

Muhlenberg Academic Review

Volume 6, Spring 2023



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Editors' Note

Welcome to the sixth volume of the *Muhlenberg Academic Review (MAR)*! We, along with the members of our executive board, are thrilled to be able to present this journal as a product of the Gamma Iota chapter of the Sigma Tau Delta intercollegiate English honor society. As co-editors-in-chief, our job would not be possible without the support and hard work of our board: senior editors Oyinkansola Adebajo & Anna Bobok, layout editors Grace Alvarado & Rebecca Zipper, and our social media editors and business managers Zev Lonner & Peyton Sloan. We would also like to thank Professor Linda Miller, our faculty advisor, for her continuing dedication and guidance, and Muhlenberg College President Kathleen Harring for her support of our student-led publication.

This year we were thrilled to receive sixty-one submissions across a wide range of academic disciplines, from economics to biology to music and many more. These essays were then sent anonymously to our fifty-eight contributing editors, who were selected based on professor recommendation. Based on their evaluations and our own readings of the pieces, we were able to narrow it down to a list of finalists, and from there select twelve essays that we felt best represented the interdisciplinary nature of Muhlenberg's liberal arts curriculum. These were then sent to our team of copy editors, who were assigned to work closely with one or two essays on final edits. To all of our copy and contributing editors, we thank you, and congratulate you on a job well done.

Despite the variety in subject and discipline of the essays we've published in this volume, we feel that all of the works represented here look beyond the familiar to things outside our borders, our comfort zones, and our understandings. Some essays bring to our attention matters of international significance, analyzing economic instability steeped in illicit markets and exploring gender and national pride through the globalization of certain musical styles. Other essays encourage us to think deeply about the plights of our own nation, with a specific emphasis on relationality—the relationship between public health and criminal law, poverty and systemic racism, social media and capitalism, art and immigration policy, or philosophy and colonialism. Others demand new and progressive ways of thinking, exploring innovative theories of literature, musical theatre, neuroscience, biology, and philosophy. We applaud these writers, and are proud to celebrate their passion, creativity, and intellectual fervor.

Thank you for your continued support of our journal. It has been a true pleasure to publish, and we hope it is an equal pleasure to read.

Cheers,
Lily Magoon & Faith Maldonado
Co-Editors-in-Chief of the *Muhlenberg Academic Review*



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ECONOMICS

Cocaine Production and its Effects on the Colombian Economy

Cameryn Guetta

Class of 2023

ABSTRACT:

This paper is an overview of the socioeconomic and political effects of the cultivation, exportation, and exploitation of cocaine in Colombia within the last century. Latin America's humid climate makes it the perfect region for the growth of the coca plant. Its roots began in Peru, Bolivia, and Chile, making its way to the heart of the Colombian economy. In this paper I discuss the various reasons why the Colombian working class fell into this illicit yet intoxicating industry through both domestic and international political problems that drove much of the population into poverty. Lack of governmental support for poverty-stricken regions led to the growth of guerilla, paramilitary, and cartel activity in order to keep control of the coca being produced on coffee-turned-coca plantations across the country. The already volatile value of the Colombian peso, a result of trade liberalization policies instituted during the later part of the 20th century, became linked to the international price of cocaine, which was affected by the drug supply specifically from Colombia, causing foreign relations issues. Pre-existing economic problems were amplified by the creation of the cocaine oligopoly in the country, highlighting the chokehold that the cartels had over economic activity in the the public and private sectors. The government has implemented plans to slow the production of the cocaine, but have not had little success in minimizing long-term consequences.

The first name that many people think of when they hear "Colombia" is that of Pablo Escobar, known for having to burn his money from being the most profitable drug kingpin in history. The popularity of cocaine in the region as well as in the United States and Europe has made the value of the coca plant extremely volatile due to the restrictions that the Colombian government has placed on its production. This led to economic instability and even depression as much of Colombia's exports include coca (Thoumi, 2002). These restrictions have also caused political unrest as they spark wars between the government and the cartels, leading to ever-increasing violence within the country. Not only are the cartels involved in cocaine growth and production, but paramilitary and guerrilla groups are also causing issues in regions where there is less governmental control.

Cocaine is derived from one of the fourteen alkaloids of the coca plant, which originates in South America. Coca, cultivated specifically in the humid Andes region, has extremely deep roots in a vast number of indigenous tribes as a stimulant, either chewed, used in concoctions, or snorted in small doses (Gootenberg, 2008). It was primarily used for medicinal purposes, namely to relieve stress, provide vital vitamins, and to aid with digestive problems caused by high altitudes (Gootenberg, 2008). Labor-intensive workers began to realize that chewing coca also gave them a mysterious energy they needed to work when food was scarce. Consuming coca leaves in their pure form has a slower and non-intense effect on the brain, unlike using cocaine, which has severe, almost immediate effects on the user's brain and cardiovascular system. While originally rejected by Western European medicine because of its susceptibility to rot and inability to survive the months-long journey to Europe, the coca plant began to catch the attention of Spaniards when Europeans began visiting the Americas in the beginning of the 19th century (Gootenberg, 2008). Many medical professionals became enamored with the plant's ability to energize workers, and it was no accident that cocain was isolated from the rest of the plant in the 1800s by European doctors (Gootenberg, 2008). Before the 1970s when it was deemed as an illicit drug, cocaine was used as anesthesia, in retail drugs, and famously as the main ingredient in the soft drink Coca-Cola when sugar and caffeine were no longer enough (Gootenberg, 2008).

Throughout the 19th century, the United States became the largest consumer of cocaine, which they began importing cheaply from the then largest producer of the drug, Peru, specifically out of Lima (Gootenberg, 2008). In the early and mid 20th century, domestic and international laws within and around coca-growing and cocaine-producing South American countries pushed the industry further and further into the illicit market. As these markets are illegal, they are highly unregulated, involving smuggling routes through several countries like Chile and Bolivia, that

had their own cocaine narcos before Colombia became the primary producer of the drug (Gootenberg, 2008).

The coca plant is not hard to grow, and in the years leading up to the 1970s, Colombian cultivation of the plant grew as the country had the perfect humid climate for sufficient harvesting. Coca leaves are able to be harvested up to eight times a year (once every 45 days), with one hectare of land producing around 6,000 kilos of leaves and 10.56 kilos of coca paste annually (Guizado, 2000). Previously there were other more convenient modes of transportation of coca and cocaine into the United States through Peru, Chile, and Bolivia, but internal politics like the Chilean 1973 coup and cold war made these routes increasingly more difficult (Gootenberg, 2008). These political conflicts drove the Andean economies into the ground, and many were desperate for a quick and easy source of income. This contributed to the beginning of Colombian cocaine trafficking. The convenience of its transportation as well as its high selling price made cocaine an inviting industry to explore (Thoumi, 2002). By 1987, enough coca plants were being grown throughout Colombia that the country provided eleven percent of coca produced globally (Thoumi, 2002), as it was impossible to grow the plant in Europe and the United States (besides for Hawaii). Coca was especially prominent in regions of extreme poverty due to government displacement of people in poverty after political problems pushed the poor into areas that had barely, if any, governmental regulation (Thoumi, 2002). Since these areas were far removed from the economic centers of Colombia, paramilitary and guerilla groups gained control of these regions and helped foster the growth of coca in order to remain in control (Thoumi, 2002). To simply describe how these groups operate and govern, Alvaro Camacho Guizado and Andrés López Restrepo write: "The main difference is that while the FARC insurgents are parasites who live off of the narcotics traffic by collecting taxes on production and the initial stage of the traffic, the paramilitary squads are a parasitory creation of the drug lords, who set paramilitary purposes and goals" (Guizado, 168, 2000). These groups not only fostered with the growth of coca plants, but introduced mass manufacturing of coca paste to export and provided education and other basic infrastructure that the Colombian government neglected to institute. This was done in order to create an even deeper impact and dependency from peasants on the drug trade (Thoumi, 2002). While these sound like positive contributions to these poor communities, the dependency of these regions on the infrastructure provided by guerillas and paramilitary groups allowed for them to be taken advantage of and lose any autonomy they might've possessed beforehand. With the secure roots of the drug trade planted in these regions, technological advancements were made that allowed Colombia to

Cartels in Colombia (infamously the Medellín and Cali cartels) were created in order to organize the steps necessary to manufacture and transport cocaine. This led to immigration into Colombia to get involved in the business, as well as immigration of Colombians into the United States to establish connections. It was necessary for there to be contacts domestically and internationally to ease the process as well as spread risk of detection by the authorities (Thoumi, 2002). The establishment of cartels led to a dramatic increase in violence due to rival producers both in Colombia and abroad, and overall crime increased because of money-laundering methods that developed (Thoumi, 2002). It was impossible for these groups to operate unnoticed without spreading their resources, so the cartels would hide their money with well-established members of society like lawyers and tax advisors, as well as with peasants and suppliers of cocaine materials (Thoumi, 2002). These social networks also spread into the government, with high-ranking officials, politicians, police, and army members also taking part in these schemes.

Colombia has not historically been known to have a strong economy, but their growth has been a stable four percent (Holmes, 2006). Economic growth in Colombia has been extremely low in the last two-hundred years relative to other industrialized economies such as the United Kingdom and the United States (Riascos, 2011). In fact, Colombia entered their industrialization era approximately seventy years after the United Kingdom began theirs, in 1910, when new technological advancements were incorporated to raise total factor production (Riascos, 2011). Still, the country saw continuous decline in gross domestic product per capita, with some sporadic growth, from the 1970s until around 1999. Unemployment ran at a high of twenty percent, the Colombian peso was valued remarkably high affecting exports, and domestic production was at a low due to trade liberalization instituted by former Colombian President César Gaviria as well as a real-estate crisis and increased public spending (Holmes, 2006). Shifts in investment from agriculture to more industrialized production caused unemployment to fall further, leading to an all-time high of around twenty percent in 1997 (Holmes, 2006). From the 1990s until current times, Colombia has been the world's largest producer of cocaine, along with Peru and Bolivia, with half of the global supply coming from the country alone (Thompson, 2019). Therefore the drug trade had the potential to have a huge effect on the value of the Colombian peso, not only through supply and demand fluctuations, but through the negative effects associated with said trade. As there is almost no competition, the cocaine industry is essentially an oligopoly, meaning that the producers have an effect on the global price of the commodity. The Colombian peso has been deemed a commodity currency, specifically a "cocaine currency" because of the relationship between cocaine prices and the value of the peso in the

short run (Thompson, 2019). The study that recognized this relationship writes that most commodity currencies experience a shift in currency value when there is a shift in demand, but cocaine is unique in that most of the shifts come from a change in the supply (Thompson, 2019). Meaning, an increase in the price of cocaine due to a change in supply, since Colombia is the world's largest producer, would discourage consumption and therefore there would be a depreciation in the global value of the peso (Thompson, 2019). An appreciation of the peso could have effects on the price of imports into Colombia, making imports cheaper, something the government should consider when signing policies that affect the cocaine industry. This can cause a large problem for Colombian policy makers, who must decide whether they want to continue allowing for the production of cocaine (which has its own internal, external, and moral issues), or risk causing economic downturn by putting a halt in the industry. All of these factors that contribute to Colombia's slow growing economy were the perfect grounds for success behind the cocaine-manufacturing trade. Increasing unemployment was the motivation people needed to enter the drug-producing industry, which temporarily boosted the economy and created jobs not only within said industry but also in construction and manufacturing (Holmes, 2006). The quick and sky-high profits were enticing especially to coffee farmers, who were losing profits rapidly since the 1980s because of high production costs and lower prices because of more liberal trading policies (Holmes, 2006). Even though the international price of coca was less than coffee, it was much easier for farmers to produce and sell coca than coffee due to the rising prices of the good. With all of the necessary materials needed to grow coca already in the farmers' hands (land, labor, storage), the switch from coffee was relatively easy. While the short-term benefits of investing in illegal drug-planting operations may be large, there are many long-term risks that are typically overlooked until it's too late. To put it simply, "the United Nations Drug Control Programme (UNDCP) highlights the opportunity costs of the illegal drug trade, including the loss of investment in legitimate enterprises as farmers funnel their savings into drug cultivation and production, a loss of investment in human resources as children become involved in the drug trade, and a further loss as other productive investments are crowded out (UNDCP, 1994)" (Holmes, 107, 2006).

