continue supporting the Arizona Journal of Interdisciplinary Studies. Thanks to the persistence of two students, Emma Klein and Lauren Johnston, the journal became, in 2012, part of Confluencenter's initial efforts to integrate student research into its mission.

Three years ago, another dedicated and committed team of editors, led by Robert Lowell, re-launched this unique student-driven publication that promotes original undergraduate research from all fields of study, reflecting our student's intellectual curiosity and a strong commitment to diverse scholarly approaches.

As we celebrate the growth of the journal, we also admire the enthusiasm of these students to help us understand, question, and re-think the different ways in which academia grapples with interdisciplinary thought. The diverse topics and perspectives employed in this year's edition include research behind psychology, science, and history.

These current, and past, journal pieces aim to engage with some of the grand challenges we see in modern society, while underscoring the role that humanities, arts, and science play in trying to better understand and face such challenges.

By supporting this journal, our intent is to provide a much-needed space for undergraduate students to publish their work.

Please join us in recognizing and thanking this team of student editors and authors, and our campus partners, as we continue this collaboration to support innovative student scholarship.

Javier Duran, Ph.D.

Director

Confluencenter for Creative Inquiry

INTRODUCTION FROM THE OFFICE OF SOCIETAL IMPACT

The Office of Societal Impact, within the Office of Research, Innovation, and Impact (RII), is proud to support the Arizona Journal of Interdisciplinary Studies (AJIS). Our office strives to expand equitable access to high quality undergraduate research and inquiry experiences across disciplines. A crucial part of conducting research is presenting findings, and AJIS is committed to showcasing the incredible efforts of undergraduate student researchers. Providing a wealth of opportunities ensures that our future is full of a diverse group of leaders forging innovative pathways, forming powerful collaborations, and making remarkable discoveries.

Since its revival in 2020-21, the AJIS team has worked diligently to keep the journal moving forward each year. The strong foundations being built will allow for the journal to continue in perpetuity and will leave it in an excellent position to expand in new directions. This year's team consisted of six returning editors, one of whom stepped into the role of Assistant Editor-in-Chief. These experienced editors welcomed two new editors and a new graphic designer to their team. The collective efforts of this team to not only prepare the journal for publication but also to strengthen each team member's editorial, leadership, and communication skills is truly inspiring.

The papers featured in this 9th issue of the journal seek to better understand influences, past and present, that affect human behavior on an individual and societal level. This generation of undergraduates is facing social injustices and inequities that have gone unaddressed for decades. These unique challenges will require interdisciplinary insights, extensive collaboration, and creative solutions to make meaningful change. In a time of heightened tensions and conflicting ideologies, AJIS provides a scholarly platform for societal challenges to be discussed and the groundwork for interdisciplinary solutions to be laid.

The display of remarkable undergraduate research showcased in this year's journal is just the tip of the iceberg; this devoted team of student editors will undoubtedly continue to shine a spotlight on the incredible scope of interdisciplinary undergraduate research taking place across campus. We are committed to supporting AJIS as it continues to grow and look forward to seeing how this journal evolves each year. Please join us in congratulating this year's AJIS team on their hard work! We'd also like to acknowledge Theodore Lowell, this year's Editor-in-Chief, who has been essential in the revival of this journal and put substantial time and energy into this initiative to ensure its continuity for years to come. We wish Theodore and other departing or graduating editors all the best!

Kimberly Sierra-Cajas

Director, Undergraduate Research & Inquiry

Office of Societal Impact

Courtney Leligdon

Undergraduate Research Coordinator

Office of Societal Impact

LETTER FROM THE EDITOR

Over the past three years, I have had the tremendous privilege of serving on the editorial team for the Arizona Journal of Interdisciplinary Studies. This year, I have had the honor of serving as editor-in-chief. As part of the organizational structure we instituted last year, I have worked alongside Heather Jensen, our assistant editor-in-chief, who will take over my role next year. Together, we hired new editors and a new graphic designer as part of our mission to continually improve the journal's quality with each publication. Our goal is for the journal to be one place where undergraduate students from a variety of disciplines can showcase their hard work and knowledge to the broader University of Arizona community.

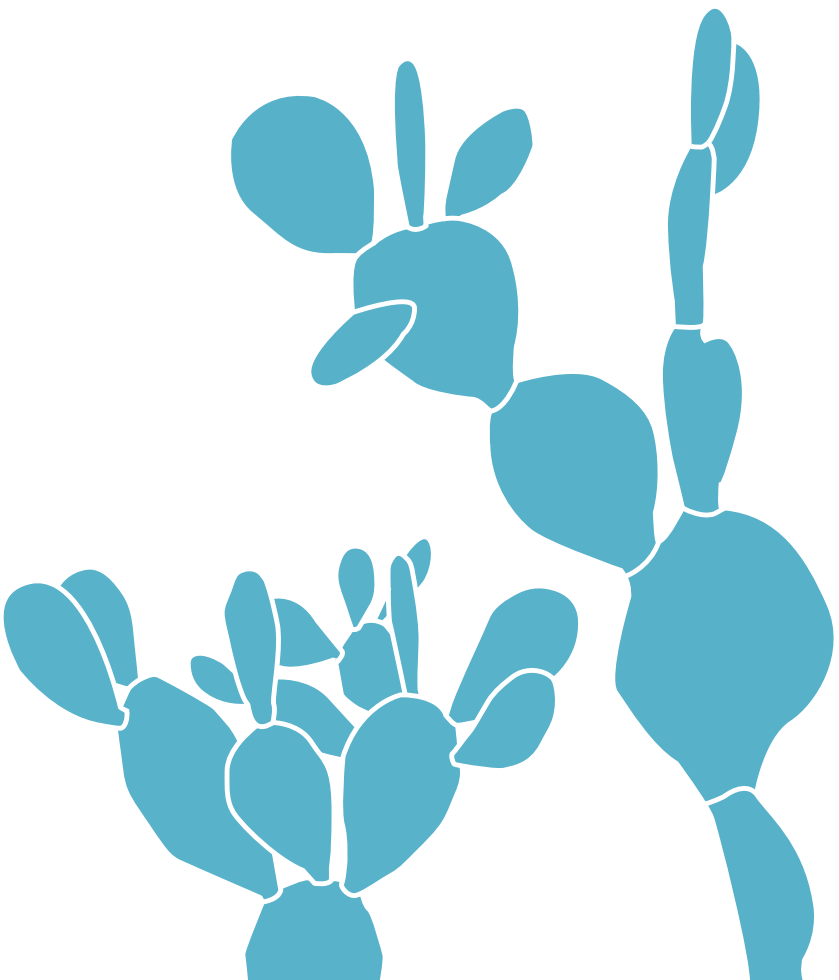
None of what we do at the Arizona Journal of Interdisciplinary Studies would be possible without the support of the entire undergraduate-run editorial team and our sponsors. I want to thank The Office of Societal Impact and our advisor, Courtney Leligdon; AJIS is the journal it is today because of the generous funding and mentoring they provide. I also want to thank the Confluencenter for Creative Inquiry and Angela Martinez, who helped us print an edition of the journal for the first time this last year, and our faculty advisor Susan Crane. Finally, I want to extend my sincere gratitude to Ellen Dubinsky from the University of Arizona Libraries for her patience and support in navigating the publication process.

It is amazing to see how far the journal has come since we revived it three years ago. I will be the last editor-in-chief who was there when we revived the journal back in the summer of 2020. As my time as editor-in-chief comes to a close, I am grateful that we have established a sustainable journal—one that has a process for hiring editors, training them into leadership positions, and having those leaders pass the torch every year. I am confident the journal will continue to thrive, and I am excited to see where it goes. Thank you to all of the authors who submitted to the journal and to Ethan Alcock, Madison LaMonica, and Bao "Tintin" Nguyen for their diligent work with the editing process. I am proud to present Volume 9 of the Arizona Journal of Interdisciplinary Studies.

Sincerely,

Theodore Lowell

Editor-in-Chief, Spring 2023



Ethan Alcock

Disaster / Désastre: The Visual Legacy of the Paris Commune in America, 1871–1877

> "The story of theft and fire and slaughter is but imperfectly told in the brief space at our command, but the illustrations by our artists present a pictorial view of the chief scenes in his terrific conflict, more vivid and striking than any thing [sic.] that could be conveyed in mere words."
>
> — *Harper's Weekly*
> Aug. 11, 1877

In 1877, one of the largest strikes in American history broke out: the Great Railroad Strike. It would become just one in a series of labor conflicts that characterized U.S. industrialization during the late 19th and early 20th centuries.[2] Much of the conflict of the Great Strike was not fought through action on the streets or on the railways, but instead through arguments in national U.S. media, primarily in newspapers and magazines. To make the strikes understandable, media of the time often referenced an unexpected recent event: the Paris Commune of 1871.[3] Previous research has analyzed how the Commune became a useful reference to understand the strikes of 1877, but it often leaves out the use of visual media to connect American events to the Commune.[4] Visual media, primarily

1 "The Great Strike," *Harper's Weekly* Aug. 11, 1877: 626, https://content-harpweek-com.ezproxy4.library.arizona.edu/view/issue/image/1877/0811/626 (accessed 5/6/2022).

2 There are a multitude of sources on labor conflict during this period. Carl Smith, *Urban Disorder and the Shape of Belief: The Great Chicago Fire, the Haymarket Bomb, and the Model Town of Pullman* (Chicago: University of Chicago Press, 1995); Heather Cox Richardson, *The Death of Reconstruction: Race, Labor, and Politics in the Post- Civil War North, 1865–1901* (Cambridge, MA: Harvard University Press, 2001); Nell Irvin Painter, *Standing at Armageddon: The United States, 1877–1919* (New York: Norton, 1989), were inspirational. Particular thanks goes to Heather Cox Richardson whose public lectures, presented over Facebook during the pandemic, originally introduced me to this topic.

3 There are a multitude of primary sources explicitly making this connection. The following are taken from Harper's Weekly, but newspapers and magazines across the country used the Commune to make sense of U.S. politics. "The City Amendments," *Harper's Weekly* Nov. 10, 1877: 879, https://harp-alexanderstreet-com.ezproxy2.library.arizona.edu/view/article/text/133983/8148 (accessed 4/6/2023); "The Commune in New York," *Harper's Weekly* Jan. 31, 1874: 98, https://harp-alexanderstreet-com.ezproxy2.library.arizona.edu/view/article/text/108997/8147 (accessed 4/6/2023).

4 Philip Katz, *From Appomattox to Montmartre: Americans and the Paris Commune* (Cambridge, MA: Harvard University Press, 1998); Richardson, *The Death of Reconstruction*, 85–107. Katz' work is inspirational for this topic, as it is by far the most thorough exploration of the American experience of the Commune, but it is also lacking in visual evidence. Other resources which mention the link between the Commune and

through photographs and illustrated magazines, was fundamental in linking both the Chicago Fire of 1871 and the Great Strikes of 1877 with the Paris Commune in the minds of the American middle class. By making this connection, commentators associated class-based protest with violent revolt and urban disaster, threatening that if the working classes got what they wanted, all of civilization would go up in flames.

The Paris Commune

In the early morning of March 18, 1871, troops from the French national government[5] in Versailles entered Paris in an attempt to remove military artillery from Montmartre, a working-class district of Paris.[6] The artillery had been used during the recent Franco-Prussian War (1870 – 1871), during which Paris was besieged by the Prussians for 4 months.[7] The artillery was under the control of the National Guard, the primarily working-class city militia of Paris, which had been greatly expanded during the siege and had become proudly democratic and independent from the national army.[8] Taking away these weapons was seen as the most efficient way to disempower working-class Parisians and to reassert the power of the national government.[9] The attempt to take the cannons failed. The horses meant to haul them away were late, and the troops sent to guard them were ill-supplied. Taking advantage of the situation, Parisian civilians of all backgrounds overwhelmed the soldiers and attempted to convince them to disobey their orders. In a largely bloodless revolutionary moment, the Versailles troops (*Versaillais*) refused to fire on civilian protesters, their discipline broke, and the cannons remained in Paris.[10]

U.S. politics, such as Richardson's work, don't devote enough space to the topic to merit using images as primary sources. J. Michelle Coghlan's study of the use of images of the *Pétroleuse* in post-Commune U.S. media has been influential. She draws on images, poetry and stories published in popular magazines to show how conservatives used the reference to the "unruly women" of the Commune to condemn domestic feminists who pushed social boundaries. J. Michelle Coghlan, S*ensational Internationalism* (Edinburgh: Edinburgh University Press, 2016).

5 The French national government during this period was the National Assembly, led by Adolphe Thiers, and is also called the Third Republic. For more information on the details of French politics surrounding the Commune, see David A. Shafer, *The Paris Commune: French Politics, Culture and Society at the Crossroads of the Revolutionary Tradition and Revolutionary Socialism* (New York: Palgrave Macmillan, 2005).

6 Shafer, *The Paris Commune*, 60–61.

7 Shafer, *The Paris Commune*, 47–54.

8 The siege of Paris encouraged many wealthier Parisians to leave the city, leaving the National Guard as a more working-class organization than it had been before. Soon after the siege, "National Guard activists held a meeting at which they developed preliminary sketches for a Republican Federation of the Parisian National Guard battalions … to which each arrondissement would elect three delegates without regard to rank." For more information on the National Guard and their approach to democracy, see Shafer, *The Paris Commune*, 57.

9 The national government under leadership of Adolphe Thiers pursued multiple policies leading up to the civil war which seemed designed to instigate a revolution in Paris. Reinstituting rent payments was one of the most egregious of these policies. Even if the act of removing the cannons from Montmartre failed, Thiers could be safe in knowing that it would provoke a conflict that he felt the national army could win, further consolidating his power and permanently crippling French radicalism. Shafer, *The Paris Commune*, 59.

10 Gay L. Gullickson, *Unruly Women of Paris* (Ithaca, NY: Cornell University Press, 1996), 24–33.

This inaugurated the Paris Commune, a revolutionary republican government that fought against the French national government from March 18 to May 28, 1871.[11] During the last week of the Commune, the *Versaillais* succeeded in entering the city and brutally suppressing the Commune in what is called The Bloody Week (*la semaine sanglante*).[12] Approximately 25,000 Communards were killed during the Bloody Week, many of them fighting on barricades and in the streets, others simply rounded up and killed en masse.[13] Many important Parisian landmarks burned from a combination of shelling from the *Versaillais* and the use of tactical arson by the Communards.[14]

The Commune became an international sensation, particularly in the United States. From the beginning of the Commune, bourgeois tourists were fascinated by the war and the destruction of Paris. Even before the Bloody Week ended, travel companies were scheduling tourist trips to see Paris from outside the city.[15] In the months following the Bloody Week, this only picked up steam with tourists and news reporters flocking to Paris.[16] Americans who traveled to France often returned and shared their experience with an American audience.[17] Photographers were among these early visitors and their photographs of Paris in ruin often recirculated in the United States. Hundreds of thousands of images produced in France were purchased by foreign businessmen to be sold abroad.[18] These were often advertised as a means of helping foreign tourists who were visiting Paris to navigate these new ruins but were also used vicariously by U.S. viewers without the means to make the trip.[19] In this sense, post-Commune photographs should be read from two viewpoints: the on-the-ground experience of a Frenchman, potentially with connections to the city, taking the photograph, and the American audience who would later view these photographs from afar.

11 The conflict between the French national government and the Paris Commune is also called the French Civil War, which in an American context can often be confused with The (U.S.) Civil War. Katz, From *Appomattox to Montmartre*, 1.

12 Shafer, *The Paris Commune*, 86–109.

13 Estimates of the number of dead vary, here I am drawing on Gullickson, who claims that 25,000 died during the Bloody Week and 15,000 national guardsmen died in the previous months' fighting. Shafer, *The Paris Commune*, 97–98; Gullickson, *Unruly Women*, 165.

14 Shafer, *The Paris Commune*, 98–100.

15 Harvey A. Levenstein, *Seductive Journey: American Tourists in France from Jefferson to the Jazz Age* (Chicago: University of Chicago Press, 1998), 140.

16 Coghlan, *Sensational Internationalism*, 107–115.

17 A significant number of Americans already lived in Paris before the Franco-Prussian War and the Commune. They too often returned to America and publicly discussed the Commune, whether they had personally experienced it or not. Katz, *From Appomattox to Montmartre*, 22–46.