Income inequality became an increasing problem in Colombia with the growth of coca production. In the late 1980s and early 1990s, around 30% of Colombian wealth was owned by the cartels through profits made from cocaine production and distribution (Holmes, Gutiérrez, 109, 2006). Additionally, smaller farmers did not benefit from transitioning into the drug trade because of the competition and small profit margins, an indirect consequence of the reign of the cartels

(Holmes, 2006). The dependance of the peasants employed on these plantations caused an even larger shift in power dynamics. Cartels also had significant indirect influence over not only the exports in coca but over international trade in general. This manifested in increased barriers to trade through tighter policies implemented by the government to regulate the flow of contraband leaving the country (Holmes, 2006). However, the cartels were able to take advantage of Colombia's already extremely corrupt government through bribery of political officials and investment into public and private sectors (Baviskar, 1996). The inconsistency in policy regarding the limitations of drug barons from funding real estate and sports projects was, as Siddhartha Baviskar writes, only showcasing the power that cartels had over the political system in the 1990s (Baviskar, 1996). One of the most notorious cases of political bribery was exposed in the late 1990s when news came out that president Ernesto Samper Pizano accepted campaign funding from the Cali cartel during the 1994 elections (Baviskar, 1996). News of this was unexpected because of Pizano's promise to eliminate illegal crop production in February of 1995 (Guizado, 2000). This opened the door into investigating other members of the political system, and it was found that the cartel had ties to around eighteen members of the Colombian congress at the time (Baviskar, 1996). To make matters worse, the process of investigation in the Colombian constitution begins with an examination of the case by the congress, which in this case would allow them to excuse themselves. Pizano was previously cleared of charges along the same lines a few months prior by members of his own corrupt party, which raises the question of how efficient the Colombian judicial system truly was (Baviskar, 1996). Unsurprisingly, the political instability and conflict had a negative effect on Colombia's economy. According to a regression analysis done by Jennifer S. Holmes and Sheila Amin Gutiérrez de Piñeres, which analyzes coca production's effect on the Colombian economy, political violence caused more harm to the economy than coca production alone, with paramilitary violence having a positive relationship to exports but a negative one to gross domestic product over the course of 1990 to 1997 (Holmes, 2006). Violence incited by The Revolutionary Armed Forces of Colombia, a Marxist-Leftist guerilla group also known as FARC, had a negative impact on exports but did not affect gross domestic product (Holmes, 2006). The FARC has ties to the cocaine trade in the regions it controls, resorting to kidnapping and extortion as their main methods of fear mongering. With an organization as large as the 17,000 member FARC, there are bound to be ideological differences. The drug trade has caused rifts within the FARC, with many lower level officials intrigued by the profits of the trade enough to stray from the guerilla group's political-military agenda (Rabasa, 2007). Involvement in the trade has increased criminal activity, causing the loss of international and domestic

support.

Political instability fueled by the inability to control the supply of coca and cocaine from Colombia had serious impacts on foreign relations, particularly with the United States. Being the largest consumer of the drugs Colombia was supplying, the American government under the Reagan administration began cutting off anti-narcotics and development assistance, as well as imposing barriers to trade and sanctions on Colombian goods (Baviskar, 1996). While these were policies that were not exclusive to Colombia but applied to all countries that the United States government deemed as large drug suppliers, these "setbacks attributed increasingly to institutionalized narco-corruption in Colombia" (Baviskar, 655, 1996). The drug trade had not only domestic effects on the economy due to violence, income inequality, and unemployment, but added to the existing structural violence that dissuaded foreign aid. Divestment made it especially difficult to implement action to halt the production of coca since there was no aid to fund development and crop substitution programs that would help displaced and now-unemployed peasants (Guizado, 2000). Several United States Presidents have since provided foreign assistance to Colombia in the interest of gaining support from voters who sympathize with Colombian citizens, but President Samper rejected this in favor of European aid (Baviskar, 1996).

The Colombian government began funding programs to hinder coca production, which had direct effects on the environment and cultivation of legal crop production. The two successful organizations are the National Rehabilitation Plan (PNR) and the National

Plan for Alternative Development (PLANTE) (Guizado, 2000). The PNR organized crop-substitution while PLANTE focused on illegal crop eradication. PLANTE's main method of this was through aerial spraying, which was incredibly effective while having extremely negative consequences on plantations that grew crops other than coca. Additionally, these chemicals left the land unable to cultivate, so indigenous people and peasants were left without land to work. Since many of these coca growing plantations were in areas that the government had no control over (controlled by guerillas and paramilitary groups), there was no infrastructure to economically support the people that lived there who were now out of jobs. This further pushed them into deeper poverty than what incentivized them to begin illicit production in the first place (Guizado, 2000). Other environmental effects of illicit drug production include deforestation of the Amazon rainforest in southeastern Colombia, soil erosion from the destruction of protective vegetation, chemical waste from destroyed plants, and water pollution from aerial fumigation (Guizado,

2000).

Narco trafficking in Colombia has established deep enough roots that the effects of it will last generations, even if the government successfully puts a significant amount of funding into dismantling the cocaine industry. Political instability and desperation for economic growth plays a huge role in the growth of black market trading, making Colombia the perfect place for being the epicenter of the cocaine industry. Though the cultivation and production of cocaine had short-term economic benefits for Colombia, the long term negative consequences of the drug trade heavily outweigh them. The responses of both the Colombian government and foreign governments give brilliant insight into the way the world views economies who must resort to illegal practices in order to stay afloat and provide for its citizens. While there is economic and social progress from policies and programs that have been successful in the past at stunting manufacturing and transportation of these drugs, there are countless communities that are harmed by the lack of job opportunities available without the presence of the drug trade. The Colombian government will continue to pursue innovative ways to create a better living standard for its citizens without them having to turn to dangerous enterprises to survive.

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PHILOSOPHY

Calling for a Newly Imagined Direct Social Perception Theory

Carina Filemyr

ABSTRACT:

This paper supplements Joel Krueger's argument for Direct Social Perception (DSP) using the arguments of philosopher, Emmanuel Levinas, in order to rectify some of the objections raised against DSP. Levinas, although not an explicit supporter of Krueger's theory, raises a point about the unique case of the face in comparison to the rest of the body. Krueger does not make a direct case for the face, and implicitly negates its capacity for expression, its ambiguity, and its inability to convey meaning. I applied Levinas' claims to Krueger's DSP, and in this paper, argued for a reimagined DSP that highlights the face as integral to the legitimacy of DSP.

The theory of Direct Social Perception (DSP), as argued for by Joel Krueger, is a way to both explain and account for other minds. Krueger argues that we have direct access to the mental states of others through their behavior. Because his account is highly contested, Kreuger takes special care to list and provide working rebuttals for objections that DSP might raise. I am especially interested in the part-whole objection raised against DSP, as it could be supplemented with Emmanuel Levinas' arguments. This objection also seems to be the strongest one raised against DSP, in that Krueger's rebuttal is only based on a faulty language interpretation. The part-whole objection raised by McNeill against Krueger claims that behavior alone is not indicative of the breadth of the internal mental state in which it is purported to be. Krueger's rebuttal, the relevance of Levinas, and a different "flavor" of DSP (that both Levinas and Krueger might agree upon) will be explored within the coming paragraphs.

Krueger argues that DSP implicates a *component-integral relation* between observable behavior and its respective mental state, while McNeill's objection, according to Krueger, draws upon a member-collection relation. A component-integral relation claims that the "whole" is constituted of several integral components and that seeing a component of the whole (because the individual parts are so inextricable from their constitution of the whole) is *seeing* the *whole*. McNeill's assumed "member-collection relation" relies on a kind of insignificance of individual constituents, so that seeing one member would *not* be an entire seeing of the whole. So, we must assume–according to Krueger–that embedded/embodied behavior is *just as* important as the internal state in order to rationalize his rebuttal to McNeill. While Krueger seems to satisfy the objection, there is still a kind of ambiguity that critics of DSP might use to argue for its "failure."

Concerns about the specificity of language that DSP requires might rattle Krueger's foundational claim, so the component-integral response might benefit from another endorsement. In another part of that same rebuttal, Krueger relies on the claim that "...it seems as if the embodied component is significant enough to the structural and functional integrity of the emotion that to see the component is sufficient to see the emotion," (Krueger, 2018, p. 313). The phrase "significant enough" might be confusing, especially when we are discussing emotions. What quantifies an embodied component as "significant enough"? Does it need to be actively displayed, whether implicitly or explicitly? Levinas is useful here.

Although it might be obvious, it is important to note that Levinas and Krueger both use "directness" explicitly. Firstly, within the title of his argument, Krueger claims a "directness" in social perception; this claim is reiterated through his explanation of access to other minds, his rebuttals to behaviorist objections,

and the diction he chooses in order to highlight the accessibility of other minds. Levinas's endorsement of directness is just as explicit. He recognizes that knowing is straightaway, and that the face is something that is not seen, but rather known. These are implications that we can draw from Levinas's direct language; this is Levinas's language applied. There are different approaches taken here by Levinas and Krueger, but a similar conclusion is reached about how we directly perceive (or see, or know) minds.

While Levinas and Kreuger both agree on "directness," the question of whether or not Levinas agrees that the directness is perceptual is important to discuss. Levinas argues that "...to the contrary, the face is meaning all by itself. You are you. In this sense one can say that the face is not 'seen,'" (Levinas, 1985, p. 86). The distinction is drawn here between "seeing" and "meaning," with meaning being analogous to "perceiving," and "seeing" being analogous to sensory input (without an assigned contextualization/meaning yet). Krueger In his introduction, states that "... when I see this behavior, I see these mental states directly, without inferential mediation. I see mind in action," (Krueger, 2018, p. 301). Krueger only uses the word "see," and repeats it three times- there is not an explicit mentioning of perception. It might be fair to assume that, according to Krueger, perception is inherent to the act of seeing. To Levinas, the face is not "seen," and to Krueger, he "sees mind in action." The distinction between "seeing" and "perceiving" is, although an important difference, arguing for a similar kind of end result through different means. By using different diction, the two are arguing via different avenues for relatively similar theories. Because of this, it might be fair to say-although not exactly the same as social perception-Levinas's argument that the face is not seen, sparks an interesting conversation with the directness of perception as argued for by Krueger.

While the prior paragraph explored a possible dissonance between Levinas and Krueger, this paragraph will work to both acknowledge and provide stronger evidence that, despite a difference, the two intersect in a useful way. Levinas argues that the "...relation with the face can surely be dominated by perception, but what is specifically the face is what cannot be reduced to that," (Levinas, 1985, p. 85). Within the word "dominated," there lies the implication of an uneven power dynamic; here, it might be said that the hierarchy of power(s) lies in the observer (or perceiver) of the face and the face being perceived. An overpowering force "dominates" another, more inferior (or weaker) force. Maybe our "wiggle room" for application here arises with the word "dominated." Levinas is not claiming that that perception is <u>not</u> direct; rather, he is arguing that perception does not dominate, or create a kind of imbalanced hierarchy, in terms of the face.