18 Alisa Luxenberg, "Creating Désastres: Andrieu's Photographs of Urban Ruins in the Paris of 1871," *The Art Bulletin* 80, no. 1 (1998): 129; Coghlan, *Sensational Internationalism*, 198; Coghlan, *Sensational Internationalism*, 108.

19 Coghlan, *Sensational Internationalism*, 108.

These photographs include J. Andrieu's "*Désastres de la guerre*."[20] These are a series of silver prints on albumenized paper, which captured the ruins of Parisian architecture after the fall of the Commune.[21] Images such as Andrieu's that came out of Paris faced multiple hurdles in becoming accessible to the international public. Action photography was technologically impossible; quickly moving figures would be blurred beyond recognition. Thus, photographs often depicted the aftermath of the fighting, and could only reference the action indirectly. Two primary genres of photography remained. First, still-life photography of war casualties was possible; it had been widely experimented with during the American Civil War for commercial and personal purposes.[22] Secondly, photography of the destruction of the buildings of Paris was also viable. Another hurdle was the censorship of Commune photography which was quickly instated by the French government. This censorship was wide-reaching and was not limited to pro-Commune photography.[23] For instance, photography of the war dead was not necessarily pro-Commune, but was still controversial. Because the Communards died in a civil war, their deaths could not be framed as a noble sacrifice that would facilitate national mourning.[24] Thus, Commune photography largely refrained from directly depicting the dead Communards. On the other hand, photographs of ruined buildings did not risk violating any taboos or running afoul of the censors.[25] In general, these were the types of photographs that exited Paris.[26] As a result, ruin imagery needed to stand in for the many experiences of post-Commune Paris.

Alisa Luxenberg is an art historian who specializes in 18th–19th century European photography and art, particularly in France and Spain. She reads these photographs as extremely complex works, making reference to a variety of themes, often in contention with each other, for different audiences.[27] Above all, she argues against a class-based reading of them. Instead, she works with a theory of participatory identity, in which the identity of the Communards was not shaped primarily by their class identity, but by their shared

20 Andrieu's full name is not known
21 Luxenberg, "Creating Désastres," 113.
22 Luxenberg, "Creating Désastres," 117.
23 Luxenberg, "Creating Désastres," 116.
24 Luxenberg, "Creating Désastres," 117.
25 Luxenberg, "Creating Désastres," 116.
26 Coghlan, Sensational Internationalism, 109.
27 Luxenberg, "Creating Désastres," 114 – 116.

spatial identity: their experiences surviving the Prussian siege and the attacks from Versailles.[28] In this light, these photographs represent a shared trauma at the destruction of monuments of national import, independent of the viewer's class background or politics. While acknowledging the specific classed aspects of viewing these photographs, they were undoubtedly emotionally resonant for anyone who had lived in Paris during the Prussian siege and the Commune.

While this reading is compelling, it is restricted to those with a connection to Paris. When photographs like Andrieu's migrated to America, viewers lost that sense of participatory identity, because they generally lacked any interpersonal inter-class connections to the people of Paris. Luxenberg reads these photographs as using "the technique of redescription, transferring and transforming the war 'wounds' from bodies to buildings, skin to stone."[29] J. Michelle Coghlan, a literary scholar who specializes in American radical print culture, makes use of this concept in her work on the role of the Commune in American literature. Her response foregrounds both the reality of the Communards' deaths and the specifically American viewership:

> Such a slippage between building and body is doubly suggestive ... imbricating not only the ways in which the image of the Parisian ruins stood in for, and often marked the erasure of, the bodies of the Communards ... but also the ways in which the "wounds" of the Commune came to be transferred from the sight of bodies to the sites of lost or charred landmarks in mainstream American memory.[30]

In a French context, the process of redescription may have provided genuine catharsis within the constraints of French censorship. In an American context, these same photographs took on a more insidious function, obscuring the human victims of the war and substituting in property as the primary casualty of the war.

This transference of war wounds is evident in Andrieu's photographs of the *Hôtel de Ville* (Fig. 1). The *Hôtel de Ville* was originally constructed in the 14th century and traditionally housed the Parisian municipal government. During the Commune, it housed the Communard government and was the center of the city's administration.[31] The photograph frames the scene in five distinct parts: the vertical columns on the right and left side of the image (more distinct on the left), the rubble scattered

28 Luxenberg, "Creating Désastres," 114 – 115.

29 Luxenberg, "Creating Désastres," 117.

30 Coghlan, *Sensational Internationalism*, 109.

31 Shafer, *The Paris Commune*, 63.

Figure 1. Andrieu. D*ésastres de la guerre: L'Hôtel-de-Ville*, *Galerie des Fêtes,* 1871. École Nationale Supérieure des Beaux-Arts. From the essay "Creating Désastres: Andrieu's Photographs of Urban Ruins in the Paris of 1871," The Art Bulletin 80, no. 1 (1998).

on the floor in every direction, the end of the hall including a ladder, and the roof where light shines through the bars that previously held the ceiling. The grandeur of the building can clearly be seen from the decorative columns. They harken back to the building's historical legacy and even the broader legacy of Western Civilization by referencing Greek and Roman architecture. For American viewers, it would have been symbolic of Western culture, order, and civilization. The straight vertical lines of the columns are contrasted with the short, chaotic, and intersecting lines of the debris and bars which cover the top and bottom of the image.

Chicago Fire

One of the first truly American events which came to be viewed in the context of the Paris Commune was the Chicago Fire. The Chicago Fire roared to life on October 8, 1871, and quickly destroyed much of Chicago. It killed about 300 people, left 100,000 homeless, and destroyed $200 million in property.[32] It has remained one of the most famous urban disasters in U.S. history, in part because the fire became a useful reference for discussing contemporary social issues.

Original commentators were quick to compare the Chicago Fire to the fires of Paris during the Bloody Week. This connection was made commonly enough that the Paris Commune is cited in nearly every modern work on the Chicago Fire.[33] In some sense, it is unsurprising that this was the first event that came to mind because the Bloody Week had ended less than 5 months prior. Yet the U.S. already had a recent history of urban ruin to draw on for comparison: the Civil War.[34] Commentators rarely drew on images of urban ruin in the U.S. South to compare to Chicago. It is suggested that the controversies of the Civil War made such a comparison difficult; the nation was already entering a period of reconciliation, in which the differences between the North and the South were better off forgotten.[35] Instead of looking to their own country for comparisons, Americans often looked to the international news section of their newspapers for a fitting reference.

American audiences had grown accustomed to detailed and fast, though often inaccurate,

32 Katz, *From Appomattox to Montmartre*, 124.

33 Ross Miller, *American Apocalypse: The Great Fire and the Myth of Chicago* (Chicago: University of Chicago Press, 1990), 95; Carl Smith, *Chicago's Great Fire* (New York: Atlantic Monthly Press, 2020), 144–145; Karen Sawislak, *Smoldering City: Chicagoans and the Great Fire, 1871–1874*. Historical Studies of Urban America. (Chicago: University of Chicago Press, 1995), 48; Smith, *Urban Disorder,* 49–50. Miller's American Apocalypse features an image nearly identical to Andrieu's photograph of the Hôtel de Ville (Fig. 1.), although the author doesn't comment on why he chose this figure and why it might be a relevant connection between the Commune and the Chicago Fire.

34 Coghlan, *Sensational Internationalism*, 112.

35 Coghlan theorizes that comparing the Chicago Fire to the Parisian fires helped Americans forget the violence and division of the civil war. Coghlan, *Sensational Internationalism*, 112.

reporting during the American Civil War.[36] During the previous decades, printing and news reporting practices improved, and newspapers proliferated across the United States, expanding from 426 million copies distributed in 1850 to 1.5 billion in 1870.[37] When war broke out between France and Prussia, American readers demanded a similar style of war coverage as during the U.S. Civil War. War correspondents in Europe used similar techniques as during the Civil War, and the hottest news, independent of accuracy, was sent to New York via the transatlantic cable.[38] New York-based newspapers were often the first to receive the news from abroad, and news coverage from New York newspapers was often recirculated and reprinted throughout the rest of the U.S. by newspapers that couldn't afford the expensive telegraph costs.[39] In this way, international news of the Paris Commune spread to Chicago and became relevant when the Great Fire started in 1871.

One way the comparison between the burning of Paris and the Great Chicago Fire was made was through accusations that Communards or Communists[40] had started the fires. A few weeks after the fire, the *Chicago Times* printed what was supposedly a Communard's confession of starting the Great Fire.[41] The anonymous source claims that they came straight to Chicago from Paris after the Commune fell and had the intention of burning the business district of the city with a small group of revolutionaries. The story had no evidence, and its validity was widely questioned at the time, yet it was immensely compelling to middle-class Chicagoans.[42] The story in the *Chicago Times* was not the only instance where a Communard was accused of starting the fire. Multiple other highly visible Americans associated with the Commune were rumored to have a connection to the fire.[43] Evidently, the memory of the Paris Commune and the experience of the Chicago Fire were circulating in close proximity, but it is not obvious why the

36 Katz, *From Appomattox to Montmartre*, 63.

37 Katz, *From Appomattox to Montmartre*, 62.

38 Katz, *From Appomattox to Montmartre*, 63 – 66.

39 Katz, *From Appomattox to Montmartre*, 65 – 66.

40 These terms are often used synonymously and incorrectly in contemporary American news. The Commune included a significant Socialist element, but the ideologies of the Communards were far from homogeneous. Coghlan, *Sensational Internationalism*, 189; Katz, *From Appomattox to Montmartre*, 215; Shafer, *The Paris Commune*, 119 –9 125

41 Sawislak, *Smoldering City*, 46–48; Smith, *Chicago's Great Fire*, 145; Smith, *Urban Disorder*, 49–50; Katz, *From Appomattox to Montmartre*, 124–127.

42 Sawislak, *Smoldering City*, 48.

43 The list includes George Francis Train, a well-known if eccentric leftist organizer who had experience organizing in France; Gustave Cluseret, the Delegate of War of the Commune for much of its existence as well as a union general years before; and Wendell Phillips. Train was especially singled out for setting the fire as he was making an improbable run to become president in late 1871 and actively celebrated the destruction of the city. Katz, *From Appomattox to Montmartre*, 126.

connection between these two events would have been compelling.

As cities, Paris and Chicago were vastly different. Part of what made the burning of Paris so sensational across the Atlantic was the mystique of the city. It had a long, rich history at the center of "Western Civilization." Chicago was a boomtown on the edge of American Westward colonial expansion. It had existed for only forty years before the fire, but in that time had already become a metropolis and an industrial and railroad center in the West.[44] It had virtually no history to draw on in comparison to Paris and was on the very periphery of European expansion at the time. How could these two cities, these two events, be worth comparing?

Carl Smith, a prominent historian of social division, social threat, and promise in the American city, gives one answer in his book *Urban Disorder and the Shape of Belief*:

> The burning of the city [Chicago] commanded more attention than any other of the dozens of nineteenth century American urban fires ... not only because of its scale but also because, as John J. Pauly suggests, it thrust calamity into the heart of the most promising – and, in some respects, most threatening – city in the nation.[45]

The same could be said of Paris. It was at once the city of light and the origin of the French Revolution. Commentators across the Atlantic were aware of this duality and continually drew on the history of urban disorder in Paris to describe the Commune.[46] Yet the city remained a cultural Mecca, full of promise for American tourists who visited. Despite the differences, when urban disaster struck in these cities, it was remembered for two reasons: because they were great cities, promising in their own respects, and because they were already cities full of conflict with hotly contested identities.

Forty years after its founding, Chicagoans were already building up a belief in the greatness of their city. Before the fire, Chicagoans placed great faith in the indestructibility of their "great buildings," in particular buildings touted as "fireproof". The Chicago Courthouse is a standard example. John M. van Osdel designed the building in Greek Revival style with limestone from out of state known as "Athens Marble."[47] Almost everything about the building was designed for architectural greatness

44 Miller, *American Apocalypse*, 39.

45 Smith, *Urban Disorder*, 5.

46 There are a multitude of examples of commentators drawing on the memory of the French Revolution and the Terror to discuss the Commune. The tricoteuses were a female figure of the French Revolution who knitted next to the guillotines as prisoners were executed, and were likened to the women of the Commune. Gullickson, *Unruly Women*, 12.

47 Miller, American Apocalypse, 69.

rather than practical usage.[48] Unlike the primarily wooden residences of Chicago, these buildings were made of brick, stone, and steel, which were considered fireproof. This kind of architecture was not abnormal for downtown Chicago and served as the pride of wealthy Chicagoans looking to distance themselves from the working classes of the city.[49] However, pride and faith were not enough to stop the flames. Even so-called "fireproof" buildings like the Chicago Courthouse were destroyed by the fire.[50]

The failure of this great architecture was shocking for commentators. One commentator confronting the vast carnage of the fire remarked: "All those magnificent streets, all those grand palaces, which but yesterday were the pride and glory of the chief Western metropolis, are today indeed, a mass of scattered shapeless ruins."[51] The fact that the primarily wooden slums of the city would burn at the first sight of fire was taken for granted; the idea that large, fire resistant buildings could come to ruin was shocking. Journalists and photographers documented the failure of these buildings by taking and reprinting ruin photographs. These included Jex Bardwell's photograph of the ruins of the great Chicago Courthouse (Fig. 2) as well as the ruins of the Honoré block (Fig. 3). In these photographs, European-style architecture, a pride of Chicago, is contrasted with the rubble left by the fire. Particularly in the photograph of the Honoré block, the European-style white columns contrast with the dark rubble with a striking similarity to Andrieu's photograph of the *Hôtel de Ville* (Fig. 1). As with Andrieu's photograph, the order of grand architecture opposes the chaos of urban ruin. In both photographs the columns of a "great building" point eerily upwards to a roof that no longer exists.[52]

Apart from their promise, Paris and Chicago were also similar in the threat they posed. For many bourgeois commentators, the primary threat presented by the Chicago Fire was not the conflagration itself, but class conflict. Shortly after the presses began printing after the fire, commentators told stories of class revolt and the threat posed to the more "proper" citizens of Chicago.

48 The only exception was a second-story stairway meant to accommodate the muddy shoes of people entering without overly dirtying the building. Miller, *American Apocalypse*, 68.

49 Miller, *American Apocalypse*, 68–70; Miller, *American Apocalypse*, 75–76.

50 Miller, *American Apocalypse*, 69–70.

51 Miller, *American Apocalypse*, 68.

52 An additional relevant visual trope is that of the "woman-as-city." Smith includes an image of Chicago represented as a woman being helped to her feet by other city-women all surrounded by jackals. Similar images are common of Paris-as-woman or France-as-woman being abused in a variety of ways during the Franco-Prussian war and during the Commune. This trope claims the city as a 'great city' in a Western artistic tradition. Smith, *Chicago's Great Fire*, 146; James A. Leith, "The War of Images surrounding the Commune," *In Images of the Commune, Images De La Commune*, ed. James Leith (Montreal, Canada: McGill-Queens University Press, 1978), 115–117.

Figure 2. Jex Bardwell. *Ruins of the Court House after the Fire of 1871*. Photograph. From The Great Chicago Fire & The Web of Memory, ichi-38923. https://greatchicagofire.org/item/ichi-38923/ (accessed 4/19/22).

Figure 3. Jex Bardwell. *Ruins of the Honoré Block after the Chicago Fire of 1871.* Photograph, glass negative. From Chicago History Museum: Images, ichi-059806. https://images.chicagohistory.org/asset/24045/ (accessed 4/19/22).[53]

53 This image is reprinted in Lowe's eyewitness accounts of the Great Fire. The subtitle is particularly notable: "The Honoré Block, at the northwest corner of Dearborn and Adams Streets, another so-called fireproof structure, as it appeared after the Great Fire." Even a century after the fire commentators lamented the falling of the fireproof buildings. David Lowe, *The Great Chicago Fire: In Eyewitness Accounts and 70 Contemporary Photographs and Illustrations* (New York: Dover Publications, 1979), 35.

Reportedly, looting and drunkenness swept the city, even as the fire raged. A commonly retold story was that bartenders, understanding that their supplies were soon to be burnt, rolled out barrels of alcohol into the street for people to consume.[54] Looting in this era was consistently seen as a heinous crime by bourgeois Americans, one uniformly used as an accusation by the wealthy against the working class. In the context of the era of the temperance movement, the charge of drunkenness takes on the quality of being immoral and improper as well, connoting a class or racial "other."[55] Together, these accusations form a rhetorical strategy that condemned the working class as they fled the fire. Not only were there accusations of people using the fire to steal from the wealthy, but there were also accusations of working-class criminals actively helping spread the fire.[56] These imagined fire spreaders included literal criminals released from a Chicago prison so as not to be burned alive, as well as the aforementioned Communards, who represented the foreign "other," blamed for instigating class conflict in America.[57] The theme of fire spreading is also found in the story of Mrs. O'Leary, whose ignorance reportedly started the conflagration. In the aftermath of the fire, the myth developed that Catherine O'Leary, an Irish immigrant, was responsible for the fire because she brought a lantern into her barn to milk her cow, which promptly kicked over the lantern and started the conflagration.[58] The Mrs. O'Leary story became so popular that many Americans still recognize the story, despite the lack of evidence to support it. As a truly intersectional working-class, Catholic, Irish immigrant woman, she embodied all of the "others" whom bourgeois white male commentators feared and sought to blame.[59] In this way, the social elite of Chicago constructed unruly, criminal "others" as intentionally causing harm to respectable Chicagoans for their own benefit.

In response to these accusations, commentators imagined and illustrated what they deemed to be appropriate punishments. A series of

54 There were a number of similar stories produced following the fire. Smith, *Urban Disorder*, 50–54; Smith, *Chicago's Great Fire*, 140–142; Sawislak, *Smoldering City*, 48–52.

55 Smith, *Urban Disorder*, 54.

56 Smith, *Urban Disorder*, 56.

57 American commentators often vigorously denied that European style class conflict could happen in the U.S. Casting the real perpetrators of class conflict as foreigners was a rhetorical strategy which emphasized national loyalty over class consciousness, and which attempted to reassure bourgeois Americans that the U.S. was fundamentally insulated from Commune-like revolt. Katz, From *Appomattox to Montmartre*, 142–160.

58 Chicago History Museum, "The O'Leary Legend," The Great Chicago Fire & the Web of Memory, Chicago History Museum, 2011, accessed April 2, 2023. https://greatchicagofire.org/oleary-legend/.

59 Miller makes the argument that pointing blame at the urban poor of Chicago distracted from the institutional problems which made the Great Fire possible. Moves such as blaming Mrs. O'Leary or a Communard for purposefully spreading the fire obscured the fact that Chicago utilities were notoriously underfunded and that Chicago architecture had fundamentally failed to account for such a large fire. Miller, *American Apocalypse*, 63–67.

Figure 4. "Swift Justice. Fate of Thieves and Incendiaries." Engraving. From Luzerne, Frank. *The Lost City! Drama of the Fire-Fiend! — or — Chicago, As It Was, and As It Is! And Its Glorious Future!* New York: Wells, 1872 p. 187.

images were produced following the fire showing the public lynching or murder of alleged "thieves and incendiaries."[60] For example, an image in the instant history "The Lost City" shows a well-dressed but working-class crowd hanging a man from a lamppost.[61] The caption reads "Swift Justice. Fate of Thieves and Incendiaries," identifying the man as an unruly element of the city who must be eliminated (Fig. 4). The crowd is actively engaged in the activity; two men to the left are seen pulling the rope to hoist the body upwards. In the background, the fire looms, giving context to the scene and situating it in hellish imagery. There were no such recorded events, and it seems immensely improbable that the citizens of Chicago, fleeing the fire, would have found the time to identify and hang people for either incendiarism or theft.[62] The image functions to claim that even the working class respects the bourgeois outrage toward these unruly individuals who benefit from the misfortune of all Chicago residents. Like much commentary on the class conflict element of the fire, it attempts to pin the blame on a handful of instigators and to claim that the vast majority of Chicagoans, independent of class, agree with the social norms the commentators believed in.

The image shares similarities with commonly reproduced representations of incendiaries, often women, who were held responsible for the burning of Paris.[63] In particular, the *Pétroleuses* were the focus of newspaper coverage towards the end of the

60 Smith, *Urban Disorder*, 56.

61 "Instant histories" was the name given to historical accounts of recent events, often written months or a year after the events took place. They were a fairly popular genre in the 19 th century, bridging the gap between an informative and entertainment source. Luzerne's history of the Chicago Fire, published in 1872, for example, was an instant history. Katz, *From Appomattox to Montmartre*, 72.

62 Smith, *Urban Disorder*, 56.

63 The phrase "unruly woman" is borrowed from Gullickson. Gullickson, *Unruly Women*, 3–6.

Commune.[64] These women were accused of running around Paris with buckets of gasoline or petroleum (hence the name) setting fire to the city during the Bloody Week. The *Pétroleuse* became one of the most enduring images of the Paris Commune, in large part because of her failure to conform to feminine norms and her inability to be controlled by traditional social structures. Although the character in "The Lost City" image is not a woman, a host of unruly female figures did emerge from the Chicago fire. The most obvious one is Mrs. O'Leary herself, but the list also includes looters, drunks, and criminals. The hanged incendiary does still share an "otherness" with the *Pétroleuse*, which made them both compelling figures for bourgeois news reporters.

Images such as "The End of the Commune – Execution of a *Pétroleuse*," published in Harper's Weekly, show the fate of accused *Pétroleuses* captured during the Bloody Week (Fig. 5). A lone woman identified as a *Pétroleuse* stands cornered against a wall facing a soldier with a rifle on the right and presumably two soldiers with pistols out of the frame of the image. They are soon to execute the woman, just as many other Communards were summarily executed during the week.[65] The surrounding text t

Figure 5. "The End of the Commune – Execution of a *Pétroleuse*," July 8, 1871, 628, *Harper's Weekly*, harpweek, https://content-harpweek-com.ezproxy4.library.arizona.edu/view/issue/image/1871/0708/628 (accessed 4/19/22).[66]

paints her as a sympathetic figure who has been unfortunately driven out of her "proper" feminine sphere to become the feared *Pétroleuse*.[67] Gay Gullickson, a historian specializing in women's history in France, analyzes this image in her work on representations of women of the Commune. She argues that the image portrays the woman positively, focusing more on the brutality

64 Gullickson, *Unruly Women*, 3–6; Coghlan, *Sensational Internationalism*, 23–51.

65 Shafer, *The Paris Commune*, 90.

66 This image is a reprinting of an engraving earlier produced in *The Graphic*, a British illustrated weekly, on June 10, 1871. Reprinting European drawings without citation was a common professional practice for American newspapers. Gullickson, *Unruly Women*, 188; Katz, F*rom Appomattox to Montmartre*, 65.

67 "*La Pétroleuse*," *Harper's Weekly* July 8, 1871: 628.

of the soldiers than her sins.[68] However, it can still be read as indicating the *Pétroleuse*'s guilt. She is a figure who can only be mourned when she is dead, when her continuing presence in the world is not threatening. As long as she remains alive, questions of how a respectable woman could commit such crimes remain, and it is difficult to give her a satisfying conclusion.[69] The image is certainly not identical to "The Lost City" image. However, the images both show the perpetrators of class conflict being punished in the streets they roam, explicitly for the charge of spreading fire and implicitly for the charge of upsetting the social order.[70]

Great Railroad Strikes

In 1871, visual imagery was used both to attack unruly elements of American society and to claim that class conflict could not truly spread to America, because it was fundamentally foreign to the vast majority of the American working class, who were decent, law-abiding citizens. The years between 1871 and 1877 marked some significant changes to this narrative, culminating in the Great Railroad Strike of 1877. Philip Katz is the preeminent scholar on the repercussions of the Commune on American society until 1877. He argues that between 1871 and 1877, the Commune remained in the news and on people's minds, resulting in an Americanization of the Commune: an adaptation of the story of the Paris Commune to an American context for the purpose of commenting on American political events.[71] Only after this Americanization could the Commune properly be used to characterize labor unrest at home during the Great Strike.

The Commune remained in U.S. public discourse in a variety of forms. The French government continued the trials of captured Communards for over four years, and they were often reported on by the American press.[72] Many Communard refugees fled to New York in the aftermath of the repression of the Commune and the sentencing of the Communards by the French government. These refugees lacked sufficient numbers to significantly alter the U.S. political

68 Gullickson, *Unruly Women*, 187–189; Coghlan, *Sensational Internationalism*, 34–36.

69 The question of how seemingly respectable women could have participated in the Commune was a focus of the trials of the Communards by the Third Republic. Gullickson, *Unruly Women*, 198–201.

70 A notable difference between Paris and Chicago is how quickly each city was rebuilt after their respective fires. Very quickly after Chicago's fire the scaffolding went up for new buildings; architects and city planners saw the rebuilding process as integral to overcoming the trauma of the fire and to cementing Chicago's reputation as an American metropolis. However, when the economic recession happened in 1873 construction came to a halt, requiring a longer-term investigation into architectural strategies. Miller, *American Apocalypse*, 63–105. Paris had a more fragmented rebuilding; notably the palace of the Tuileries and the palace of St-Cloud were left in ruin for over a decade. The difference in these rebuilding mentalities shows distinctions in the ideological context of the two situations. Luxenberg, "Creating Désastres," 117; Coghlan, *Sensational Internationalism*, 110–112.

71 Katz, *From Appomattox to Montmartre*, 161.

72 Gullickson, *Unruly Women*, 194–195; Shafer, *The Paris Commune*, 100.

scene, but they did help foster radicalism in New York City and helped celebrate the anniversary of the Commune annually in the years following 1873, along with other radical groups across the country.[73] On the other side of the political spectrum, conservatives continued to discuss and make sense of the Commune in the following years, especially attempting to put it in an American context. American clergy, both Catholic and Protestant, routinely denounced the Commune, focusing particularly on its hostility towards religious institutions.[74] That is not to say that the American clergy were a monolith; there were a handful of clergymen who were sympathetic to the Commune and were sometimes even explicitly supportive of the Communards.[75] It was their interpretations and disagreements that kept the topic in circulation in American discourse and applied the lessons of the Commune to an American context.

Economic activity did not stand still, either. In 1873, one of the worst financial recessions in U.S. history started: the Panic of 1873. It would last until 1878, by which time American economic activity had decreased by a third.[76] The recession had disastrous consequences for American workers. Wages fell by staggering proportions, up to 50% in some states. Unemployment was rampant, and those without jobs often roamed the streets as "tramps" looking for work.[77] The recession was foundational in creating the class tension which would spark the strikes of 1877.

In 1876, one particularly extravagant representation of the Commune emerged at the U.S. Centennial celebration in Philadelphia. Coghlan notes two visual sites of memory of the Commune: "The Siege of Paris" cyclorama, which included an exhibition on the assassination of the Archbishop of Paris by the Communards, and the "Paris by Night" cyclorama.[78] These cycloramas presented panoramic views of Paris; "Paris by Night" represented Paris before the Commune (1848), and "The Siege of Paris" claimed to represent Paris during the Prussian siege in 1871.

Coghlan argues that these cycloramas produced what Alison Landsberg famously termed "prosthetic memory" of the Commune for American viewers.[79] Landsberg defines prosthetic memory as a memory of an event that an individual did

73 Katz, *From Appomattox to Montmartre*, 162–164.

74 Katz, *From Appomattox to Montmartre*, 143–148.

75 Katz, *From Appomattox to Montmartre*, 149–151.

76 "Economic activity" is meant very narrowly here, referring to the formal economy. Katz, *From Appomattox to Montmartre*, 167.

77 Katz, *From Appomattox to Montmartre*, 167.

78 Cycloramas refer to panoramic displays which could surround and engage the viewer in a landscape. Antiquated cycloramas still exist; there is still one at the University of Iowa Museum of Natural History. Coghlan, *Sensational Internationalism*, 11–19, 163.

79 Coghlan, *Sensational Internationalism*, 12.

not live through themselves, but feel like they experienced through film or modern mass media in general.[80] Coghlan expands the idea from film into these panoramas, claiming that this particular reproduction attempted to give viewers an "authentic" experience of Paris during the Commune and thus gave American viewers their own memory of the event.[81] This thread can be expanded further, if in a weaker form, to any visual reproduction of the Commune which divorced visual representation from real events, and situated the events of the Commune in a specifically American memory. In 1877, as in 1871, many commentators complained about the lack of accuracy in sensationalized visual reporting. *The Pittsburgh Leader's* complaint in particular is worth reproducing:

> they represent it [the 1877 strikers] as a wild and heterogeneous collection of rough men and virago women ... all with coarse, brutish faces, exhibiting every phase of ignorance and malignity. Now this is a French mob, the traditional mob of the first French Revolution, as sketched by English artists, which again budded and bloomed and was plucked in the commune of June, 1870 [*sic*].[82]

The memory of the French Revolution, which resurfaced during the Paris Commune and became Americanized throughout the 1870s, became a prosthetic memory for American citizens who had not lived through the French Revolution, who had not been to Paris, and who had never even seen a strike. Representations of the 1877 Railroad Strike had little to do with the conditions on the ground.[83] They instead drew on imagery of what class conflict could look like, and thereby depicted a uniquely American class revolt as the reoccurrence of a uniquely Parisian class and anti-government revolt six years prior.

The forceful ending of the Paris Commune set a precedent for using state violence to put down class revolt, which was echoed by language used in 1877. The U.S. army had not been used to put down strikes since 1834, 43 years earlier, during

80 Alison Landsberg, "Prosthetic Memory: The Ethics and Politics of Memory in an Age of Mass Culture," In *Memory and Popular Film*, ed. Paul Grainge (Manchester, New York: Manchester University Press, 2003), 148–149; Coghlan, *Sensational Internationalism*, 12.

81 Coghlan, *Sensational Internationalism*, 12.

82 Katz, *From Appomattox to Montmartre*, 177.

83 Many images produced in illustrated magazines are fundamentally unable to accurately portray events simply due to the medium. As mentioned, photography in this period could only capture still shots, so any action images are produced from an artist's imagination, sometimes directly inspired from the lived experience of a journalist, but more often produced to satisfy the needs of a public hungry for sensationalized action. In this sense illustrated journals acted very much like films where filmmakers draw on visual imagery which doesn't directly correlate to reality but is satisfying for an audience expecting an "extra-real" experience. *Harper's Weekly* claimed that some of their images (Fig. 6) were drawn by reporters who were in the fray based on their own experiences, but Katz writes at length about the inaccuracy of Commune reporting. "The Capture of Paris," *Harper's Weekly* July 1, 1871: 599; Katz, *From Appomattox to Montmartre*, 66–67.

Andrew Jackson's presidency.[84] Katz argues that the primary analogy made in 1877 was to the more recent Paris Commune and the use of force by the French government to put down the Commune.[85] Many newspaper commenters clearly made this connection and used the memory of the successful state intervention in Paris to justify putting down strikes at home. They were particularly drawn to the phrase "grape and canister" as a method of putting down revolt, referencing the military tactics used by the Versailles government against the Communards.[86] Rather than focusing on the troops as violent oppressors, they preferred to cast them as an extension of normal Americans who would not tolerate violent class upheaval. Again, bourgeois authors claimed to speak for the masses in condemning class conflict, and, in doing so, argued that state violence was democratic and merited.

Similarities in visual imagery between 1871 and 1877 mirror this argument. The cover image of the July 1, 1871 Harper's Weekly magazine issue (Fig. 6) portrays a group of *Versaillais* shooting from the roof of a house in Paris. They are shooting at and killing Communards in the streets below, but the framing of the image instead focuses on the individual soldiers' bravery and triumph. Additionally, the written article which accompanied this image only mentions Communards in the context of setting fire to the city. It is not mentioned who the soldiers are firing at nor why they're moving along the tops of houses.[87] In the window, two women curiously look out from behind the firing soldier. The article claims that they are residents of the house who were originally scared of the troops entering the house, but quickly adapted to it. The image visually claims these residents as allies of the Versailles soldiers.[88] Like many other images middle-class Americans would have grown familiar with, the image removes and isolates the class "other" and claims that any respectable citizens are allies of "order" as represented by the state soldiers.