The face-what it represents, what it means, what its functions may be-ex-

tends beyond the reach of perception alone; it is more implicit, more all-encompassing. Levinas is also saying that the "collection" that is the face cannot be parsed down to its constituents by perception alone; it would no longer be the face. The perception still occurs to some extent; if it did not, the face would never be construed as meaningful or relational by another mind. So, this ambiguity can help us more clearly apply Levinas as relevant to supporting Krueger.

In his argument, Levinas argues that the "face is signification, and signification without context," (1985, p. 86). The word "signification" connotes meaning, relevance, a thing to take note of. He adds an important stipulation about context, which when taken with the rest of his work, is anomalous. The rest of Levinas's piece is concerned about the "other" and the "Other," which by definition, are things that are contextual. (Distinctions between the other and the Other are important; however, they will not be explored within this paper. The definitions do not contribute to the claim being made. It is, however, important to note that they are different.) He highlights the face as something that does not require a relationship to anything external-to-it in order for it to convey meaning, though-a kind of exception to his obsession with context and connections. This is important because it qualifies the face as something a.) that is unique in that it does not require relations to the other b.) something as extended beyond the scope of "traditional" perception, and c.) something that cannot be broken down into its parts and still retain the same kind of meaning. In terms of qualifying DSP, and more specifically the part-whole rebuttal, it might be useful to look at Krueger's "social" stipulation and Levinas's negation of the importance of context. The face, then, might take a kind of "priority," especially as the word "social" implies the presence of multiple engaging parties.

A notable distinction between Levinas and Krueger here is the differing emphases on face versus behavior. This provides another route for qualifying Levinas as a DSP theorist. As Levinas is concerned with the relation of the face—its meaningful relevance even when isolated from its context(s)—Krueger seems more concerned with behavior as a whole. Behavior extends beyond the face; it manifests and is perceived through gestures, bodily orientations/movements, and facial expressions. It is fair to assume that Krueger's definition of behavior extends beyond just the face, too. A kind of tension arises, then, of specificity (Levinas) versus generalization (Krueger). In other accounts, this tension might serve to discredit Levinas as a DSP theorist, and it is important to highlight this. I recognize that the specificity of Levinas, as well as the ambiguity of his language, might serve to negate Krueger's argument about the wholeness—as pertaining to the entire body—of behavior. However, the implications of the face as raised by Levinas—namely, the variability of its expressions and its non-reliance on context—are more supportive of Krueger than

any problems that Levinas's account might raise.

The face is not something static or unchanging: its contortions and movements signal expression. Levinas and Krueger would be in agreement here that the face is representative of and, perhaps, emulative of mental states. The face has a multitude of expressions, but the phrase "facial expression" is somewhat ambiguous. It can come to mean a display of emotion, a reaction, or a specific pattern of muscle contortion. The face cannot be separated into its individual parts, like the eyes, nose, and mouth, and still be 'seen' as the face. Levinas argues that "the best way of encountering the Other is not even to notice the color of his eyes!" (Levinas, 1985, p.85). Levinas is calling the specificity of individual facial features irrelevant here, and for good reason: the face is not necessarily composed of these specificities. It is the face; it is not the face when only the eyebrow or chin is being scrutinized. Within this statement, he is implicitly claiming that the face exceeds the sum of its parts; its meaning is derived through a working kind of emergence. To extrapolate Levinas's claims to facial expressions (and their "seeing" by the Other) would mean that the expressions as purported by the face are a.) relevant beyond their respective contexts and b.) something that can only be understood as occurring through the "seen" face. So focusing on the face, as something more specific and unique and quantifiable than just the umbrella term "behavior," might guide a revisited version of Krueger's DSP theory.

The face is also a significant piece of Krueger's embodied behavior even before we consider Levinas's support, considering it is a medium of behavior. If we want to consider a different branding of DSP-one that values Levinas's account in high esteem (and will be explored in upcoming paragraphs)-we might want to think about prioritizing the face as the most conducive to the relaying of mental states (under traditional conditions). The face carries with it a certain intentionality and implies a certain mental control over the expression of behavior because it is not "seen," but known. The leg is not "known" like the face is known. The moving of arms is not "known" like the face is known. The movement of the body-at-large is not "known" like the face is known. Surely these bodily movements, patterns, and orientations are perceived, but they lose their relevance once they are taken out of their respective contexts. The face cannot be dissected in the ways that the body can be dissected. In Krueger's current argument, facial expressions are not something remarkably different from other embedded forms of behavior-leg and face are given the same credence. Therefore, it makes sense to construct new bounds of DSP that place a greater emphasis on the "unusual" instance of the face.

Objections to this restructuring of DSP might be about the ways in which we might mask mental states: actors, the act of lying, the master manipulator. While

these objections make sense, the accuracy of the perception does not really matter; what matters is that perception of the face happens anyway and that this kind of perception is implicit and free from being construed by its context. Levinas, by facilitating an exploration of "facial expression" and all of the variability that characterizes the word "expression," allows for room to respond with working rebuttals (because of the ambiguity of 'expression').

To return to the points that we have already established: only behavior (as such a substantial part of a mental state that its perception is the perception of the mental state) needs to be perceived in order for there to be direct access to another's mental state. Levinas implicitly endorses this theory (DSP) by his arguments, as previously stated, through his claims about the face; more specifically, his arguments work to support Krueger's rebuttal to the part-whole objection raised by McNeill.

What we have explored thus far might help us think about a different kind of rebuttal to McNeill's part-whole objection, and one that lends itself to a different "kind" of DSP (as mentioned briefly above). Perhaps, we have access to the integral parts of the whole (through the perception of facial expressions/embodied behavior) without ever having access to the entire "whole" at once. The whole *must* exist, as its parts (which are so integral to the whole that seeing a part is equivalent to seeing the whole) exist. This, although it might alter other facets of DSP (like the other objections/rebuttals raised), seems to better satisfy the part-whole objection. In a way, it also mirrors Levinas's approach to describing the face: the access to the whole (face) is not readily accessible through propositional language or physicality or explicit perceptibility; it is rather a kind of implicit knowing via access to the individual parts that compose the whole. The aforementioned proposition also enhances Krueger's argument for a component-integral relation by changing the registers and requirements for "access." Maybe access to the entire whole (at one given time) is not necessary, given access to all of the whole's individual constituents.

In addition to the incorporation of Levinas, this modified approach might make DSP more palatable and relevant: in its very definition would be an acknowledgment of the depth and internality of mental states, a kind of acknowledgment of surface-level objections. This would also work to readily rectify the "behaviorist" objection. Lastly, it might qualify Levinas's reliance on the "weak constitution" stipulation. Perhaps, if we give the face a weightier contribution to what we deem as "behavior," and the face is a kind of anomalous facet of behavior that has expressions and is context-independent, then the face might be more constitutive of mental states than other facets of behavior. In a way, we are working to ameliorate more than one of Krueger's initial objections.

In more ways than one, a modified "Levinas-infused" version of DSP would

qualify it as a more feasible theory, in terms of its needing fewer rebuttals, placing a greater emphasis on the pertinence of facial expressions (and their ambiguity/ necessity to be taken as a "whole"), and placing different emphases on bodily (context-dependent) and facial behaviors. A version of DSP that argues for access to components without access to the whole mirrors Levinas's approach and, in a Levinas-inspired fashion, provides us more leeway for discussing the relevance of the face (which seems to be negated in the original Krueger approach).

As a kind of working conclusion, it is important to note that my argument is limited by the "heady" nature of Levinas's account—"heady" as in theoretical, abstract, a kind of tangential thinkpiece—and is not meant to be a critique of DSP. Rather, I am suggesting that it might be useful for Krueger to think about Levinas as a DSP theorist that is thinking about the face as something unusual and worthy of specialized attention. A new kind of DSP—one that boasts a modified component-integral relationship—where access to all parts, separately, without access to the whole makes DSP a.) more secure against potential objections and b.) an argument that incorporates Levinas.

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THEATRE

The Indigenous Immigrant — Reconstructing Identities through Redefining Borders

Alison Rutyna Class of 2023

ABSTRACT:

Indigenous Immigrant. These words seem an oxymoron at first glance, but with further examination the overlap becomes clear: while conceptually opposite, indigenous peoples' and immigrants' experiences are shaped and limited by borders. In this paper, I address two pieces of performance art: Rafa Esparza's inhabitation of the Mesoamerican figure Chac Mool, and the artist group Postcommodity's exhibit "Repellent Fence." I analyze these art pieces through the lens of critical theory from Harsha Walia's Undoing Border Imperialism, Edward Said's Culture and Imperialism and Eval Weizman's Forensic Architecture: Violence at the Threshold of Detectability. These texts concern borders as architecturally structured imperialist violence, which operates upon the othering of both indigenous and immigrant communities. This essay explores how art can highlight hardship in the experiences of those who are othered by border imperialism, reclaim ownership over the architecture which has enacted violence over them, and offer new conceptualizations of borders to the art's witness.

Indigenous is defined as "originating or occurring naturally in a particular place; native." Immigrant is defined as "a person who comes to live permanently in a foreign country."2 While superficially conceived as oppositional terms, in terms of identity and lived experience, both indigenous communities and immigrant communities have faced dispossession of land, of ideas, of culture, and of their identities by structures of imperialist violence. In many cases these identities and experiences intertwine or overlap. Within the U.S., indigenous Americans are othered from the majority (white-supremacist, settler-colonial, anglo-saxon culture) just as immigrants are othered. Historically, art about non-western peoples has often, whether consciously or unconsciously, deployed the narrative of the "other" and justified imperialist violence. But while art can be used to reinforce demonization of other cultures and desensitize society to the violence (both physical and epistemological) present, art can also be used to sow anti-imperial existence. While traditional settler-colonial logic pits immigrant and indigenous communities against one another, some modern artists from these communities use their art to draw connections between them in order to jointly resist imperial authority of their identities.

In order to explore of the commonalities and distinctions between immigrant and indigenous experiences in the United States, we look to two pieces of art which grapple with borders and their surrounding concepts as structures of violence which can be changed and refused: Rafa Esparza's performance art piece of the Mesoamerican figure Chac Mool, and artist group Postcommodity's exhibit "Repellent Fence." These works serve as artistic resistance to borders: through their creations, the artists assert that borders themselves are architectural structures of epistemological violence. These works suggest that by redefining borders themselves, and the way in which the public perceives and understands borders, the artists can reclaim their identities and experiences within the architecture that has enacted violence against them. When artists reconnect the mutually constitutive practices of art and politics and collaborate across their distinct yet connected narratives, resistance against architectural structures of violence can be strengthened.

I will discuss these pieces through the lenses of critical theory concerning borders as architecturally structured imperialist violence, which continues to operate based on a division between political and cultural practices. Essential to my argument is the understanding that at the basis of all imperialist violence lies the creation of an "other," and that collective marginalization and oppression is located in othering. The imposition of borders themselves by imperialist forces serves to "other" both indigenous and immigrant communities. The artists of "Repellent

¹ Definition provided by Oxford Languages

² Definition provided by Oxford Languages

Fence" bring to focus this "othering" experience that borders create for indigenous peoples as well as immigrants, and challenges the predominant border narrative through its presentation of border art.