84 The U.S. army had been used more recently to put down the New York Draft Riots. Primary sources show a connection between the Draft Riots and the Great Strike. "Something that will not 'blow over,'" *Harper's Weekly* July 29, 1871: 696; J. T. Headley, *Pen and Pencil Sketches of the Great Riots. An Illustrated History of the Railroad and Other Great American Riots, including all the Riots in the Early History of the Country* (New York: E. B. Treat, 1882), 136–288; Katz, *From Appomattox to Montmartre*, 174.

85 Katz, *From Appomattox to Montmartre*, 174–178.

86 Katz, *From Appomattox to Montmartre*, 174.

87 "The Capture of Paris," *Harper's Weekly* July 1, 1871: 599.

88 The political beliefs of women of the Commune certainly varied widely; some supported the revolution to their deaths and others opposed the Commune and supported the national government. Gullickson provides examples of both. For many women the Bloody Week was far less rosy than for those represented in the *Harper's Weekly* magazine (Fig. 6). Many women actively participated in the fighting and dying and many more were taken prisoner by the troops. Gullickson, *Unruly Women*, 120–158; Gullickson, *Unruly Women*, 160–166.

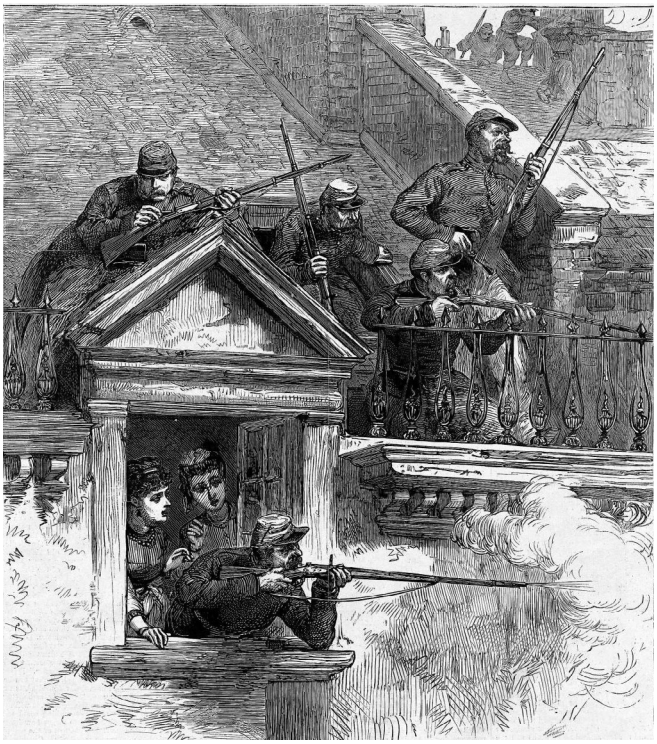


Figure 6: "Versailles Soldiers Firing Upon the Communists from Roofs and Windows in Paris," July 1, 1871, 593, *Harper's Weekly*. Harpweek, https://content-harpweek-com.ezproxy4.library.arizona.edu/view/issue/image/1871/0701 (accessed 4/19/22).

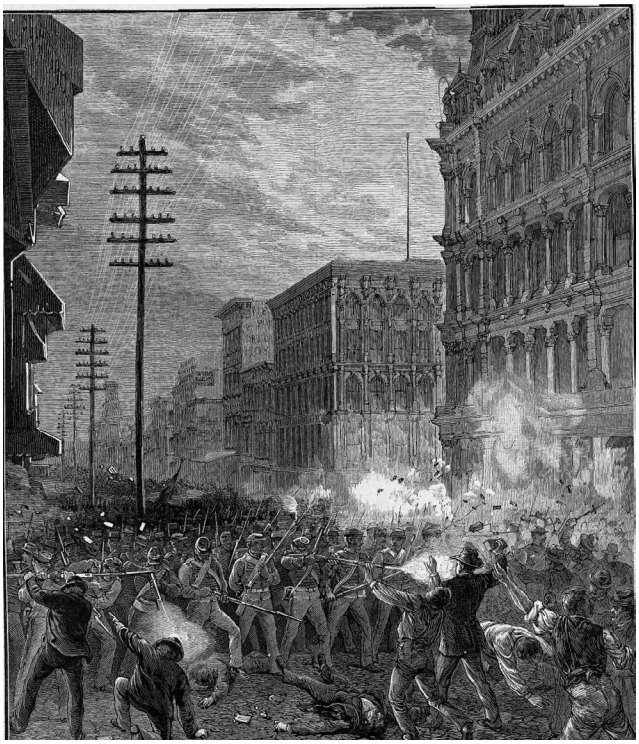


Figure 7: "The Great Strike – The Sixth Maryland Regiment Fighting its Way Through Baltimore," August 11, 1877, 617, *Harper's Weekly.* Harpweek, https://content-harpweek-com.ezproxy4.library.arizona.edu/view/issue/image/1877/0811/617 (accessed 5/2/2022).

Another issue of *Harper's Weekly* from August 11, 1877 covered the Great Railroad Strike at length. The cover image is captioned "The Great Strike – The sixth Maryland regiment fighting its way through Baltimore" (Fig. 7).[89] As in the 1871 magazine cover, the focus is on the soldiers; the viewer faces them as they "fight" the people of Baltimore. The framing of the image, notably the long electrical or telegraph lines, implies a linear view not only of the street but also of the soldier's progress. They came from the image's vanishing point, their path stretching out in the distance, and they will continue to press on despite the risk posed to them. There are clearly notable differences in comparison to the 1871 cover. Those opposed to the soldiers are clearly visible in this image; they fight back with bricks and pistols, and when the soldiers press forward the dead or wounded strikers

89 "The Great Strike – The Sixth Maryland Regiment Fighting its Way Through Baltimore," Aug. 11, 1877: 617.

are left in the street. The fact that the victims of the soldiers are clearly visible does not seem to disturb the magazine's authors. They labeled the image as a "fight" and clearly seemed to think it such. Coverage of the strikes often used wartime language.[90] This was in part because the reporters covering the event had trained in covering wars, a practice that was originally developed during the U.S. Civil War, but continued during the Franco-Prussian war, Paris Commune, and even during the Russo-Turkish war, which was covered in this same 1877 magazine issue.[91] The language of war allowed commentators to frame the two sides, strikers and soldiers, as military equals on a battlefield. Only in this light can the August 11 cover look like a fair fight and not a massacre. The framing of strikers as military opponents allow such images to overlook the human suffering inherent in violent strike-breaking, just as bourgeois commentators ignored the suffering involved in ending the Commune.

As the *Harper's Weekly* writers cheered on the troops, they also condemned rioters as looters and arsonists. In some cases, these were gendered attacks against women and children:[92]

> In one place where barrels of flour had been rolled from the cars and over the walls to the street below, breaking with the fall, heaps of flour were piled up several feet in depth. In these the women were rolling and fighting in their eagerness to get all they could. In their greed they were not satisfied with aprons full, but, holding out the skirts of their dresses, they ploughed into the heaps till they had all they could carry; then staggered off, covered from head to feet with flour.[93]

This section from a Harper's Weekly article contains a great deal of poorly concealed classism and sexism. The fact that the women were desperate and hungry was considered fundamentally at odds with proper femininity. In these representations, poor women were, by definition, failures of femininity, and middle-class male commentators could not help but be gripped by anger and disgust at the sight of them.

These kinds of indictments are reminiscent of gendered attacks made on the women of Paris during the Paris Commune. The women of the Commune who refused, or were unable, to conform to ideals of femininity were often used by

90 Troy Matthew Rondinone, "The Other 'Irrepressible Conflict': Industrial War in the Public Imagination, 1865–1950." (PhD diss., University of California, 2003), 75–82.

91 "Foreign News," *Harper's Weekly* Aug. 11, 1877: 619.

92 The quoted passage doesn't mention children, but other parts of the same article do. Children are often read as the extensions of women. The immorality of children is always considered an expression of the failure of the mother. One sensational example is that some *Pétroleuses* were accused of taking their children with them to help spread gasoline over the buildings of Paris. Gullickson, *Unruly Women*, 172.

93 The section also makes other attacks on women and children, accusing them of looting other daily necessities which would have been absolutely necessary in an economic depression. "The Great Strike," *Harper's Weekly* Aug. 11, 1877: 626.

Figure 8: "The Great Strike — Destruction of the Union Depôt and Hotel at Pittsburgh," August 11, 1877, 621 Harper's Weekly. Harpweek, https://content-harpweek-com.ezproxy4.library.arizona.edu/view/issue/image/1877/0811/621/m (accessed 5/2/2022).

conservative commentators to cast the Commune as uncivilized. A particularly poignant example came from a case on the first day of the Commune, when a group of Communards butchered and distributed the meat of a horse which was killed in the streets of Paris during the fighting. Commentators, particularly conservative historians, singled out women and children as the perpetrators, and used the ideological charge of the incident to condemn the Commune as uncivilized and barbaric.[94] Gullickson reads the incident as being ideologically important specifically because of the conflict between the physical needs of working-class Parisians and the social expectation to act within gender confines. Women of the Commune found themselves in a lose-lose situation; they needed to loot to provide food for themselves and their children, yet doing so would mark them as unnatural and unfeminine. Understandably, they chose to survive.

By far the most common visual denunciation of the railroad strikers was focused on arson.[95] Woodcut after woodcut shows scenes of rioters burning buildings, railroads, and train cars. The image of the "Destruction of the Union Depôt and Hotel at Pittsburgh" is a typical example (Fig. 8). It is one of the most reproduced images of the Great Strike, reprinted in a host of contemporary and modern works on the strike.[96] It shows rioters burning the union depot in Pittsburgh where labor conflict was particularly spectacular. Commentators for Harper's Weekly, in particular, focused on the union depot as a great building, describing its architecture and dimensions at length.[97] Multiple other images in the same issue show the destruction of railroad cars and rail infrastructure, which, alongside great European-style buildings, stood as a sign of modernity and the progress of American indsutry.

94 Gullickson points out that the historical evidence for this event is unclear and marred with ideological bias. The version presented here follows the initial eyewitness account of the event, written by Edmond Lepelletier. Gullickson, *Unruly Women*, 45–47.

95 Of eight images about the strikes published in Harper's Weekly between the Aug. 11 and Aug. 18 editions, five focus on arson and burning.

96 Notably "Pen and Pencil Sketches of the Great Strike" features this image on one of the first pages. It is still commonly reproduced in popular works on the strikes, for example it's featured on the Wikipedia page on the Great Railroad Strike of 1877. "Great Railroad Strike of 1877," Wikipedia, accessed 5/6/2022, https://en.wikipedia.org/wiki/Great_Railroad_Strike_of_1877.

97 "The Great Strike," *Harper's Weekly* Aug. 11, 1877: 626.

Figure 9: "The Burning of Paris – Fall of Houses in the Rue de Rivoli," July 1, 1871, 596 *Harper's Weekly*. Harpweek, https://content-harpweek-com.ezproxy4.library.arizona.edu/view/issue/image/1871/0701/596 (accessed 5/2/2022).

The imagery of arson in 1877 is strikingly similar to that of 1871 in Paris, which Harper's Weekly also featured at length. Images of *Pétroleuses* – the accused perpetrators of arson – were common, but images of the burning itself were also well covered. One example is the woodcut "Fall of Houses in the *Rue de Rivoli*" (Fig. 9). It shows the attempts to put out the fires of Paris in the *Rue de Rivoli,* which the Communards were accused of setting aflame. The large front part of the center building is illustrated in the process of falling spectacularly to the street below. The figures fleeing from the falling debris are firefighters, presumably part of the Versailles army following the actual fighting.

Conclusion

From 1871 to 1877, images of the burning of property were some of the most compelling visual arguments against working-class revolt that bourgeois commentators produced. They harken back to the experience of early tourists as they entered Paris after the Bloody Week. A sense of curious ruination of the emblems of Western Civilization

itself emerges, adding a peculiar ideological aspect to ruin voyeurism. In American newspapers, the thoughts and emotions that emerged from Paris were adapted to a specifically American context and expanded over the following six years. During the Great Chicago Fire, the experience of urban ruin was likened to Paris, and commentators drew on denunciations of the Parisian Communards to denounce the working classes of Chicago, often based on the charge of arson. During the Great Strikes of 1877, commentators and artists similarly drew on inspiration from the Commune. This time they sought to understand how class conflict could emerge in the United States, and again drew on imagery of the Commune to argue against the strikers and justify the violent suppression of political protest.

These tactics used to delegitimize protest were not constrained to the 19th century. When the Black Lives Matter protests of the summer of 2020 emerged in response to the killing of George Floyd, Americans widely supported the protests.[98] The imagery that dominated the media was of George Floyd: images of his face, held in the hands of the many millions of protestors, and images of his dead body, seen by the world through video recording. As the summer progressed, a new yet familiar type of imagery began to dominate American media. Outlets began to focus on police confrontation with protestors and the looting and burning of stores during the protests.[99] The change in focus directly led to a decrease in public support for Black Lives Matter, as white Americans started to associate the protests with violence and lawlessness (by protestors, not police). Once again, significant parts of U.S. media used images of arson and destruction to argue against social change.

The image of the racial and class "other" setting the markers of society on fire was vivid enough to remain a powerful argument to this day. In the 1870s such images were used to suppress class revolt, and in 2020 similar images were used to delegitimize popular protest against racial violence. Forces which support the status quo are quick to popularize images of revolutionary violence while concealing images of quotidian violence in an unjust world. The question of how to argue against this logic, how to create far-reaching boundary-crossing alliances in the face of a national media hostile to change, is informed by historical study but remains open.

98 Heather McGhee, *The Sum of Us* (New York, New World, 2021), 237.

99 McGhee, *The Sum of Us*, 238; Stephanie Pagones, "Protests, riots that gripped America in 2020," Fox News 2020 Year in Review, Fox News, Dec. 29, 2020, https://www.foxnews.com/us/protests-riots-nationwide-america-2020.

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Madison LaMonica

Learning Manners or Misbehavior

Table of Contents

Introduction

The age of prosocial children's programming began with *Mister Rogers' Neighborhood* program, as Fred Rogers sought to teach children about honesty, respect, kindness, and helping behaviors through television. Now, there are many programs that attempt to teach children prosocial messages like the ones above, as well as sharing, inclusivity, acceptance of other cultures, and friendliness. While these television shows have good intentions, it is not yet clear if children learn how to be prosocial from these shows. For this project, learning a prosocial message is defined as understanding the message from the episode as measured by assessments about the meaning of the content. Understanding the message also includes evidence that the child applied the prosocial lesson to a real-life situation, either hypothetical or real.

A limited number of studies have attempted to answer this question. Several publications have attempted to measure this by having a child watch an episode of television that teaches a prosocial message, supports that child's learning with different strategies depending on the study, and then assesses the child for their comprehension of the lesson and conducts behavioral testing to see if they apply the lesson to their behavior (Bonus & Mares, 2019; Cingel, Sumter, & van de Leur, 2019; Mares & Acosta, 2010; Mares et al., 2022; Mares & Sivakumar, 2014; Peebles, Bonus, & Mares, 2018). In each of these studies, the authors found that, generally, there was no effect on the children's behavior after viewing, and the children largely struggled to comprehend the lesson told in the story. Currently, there is no literature supporting the idea that children learn prosocial messages from children's television programming.

The current body of literature does have limitations, however. Many studies use a small sample size such as 46 children (Bonus, 2019), 70 children (Bonus et al., 2019), or 80 children (Cingel et al., 2019). In most of the research, the children are only visited once or twice in a one-month span. Children were assessed longitudinally to see impacts of prosocial television on their behavior in just one study (McHarg et al., 2021). Because the body of literature is currently very small, each study has attempted a different set of conditions to see if children will be able to transfer the moral lesson to their own behavior. A consequence of this is that currently no set of conditions has been tested again with a larger sample size or refining of the experimental method. This indicates insufficient consideration of the topic as replication is necessary to support the previous findings.

This paper sought to address the insufficient consideration of this topic, present a thorough discussion of current findings, and propose specific focuses for future research. If

research exploring children's ability to understand prosocial messages in television continues to suggest that children are not learning positive messages, policies should be put in place to caution parents and educators that while this content may be entertaining, children cannot learn the moral lesson proposed. Additionally, production companies of children's programming such as PBS or Disney Junior could be provided with guidance for future content to support children's learning, based on the research findings.