"Repellent Fence," by artist group Postcommodity, is a sculptural, site-specific visual art piece, located on las fronteras of the U.S. and Mexico, created in tandem with artists in both countries. The large balloons mark the geographic border between Douglas, Arizona and Agua Prieta, Sonora, serving as a critique of the "oversimplified rhetoric of mass media and bi-partisan politics" regarding the border (Postcommodity). The balloons in the exhibit "Repellent Fence" are enlarged replicas of an ineffective bird repellent product decorated with indigenous colors and iconography. The "repellent" is repurposed as a bridge between the two countries rather than a divider.

The choice to use balloons to mark a border in contrast to the typical fences and walls that mark borders is significant for several reasons. They symbolize flight, and airborne mobility, suggesting if humans could only fly borders would not be an issue. The balloons also suggest that their border is following a higher law than the terrestrial law that governs national borders due to their proximity to the sky- the sky above Douglas, Arizona and Agua Prieta, Sonora is identical, and so are the humans that inhabit these two countries in the eyes of God. Furthermore, the balloons follow the natural geographic border rather than the nationally imposed border, drawing attention to how arbitrary our borders actually are and how they contradict the borders that nature provides for us.

Cartography, or the art and science of graphically representing a geographical area, more commonly known as mapping, is a practice that carries with it political frameworks, biases, and epistemological violence. Maps are drawn by those in power, and the lines that are drawn delineate the lives of those they govern. In *Forensic Architecture*, author Eyal Weizman connects maps to the "spatial logic of domination" and the "psychogeographical representation of the daily lives of the oppressed" (Weizman 140). The representation of space is politically charged, not benign, and those in power (those who create the maps) can, through representation, physically and psychologically oppress those who are not in power.

Borders are potentially the most palpable sites of tension in cartography, and while Weizman's studies are focused on the Israel/Palestine borders, his analysis offers much in our consideration of the U.S. Mexico border and its typical representation contrasted with Postcommodity's "Repellent Fence" representation and interpretation of the border. In contrast to the epistemic violence of imperial maps, Eyal Weizman discusses "counter-cartography as a critical practice" and a "disruption of the state's privilege of mapping" (Weizman 140). "Repellent Fence" is an example of

counter-cartography because it re-demonstrates and re-delineates the border line in a new way that is in contention with the way the border is represented by the state.

Harsha Walia's *Undoing Border Imperialism* offers us an understanding of the foundation of border theory, and how the understanding of what a border is and does impacts the people surrounding the border. Walia describes a border as "not so much an object or a material artifact as a belief, an imagination, that creates and shapes a world, a social reality" (Walia 77). If we are to view borders as ideas rather than material lines in the sand, we are able to re-envision those ideas to better suit the people whom they affect. In Postcommodity's "Repellent Fence," the border is re-envisioned to be in the sky instead of on land. The border is reimagined to be colorful, to pay homage to indigenous colors and symbols, to follow the natural geographical shape of the land rather than the imperially imposed line. If borders are malleable, changeable, improvable ideas, then borders can better suit those who live on either side by changing to accommodate all rather than continuing to further violate those who did not have a say in the imperialist cartography.

However, to say that populations surrounding borders would be better served if more people were willing to re-envision geographical and spatial borders is a drastic and rose-colored oversimplification that disregards the main point of Walia's text. Walia defines border imperialism as "the entrenchment and reentrenchment of controls against migrants, who are displaced as a result of the violences of capitalism and empire, and subsequently forced into precarious labor as a result of state illegalization and systemic social hierarchies" (Walia 38). Border imperialism is an intentional and multifaceted oppressing and controlling of certain groups of people around the basis of an inflexible, unmalleable understanding of a border. To use Weizman's concept of the violence of architecture, in border imperialism, the border itself is an architectural structure that commits epistemological violence. Walia explains how this interpretation of the border manifests into criminalizing those who cross it: "Within common discourses, the victim of this criminal act is the state, and the alleged assault is on its borders...By invoking the state itself as a victim, migrants themselves are cast as illegals and criminals who are committing an act of assault on the state" (Walia 54). She explains the justification of the U.S. reaction to immigrants to the U.S. from Latin America; the reaction being that immigrants are met with criminalization and deportation (if they are not met with death), when the U.S. is indicted in their very displacement itself due to its capitalist, imperialist, and political involvement in those nations.

The militarization of the border and criminalization of those who cross it serves as an operation of settler-colonialism known as spatiocide. Spatiocide is the murder of a landscape and/or the murder of a way of being in a place. The land as it

naturally exists between the United States does not support the violent imperialism being acted out in its defense. Many indigenous tribes along the border of the United States and Mexico, including the Tohono O'Odham tribe, which spans across Arizona and Sonora, have their tribal land split between the two countries, with the wall and border patrol in the middle of their reservation. It is painfully obvious that the border as it exists in the present day is artificial.

On this counter-understanding of border politics, Walia shares popular slogans of groups who actively oppose border imperialism "'We didn't cross the border, the border crossed us'... [this] reflect[s] an understanding of border imperialism as a key pillar of global apartheid, and borders as cartographies of anti-capitalist, anti-racist, anti-colonial, and anti-oppressive struggles" (Walia 77). The presence of indigeneity is tangible in the first quote, and suggests that to even begin to understand borders and immigration it is essential to first understand and acknowledge indigeneity. Rafa Esparza's performance explores the indigenous roots of his immigrant experience, relocating our understanding of the intertwining histories and present-day interactions between the two identities.

In Rafa Esparza's artist talk, he describes an art work he performed where he embodied Chac Mool and then broke out of the structure. Chac Mool is a pre-Columbian Mesoamerican (Aztec) sculpture with origins in the Yucatan peninsula depicting a reclining figure with its head facing 90 degrees from the front, supporting itself on its elbows and supporting a bowl or a disk upon its stomach. The bowl, called *cuauhxicalli* in Nahuatl, was meant to receive sacrifices of human hearts in ceremony. Carlos Fuentes famous story titled with the name of the god represents the impact that the Aztec and Mayan origins have in Mexico today, and their importance in Mesoamerican culture; asserting the power of the indigenous origins in Mexico serves as a resistance to colonization and reminds the reader that the conquest did not take everything indigenous from Mexico through this reclamation.

Rafa Esparza's reference to and work on this essential figure of Mexican indigeneity offers a fresh take on Chac Mool as well as demonstrates his personal complex relationship with the figure. Through embodying Chac Mool, he is asking for a sacrifice. Perhaps he would like for once to be the recipient of sacrifices for the benefit of his people and his ancestry rather than the one making the sacrifices. Furthermore, through embodying an Aztec god, he is paying homage to the ancestors of the Mexican people and reminds them to be proud of who they are and where they came from; that they are descended from the great ancient empires and that while the conquistadors tried to strip them from their power and their identities as many white Americans try to strip Mexican-Americans of their identities today they cannot be vanquished and their legacy will live on. However, in his performance, Rafa Esparza also breaks out of the embodiment of Chac Mool. This rupture symbolizes breaking away from the sacrifice and the need to give a life of labor, as labor is something he discusses often in his artist talk. Breaking away from Chac Mool could also represent an embracing of a more modern connection to his heritage; showing that he does not need to embody an ancient indigenous god in order to know who he is and what is important to him as a Mexican-American.

Esparza's Chac Mool piece, while not directly depicting the concept of borders, shares many of the same concerns as "Repellent Fence." Both pieces act to reclaim a dispossessed or mis-possessed element relevant to indigenous and immigrant identity. "Repellent Fence" redesigns the border itself to comment on how the architecture of the border impacts the people it serves or harms, while Esparza's piece takes an iconic cultural figure and transforms him, embodies him, and then disembodies him, in order to comment on his experience as a Mexican-American individual. While the scales upon which the projects operate differ, the issues and identities that they comment on intersect through depicting contested landscapes, both cultural and physical.

The distinct choices in their presentation of reimagined famous structures and figures narrates their stories in a way which causes their audience to also re-envision their previous notions of the constructions of indigenous and immigrant identities. In his critical theoretical text, Culture and Imperialism, Edward Said claims, "As one critic has suggested, nations themselves are narrations. The power to narrate, or to block other narratives from forming and emerging, is very important to culture and imperialism, and constitutes one of the main connections between them" (Said xiii). In these projects, Esparza and the artists of Postcommodity take the narration of these long-told stories into their own hands and retell them in a way which honors their identities and not those of their oppressors. Their projects show that tapping into the indigenous roots of their identities and of the indigenous view of the border and borderlands is not mutually exclusive from, but rather mutually constitutive to a modern understanding of Mexican-American immigrant identities and immigration. Thus, while nations continue to interpret borders as architectural sites of violence, artists like Esparza and the Postcommodity team can provide alternative counternarratives that speak to the inequities, the violence, the dishonesty, the oppression, and the hypocrisies of the national U.S. narrative surrounding immigrants and borders, while also offering a space for hope, for rediscovery, for rethinking and redesigning the structures that we inhabit, so that perhaps we may imagine inhabiting them with fewer limitations.

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NEUROSCIENCE

The Efficacy of Using Alzheimer's Disease Amyloid-Beta Treatments, Aducanumab and αAβ–Gas6, to Treat Olfactory Deficits Caused by Amyloid-Beta Plaque Buildup in the Olfactory Bulb of Aβ Seed-Induced Transgenic Mice

Ava Duskic

ABSTRACT:

Alzheimer's Disease (AD) is a pervasive and life-altering neurodegenerative brain disease that is the focus of ongoing research in many disciplines. While AD is known for its more severe symptoms, such as memory loss and cognitive decline, olfactory dysfunction, categorized by an inability to discriminate or identify scents, has been shown to be an early symptom and predictive marker for the onset of AD, occurring years before severe symptoms are noticed. Previous research in mice has suggested that this connection between AD and olfactory dysfunction arises from Aß plaque buildup that begins in olfactory regions and then progresses into higher brain regions. Research and clinical trials have been focused on finding effective AD treatment that relieves and degrades Aß plaque in the hippocampus and central brain regions. Despite new findings on the connection between AB plaque and the olfactory bulb in AD, there has been little to no research done investigating if the aforementioned treatments could remove AB plaque buildup in the olfactory bulb and alleviate olfactory deficits. This research explores the extent to which two novel anti-AB plaque AD treatments, aducanumab and αAβ– Gas6, can remove Aß plaque in the olfactory bulb of Aß seed-induced transgenic mice by examining olfactory behavior. The findings from this experiment could be transformative for AD research and create a foundation for more research focused on removing AB plaque in the olfactory bulb as a potential way to prevent the spread of AD to higher brain regions. APA STYLE

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Alzheimer's Disease and Olfaction: An Overview

AD is usually associated with symptoms of memory loss, cognitive decline, and behavioral changes (De-Paula et al., 2012; Breijyeh & Karaman, 2020). In addition, AD has also been linked to olfactory dysfunction which can begin before the onset of the more severe symptoms, leading researchers to believe anosmia and parosmia can be early predictors of AD (Rahayel et al., 2012; Zou et al., 2016; Park et al., 2018; Chen et al., 2022). Despite extensive examination into AD, the exact cause of the disease is still unknown. However, decades of research have determined two main pathological markers that suggest the presence of AD and contribute to the declining cognitive state of the AD patients: amyloid beta (A β) plaque buildup and neurofibrillary tangles (NFTs) (De-Paula et al., 2012; Breijyeh & Karaman, 2020).

A β plaque comes from a larger protein known as amyloid precursor protein (APP) which, in a healthy system, normally breaks down into smaller, soluble fragments that can be easily degraded and cleared in the CNS (De-Paula et al., 2012; Chen et al., 2017; Breijyeh & Karaman, 2020). However, multiple gene mutations, including those located on APP genes, and environmental risk factors can lead to improper cleavage of APP which engenders larger and insoluble A β oligomers and fibrils that aggregate and form senile plaques (Chen et al., 2017; De-Paula et al., 2012; Breijyeh & Karaman, 2020). The increased production and clustering of A β , intensified by the decreased A β degradation and clearance, contributes to the neural cell death found in AD patients. This aggregation at the cell membranes affects intercellular communication and escalates synaptic dysfunction, especially in the hippocampus (Chen et al., 2017). In addition, research has shown that the accumulation of A β contributes to the formation of NFTs, suggesting that A β growth is one of the earliest and main contributing factors to the deterioration of brain function in AD patients (Chen et al., 2017).

While research is limited, studies have found that the connection between AD and olfactory deficits lies in A β plaque formation (Wesson et al., 2011; Wu et al., 2013; Son et al., 2021; Ziegler-Waldkirch et al., 2022). In a study done by Wu et al. (2013), researchers tracked the spread of A β deposits in A β PP/PS1 transgenic mice and found that A β deposits can be seen in the olfactory epithelium as early as 1-2 months old, the olfactory bulb at 3-4 months of age, and only continues to spread to higher brain areas such as the hippocampus and central brain regions at 9 months old. The A β deposits found in those specific regions correlated to olfactory deficits and spatial memory deficits at the same ages, respectively (Wu et al., 2013). These results provide deep insight into the development of AD. If A β plaque targets the olfactory system in the early stages of development and leads to the spread of

 $A\beta$ plaque in other brain regions, finding a way to eliminate plaque in the olfactory bulb could potentially slow or halt the progression of AD.

Alzheimer's Treatment and Recent Drug Development

One focus of AD research has been dedicated to using immunotherapy methods to remove A β plaque in the hippocampus and higher brain regions of transgenic mice, hoping to treat the cognitive decline found in human AD patients (Schenk et al., 1999; Bard et al., 2000; Banks et al., 2007; Uhlmann et al., 2020; Song et al., 2022). For a time, using active immunotherapy (vaccines) to target A β plaque was at the forefront of AD research. After clinical trials started and 6% of AD patients developed T cell-mediated meningoencephalitis, however, attention shifted to passive immunotherapy (Song et al., 2022). Passive immunization involves injecting patients with pre-altered monoclonal antibodies targeting A β plaque; this is a slower process that requires more frequent dosing but gives researchers the ability to manipulate the antibodies directly and is less likely to produce a strong immune response like active immunization (Song et al., 2022).

Bard et al. (2000) showcased one of the first successful removals of A β plaque using antibodies through Fc receptor-mediated phagocytosis (Song et al., 2022). Since then, monoclonal antibody research continued to prosper as researchers used different methods and antibodies to reduce the A β burden in mice (Banks et al., 2007; Uhlmann et al., 2020). Human clinical trials are still ongoing and in various trial stages, but the most recent and notorious drug in the market right now is aducanumab, also known by its brand name Aduhelm (Song et al., 2022). During the clinical trials, aducanumab was found to target the aggregated, insoluble forms of A β with greater selectivity than the other analogous forms of the antibody by targeting the N-terminus of A β plaque (Arndt et al., 2018; Song et al., 2022).

However, delivering aducanumab to market was a tumultuous and controversial process, as described by Song et al. (2022), that involved the termination and revival of its clinical trials. After many reversals, expanded analyses, and debates, the FDA granted aducanumab accelerated approval, officially becoming the newest anti-AD drug since 2003 (Song et al., 2022). While currently being sold for AD treatment, aducanumab remains a controversial drug for doctors and scientists alike as 41% of patients experienced neural inflammation in phase III of aducanumab clinical trials, which can lead to more complications than solutions for AD patients (Salloway et al., 2022). In September 2021, Duke Health released a statement stating they will not be providing aducanumab to their patients.

The search for the best method of removing $A\beta$ plaque is still ongoing. In 2022, novel research has been released regarding new immunotherapy treatments

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being done in mice, not through the familiar network of antibodies triggering the Fc receptor-mediated phagocytosis, but through Gas6, a CNS TAM ligand that activates phagocytic TAM receptors and goes through efferocytosis (Owlett et al., 2022; Jung et al., 2022). As explained by both Owlett et al. (2022) and Jung et al. (2022), phagocytosis through the TAM pathways is supposed to reduce inflammation as the macrophages in this network release anti-inflammatory cytokines, rather than the pro-inflammatory cytokines released in monoclonal antibody pathways. Despite both research groups using modified versions of Gas6 to target Aß plaque, Owlett et al. (2022) experienced pro-inflammatory results rather than anti-inflammatory signatures. Interestingly, Jung et al. (2022) experienced the opposite, having significantly less inflammation, especially when compared to aducanumab in the study. Since both studies were released around relatively the same time (February 2022 and August 2022, respectively), no research has come out to assess the differences. Jung et al. (2022)'s method seemed to work the best, developing αAβ–Gas6 which uses the specificity genetic code aducanumab is known for, allowing αAβ-Gas6 to both use an anti-inflammatory pathway and target Aβ plaque with extreme precision. Despite contradictory evidence of inflammation levels, both groups of researchers showed evidence that using Gas6 clears out AB plaque in their intended central brain regions in mice. However, no research has been done on the effect of these anti-Aβ plaque drugs on Aβ deposits in the olfactory bulb and their ability to alleviate olfactory dysfunction.

Study Goal and Objectives

Past research has established the connection between (1) AD and A β plaque buildup in the brain, (2) olfactory deficits as an early predictor for AD, (3) olfactory dysfunction potentially being caused by A β plaque buildup starting in the olfactory bulb and (4) confirmed that passive immunization drugs are equipped at removing A β plaque buildup in central brain regions. However, there is a gap in the literature on how these anti-A β plaque drugs can affect the A β plaque buildup in the olfactory bulb and if these drugs would be able to alleviate olfactory deficits caused by these plaque buildups. Inflammation also seems to be a concerning health factor when administering these drugs. As a result, my research will examine the effect of anti-A β drugs, specifically aducanumab and α A β -Gas δ , on the olfactory bulb of A β seed-induced transgenic mice and track the inflammation that potentially arises from its use.

Question 1: Will aducanumab and $\alpha A\beta$ -Gas6 alleviate olfactory deficits caused by A β deposits in the olfactory bulb of mice?

Question 2: Is there a difference between the effect of aducanumab and $\alpha A\beta$ -Gas6 in restoring olfactory abilities to 5xFAD transgenic mice? Will one work better?

Question 3: Is there a difference in cytokine release and inflammation between the mice who were given aducanumab or $\alpha A\beta$ -Gas6?

Methods

Mice and Surgeries

Heterogeneous 5xFAD male transgenic mice co-expressing human $APP^{K670N/M671L (Sw)+1716V (FI)+V717I(Lo)}$ and $PS1^{M146L+L286V}$ will be used since this combination expresses the A β plaque buildup found in AD patients; wildtype mice will be used as a control (Ziegler-Waldkirch et al., 2022). To remove the time constraint of having to wait for A β plaque to buildup and ensure A β plaque will be present in the olfactory bulb, 5xFAD mice will receive A β -plaque-ridden brain homogenate injections of older heterogenous 5xFAD transgenic mice to induce A β seeding in the olfactory bulb (Ziegler-Waldkirch et al., 2022). Brain homogenates will be prepared and injected following Ziegler-Waldkirch et al. (2022)'s protocol. Following brain homogenate injections, cannulas will be inserted into the mice's olfactory bulb to distribute the drugs later in the experiment and provide easy access to administer drugs after olfactory tests. Refer to Jung et al. (2022) for detailed explanation and instruction about insertion of the cannula. Mice will need a month to recover after the brain homogenate injections and cannula insertion.

Since inflammation seems to be a confound when using immunotherapy, I will be tracking cytokine release (pro-inflammatory and anti-inflammatory) by taking blood draws from the mice and running ELIZAs (refer to Figure 1).

Therapeutic Drug Treatments

Aducanumab (Drug A) is a drug that can be bought and used when needed. The preparation of $\alpha A\beta$ –Gas6 (Drug G) in our study follows the instruction of Jung et al. (2022) who created the fusion Gas6 protein in the lab. For the control drug (Drug C), I will be using Phosphate Buffered Saline (PBS). Refer to Table 1 for the different groups.

Olfactory Ability Test

As shown in a review by Zhang et al. (2022), there are many ways to evaluate olfaction in AD transgenic mice. One of the most popular methods is to use a version of the buried food (cookie) test (Ziegler-Waldkirch et al., 2022). The buried cookie test assesses the time it takes the mice to find a hidden buried cookie in the

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bedding, requiring the mice to use their sense of smell to find the cookie. The protocol will be based on the buried food test described in Ziegler-Waldkirch et al. (2022) and (Machado et al., 2018).

Groups

DRUG	TG INJECTION TYPE			WT INJECTION TYPE		
	no hom.	WT hom.	TG hom.★	no hom.	WT hom.	TG hom.
А	10	10	10	10	10	10
G	10	10	10	10	10	10
С	10	10	10	10	10	10

LEGEND

Drug A: aducanumab **Drug G**: αAβ-Gas6

Drug C (Control): Phosphate Buffered

Saline (PBS)

WT: Wild Type

TG: 5xFAD transgenic mice

WT hom.: brain homogenate from WT mice TG hom.: brain homogenate from TG mice no hom.: no brain homogenate given

★ TG + TG hom.: experimental

group

10: ten mice per group

Table 1. Overview of the different control and experimental groups.

There will be two different genetic categories of mice: transgenic and wildtype. Within each category, the mice will receive injections of either no brain homogenate, wildtype brain homogenate, or transgenic brain homogenate, creating six types of mice divisions. Within each division, the mice will receive Drug A, G, or C. There will be 18 groups total for the experiment.

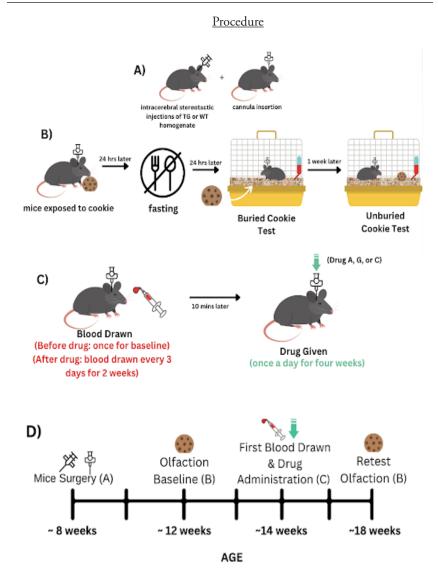


Figure 1. Overview of procedure and timeline. A+D) Eight-week-old 5xFAD and wildtype mice will be anesthetized and injected with transgenic or wildtype brain homogenate into the olfactory bulb followed by cannula insertion into the olfactory bulb. B+D) Mice in all groups will undergo the buried cookie test. This test will be done twice, once before the drug administration at 12 weeks-old to get a baseline for their olfactory abilities and once after drug insertion at 18 weeks-old to assess efficacy of the drugs at relieving olfactory deficits. C+D) At

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14 weeks old, mice will have their blood drawn once before drug administration then every 3 days for 2 weeks after drugs given. Ten minutes after first blood draw, experimenter will give 400ng of intended drug or control which will continue to be given once a day for four weeks.