Based on previous understanding of the literature, it is proposed that preschool-aged children cannot learn prosocial messages from television content aimed to teach such messages. This paper also hypothesizes that the fantasy elements included in many television shows decrease children's understanding of these lessons. This hypothesis will be investigated by analyzing the current research, primarily mixed-methods empirical studies.

Methods

To investigate this question, the University of Arizona Libraries, EBSCO, Wiley, and JSTOR databases were initially used to search for primary, peer-reviewed articles that answer this research question. Keywords such as early childhood, preschool, toddler, and kindergarten were used to narrow the population when searching. Then, words such as screen time, television, media, content, movies, episode, and video were used to narrow the focus to the impact of media. Words like prosocial, lesson, inclusive, honesty, kindness, and sharing were used to focus the search on prosocial lessons. These initial searches did not yield many results other than two articles by Mares, an author cited many times in this article. Using the University of Arizona Libraries tool, more articles were found by looking at research that cited Mares or was cited in Mares' works. This technique yielded many more articles by other authors. The same process was repeated on works by other authors to ensure that the articles gathered were not only supporting one position or were only from one perspective. After these searches, fourteen articles relevant to the topic had been identified. One was by Mares, one of the main authors on the subject but was excluded from this research because it was published in 2008, and this project was focused on more recent research. Two more articles were excluded because they were meta-analyses, rather than primary research. One was excluded because its focus was on how prosocial television impacted children's sleep, rather than their behavior.

The remaining ten articles were read several times, summarized, and compared according to the primary themes. For example, several studies are concerned with understanding learning and fantasy elements, so those studies' findings were gathered

and compared. Another primary theme is seeing if scaffolding, or helping children to learn the lesson, helps with young children's understanding of the lesson and applying the prosocial theme to their own behavior.

Literature Review

This literature review will discuss current studies that address children's ability to learn prosocial messages from television, children's ability to learn from fantastical television, and current prosocial content in children's television. This review will be arranged thematically according to the focus of the study and aims to give an in-depth view of the current body of research.

Studies Addressing Fantasy Content and Learning

To identify if children can more easily transfer knowledge from a children's science television show to real life when the content is presented realistically or fantastically, Bonus published an experimental study (Bonus, 2019). This study does not look at children's ability to transfer prosocial messages, as the research question specifies; however, the study begins to establish evidence that fantasy elements in television lead to confusion for young children. This study used mixed methods and recruited 46 4-year-old children from a Midwestern preschool in the United States. About half of the children were girls, and the group was relatively racially diverse, as 41% of the participants were white and 43% of them were Black; the makeup of the other 16% of participants was not disclosed. These children were assigned to a fantasy or reality condition. In the fantasy condition, children learned about insect communication through clips of anthropomorphic animals. In the reality condition, children learned about insect communication while watching real video clips. Children were then tested for comprehension of the video immediately after watching. One week later the children were assessed for their memory of the information and ability to transfer the information to real life situations. The author measured the children's learning of biological facts, judgments of whether the material was real, their visual attention, their ability to transfer the biological facts to real life, and their transfer of anthropomorphic ideas about animals to real life. Children in both conditions learned an equal amount about insect communication, but children in the reality condition were more easily able to transfer their knowledge to real life. These children also transferred more information than was provided in the video, indicating that in the week since learning, they had connected that knowledge to new findings or discussions. These findings suggest that for children to learn from television,

they may need certain conditions to be met, such as the information to be presented in the way they will see it in real life and to allow time for the children to reflect on the information learned. This study has a very small sample size, and thus the results are not generalizable. However, the finding that children learned more when the content was presented realistically is theoretically relevant.

Bonus, seeking to expand on these findings, completed another study with author Mares in 2019. This study evaluated whether children could transfer messages of understanding about other cultures from *Sesame Street* to real life scenarios and if children think the cultures presented in TV are real (Bonus & Mares, 2019). In this mixed methods study, 70 children were recruited from their childcare center. 25 children were 3-years-old, 22 were 4-years-old, and 23 were 5-years-old. 55% of the children were girls. The children were overall racially diverse with 21% Hispanic children, 15% Black children, and 21% Asian children. These 70 children were visited at their school and shown an episode of *Sesame Street* depicting fiestas in Guatemala using Spanish words and anthropomorphic animals. After viewing, children were asked questions to see how real they thought the cultural elements shown were. They were also tested for how much they understood the episode. After a week, the children were visited at their school again and the researcher pretended that they were there to talk about toys before mentioning they were planning a fiesta for a friend. The children were asked about what they knew about fiestas and for advice about specific elements such as food selection and decorations. After, the children were evaluated for how much they remembered about the episode. The children were evaluated on previous exposure to Hispanic culture, the child's perspective on if the show was real or made-up, content comprehension, how real the children thought the content was, ability to transfer episode content, memory of episode content, transfer of fantasy elements, and judgment of reality in the episode. The researchers found that while all children remembered the content of the episode, only the oldest group of children, the 5-year-olds, were able to apply the episode content to real life problems. This may suggest a developmental milestone that is present for 5-year-olds, but not younger children. This study does not present the episode in a realistic or fantastic way as Bonus (2019) does. Future research on the topic could present an edited, realistic version of the episode to compare the children's results to. When the researchers asked the children if Spanish was a real language spoken somewhere in the world, and if fiestas were a real custom celebrated somewhere in the world, many children said no, it was not real. This finding might imply that young children assume what they see on television is make-believe. This study might also suggest that if one thing in the show appears to be make-believe, such as a fantasy element, children

may conclude that all of the content may not be real.

Next, Mares and Sivakumar explored whether children can learn about other cultures and have more inclusive beliefs through targeted television content (Mares et al., 2014). This was a qualitative study that, like Bonus et al. (2019), presented television shows to children that depicted other cultures, but had fantastical elements. This study was run twice. The first time the study was run, 145 preschool children ages 3 to 5 were recruited. 50 of the children were 3-years-old, 57 were 4, and 38 were 5 years-old. 46% were girls. 98 of these children were white, which indicates the sample was largely racially homogenous. The second time the study was run, 115 children ages 3–5 were selected. 44% of them were girls and 91% were white. Children were assigned to watch an episode of a show with a Hispanic protagonist, *Dora the Explorer*, a Chinese protagonist, *Ni Hao Kai-Lan*, or a white protagonist, *Franny's Feet*. Each of these shows featured anthropomorphic animals, characters talking directly to the audience, and family interactions. After watching the show, children were asked about their understanding of foreign language words in the episode and if the content showed how real people elsewhere in the world celebrate or live. The following measures were evaluated: children's belief in the reality of characters, the reality of fantasy elements, understanding of the reality of Spanish and English words, and the child's perceived learning. The researchers found that the 3- and 4-year-old children were more likely to believe that the Spanish and Chinese words were made up for the show. The 5-year-old children understood some of the educational parts of the show to be true but believed the Spanish and Chinese words were made up and that the characters were real people who could hear them. It appears there may be a developmental belief in younger preschool children that most content in fantastical shows is made up, but older preschool children begin to discriminate which parts are real and which are not. Like Bonus et al. (2019) most children did not conclude that the cultural elements were how other people live and celebrate, but that they were made up. This study has a much larger sample size than Bonus et al. (2019) as 260 children in total participated, leading to more convincing results. However, the sample was primarily made up of white children, and the findings should not be generalized to children of other races.

An older study sought to understand if children can transfer TV show concepts to real life better when they learn from a fantasy character or a real character (Richert et al., 2009). This was a mixed methods study and the experimenters conducted three similar studies with different populations. For the first experiment, 64 white, middle-class children were selected ages 3.5 to 5.5 from preschools in

a college town. For the second experiment, 34 children ages 4 and 5 were selected. Half of these children were girls, and all children were white and middle-class. For the third experiment, 34 children were recruited from ages 4 to 6. These children were all white and middle-class. There is no racial diversity in this sample, like in Mares et al. (2014) and likewise these results cannot be generalized to children of other races. In the first experiment, researchers told children a story about *Monsters Inc.* characters Mike and Sulley or about their teacher encountering a problem. Then, the child was told a scenario with the opposite character (if they heard the story about their teacher, the scenario was about Mike and Sulley) encountering a similar problem and were given props to solve it. They were expected to solve it with the same solution as was in the initial story. These problems could only be solved with physical solutions. Researchers observed and provided prompting to remember the story if children were stuck. In the second experiment, the same procedure was repeated, but the real character was replaced with a young child, like the children listening, and the fantasy character was a novel talking bug. In this experiment, the solutions to the situation were to take prosocial action. In the final iteration of the experiment, the real character was the listening child inserted into the story and the fantasy character was a novel fairy. Children's memory of the solutions in the stories and whether children were able to complete the scenario were measured. Each child was given a score and children received higher scores when completing the task without prompting, a lower score when completing it with prompting, and no score if they did not complete the scenario. In the first experiment, the 3- and 4-year-old children were able to transfer the solution from the story about the teacher to the scenario with Mike and Sulley but not the other way around. This indicates that they were able to transfer the solution from a realistic and familiar character to the novel situation but could not transfer the solution from a fantasy and familiar character. For the 4- and 5-year-olds, there was no difference in transfer ability. In all experiments across all conditions, children could more easily transfer the solution when they heard it from a real character. In this way, the findings are like those of Bonus (2019) which also found that children were able to transfer more knowledge when they learned in a realistic way, rather than with fantastical elements. While this study did test children's transfer of prosocial messaging in the second and third experiments, the children learned the content through oral storytelling, rather than through video content. The research question is specifically asking whether children transfer knowledge from television, so these results may only be tentatively applied to the current project. Still, these findings might suggest that children learn prosocial lessons from stories generally better when

they are presented with realistic characters, whether they are presented orally or through video.

Studies that Attempt to Scaffold Children's Learning or Mimic the Home Environment

In 2019, a group of researchers recognized that while children tend to watch TV with a peer or sibling outside of the laboratory context, no study had tested children's learning of prosocial lessons with a peer present (Cingel et al., 2019). The study wanted to understand if children viewing television with a peer impacts their ability to learn and apply messages about inclusion or stigmatization. This study uses a mixed method design. 80 children in kindergarten and first grade were selected in the Netherlands from three different schools. 57% of the children were girls, and no racial data is provided, suggesting that the sample is racially homogenous. This lack of information decreases the credibility of the paper. Children were assigned to one of several conditions where children are evaluated: one without watching television, one where children watched an episode of *Clifford the Big Red Dog* about inclusion alone, or where children watched the episode with a familiar peer. All children were tested, either after watching the episode or without watching for the control group, for their inclusivity and stigmatization of other children. Comprehension of the episode, judgments about the morality of exclusion, and peer stigmatization were measured. Stigmatization was evaluated using a well-known measuring tool to measure the stigmatization of adults, and the tool was modified for the current population. For all children who viewed by themselves, the episode targeting inclusion had no effect on the children's inclusion of others. The 5-year-olds who viewed with a peer also had no effect after viewing. For the 6-year-old children who viewed with a peer, they were less inclusive of others after viewing the episode than the control group. While the number of 6-year-old children in this condition is small, this finding may suggest that under some circumstances, children learn an antisocial message rather than the intended prosocial message from children's television. The authors suggested this may be because children who co-viewed perceived the peer as a bystander who implicitly approved of the bad behavior on-screen. This study supports previous findings in social psychology surrounding the bystander effect. The sample size of this study is small and lacks diversity, but it is the only study to have children co-view an episode of television, like children often do at home or at school.

Mares, an author who has published on the topic several times before, investigated children's ability to learn inclusiveness from television but attempted to use scaffolding measures to support children's learning (Mares et al., 2010). Scaffolding

is an educational idea that children can learn new skills when given support. In this case, the researchers edited *inserts*, or explicit narrations of the moral lesson, into the episodes. The study wanted to identify if children can more easily apply messages about inclusiveness in television episodes if explicit explanations of the lesson are inserted. This was a mixed methods design with 128 participants from ages 4 to 6. These children lived in urban communities in the Midwestern United States. 24% of these children were 4-years-old, 44% were 5-years-old, 32% were 6-years-old. As 74% of the children were white, the sample is racially homogenous. Most of the children were from low- and middle-class families. Children in the control group watched a *Berenstain Bears* episode unrelated to inclusion. Children in experimental groups watched either *Sagwa* or *Arthur* episodes aimed at teaching inclusion. The *Arthur* episode specifically addressed inclusion of children of the opposite gender. Some of these children watched the episode with inserted voiceovers in the episode reinforcing and explaining the message. Then, children were tested for their inclusion and stigmatization of others using the same method as was used in Cingel et al. (2019) and asked about how they would behave in situations like those in the episode. The following items were measured: prior viewing of the episode, how much the child liked the episode, inclusiveness, understanding of the lesson, memory of the insert, and prior exposure to other prosocial television. The researchers found that children in the groups with inserts were more easily able to comprehend the moral lesson, but all children demonstrated the same levels of inclusivity of others. Children who watched the episode of *Arthur* without inserts were less likely to be inclusive than the control group and demonstrated more gender bias than before watching. This study, like Cingel et al. (2019), identifies a small subset of children in the study who displayed a negative effect on their behavior after viewing a prosocial episode. In this study, because it is children who watched the *Arthur* episode without inserts that were less inclusive, and the children who watched with inserts had a null effect, it is possible that unmediated viewing of the episode can lead to misunderstanding of the message in some children.

More recently, Mares and other authors attempted to scaffold the moral lesson through songs that explicitly restate the message, rather than a spoken narration (Mares et al., 2022). In this study, building on previous research that people can be "primed" to be more loving by playing songs about love, the authors wanted to understand if children could be primed to transfer messages more easily about helping and sharing from a show to real life. This study uses mixed methods. For the first study, 107 participants ages 3–5 were recruited. 70% of these children were white. This is the only data provided about them. For the

second study, 64 children ages 3–5 were selected. This time 65% were white. Initially, children were randomly assigned to groups. Some groups were shown episodes of *Daniel Tiger's Neighborhood* about helping. A second group watched this episode with a song inserted that primes children to feel loving or to feel "fun." Other groups of children watched an episode about waiting that was edited with priming songs about either helping or loving. Then, children were put through behavioral tests like a researcher dropping pens, prompting the child to help, or being told if they waited a certain amount of time, more cookies could be theirs. The children were also tested on their likelihood to share by giving them 10 stickers and telling them they could keep them for themselves or share them with another child. The study was repeated, and children were shown only 90 second songs from *Daniel Tiger's Neighborhood* that explained the message about waiting or helping and either had helping or loving priming themes. The children were put through the same behavioral tests. Then, 636 parents were surveyed and asked about times they remember their child behaving more prosocially after watching educational television. For the experimental studies the following was measured: children's demonstrated helping, sharing, and waiting; comprehension of the lesson in the episode; prior exposure to *Daniel Tiger's Neighborhood* and other prosocial shows; parent-reported empathy; amount of television viewing; age; ethnicity; response time of children in helping and how many pens were picked up. For the survey, measures included whether parents remembered a time their child's behavior changed from watching television, the nature of times parents reported their child's behavior changing, the source of the media that changed behavior, length of behavior change, child's age at exposure, thoroughness of parents' discussion about content, content of discussion, and amount of child's media use. In the study where children watched full episodes with priming songs, they demonstrated very little understanding of the episode. This is a relatively surprising finding as *Daniel Tiger's Neighborhood* is often referred to as a show that is very successful at presenting prosocial messages. Children in all conditions behaved similarly, just as prosocially, in the behavioral tests when they watched full episodes. In the song-only priming study, children who listened to songs about helping were more likely to help the researcher and pick up pens. The children in other conditions were not more likely to be prosocial. In the survey, 70% of parents reported that they had noticed their child's behavior change after watching television. In most of these instances, parents discussed the content with children and reminded them of it, which influenced behavior. This study is the first one to find a true positive effect on behavior after viewing something with a prosocial

message, with the children in the song-only helping group demonstrating more helpful behavior. This contradicts the findings by Mares et al. (2010) and Cingel et al. (2019) which found negative behavioral effects in some groups. It is possible that in all three of these studies the negative or positive effects of the episodes are due to some difference in those groups of children and the study variables are not what led to those results. It is also worth noting that when the study switched from watching episodes with songs to watching only a music video, the children were no longer watching a story that attempted to teach a lesson. For this reason, the positive behaviors found in children who watched only the song can be only marginally relevant to the current research question as the children did not watch an entire episode or story.