Results and Significance

The results section will be comparing the latency from the first time the mice underwent the buried food test and the last time the mice took the buried food test. The quicker the mice completed the buried food test, the better their olfactory abilities. If after receiving Drug A or G the TG mice + TG_{hom} improved their time from the first trial to the second trial and found their food quicker, then results indicate that aducanumab and $\alpha A\beta$ -Gas6 were able to alleviate olfactory deficits caused by Aβ deposits in the olfactory bulb. This would be significant as it would showcase that these AD treatments that are available have the potential to improve olfaction and remove the beginnings of Aβ plaque in the brain. If only one of the drugs (drug A or G) in TG mice + TG_{hom} groups allowed for the mice to find their buried food quicker in the last trial compared to the first then only one drug was successful in alleviating olfactory deficits which suggests that while this drug is equipped at removing $A\beta$ deposits in central brain regions and the hippocampus, it cannot remove the plaque in the olfactory bulb. As a result, researchers in the future could focus on one drug when developing standard practices in human clinical trials for new olfactory research. In addition, the inflammation analysis would provide more evidence to showcase if $\alpha A\beta$ -Gas6 is the better alternative than the monoclonal antibody treatment dominating the field. All in all, the results in this experiment would provide illuminating insights on an under-researched area of AD and explore treatment options for olfactory dysfunction in AD patients. In addition, this research would make treating AD in the early stages via the olfactory bulb plausible, potentially stopping the progression of AB plaque into higher brain regions and essentially preventing the severe symptoms of AD from developing. It can be the breakthrough many researchers and families have been hoping for in preventing the spread of AD in the brain, getting us one step closer in finding the long-awaited "cure" for AD.

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Music

Music and Drama:

Exploring the Significance of the Music in Music Theater

Will Howitt

ABSTRACT:

This paper explores the connections between music and drama across a variety of 20th century musical theater works, examining the works of composers such as Leonard Bernstein, Stephen Sondheim, John Adams, and more through the lens of Broadway conductor Lehman Engel's book, *Words With Music*. Specific musical examples, categorized by their relationship to the ideas of character, subject matter, feeling, and structure, explore how these composers use music to elevate the theatrical elements of their work, which can serve as a framework for the creation of future musicals. This research aims to analyze music as one analyzes text, alluding to common compositional and theoretical ideas that allows one to draw detailed conclusions about a work's sonic relationship to drama.

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Over the last century, the development of musical theater as a genre, as well as its effect on opera, has cultivated monumental changes in the relationship between drama and music. As opposed to some of the more virtuosic tendencies of older opera, the 20th century saw text and lyrics play an increasingly important role in musical evolution. More than ever, it was important that melodic, harmonic, and rhythmic factors be explored through the lens of character, plot, and feeling. One of the first to recognize this shift toward drama was Lehman Engel.

As the conductor of numerous Broadway shows, Engel played an important role in the industry's golden age. He authored a variety of books on theater, and his musings demonstrate a vast knowledge of history, writing, and production. One of his most well-known works explores the relationship between music and drama in the form of the Broadway libretto. Titled *Words with Music*, the book analyzes a variety of musical works for dramatic effectiveness. At the core of Engel's writing are what he deems to be the central "needs" of a musical. The most notable ones are listed below:

Character- the summation of specific qualities that make up a person. Often the character of individuals is juxtaposed by showcasing interpersonal relationships.

Subject matter- the premise upon which a play or musical is built; the medium through which the central themes and morals are developed.

Outer shell- what a composer might refer to as "musical form," the moments or passages that anchor a work and create structure.

Feeling- the raw emotion, of any kind, felt by both characters and audiences at a particular moment. According to Engel, "feeling" is at the heart of all musicals.

While Engel discusses many musicals in *Words With Music*, there are plenty of works that aren't mentioned or could be explored further through an auditory or theoretical lens. Taking into consideration the actual composition, such as melody, harmony, rhythm, and texture, as well as how these concepts relate to the libretto, can demonstrate even further what makes certain moments effective. The sonic qualities of a musical are just as important as the dramatic ones, and the relationship between these two categories is what makes the form so special. Consequently, the following analysis will apply Lehman Engel's needs for a musical to 20th century opera and musical theater.

West Side Story: Maria

Leonard Bernstein's *West Side Story* makes significant use of a very particular set of musical figures. By way of developmental techniques, the score contains distinct motifs to represent various emotions, particularly love and hate. In nearly all of these motifs, the tritone interval is present.

The average listener may have a visceral reaction to the tritone. It can sound terribly grating and is sometimes avoided because of this. It is also the only interval that cannot be inverted. However, when repeated enough, the sound can become musically neutral and apathetic. All of these facts make the tritone perfect for Bernstein's interpretation of the story: a conflict between two sides, separated by an insurmountable distance, that is shocking at first but is eventually accepted by bystanders to be a grim fact of life.

Neutrality and apathy are broken only by feeling, one of Engel's core needs of the musical libretto. In this case, the feeling is romance; Bernstein uses Tony's meeting with Maria to develop one of the show's most iconic musical figures.



The interval of a tritone is followed by a half step up, making the total distance covered

by the 3-note figure a perfect fifth. Both dramatically and musically, there is a momentary resolution of the conflict. Maria's name, proclaimed nearly thirty times in the song, transcends the fighting between the Sharks and Jets. This romantic idea sets the basis for all other aspects of Tony's solo; combined with sweeping instrumental doubling and a steady bass line, the song projects sweetness, euphoria, and relief in the finding of purpose. The romance lies in sharp contrast to the bitter

rivalry between gangs; the gang motifs do not resolve out of the tritone like the Maria motif does. The love between the pair gives the audience something to invest in.

Nixon in China: Act 1, Scene 1

Many of John Adams' operas begin with the full ensemble introducing the piece's historical subject. This allows the viewer to realize the gravity of the events that they're about to witness. The beginning of *Nixon in China* is a prime example of how Adams makes these introductions an important part of his form, or as Engel might call it, his "outer shell." Given the politically charged nature of the subject matter, Alice Goodman's lyrics artfully introduce the audience to Chinese ideologies.



The opening ensemble number is divided into two different types of musical textures, each with its own lyrical scheme. The first, starting with the lyric "soldiers of heaven," consists of a proverbial set of ideals. Phrases such as "your master is the laborer... deal with him justly face to face" and "divide the landlord's property, take

nothing from the tenantry" exemplify the socio-political environment that Nixon is about to enter. Adams takes care to stress the natural scansion of these words, often changing meter to emphasize various syllables. The voices are accompanied by rising ostinatos that are predominantly modal and scalar, while the bass line often plays long pedals or chords that emphasize metric changes. The constant motion contrasts with the more deliberate and emphatic rhythm of the words, and frequent scalar modal shifts, along with unpredictable rising gestures, create feelings of apprehension.



The second section is marked by repetition. The tempo speeds up, and the ostinato scales turn into arpeggiations, with the bass instruments playing staccato chords. The voices chant, "The people are the heroes now, behemoth pulls the peasants plow." The arpeggiations don't feel like they are rising or falling in any particular direction because the highest pitches are in the middle of the bar. After the constant upward motion of the previous section, the change is noticeable; it feels like the music has reached a peak. This arrival could be interpreted to mean that we have reached the most summative and important part of Mao's ideology: an enormous, powerful group of united individuals are the foundation of China, and therefore reap the benefits.

By establishing the boundaries of the world, John Adams creates an anchor for the beginning of the work. This is the first step in the creation of his outer shell. All of the aforementioned characteristics initiate the sense that the audience is about to see something unfamiliar to them, yet something deeply rooted in the structure, unity, and tradition of others. This sets the scene perfectly for Nixon to land in Peking. The world he is about to enter is alien, foreboding, and difficult to predict from his perspective; he has much to learn in order to navigate such a challenging

political atmosphere.

Candide: Nothing More Than This

Bernstein's *Candide*, based on Voltaire's novella of the same name, tells the story of a man who believes in the innate goodness of the world. However, he is continuously proven wrong by both his own actions and those of others. Most of the show centers around Candide's worldly search for his love, Cunegonde. He regularly faces murderous townspeople, greedy leaches, and increasingly hostile circumstances, but is willing to continue his journey in order to find what he considers innately good. He does eventually reunite with Cunegonde, but only when he realizes that she's the thief trying to solicit money from him.

"Nothing More Than This" is a masterclass in the creation of feeling, which according to Engel, lies at the heart of all musicals. Candide laments the depressing end to his journey and the fact that he was mistaken in his beliefs about Cunegonde. It has the air of a heroic love ballad, but it is tinged with an unmistakable disappointment. Bernstein employs several musical tactics to make this point.

Text setting and form are important pieces of the puzzle. Many of the verses consist of one long melodic arc that ascends, climaxes, and then descends to a conclusion.



Notice that the climax happens with the words "nothing more than this." This is perfectly representative of Candide's journey: continually rising stakes that culminate in disappointment and then surrender to despondency. It is worth noting that in Western music dating back to the Renaissance, descending musical figures often signify sadness. Consequently, the text of the phrase ends with the acknowledgment, "no more than this," always in a descending triplet. This melodic formula is repeated several times throughout the piece.

Bernstein also ties the textual rhyming scheme into his melodic decisions. For example, in the phrase, "angel face with flaxen hair, soul as dead as face was fair? Did you ever care? Yes, you cared, for what these purses hold," Bernstein puts the rhyming sound on the note Ab, and employs an identical contour for each line. Then, he positions the last "care" a step down on G natural, which transitions back to the final verse. This allows the phrases to relate to each other both textually and musically, giving more power to his emotion.



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The sweeping and dramatic nature of the vocal line is mirrored by the accompaniment. Prominent octave doubling adds important emphasis and color, while a recurring counterpoint derived from the melody line creates cohesion between the verses. Unlike the opening of *Nixon in China*, which is supposed to sound closed-off and foreign with a more restricted range, any given bar of this piece spans several octaves. This creates the depth of feeling that such a climax requires.

ACL Montage Part 3: Mother

A Chorus Line is one of the most frequently cited examples of theatrical development in Howard Kissel's edits to Engel's book. First performed in 1975, the show shattered many of the boundaries Engel theorized just a few years earlier regarding character, romance, and subject matter. Based on real conversations between Broadway dancers in the seventies, A Chorus Line documented childhood, sexuality, career, and other aspects of these performers' lives.

With no real leading role, lyricist Edward Kleban and composer Marvin Hamlisch enjoyed the challenge of creating almost twenty vocally distinct characters. Their varied use of recurring motifs, range, tone, and other factors set the characters apart from one another. This is especially important in the show's "Montage," which often features multiple characters singing different melodic lines simultaneously.

While many musicals depend on melodic familiarity to allow multiple characters to be heard coherently, *A Chorus Line* cleverly elevates other methods to the same level. Hamlisch and Kleban demonstrate their extraordinary creativity in "Montage Part 3: Mother."



The most obvious tools to present themselves are range and rhythm. Sheila's line, "Darling, I can tell you now, your father went thru life with an open fly" is written extremely low in the female voice. Most of her other solos also lie in this place, making them uniquely characteristic of her and the dry, sarcastic persona she inhabits. Maggie, the show's wide-eyed powerhouse soprano, sings much higher and maintains a steady quarter-note pulse throughout this section, which helps to keep the music moving and tie all of the various other solos together. The accompaniment stays out of the singers' way, either doubling a voice, keeping a steady beat, or sustaining harmonies.

There are also deep contrasts in lyrical tone between singers. While Maggie laments the distance between her and her mother, Greg sings "You take after your father's side of the family, the ugly side." This is an undeniably very funny imitation of his own mother. Val sings "tits, where are my tits," a recapitulation of an earlier motif, demonstrating that Hamlisch and Kleban still use melodic familiarity to equal effect.

Hamlisch and Kleban solved a problem that many lesser writers often tackle in far less subtle ways. In other works, the basis of Maggie's text may have necessitated a "sad" tone, with the other characters saying equally emotional words. However, the writers deeply embraced the variety and uniqueness of their characters, allowing them to live truthfully within the piece. *A Chorus Line* often demonstrates that one has the capacity to feel many emotions at once: joy, sadness, longing, fear, and others are not mutually exclusive. This moment especially indicates the importance of that nuance.

Cabaret: Cabaret

Kander and Ebb's musical, *Cabaret*, explores the complacency of the German Weimar Republic in the face of rising fascism. However, *Cabaret*'s relevance never seems to cease over time. The subject matter, one of Engel's proposed facets of a musical, explores the apathy towards politics that allows authoritarian powers to rise.

The show depicts Clifford Bradshaw, an American who becomes enamored with Germany during a trip there to work on his novel. He falls for Sally Bowles, a mediocre performer at a local nightclub called the Kit Kat Club. The pair live together while Cliff makes money participating in illegal operations for his friend Ernst Ludwig. Only after Cliff has established a life in Germany does he realize that Ludwig is a Nazi, but he is too entranced by the "dream" he's living to take action. As he witnesses increased socio-political upheaval, he tries to convince Sally to move out of the country with him, but she refuses. Ludwig confronts Cliff once more for another job, and Cliff is pummeled by Nazi bodyguards after starting a fight. As their world falls apart, Sally returns to the club to sing the title song.

The song "Cabaret" embodies the music of the Weimar Republic. It is mostly patternistic, with the bass line falling on beats 1 and 3 and the treble emphasizing the off beats; one may refer to this as a "boom chick" rhythm. The brassy contrapuntal lines and chromatic progressions unsettlingly elevate the excitement and happiness of the moment. It is carefree, easy listening in its most recognizable form,

which deeply contrasts with the rising tensions of fascism in the plot's climax. It's almost as if the wall of sound is intended to drown out the sobering reality of eminent Nazi Germany.



The text projects a similar contrast to the gravity of the country's situation. Lyrics such as "what good's permitting some prophet of doom? To wipe every smile away" and "life is a cabaret old chum, it's only a cabaret" demonstrate the extent to which the citizens of the Weimar Republic are intentionally living in a rosy fantasy. Sally even admits that she has already made up her mind to die like her friend Elsie, who lived and perished oblivious to the dangers of her lifestyle.

Kander and Ebb utilize this musical style in order to communicate the willful ignorance and denial of the people of the Weimar Republic. The use of era-appropriate techniques lends realism and authenticity to the moment, as well as contextualizes Sally's apathy. While she is singing to drown out the direness of her political circumstance, the title song represents how all of the characters have unknowingly cemented their own destiny by refusing to recognize the severity of the moment. As

Cliff says at the end of the show, "it was the end of the world and I was dancing with Sally Bowles—and we were both fast asleep."

Into the Woods: Prologue

There is perhaps no better example of how to create Engel's outer shell than the prologue of *Into the Woods*. Sondheim uses this multi-part introduction to set a vast array of characters on a common path; while each wants something different, they must all take the journey through the woods to get it. While other writers might have sluggishly introduced these characters with their own themes and desires over the course of a first act, Sondheim unites them musically and lyrically under a common cause within just ten minutes. A trip into the woods is the premise through which their stories become intertwined.

This is accomplished in a few ways. Most obvious is the use of a narrator, who adds various details to each person's story. While under other circumstances this character would seem trite and lazy, in a show about classic fairy tales, they are completely thematically appropriate. It is important to note that the narrator does not sing, and Sondheim lets the other characters do the talking whenever possible.

Like the "Montage" from *A Chorus Line*, the "Prologue" uses an extremely simple texture for most of its ten-minute run time: staccato quarter notes in various instrumental combinations.



While there are breaks from this in order to underscore more conversational passages, as well as ones that introduce minor motifs, there is no need for Sondheim to give every single character a different musical idea. The returning "woods" motif, with the above musical texture, unites them all. In this way, the opening is able to transition quickly from story to story without pause. The narrator, as previously mentioned, aids these transitions with brief, spoken moments of exposition. As in *A Chorus Line*, the texture stays out of the singers' way, which gives more freedom for each person to be vocally distinct.

At the end of the "Prologue," they all sing in unison about their shared mission in the woods. The lyrics of the final section demonstrate the similarities between each person's wants. While they all have specific desires, these parallels emphasize the common story structure and foreshadow that they will all eventually meet. As they sing later in unison, "Into the woods to get the thing that makes it worth the journeying."

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This is such an effective introduction because of what it is able to accomplish in a brief period of time. While the repetition of the "I wish" motif indicates that each individual wants something different, what unites them functionally is that they want something at all. At this point, they are all simple, straightforward, fairy tale characters. This congruence is expressed vocally, texturally, and dramatically to great effect.

The Tender Land: Martin and Laurie Duet

While initially not well received, even Engel would likely admit that there is no shortage of feeling in Aaron Copland's *The Tender Land*. The composition is intimately inspired and uses the unfiltered emotions of the characters to develop musical concepts and ideas. Themes such as growing up, finding love, and leaving home are integral to the nature of Copland's score.

The opera tells the story of a girl named Laurie who is about to graduate high school. She is dissatisfied with her perceived lack of freedom in life and is looking forward to making her way in the world. Two workers, Top and Martin, arrive at her family farm looking for work. At the graduation party, Martin and Laurie sneak off on their own; he tells her that he is tired of traveling and looking for someone to settle down with, and they both profess their love for one another.

This section of the score is approached with all of the conventions of romantic young love that Copland could muster. He embraces the simplicity of the emotions the characters are expressing and doesn't try to overcomplicate the textures or harmonic language. The harmonic rhythm is regular, and sustained chords are often played under small phrases of counterpoint or vocal doubling. The bass line is cohesive and easy to follow, usually moving in a stepwise pattern or arpeggiating chords



When comparing this to some of the pieces by John Adams, the relative simplicity is clear. Copland wasn't concerned with expressing complex ideas, but rather he sought to capture the feeling of a formative moment in a young person's life. The text reflects this same directness. Laurie sings, "you came and made me feel in love, I feel so many things Martin." The latter phrase is accompanied by octave doubling, stressing the resounding depth of her emotions. Every phrase of the exchange contains these small moments where the music amplifies the lyrics, and displays the feeling in its purest form. In this way, Copland communicates the magic of falling

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in love at such a formative time in one's life.

Street Scene: Trio Argument

One of Kurt Weill's first forays into the American Broadway sound, *Street Scene*, netted him the first ever Tony for "best original score." While not as explicitly critical of capitalism as his previous works with Brecht, the show focuses heavily on humanizing the inhabitants of a New York City tenement house. Specifically, the adaptation of Elmer Rice's play of the same name centers on the struggles within the Maurrant family, and how their clashing worldviews of gender, age, and education create barriers between them. The result is a group of beautifully defined characters, which Engel claims are central to the creation of a musical libretto.

One of the most climactic moments of the opera is when Mrs. Maurrant and Rose, the daughter, finally talk back to Maurrant after he has made continual threats regarding their nonconformity. Mrs. Marraunt has spent the show longing for a kinder marriage, and Rose, their daughter, is trying to gain independence from them by meeting older men. The three argue angrily about Maurrant's views and the lack of respect he has for the two women. The disagreement reaches its zenith when Maurrant claims that his wife is waiting for him to leave so that she can have an affair. The three immediately begin to shout over one another.



This moment is a truly unfiltered representation of character. The projected anger is clear in the lyrics, and the audience understands that the family members are saying exactly what they mean. The women's declaration that Maurrant has "no right to talk to her [me] like that" is very bold considering the danger he has threatened previously. It demonstrates that they've had enough of yielding to him, even given what he might do. Maurrant continues with his warnings, stating "Watch out I say, that's all I've got to say."

The instrumentation supports the confrontation through a variety of means. While the accompaniment in *A Chorus Line* generally stays out of the vocalists' way, Weill uses constant motion to accentuate the cacophony of this moment. The movement happens in whatever register the most prominent line is in; for example, when Maurrant is singing, the bass has constant 8th note motion. When the women sing, Weill employs high octave doubling in the winds and strings to bring out their lines. The registral contrast further contributes to the idea that these two sides are in conflict, and the 8th note motion emphasizes the stakes.

This passage does an excellent job of displaying the humanity of all three characters. It imitates a genuine moment of conflict between family members by allowing an unfiltered dialogue with emotionally empowering musical techniques. The wall of sound created by the three singers and accompaniment, as well as the registral contrast, make it feel like their relationships are truly crumbling.

Turn of the Screw: Variation IV

Benjamin Britten's expertise in instrumental works also grants his wide-ly-performed operas a unique formal perspective. *Turn of the Screw* uses variations on a twelve tone theme to provide what Engel might consider to be the opera's "outer shell." While a work like *Street Scene* takes place predominantly in real time, Britten's inclusion of these variations allows for *Turn of the Screw* to take place in isolated scenes. The variations connect each scene dramatically and musically.

Britten's opera tells the story of a young governess who is hired to take care of two children, Miles and Flora, at a property called Bly Manor. The children's guardian, their uncle, told the governess to never write to him about the children, to never abandon them, and to never inquire about the origins of the manor. She discovers the ghosts of the former governess and valet of the manor, now deceased, are attempting to possess the two children. By contrasting the childrens' innocence with the insidiousness of the ghosts, Britten demonstrates the horror of the situation and the plight of the governess.

The opera takes great care to accomplish this musically. "Variation IV" demonstrates just how functional these interludes are in their ability to change the mood and connect the scenes together. It comes just after the governess sees the ghost of the valet for the first time, as she frantically attempts to identify him. As she ponders who the intruder could be, "Variation IV" begins with a sharp, staccato texture.

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The relationship between the octave hits in the bass and the dissonant and quick treble harmonies create a true sense of dread. The contrast between low and high tones with intermittent silences heightens the sense of expectation by creating unpredictability. Just as quickly as this dread appears, it dissipates as the children enter singing a nursery rhyme. The texture that once sounded evil is now that over which Miles and Flora sing about a piper's son.

Functionally, this passage connects the two scenes. Artistically, it contrasts evil with innocence and jerks the audience in between moods with incredible speed. It defies what one expects to happen, but creates the feeling that the ghosts are always watching and can return at any time. All of this deeply contributes to the unsettling mood Britten creates and demonstrates how integral the variations are to the opera as a whole.

My Fair Lady: Get Me to Church on Time (Dance Break)

Lerner and Loewe's *My Fair Lady* is a musical that Lehman Engel reveres throughout his book. New at the time of his initial publishing, Engel viewed the show as an excellent blueprint for writing a proper libretto. The story is based on George Bernard Shaw's *Pygmalion*; Eliza Doolittle, a young woman, must learn how to speak "properly" at the aid of her sarcastic tutor, Henry Higgins. Even though they continually clash over their worldviews, the pair falls in love over the course of the show. *My Fair Lady*'s music and lyrics perfectly exemplify the idea of feeling that Engel said is at the heart of musicals.

One of the most notable moments in the show is "Get Me to the Church on Time," sung by Eliza Doolittle's father about his upcoming marriage. It's a contrasting diversion from the more intimate conflict between Henry and Eliza, and involves the entire ensemble performing a dance. The grandiose style and musical elements evoke feelings of excitement, and the piece serves as a moment of spectacle to keep the audience interested.



There are several reasons that this dance break breeds enthusiasm. Most generally, it combines elements of predictability with elements of unpredictability. The harmony has a clear sense of direction, but also sometimes modulates unexpectedly at cadences. The boom-chick rhythm, similar to that in "Cabaret," allows for clear phrasing, but the meter changes provide necessary variety and keep the piece moving forward. The brass instruments mostly dominate the texture, but there are also moments of stop-time and silence for other sounds. Rhythmic variety of the melody is also key.