In this body of literature, there is a lack of longitudinal data. There is only one study to date that undertook a naturalistic approach as researchers followed up with a group of toddlers over time and measured their prosocial behavior (McHarg et al., 2021). At each time, the researchers surveyed the child's families about what kinds of television shows they were watching, and these shows were coded for prosocial content. The study aimed to understand if the number of prosocial interactions children view on television impacts their likelihood to behave prosocially on a series of stimulation tests. This was a mixed methods study. Of the participants, the parents of all the children lived together, were monolingual English speakers, and lived in the United Kingdom. 85% of the mothers and 75% of the fathers had bachelor's degrees or higher. 92% of mothers and 94% of fathers were white. All parents were first-time parents. To conduct the study, 190 sets of first-time parents in the UK were recruited and sent surveys when their children were 14 months old, 24 months old, and 36 months old. These surveys measured the types of television children were watching (by listing 5 programs children watch most often) and the amount of screentime the children had. At the 24- and 36-month marks, researchers visited each child at their home or group care setting. During both visits, researchers conducted the Infant Distress Paradigm, a common evaluation method of empathy. This is a test in which the child's caregiver reads the child a book and plays a realistic crying baby sound coming from a doll in another part of the room. The child's empathetic responses are coded and measured on a modified Global Code of Empathic Concern scale. This scale is a standardized measurement system that uses photos to measure adults' bias and ability to empathize with people who look different from them. For this study, researchers modified this scale to be developmentally appropriate for children. At the 36-month visit, children were also evaluated on sharing behaviors by being given stickers and told they can keep them all or share them with another

child. Researchers coded the programs the parents mentioned and developed a coding system for measuring the number of prosocial and antisocial interactions in the programs. Researchers measured the amount of screen time watched by children, format of the screen time, top 5 most watched shows, coded number of prosocial and antisocial interactions in shows, infant distress paradigm (or how empathetically the children responded to a crying baby), and number of stickers shared. Children's screen time increased through each follow up visit. The amount of prosocial television children watched did not correlate to how empathetically they responded to the crying baby or how many stickers they shared. In each other study that uses behavioral stimulations to measure prosocial behavior, the behaviors tested are the same behaviors as the ones targeted by the show (Mares et al., 2022; Richert et al., 2009). In this study, all children are tested on the same behaviors, even though they watched different television shows that may not have addressed the behaviors that were evaluated. Additionally, the shows children watched and amount of viewing were reported by parents through surveys, which may not be reliable.

In order to increase the chance that children will be able to apply moral lessons to their behavior, researchers created interactive media (Peebles et al., 2018). This research question was designed after considering that children generally watch, or co-view, television with their parents, who may help to scaffold a prosocial lesson through interaction. Children also typically watch interactive media that directly asks the audience questions that may help to scaffold the lesson. Examples of shows that directly ask the audience questions are *Mickey Mouse Clubhouse* and *Dora the Explorer*. This is a mixed-methods study in which 97 kids from ages 3-to-5 were recruited from preschools in the Midwest United States. 41% of the children were white, 26% were Hispanic, 6% were Asian, 5% were Black and 17% were multiracial. This indicates that the racial makeup of the children sampled was relatively diverse. In this study the children were randomly assigned to the control condition, to watch an episode of *Sheriff Callie* unrelated to honesty, to watch an unaltered episode of *Sheriff Callie* about honesty, to watch an edited version to include multiple choice questions asking children to call out answers and saying "good job," to watch that episode with a novel adult experimenter asking multiple choice questions and providing responsive feedback, or to watch the episode with multiple choice questions for children to touch on the device and receive feedback about their response from the device. The interactivity was intended to reflect dialogic interaction. After watching, the children were tested on comprehension, labeling the emotions of the characters in the episode, understanding which characters' statements were truthful and which were

lies, their ability to generalize the message about honesty, and their ability to transfer the content to a realistic situation. The children's parents were asked about their current iPad usage. Children's episode comprehension, labeling emotions of characters, recognizing emotions of characters, understandings of truths versus lies characters told, evaluation of how moral truths and lies were, ability to generalize the episode's lesson, ability to generalize the lesson to other storylines, ability to recognize human emotions, evaluation of human truths and lies, and transfer of lesson to a new context were measured. All children in all conditions performed well on identifying emotions. Children who watched the episode with no interactive element scored the same as children who watched with interactive elements on recognizing the lies and truths of characters, generalization of lessons, or transfer of the lesson to novel scenarios. Watching the episode with the questions asked by the show or watching the episode with an experimenter did not result in the children testing better on any measure than the non-interactive viewing condition. Children who watched with the interactive questions on the device that they got to select by touching the touch screen scored better on comprehension of truths and lies and comprehension. All groups were not able to transfer the lesson to other scenarios. This suggests that while we can scaffold the lesson with interactive questions to help children comprehend the lesson better, this type of scaffolding still does not help children to transfer the lesson.

Study Describing Children's Educational Television

A final quantitative study analyzed 88 popular children's shows for their number of prosocial interactions modeled, fantasy elements, educational content, and violent content. Nielsen Ratings were used to identify the most watched shows by preschoolers from 2014–2015. This resulted in a list of 23 shows. 42 shows were gathered from diaries parents completed of their child's media use. 10 more shows were obtained from surveying parents who came into a research lab. Most of the parents who provided shows were middle-class and white. There were 88 total shows coded. For each show, ratings from Common Sense Media and other measures were gathered. Then two undergraduate research assistants randomly selected two episodes from each show to code on a scale of 1–5 for modeling prosocial interactions. They did the same for fantastical content. Each show was also coded on that scale for anthropomorphic content. A second coder repeated the process and discrepancies in points were addressed. The following is a comprehensive list of all measures in the study: style of the show, network the show airs on, violent content as rated by Common Sense Media, educational

content as rated by Common Sense Media, and prosocial content and fantastical content rated on a scale of 1 to 5. The study found that almost all the shows were animated. Shows on some networks like Disney Channel and PBS were less violent and more prosocial. PBS was more educational than other networks. Shows with fantasy content were more likely to be violent. Anthropomorphism was common in all children's shows. In general, shows scored poorly on showing prosocial behavior, even shows that tend to be considered very prosocial like *Daniel Tiger's Neighborhood.* It is interesting that this study found that almost all of the popular children's shows contained anthropomorphism, a type of fantastical content, as other studies noted that children have a harder time learning from fantastic media (Bonus, 2019; Bonus et al., 2019; Mares et al., 2014; Richert et al., 2009).

Summary

This literature reew provides a broad understanding of the current publications on the topic of children's ability to transfer prosocial messages learned from television to their lives. Several studies ask parents about the shows children are watching and measure the prosocial content in these programs, providing information about the types of content children are watching outside of laboratory settings (Mares, Bonus, & Peebles, 2019; McHarg & Hughes, 2021; Taggart, Eisen, & Lillard, 2019). Each of these studies suggested that there are many children's television shows that attempt to teach moral messages. One study looked for a correlation between the amount of prosocial content children watched and their prosocial behavior displayed in experimental simulations, but found no effect (McHarg et al., 2021). This may indicate that overall, the television children watch does not influence their behavior. Other studies conducted experiments in which children watched an episode of a television show, with various alterations, and their prosocial behavior was measured. In two of these studies, the researchers evaluated if children could transfer messages of inclusion from episodes about being inclusive (Cingel, Sumter, & van de Leur, 2019; Mares & Acosta, 2010). In others, the episodes taught honesty (Peebles, Bonus, & Mares, 2018); helping, sharing, and waiting (Mares, Bonus, & Peebles, 2022); and the understanding of other cultures (Bonus & Mares, 2019; Mares & Sivakumar, 2014). Several of these studies used interventions intended to make the child's transfer of the prosocial message easier through inserting explicit explanations of the message (Mares & Acosta, 2010), songs explaining the lesson (Mares et al., 2022), or interactive questions while watching the show (Peebles et al., 2018). Two studies aimed to incorporate elements more like how children watch television at home, such as with a peer (Cingel et

al., 2019) or with dialogic questioning from an adult (Peebles et al., 2018). All these articles address the research question by suggesting with their findings that while children can occasionally comprehend moral messages through television, they cannot transfer the message to real life. Many articles are concerned with understanding if children are less likely to generalize information when it is delivered by fantasy characters versus reality characters, and in each of these the children had a harder time transferring new knowledge from fantasy characters than they did reality characters (Bonus et al., 2019; Bonus, 2019; Mares et al., 2014; Richert, Hoffman, & Taylor, 2009). This is interesting as another study suggests that nearly all shows contain fantasy content through anthropomorphic characters, suggesting that the poor transfer from fantasy content may be happening with most programs (Taggart et al., 2019). No study resulted in findings that children behaved more prosocially because of the prosocial messages in television.

Results

While each item in the body of literature approaches the research question differently, the results are largely homogenous. This section will summarize the results of the literature thematically.

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Children's Ability to Comprehend Moral Lessons from Television

Each empirical study analyzed children's comprehension of the episodes they watched. Some studies found that children were able to comprehend the message overall (Bonus et al., 2019; Cingel et al., 2019; Mares et al., 2014; Peebles et al., 2018). Other studies found that the children in their samples could not understand the moral lesson well or could only understand the moral lesson when there was explicit narration of the lesson edited into the episode (Mares et al., 2010; Mares et al., 2022). Evidence is mixed on children's ability to comprehend moral lessons from children's media.

Children's Ability to Transfer a Lesson from Television to Real Life

In the studies that measure whether children can transfer lessons from television, or another kind of story, to real life situations, no author demonstrated that children could transfer this information. Several studies found this to be true even when the researchers scaffolded the lesson to make it easier for children to learn (Cingel et al., 2019; Mares et al., 2010; Peebles et al., 2018). Other studies focused on how fantasy content may make it more challenging for children to transfer the information and found that children who viewed

fantasy content were not able to transfer the lesson to real life (Bonus et al., 2019; Bonus, 2019; Mares et al., 2014; Richert, Hoffman, & Taylor, 2009). In only one study were children reliably able to transfer a lesson from television to real life, and the lesson was scientific, not prosocial (Bonus, 2019). This is significant because it is possible that it is easier for young children to transfer scientific knowledge from television to real life than prosocial lessons.

Prosocial Content Children Watch

Three studies used surveys or Nielsen ratings to record the common television shows children watch (Mares et al., 2022; McHarg et al., 2021; Taggart et al., 2019). In two of these studies, children's television shows were coded for the number of prosocial interactions they had per episode (McHarg et al., 2021; Taggart et al., 2019). One of these studies found that in general, even the most prosocial shows modeled very few prosocial behaviors (Taggart et al., 2019). The other found that the number of prosocial interactions a child saw on television did not correlate to more prosocial behavior during behavioral testing paradigms and that the number of hours of television children watch increases significantly over the first few years of life (McHarg et al., 2021). Another found that 70% of parents believe that their child's behavior had been positively affected after watching a television episode (Mares et al., 2022). This anecdotal reporting by parents is contrary to the results of the empirical studies above. Additionally, a survey of children's television found that nearly all children's television shows contain fantasy content (Taggart et al., 2019), which is relevant as other studies mentioned above found that children have a harder time transferring messages from fantasy content compared to children presented with realistic content.

Summary

These results do not support the idea that children younger than 5 can comprehend moral lessons from television shows and transfer them to real life. Most of the evidence supports this, but there were several contradictions within small subgroups in certain studies. In only one study and in one condition group did viewing content have a positive impact on children's behavior (Mares et al., 2022). This effect was only found when a child listened to a song, rather than a story or episode, about helping. This contradicts much of the research as well as findings by Mares et al. (2010) and Cingel et al. (2019) that found television content had a negative impact on children's behavior in certain small conditions.

Discussion

The project sought to understand if young children can comprehend prosocial messages like inclusivity or helping through episodes of children's television and if those messages can impact their behavior. In general, the research tentatively suggests that children do not always comprehend these messages, and they are not able to transfer these messages. While these findings are interesting, there are many gaps in the research that must first be addressed. First, only one study looked at the effect of children viewing prosocial content over time on their behavior (McHarg et al., 2019). This is also the only study to look at all the television children watch, rather than looking at the effects of only one episode a child has seen. Future research should look at the effect of watching prosocial content over time and see how much exposure is needed to have an effect, if any, on children's behavior. Without that information, it is challenging to generalize this project's findings as most of the research looked at such limited exposure. While many studies attempt to address gaps in the literature through scaffolding the prosocial information, there has only been one study for each scaffolding method and each one used for only one or two episodes (Cingel et al., 2019; Mares et al., 2010; Peebles et al., 2018). This is a limitation because these findings cannot be generalized beyond the individual shows that are shown to children in these studies without more inquiry into other television shows. Each of these gaps in the literature also represents limitations to the findings of this paper. This small body of literature does not yet have any studies with large enough sample sizes, longitudinal designs, or wide-scale experimenting methods to accept the findings presented in this paper.

Because the results of this project are tentative, and need further research to confirm, there are not yet policy implications for this research. However, with the understanding that current research suggests that children may not be able to learn prosocial messages from television, parents and educators may use caution when showing these shows to their children. As the research does suggest that children can learn from other content areas, such as science, parents and educators could choose programming that teaches from core subject areas, particularly when these shows present the information in a realistic way (Bonus, 2019). Until future research demonstrates conditions in which children can apply prosocial lessons to their behavior and value sets, shows exploring these ideas do not seem to be more beneficial to children than other programming.

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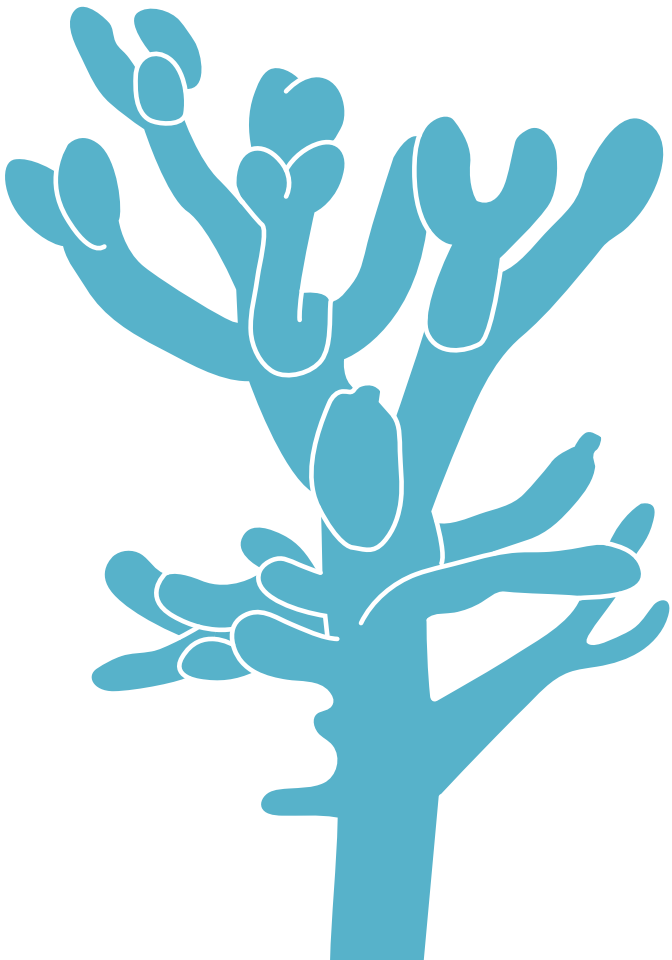

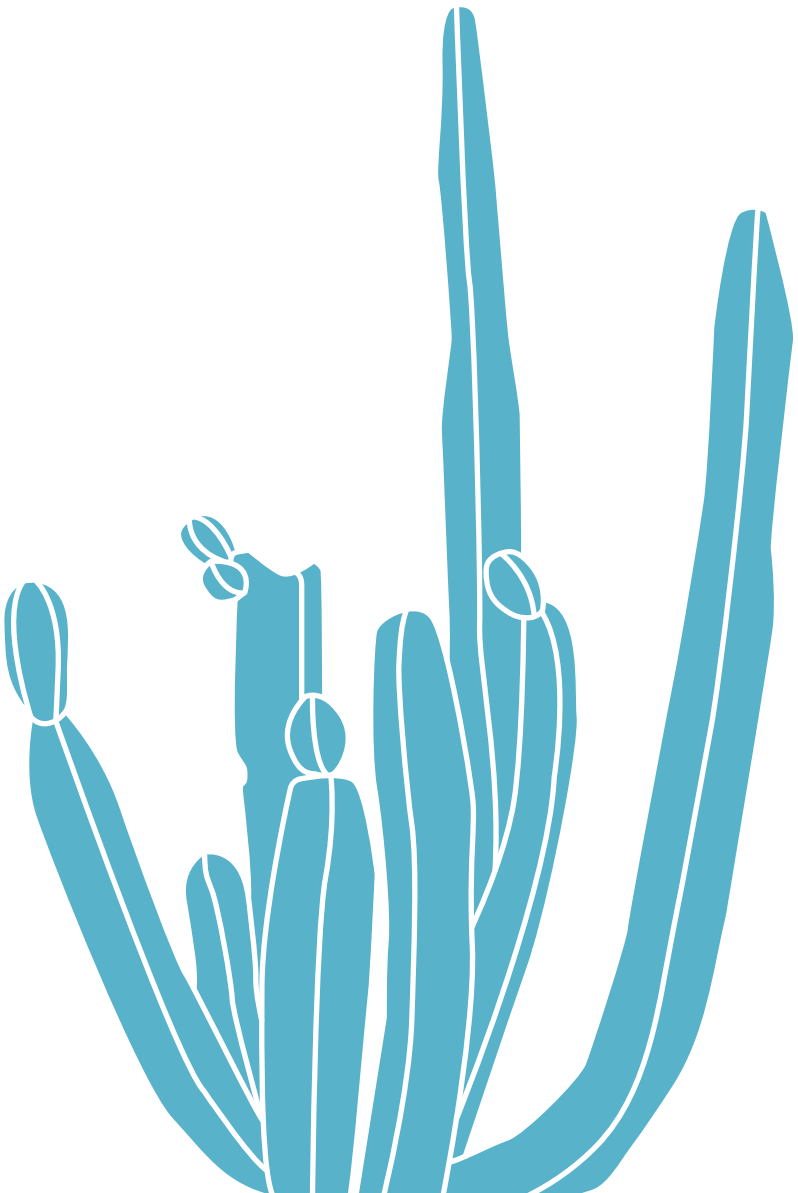

Bao "Tintin" Nguyen

Compatibilism Through the Lenses of Social Science, Moral Philosophy, Theology, and Quantum Physics

Abstract

In the essay *Historical Inevitability*, social theorist and philosopher Isaiah Berlin asserts that if historians believe our world is deterministic, that is, events are bounded by predictable chains of causality, that moral implications are profound. He comments that in a deterministic framework, humans lack free will due to the causal arrangement of events that already occurs before one exists, which frees mankind from any moral responsibility and makes any judgment of "right" and "wrong" meaningless. In what follows, I argue that cause-and-effect historical research can imply a softer probabilistic version of determinism rather than hard determinism suggested by Berlin, and this model further amplifies our free will rather than the opposite case. I also contend that the assignment of moral responsibility to an individual is a spectrum depending on how much control one believes one possesses, even in the context of determinism and the lack of free will. From discussing Berlin's work, I expand the discourse to other ideas of compatibilism – the compatibility between free will and determinism – in theology and interpretations of quantum mechanics. I argue that predestination due to omniscience can allow free will and moral responsibility. I introduce recent research on the possible quantum effects in biochemical processes of decision-making and the implications of two different interpretations of quantum mechanics in free will and determinism. In particular, I argue how in quantum mechanics, the Copenhagen interpretation supports indeterminism and the lack of free will while the many-worlds interpretation supports both determinism and free will. Overall, this article explores the ideas of compatibilism in philosophy, theology, and physics.

I. The Compatibility of Cause-and-Effect Historical Research, Probabilistic Determinism, and Free Will

Social theorist and philosopher Isaiah Berlin emphasizes multiple times throughout his essay *Historical Inevitability* that social scientists are heavily inclined to find strict and exact patterns in historical events, politics, societies, and human behaviors. Thus, he claims that the pursuit of "the theory of everything" from historians implies hard determinism, and deprives humans of the ability to make free conscious decisions, which goes against his libertarian ideals, though he does not refute determinism:

> How great a degree – how wide the realm of possibility, of alternatives freely choosable – will depend on one's reading of nature and history; but it will never be nothing at all. And yet it is this, it seems to me, that is virtually denied by those historians and sociologists, steeped in metaphysical or scientific determinism, who think it right to say that in (what they are fond of calling) 'the last analysis', everything – or so much of it as makes no difference – boils down to the effects of class, or race, or civilisation, or social structure (Berlin 119).

Berlin makes apt and insightful observations about the incompatibility of hard determinism and free will, which is not the focus of this paper. However, I refute his premise that cause-and-effect historical research solely implies a hard deterministic world that only allows the existence of a singular chain of causally connected events. I will offer an alternative interpretation: scholarly approaches of cause-and-effect to history, politics, psychology, sociology, or any other social science are consistent with probabilistic determinism, which focuses on the probabilistic tendencies of human actions, social environments, institutional structures, and more in influencing events. In other words, within this softer version of determinism, some tendencies are more naturally probable than others, which prompts the most likely outcomes. It follows that if humans are ignorant of these probabilistic distributions of causality and their time-dependent evolution, they are forced to follow a singular path that has the highest natural chance to happen. Throughout human history, mankind has not adequately assessed the chance behaviors of their social, political, and psychological actions, which led to consequences with a predetermined greatest probability dictated by nature. As a result, cause-and-effect historical and sociological research is attempting to shed light on the probabilistic nature of actions and consequences to escape from a hard deterministic world that leads to an inevitable fate. The knowledge of probabilistic

tendencies in social science allows humans to avoid actions favored by nature that can lead to undesirable consequences, and instead select less naturally probable pathways that might pave the way for more advantageous outcomes. This knowledge is the key to unlocking visions of multiple futures where humans have the freedom to pursue the futures they favor, which makes this theory of probabilistic determinism compatible with free will.

As an example, humans were naturally inclined to fight against each other in World War II because of a variety of factors including the rise of extreme nationalistic ideologies, the competition for global political dominance, and the lack of negotiations between nations. It appears on the surface that by researching the intricate entanglement of reasons behind World War II, the war was predestined to happen. The lack of knowledge that humans are naturally predisposed to certain characteristics which lead to certain events with the highest probability of happening denied the likelihood of avoiding the war. That absence of cause-and-effect knowledge in social science enslaved humans in a hard deterministic world where World War II had a one hundred percent chance of occurring. The point of historical research is to defy this hard deterministic reality arising from human ignorance to avoid past mistakes, and provide humans more authority in their decision-making, which is Berlin's liberal desire. Decades of research on why World War II was "inevitable" will allow humans to avoid another large-scale international conflict. This shows that causal analysis in social science provides humans valuable insights to actively choose a course of action that might be less likely to occur without the inttervention of cause-and-effect knowledge.

II. The Implications of Illusive Free Will in Assigning Moral Responsibility

The central theme of *Historical Inevitability* is, if we consider hard determinism to be true, that the concept of moral responsibility is nonsensical. From a historian's perspective, Berlin questions that determinism denies him and his colleagues the right to offer moral judgments on historical figures whose actions are merely products of a predefined chain of causality, not within their capacity of free will. This point is comprehensively conveyed in the following lines, which I consider the primary thesis of Berlin's essay:

> Our sense of guilt and of sin, our pangs of remorse and self-condemnation, are automatically dissolved; the tension, the fear of failure and frustration, disappear as we become aware of the elements of a larger 'organic whole' of which we are variously described as limbs or members, or reflections, or emanations, or finite expressions; our sense of freedom and

> independence, our belief in an area, however circumscribed, in which we can choose to act as we please, falls from us; in its place, we are provided with a sense of membership in an ordered system, each with a unique position sacred to himself alone. [...] The growth of knowledge brings with it relief from moral burdens, for if powers beyond and above us are at work, it is wild presumption to claim responsibility for their activity or blame ourselves for failing in it (Berlin 128).

Berlin is reluctant to accept determinism because he believes that subjective experiences and emotions mark the distinction between individuals. Especially, as a libertarian, he cannot accept that humans do not bear any responsibility for their own actions and consequences. I would like to argue that even if hard determinism is true and incompatible with free will, the latter of which is also claimed by Berlin throughout the essay, moral responsibility can still exist. Can man still be subject to ethical evaluations? This question cannot be answered with a yes-no response because moral responsibility is not simply black and white. The assignment of moral responsibility to others is more precisely a spectrum depending on how much control one has, or in the context of determinism and compatibilism, to what extent one *believes* one has free will, albeit illusive. *Believing* in the presence of free will does not make free will a true concept. However, how much a person thinks he has control over his actions reflects his intrinsic moral nature, which is independent of whether he actually possesses free will.

To further illustrate the spectrum of illusive free will and moral responsibility, consider these three following cases:

a) John is born with a brain disorder that sometimes causes hallucinations. He knows he has this medical condition, but he has no idea when hallucinations occur. Once, a hallucination convinces him that his neighbor is an alien, and if he does not kill his neighbor immediately, his neighbor's army will invade the neighborhood. He then kills his neighbor during the hallucination to protect his community out of goodwill. Under normal circumstances, he would have never killed the neighbor.

b) John drinks twice the amount of alcohol he normally does, and he is aware of his alcohol tolerance, but gets carried away at the party. His intoxication causes him to kill his neighbor during a driving accident.

c) John kills his neighbor, a successful millionaire, to steal money. He is in perfect health. There are no other factors, except for his materialistic greed that prompts the murder. He thinks thoroughly about his murder scheme, and escapes to another country before the murder is discovered.

In scenario (a), John has no knowledge about when and how his hallucinations happen, so he has no control over the false logic of his neighbor being an alien that instigates the murder. The murder originates from a positive sense of morality that urges him to protect his neighborhood from invaders. Therefore, he should not be held responsible for his murder. In scenario (b), John also has no control over his impaired physical and mental states during driving which causes his neighbor's death. However, he is aware that he would get drunk, and thus his reckless driving may cause accidents, but he still chooses to drink. It is important to note that the mere existence of other outcomes does not imply that the consequence is avoidable. However, even when his decision might be deterministic instead of free-willed, he holds some responsibility for his illusive authority over his drinking choices, relative to John in scenario (a). Once again, it is reasonable to judge John's deplorable morals in (b), and acknowledge John's inherently good intentions in (a), both of which are independent of whether John controls his actions. In scenario (c), John believes he has full conscious volition when he carries out his crime. He is aware his actions may result in negative consequences, and he carefully plans how to avoid these outcomes. He does not act on an impulse caused by a mental disorder or excessive level of alcohol. Again, despite this, determinism states that he would still carry the murder if this scenario is repeated infinite times because his materialistic greed can be determined by a variety of factors such as genetics and childhood education, which are not within his control. Nevertheless, his actions are executed with more freedom, albeit illusive, than in the previous two cases, so he is subjected to the greatest ethical responsibility among the three. The issue of whether he has free will or not is independent of our rights to evaluate his intrinsic malevolence and wrongdoing. These three examples illustrate that the relative degree of illusive free will dictates the inherent morals one possesses, thus leading to the different extents of moral responsibility.

Incompatibilists have rejected this notion of consistency between determinism and moral responsibility on the following grounds:

> When I am said to have done something of my own free will it is implied that I could have acted otherwise; and it is only when it is believed that I could have acted otherwise that I am held morally responsible for what I have done. [...] But if human behavior is entirely governed by causal laws, it is not clear how any action that is done could ever have been avoided (Ayer 271).

In other words, if determinism is true, then an agent could not have acted otherwise, so he is freed from any moral responsibility. The premise that "a person is morally responsible for what he has done

only if he could have done otherwise," the Principle of Alternative Possibilities, was challenged by philosopher Harry Frankfurt's thought experiment:

> Suppose someone — Black, let us say — wants Jones to perform a certain action. [...] So he waits until Jones is about to make up his mind about what to do, and he does nothing unless it is clear to him that Jones is going to decide to do something other than what he wants him to do. If it does become clear that Jones is going to decide to do something else, Black takes effective steps to ensure that Jones decides to do, and that he does, what he wants him to do. [...] Now suppose that Black never has to show his hand because Jones, for reasons of his own, decides to perform and does perform the very action Black wants him to perform (Frankfurt 835–836).

In this Frankfurt case, it is logically sound to conclude that Jones bears moral responsibility because he actively makes the decision. Simultaneously, he does not possess the ability to act otherwise because Black denies the existence of other outcomes, or in other words, the outcome is already predetermined. For clarity, Frankfurt devised this scenario to illustrate the compatibility of determinism with free will *and* moral responsibility. Meanwhile, I only wish to argue how moral responsibility arises from the illusion of free will in the context of determinism. In the Frankfurt case, Jones is subjected to ethical judgment because he performs the actions under the false premise that he has free choices. On the other hand, if Jones suffers from a genetic psychological issue and acts accordingly to the hallucinations like John in scenario (a) that negate his illusive sense of self-control, then he would not hold responsibility for the same actions as Jones in Frankfurt's thought experiment. I decide to introduce Frankfurt's groundbreaking thought experiment to lay out the historical background of philosophical discourse that complements my aforementioned views in the second section, that illusive free will, under the postulation of determinism, does not negate moral responsibility.

III. The Possibility of Free Will and Moral Responsibility in Theological Foreknowledge and Predestination

After arguing the compatibility of probabilistic determinism with free will as well as determinism with moral responsibility as a response to Berlin's *Historical Inevitability*, I will proceed to another relevant compatibilism issue: does the foreknowledge of an omniscient deity imply that humans cannot act otherwise to change their predestined future, and thus would humans lack free will? I will rephrase the scenario in a different light for my argument that omniscience and free will do not necessarily contradict each other. Suppose that

God possesses the power to observe our universe in its entirety from the very beginning to the very end from a perspective that is independent of both the spatial and temporal dimensions of our world. Many would argue that regardless of the existence of deliberate choices, we are led toward a singular fate already observed by Him, so our free will is merely an illusion. However, from God's perspective on a different plane of spacetime, "fate" is not a meaningful concept; every event that ever happened and will happen in our universe is simultaneous for Him because His position is unassociated with our time dimension. This view was maintained by Saint Augustine, one of the most prominent pioneers in Western philosophy and theology:

> For not in our fashion does He look forward to what is future, nor at what is present, nor back upon what is past; [...] so that of those things which emerge in time, the future, indeed, are not yet, and the present are now, and the past no longer are; but all of these are by Him comprehended in His stable and eternal presence. [...] nor does His present knowledge differ from that which it ever was or shall be, for those variations of time, past, present, and future, though they alter our knowledge, do not affect His (Augustine 197).

God's independence of our timeline and foreknowledge of our future (not His) is consistent with His absolute omniscience. Indeed, because of His omnipotence, He certainly has the full capacity to construct our past, present, and future according to His own will, but He also has the choice to do otherwise and entrusts humans to act on our volition. Human's free will is one of Christianity's core beliefs, as it makes the moral endeavor of man to return to the Garden of Eden a worthy pursuit:

> This day I call the heavens and the earth as witnesses against you that I have set before you life and death, blessings and curses. Now *choose* life, so that you and your children may live and that you may love the Lord your God, listen to his voice, and hold fast to him (Deuteronomy 30:19–20).

In this case, God can choose to act as an independent observer who views our universe's spacetime chronicle as if it was a film. He possesses the power to direct, rearrange, and create the events of the film as He likes, but He might also choose not to. Thus, humans can have the freedom to act on their own will, overcome their immoral desires, and pursue a virtuous life. In fact, these moral endeavors pave the way for the predestinations dictated by humans themselves, and only observed by Him. One question arises: Why does He allow the existence of immoral humans, which goes against His infallible quality as the omnipotent and omniscient? Moreover, in the Bible, it is explicitly stated that humans were

created in the image and likeness of God, and this is one of the cornerstones of Christianity (Genesis 1:27). Once again, just because He has the power to cleanse the human world with immoral deeds does not necessarily imply that He would do so. From the standpoint of Christianity, The Story of Eden and the Fall of Man in the Bible strongly suggest that by virtue of allowing humans to have free will, He already accepts that some mortals would oppose His will, disobey His teachings, and become corrupted. This freedom of conscious volition assigns the moral responsibility to the actions of humans, thus laying the rational foundation for Judgment Day. Eventually, His observations of our universe's film do not necessarily dictate our free will, decisions, consequences, and fates, but they only serve for Him to choose those who voluntarily atone for their sins to enjoy immortal life in the infallible Garden of Eden.

The compatibility of God's independence from our spacetime dimensions with our free will can be further intuitively explained through the analogy of theologian Edwin Abbott's *Flatland*:

> Consider intelligent and conscious creatures called Flatlanders who are restricted to a two-dimensional world titled Flatland. It is worthwhile to note that the notion of "flatness" is only meaningful for higher-dimensional beings, the Spacelanders, like us. Flatlanders have no ability to transcend dimensions nor the awareness that higher dimensions exist. Imagine that a sphere gradually lands upon and passes through Flatland. Flatlanders would only perceive a circle expanding from and then collapsing into non-existence (Adapted from Abbott 3–5).

If I assume that the movement of the sphere and the scientific knowledge of the Flatlanders are equivalent to our understanding of the macroscopic world, then Flatlanders possess the ability to predict the physical behaviors of the sphere at any time, given the initial conditions, based on well-defined physics equations. It follows that Spacelanders can have foreknowledge of what Flatlanders will experience, yet Spacelanders do not necessarily have any causal connection to Flatlanders if they choose not to interfere with Flatland. By replacing Flatlanders with humans in four-dimensional spacetime and Spacelanders with God in higher dimensions, independent from our world, this demonstrates that God's foreknowledge does not necessitate events of our world if He chooses to not intervene. Therefore, theological predestination as a result of omniscient foreknowledge does not necessarily encompass any causality between God's will and our experiences if He decides to distinguish himself from our spatial and temporal dimensions. This idea is different from the incompatibility of hard determinism with free will that many philosophers insist: that if events are

inevitable results of a chain of causal activities that occur before one is born, which is not within the control of the person, free will does not exist. Incompatibilists who use an equivalent version of this reasoning to argue for the inconsistency of theological predestination and free will have assumed a false postulation that God's foreknowledge has direct causality and dependence on our decision-making faculties. Ultimately, it is possible hat while God's omnipotence allows Him to access any section of our universe's chronicle film of spacetime, He also has the power to *not* choose and alter what to watch; instead, He can entrust humans, through free will, full authority over the film's content.

IV. Determinism and Free Will in the Interpretations of Quantum Mechanics

a) Motivations

Free will requires two fundamental features: the possibility of alternate choices and the actual existence of conscious volition. From a purely scientific standpoint, the mathematics of macroscopic physic s– differential equations – appears to negate the likelihood of other choices, thus inhibiting free will. This concept is popularly expressed as the omniscience of Laplace's demon which, in theory, can perfectly predict the evolution of the universe and every being encompassed in that world if it knows the position and momentum of every single particle in that universe. Berlin frequently laments that the adoption of Laplacian determinism in history and sociology implies a rejection of free will and ethical responsibility, which leads to his overall skepticism of whether the scientific approach of cause-and-effect can be translated into issues of social science. I argue that for free will to exist, alternative choices must exist. It follows that in physics, quantum mechanics needs to play a role in facilitating the autonomy of decision-making because of its indeterminate nature.

Quantum mechanics is a fundamental physical theory that describes subatomic particles using mathematical concepts called wave functions. In the quantum framework, particles using mathematical concepts called wave functions. In the quantum framework, particles have inherently probabilistic features. For instance, the location and velocity of a particle cannot be exactly determined. Only the probabilities of finding a particle at different locations or measuring different velocities can be calculated. This contrasts classical physical frameworks such as Newtonian mechanics or Einstein's theory of relativity, which can deterministically predict the evolution of physical systems given initial conditions as conceptualized by Laplacian determinism. A growing number of neuroscientific research substantiates the significance of quantum effects in the biological and chemical processes inside the brains – including

nerve terminals, ion channels, reactions to external stimuli, functionings of areas that correlate to subjective emotions, and more (Schwartz *et al.* 1318–1325). More strikingly, empirical neuropsychological data has been shown to be more consistent with quantum theory than classical physics, and the conclusion of the Schwartz *et al.* study seems to be favorable for the possibility of free will arising from quantum mechanics, despite not being conclusive:

> These orthodox quantum equations, applied to human brains in the way suggested by John von Neumann, provide for a causal account of recent neuropsychological data. In this account, brain behavior that appears to be caused by mental effort is actually caused by mental effort: the causal efficacy of mental effort is no illusion. Our willful choices enter neither as redundant nor epiphenomenal effects, but rather as fundamental dynamical elements that have the causal efficacy that the objective data appear to assign to them (Schwartz et al. 1325).

Evidence of quantum indeterminacy playing an essential role in our brains, which are the sources of our decision-making faculties, provides the plausibility for the existence of free will. It is necessary to note where consciousness comes from and whether consciousness is quantum or not are still heavily debated, but it is commonly believed that autonomous conscious volition, if it existed, would most likely originate from quantum neuronal activities inside our brains (Libet 9; Hameroff and Penrose 476). The mere existence of other possibilities in quantum theory is not sufficient but necessary for free will. These ideas motivate me to explore the implications of quantum mechanics, specifically by comparing and contrasting Copenhagen and many-world interpretations of quantum theory, in determinism and free will. This search offers more scientific insight into this philosophical discourse after the metaphysical examinations in previous sections.

b) The Copenhagen Interpretation of Quantum Mechanics

The Copenhagen interpretation was mainly founded by Niels Bohr and Werner Heisenberg, the pioneers of quantum mechanics, alongside the contributions of contemporary physicists. Within this interpretation, the transition from quantum randomness to macroscopic determinism is marked by the collapse of the wave function:

> It is well known that the "reduction of wave packets" always appears in the Copenhagen interpretation when the transition is completed from the possible to the actual. The probability function, which covers a wide range of possibilities, is suddenly reduced to a much narrower range by the fact that the experiment has led to a definite result, that

> actually a certain event has happened. In the formalism this reduction requires that the so-called interference of probabilities, which is the most characteristic phenomenon of quantum theory, is destroyed by the partly undefinable and irreversible interactions of the system with the measuring apparatus and the rest of the world (Heisenberg 94).

The Copenhagen interpretation emphasizes that well-defined macroscopic events arise from the wave function collapse due to the act of "observing" a quantum system, or "measuring" the quantum properties. The well-understood probability theory behind quantum spaces alongside empirical results of wave interferences suggests that reality is probabilistically deterministic because the probability of possible quantum outcomes can be calculated. Yet, the underlying nature of wave function reduction remains elusive and greatly debated among physicists (Heisenberg 82–96). There appears to be inherent randomness to how quantum mechanics "selects" an outcome when the wave distribution collapses, which makes the probabilistic determination of the mathematical description of this theory practically useless. For this reason, I believe that the Copenhagen interpretation depicts a fundamentally indeterminate world. If brain behaviors and consciousness arise from this intrinsically random process, the possibility of alternate choices is satisfied, but our volitional capability is confined by unpredictability we do not control, which negates free will. The philosophical implications of this rejection of both determinism and free will are profound. According to incompatibilist arguments that reject free will based on determinism, macroscopic physics, and differential equations imply that freedom of choice is inhibited by causal chains of past events, which shows that everything happens for a reason, and we have no choice but to pursue this predefined course of action. However, if we accept the Copenhagen interpretation to be representative of our cognitive decision-making processes, we lack conscious volition because of an opposite reason: everything happens for no particular reason and on the inherent whims of natural collapses of the wave functions. Our attempts to systematize historical, sociological, psychological, political, or any other social scientific theories would be invalid because causes and effects are meaningless when nature randomly selects a singular reality out of the given possibilities in quantum mechanics. This irrationality of natural randomness is famously expressed by Albert Einstein in a letter to Max Born:

> Quantum mechanics is very worthy of respect. But an inner voice tells me this is not the genuine article after all. The theory delivers much but it hardly brings us closer to the Old One's secret. In any event, I am convinced that *He* is not playing dice (Einstein 403).

Perhaps, the Copenhagen interpretation is incomplete because we have not understood the tendencies of nature in choosing a singular outcome through the collapse of the wave function once an observation of the quantum system is created. This Copenhagen interpretation is analogous to my idea of probabilistic determinism in Section I in regard to cause-and-effect social scientific research. I earlier argued in Section I that the knowledge of probabilistic tendencies in social science might allow humans to actively choose more desirable outcomes that are less probable in nature without the intervention of such cause-and-effect knowledge. Thus, free will is made possible through gaining insights into the underlying principles of how nature chooses outcomes that might appear random on the surface. This compatibility between probabilistic determinism with free will can be translated into the problem of the Copenhagen principle, where the lack of volitional abilities might be an illusion caused by our ignorance of the wave function collapse. This concept is encapsulated in the de Broglie-Bohm theory, which hypothesizes "hidden variables" behind the unpredictability suggested by the Copenhagen interpretation. In this theory, the dynamics and outcomes of quantum particles are dictated by higher-dimensional guiding waves invisible to us. The results of this theory are consistent with local causality in relativity, the wave-particle duality, and the probabilistic description of quantum mechanics (Bohm 110). While evidence of the hidden guiding waves has not been discovered, and David Bohm specifically stated that he did not expect his formulation to be practical, this provides an alternative explanation that can encourage the Copenhagen interpretation supporters to search for a probabilistically deterministic universe with predictable quantum outcomes that allow free will (Bohm 110).

Nevertheless, the Copenhagen Interpretation has fundamental flaws which are irrelevant to the nature of how a singular quantum outcome is selected: what exactly is an "observation" of a quantum system? How and when does the collapse of the wave function arise between quantum indeterminacy and macroscopic determinism (Weinberg 26)? This so-called "measurement problem" is further posed by Erwin Schrödinger's famous thought experiment:

> A cat is penned up in a steel chamber, along with the following diabolical device (which must be secured against direct interference by the cat): in a Geiger counter there is a tiny bit of radioactive substance, so small, that perhaps in the course of one hour one of the atoms decays, but also, with equal probability, perhaps none; if it happens, the counter tube discharges and through a relay releases a hammer which shatters a small flask of hydrocyanic acid. If one has left

> this entire system to itself for an hour, one would say that the cat still lives if meanwhile no atom has decayed. The first atomic decay would have poisoned it. The q+-function of the entire system would express this by having in it the living and the dead cat (pardon the expression) mixed or smeared out in equal parts (Trimmer 32).

The paradox of a dead-and-alive cat makes it evident that the Copenhagen interpretation is deeply fallacious with regard to its definition of observation. Besides, the idea of quantum observation prompting a single reality is problematic because of a simple issue – the lack of a universal observer. According to Einstein's theory of relativity, the notion of time is unique to a particular observer according to the frame of reference. As a result, the concepts of past, present, and future are not well-defined. If a singular outcome is presently determined by observer A's measurement of a quantum system, it might remain undetermined in the future for observer B. The inconsistency of establishing a valid observation in the Copenhagen interpretation with the relativity of spacetime questions what a singular outcome truly means when possibilities remain true for some while collapsing into one state for others.

c) The Many-Worlds Interpretation of Quantum Mechanics

The flaws of the Copenhagen interpretation motivated Hugh Everett to propose the many-worlds interpretation as an attempt to rectify the measurement problem and provide an alternative theory without the need for the wave function reduction:

> Observation of the near system simply correlates the observer to this system, a purely local process – but a process which also entails automatic correlation with the remote system. Each state of the remote system still exists with the same amplitude in a superposition, but now a superposition for which element contains, in addition to a remote system state and correlated near system state, an observer state which describes an observer who perceives the state of the near system. From the present viewpoint all elements of this superposition are equally "real." Only the observer state has changed, so as to become correlated with the state of the near system and hence naturally with that of the remote system also (Everett 116–117).

Everett boldly proposes that the wave function does not necessarily have to collapse to provide a well-defined macroscopic outcome. Instead, the random distributions remain as different possible realities which continue to

simultaneously occur and diverge to numerous worldlines, all equally valid in existence. When the quantum system is observed, the singular outcome is not chosen by chance, but the observers just happen to be a part of one of the possible universes that diverge from the others. In other words, other versions of the same observers co-exist in the quantum multiverse, and they would observe different singular outcomes although an observer does not have any awareness of other timelines. The number of worldlines corresponds to the probability distributions dictated by the mathematics of quantum mechanics, so the worldlines grow exponentially for every quantum observation and every set of diverging realities created. Consequently, it is worthwhile to examine the philosophical implications of the many-worlds interpretation of determinism and free will if Everett's theory turns out to be the underlying mechanism of decision-making faculties in our brains.

Firstly, the many-worlds interpretation allows compatibility between historical inevitability and randomness in quantum mechanics. The theory essentially is a series of conditional probabilities, implying that the universe we are in is a product of causal chains of past events. In this framework, there is a definitive way to search for cause-and-effect relationships, and current social scientific theories would be valid when they attempt to explain why certain historical events are inevitable, why humans act the way they do, why political institutions are structured in a particular fashion, and so on. Also, from the perspective of Laplacian determinism, an omniscient demon outside the quantum multiverse and independent from our spacetime dimensions could predict the characteristics and evolutions of every possible branch of the multiverse based on the deterministic Schrödinger's wave function. This idea makes the multiverse perfectly deterministic such that every universe is predictable given an initial condition, the root where every world line deviates from. However, the existence of alternate realities proposed by Everett is only necessary but not sufficient for free will. A fundamental question arises: Do we possess the ability to choose which branch of the universe to be a part of, or is the world we are a part of already determined before we are born, which deprives us of our volitional capabilities and frees us from moral responsibility according to classical determinism? My answer is a combination of both clauses.

When we are born, we are attached to a particular sub-branch where prior events are already causally defined, which is consistent with classical determinism. The section of the multiverse that we happened to be a part of right after birth certainly limited our choices to a restricted set of possibilities, which was a consequence of a previous causal chain of events that we have

no authority over. Despite this limitation, the many-worlds interpretation allows the possibility to consciously decide between the possible futures that branch out from the singular world at the moment of our birth. I do not wish to insist that free will exists if the many-worlds theory is true because I think it is equally likely that our conscious volition is illusive when we are confined in a singular worldline toward the future by natural choices or the will of higher forces. Nevertheless, free will is made possible in a quantum multiverse because not only do multiple realities exist, but our ability to act otherwise is demonstrated by the simultaneous and equally valid existence of many versions of ourselves in the worldlines that both spring out from a predefined history before our birth *and* our free decision-making. Therefore, in the context of many-worlds interpretation, I believe that both classical determinism and free will are perfectly compatible, and historical inevitability in one worldline and the pursuit of a desirable future by an individual agent are completely consistent. This inference has ample philosophical implications in previous sections, allowing Berlin to accept cause-and-effect social scientific research while maintaining his libertarian free will beliefs, subjecting humans to moral judgments even within a deterministic world, and permitting conscious volition if omniscient foreknowledge exists.

V. Summary

Taken altogether, I have argued the compatibility of:

1) Probabilistic determinism with free will in the context of historical research, as a response to Isaiah Berlin's essay *Historical Inevitability* (Section I)

2) Determinism with moral responsibility under the postulation that free will is illusory, as a response to H*istorical Inevitability* (Section II)

3) Theological foreknowledge and predestination with free will and moral responsibility (Section III)

4) Indeterminism with the lack of free will in the Copenhagen interpretation of quantum mechanics (Section IV, Part b)

5) Determinism with free will in the many-worlds interpretation of quantum mechanics (Section IV, Part c)

The expanding body of research in neuroscience suggests that quantum theory might explain the fundamental nature of our decision-making capacities. Thus, it is thought-provoking to philosophize the limits of our scientific understanding: whether, in theory, we can truly understand how and where consciousness arises, and if we can gain omniscience about every single behavior and action of mankind in the future. The relationships

between quantum mechanics and the science of consciousness might hold the key to the most profound wisdom of reality and challenge long-standing beliefs in deterministic philosophy, prevailing ideals of libertarian free will, or even "infallible" knowledge held by sacred theological texts. When Einstein and Bohr debated whether God plays dice or not, they started this pursuit of the absolute "theory of everything" not just in the sense of the Grand Unified Theory in physics but as an all-encompassing wisdom that can explain everything from science to religion.

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