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All of these aspects create the feeling of excitement without any need for overstated drama or even lyrics. Spectacle alone is enough to carry the story at this moment, and it is a welcome break from the main plotline. One could argue that it even helps to solidify the story by allowing audiences room to breathe, feel, and refocus.

Conclusion

It is difficult to draw direct conclusions or empirical evidence from the works discussed above. Each piece represents a clever way that a composer dealt with a dramatic and musical concept, but not necessarily the only way. For example, Bernstein decided that "Nothing More Than This" should be an epic climax, with sweeping orchestral doubling and outsized emotion. However, he may have just as easily chosen to shrink the range and volume, creating a depressing and anticlimactic piece to reflect Candide's extraordinary disappointment. If done well and truthfully, it may have had just as powerful an emotional effect as the decision he made; Bernstein certainly understood the value of silence as a tool, considering Maria does not sing at the end of *West Side Story*.

So how then, should one view these selections? It's no secret that the future of music is heavily influenced by what past writers have done. Oftentimes it is difficult to conceptualize new methods and ideas without something to base them on, and it's easy to stray off course when trying to conjure techniques out of thin air. Having a collection of examples that have worked in the past is extremely valuable for this reason.

Perhaps most accurately, these works as a whole suggest that a composer should have permission to do whatever they desire, so long as it comes from a place of truth. Engel's facets of a musical help immensely in determining the structure of a musical moment and how it fits into the larger scheme of a work. Knowing

whether the music and lyrics of a passage are intended to demonstrate character or feeling, emphasize subject matter, or build the form is an excellent way to inform compositional choices. The pieces discussed above, as well as Engel's commentary, can serve as a framework through which to continue developing innovations in the world of music and drama.

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Public Health

The Decriminalization of Sex Work as a Public Health Issue in the United States

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ABSTRACT:

This paper discusses the discourse surrounding sex work within the United States. Sex work is presented as a niche topic, yet it includes a wide range of public health issues, including violence against women, LGBTQ+ and racial minority rights, occupational health, reproductive and sexual health, disease exposure, health care access and equity, sex trafficking, and incarceration. The issue of legality has been argued for much of the 20th and 21st century, and this essay analyzes the difference between decriminalization and legalization through a public health lens. The decriminalization of sex work is necessary to target these problems surrounding the currently illegal work to engender sex worker rights as human rights. The findings from this paper suggest that sex worker rights must be recognized and protected to reduce stigma, violence, disease, and discrimination across all parts of society.

Introduction

The decriminalization and legalization of sex work has been debated heavily for the past two centuries, yet far from the public eye because of its taboo nature. For the purpose of this argument, I will only be referencing decriminalization efforts as opposed to legalization as there is less relevant evidence to support legalization within the structures of an American society.

The word 'prostitute' is derived from the Latin word *prostitut*, meaning to expose publicly or offer for sale, which insinuates a lack of autonomy. Due to the origin of the word, 'prostitute' will be avoided when referring to individuals who provide sexual services unless in direct quotations to limit the already present stigmatization of those who engage in sex work. The language around this profession is highly charged, and decriminalizing sex work depends on reducing stigma and supporting one's autonomy. Furthermore, the use of the term 'sex worker' reaffirms the belief that sex work is work and should be treated as such.

Within this essay, sex workers refer to fully autonomous adults who engage in sex work of their own volition; any reference to sex trafficking and coercive sex work will be made clear. This essay will mainly address the experience of sex workers who identify as women due to the overall lack of peer-reviewed literature on the experiences of sex workers who identify as men or as nonbinary. Much of the literature also centers on the experience of cisgender women, yet much of the current research on sex work does seek to include transgender women because of their unique needs and barriers they face. Decriminalizing sex work is necessary to recognize the human rights entitled to sex workers as well as protect their rights and health. It is estimated that there are 40-42 million sex workers globally (ProCon.org, 2018). Between one to two million persons are involved in sex work in the United States, as reported by the National Task Force of Prostitution, and 80% of these sex workers are women (ProCon.org, 2018). Roughly one in 10 sex workers is estimated to be living with HIV, and recent data suggests that HIV prevalence falls around 10.4% among all female sex workers globally (Lyons, C. E., et. al., 2018). Decriminalizing sex work is a very relevant issue within the field of public health because it impacts such a large group of individuals across various demographics in various ways. The evidence within this paper will illuminate the occupational hazards, societal shame, and disease exposure that sex workers face and how decriminalization is the most effective manner of providing care for this population.

A Brief History of Sex Work in the United States

Efforts to criminalize sex work coincides with the rise of Evangelicalism in the United States starting in the mid-19th century, following the Second Great

Awakening. Reform became necessary to address the evangelical standards of purity and morality, yet in the late 19th Century, men began to push for reform under the concept of "the doctrine of necessity" (Cornell Law, 2020). Men argued that sex work was a necessary evil to relieve sexual tension under the control of a Victorian society, so sex work was kept legal but regulated by the police force until the turn of the century. Progressive America once again became concerned with the morality of sex work and sex work was heavily targeted using the argument of a "white slavery," the idea that this line of work subjected young white women to a type of enslavement. The Mann Act was introduced as a federal law in 1910, criminalizing the transportation of women "for the purpose of prostitution or debauchery, or for any other immoral purpose" (18 U.S.C. § 2421). World War I and World War II followed, supporting numerous campaigns of soldier celibacy and aversion to venereal disease by avoiding sex work and its "ills." To provide further context, of the 3,500,000 soldiers recorded for disease reports, syphilis and gonorrhea accounted for over 10% of all disease reports (Speaker, S., 2018). A series of anti-sex work laws were introduced during this time, including 18 U.S. Code § 2422 – Coercion and Enticement and 18 U.S. Code § 1384 - Prostitution near military and naval establishments. These laws persist today with a few amendments, and sex work is still illegal in every state besides Nevada, where it is legal in ten counties under strict rules and regulations (ProCon.org, 2020). Federal law concerns only the transportation of individual over state line with the intent to engage in sex work, while state law individually dictates the legality and language in legislation on sex work. The history of sex work in healthcare is also essential to understand when investigating the effects of criminalization.

Legalization vs Decriminalization

There are five different legislative models recognized when addressing efforts to "manage, control, or regulate sex work" (Platt, L., et. al., 2018). They range from a scale of full criminalization to full decriminalization. First, full criminalization prohibits all organizational aspects of sex work, including selling and buying sex. An example would be 49 of the 50 United States, excluding Nevada. Next, partial criminalization penalizes only some aspects of sex work, including organization of sex workers, brothels, and soliciting. Similar to the partial criminalization model is the sex-buyer model, which is often referred to as the Nordic model as it originated in Sweden in 1999. This model criminalizes the purchasing of sex in an effort to curb the demand for sex work. Currently Sweden, Norway, Iceland, Canada, Northern Ireland, France, Ireland, and Israel follow some variation of the Nordic model. Next, regulatory models make the sale of sex legal under certain circumstances, of-

ten utilizing sex worker registration and tracking systems, like Panama. Finally, full decriminalization removes all penalties for consenting adult workers and emphasizes instead criminal laws prohibiting violence and coercion. Full decriminalization also regulates the sex industry through standards of occupational health and safety. Currently, only Aotearoa New Zealand and Belgium have opted for the decriminalization model (Platt, L., et. al., 2018).

In the United States, Nevada exists as the only state with a highly regulated but legal sex work industry. Elko County, Esmeralda County, Humboldt County, and Lander County contain the state's 21 brothels (The Oldest Profession., 2022). Legal sex work generates around \$75 million annually in this area, but illegal sex work generates around 66 times the profit of these legal brothels annually (The Oldest Profession., 2022). Sex workers are considered independent contractors who must file their earnings with the IRS and are subjected to weekly sexually transmitted infection (STI) testing and monthly HIV screenings. While the regulation of the spread of sexually transmitted infections is a benefit of this system, many legally registered sex workers complain of restricted freedoms and severe repercussions, for example, sex workers who test positive for HIV can face up to 10 years in prison if found selling sex (Platt, L., et. al., 2018). Nevada is the exception, though, as HIV prevalence among female sex workers is estimated at 7.4% in the United States and Western Europe (Shannon, K., et. al., 2018). Regulated sex work creates barriers for those who can't afford to enter the registered sex industry, including undocumented immigrants, those that suffer from addiction, and those facing poverty.

In Panama sex work is regulated in a similar manner to Nevada. Sex workers are expected to register with the local and federal law enforcement and obtain regular testing and screening to prevent the spread of HIV and STI's. As of 2008, there were 2,650 sex workers registered with the state, but it is estimated that as many as twice the amount of registered sex workers are unregistered, or illegally selling sex (*U.S. Department of State.*, 2009). Despite the legalization, many sex workers are subjected to harassment and exploitation at the hands of the police. A nationwide survey of 317 sex workers found that nearly half had experienced law enforcement requesting free sexual services, and that almost all had experienced some form of exploitation from officers (Robbins, S., 2019). Sex workers also have an HIV prevalence of 1.1%, while 1% of the adult population of Panama lives with HIV (AIDS Healthcare Foundation., 2022).

Finally, it's best to look at both the Nordic Model of sex work in Sweden, which is often touted as considerably successful and liberal in its approach, and true decriminalization efforts in Aotearoa New Zealand. Sweden enacted the Nordic Model in 1999 with the goal of curbing the purchase of sex by criminalizing the

buyer. The scarcity of clients caused by their criminalization restricts the amount of bargaining power possessed by sex workers, and many researchers are beginning to suggest this model may cause an increased risk in exposure to HIV, a decrease in condom usage, and an overarching decrease in sex worker safety (ICRSE., 2021). Though Sweden seeks to reduce the demand for sex work through the Nordic Model, there is no reliable evidence that indicates the number of sex workers has decreased since 1999 (Platt, L., et. al., 2018). In Aotearoa New Zealand, on the other hand, sex work is fully decriminalized and receives support from local and federal law enforcement. Evidence indicates that sex workers are experiencing "improved workplace safety, health and social care access, and emotional health" (Platt, L., et. al., 2018). Even more promising is the low number of sex workers living with HIV. A 2006 study of 300 sex workers found no evidence of HIV infections, and Aotearoa New Zealand has seen a steady national decline of HIV numbers since 2017 (Burnett Foundation Aotearoa, 2022).

Many arguments advocate for the legalization of prostitution, and multiple countries practice a model of legalization. Unfortunately, legalization oftentimes creates structures and regulations that sex workers are not willing or able to conform to. Sex workers who fail to adhere to regulations will then face steep penalties and face incarceration. Legalization targets marginalized and impoverished individuals who make up most sex workers within the United States, establishing a stronger cycle of discrimination, incarceration, and poverty. Decriminalization on the other hand completely eradicates criminalization while preventing bureaucratic regulations that ostracize marginalized communities and allows for sex workers to seek care concerning physical health and safety without the threat of legal repercussions. Decriminalization is the only approach that prioritizes the rights of sex workers and supports the full autonomy and control of sex workers over the regulation and control of the occupation. The decriminalization approach also allows increased focus on the regulation and criminalization of sex trafficking and coercion without including the work and rights of consenting, fully autonomous adults to make a living.

Demographics of Sex Workers

The majority of sex workers are members of at least one form of marginalized identity. The status of sex workers as a criminalized group in the United States causes gaps in research and documentation on the group, most obviously being an absence of accurate demographics. Black and brown women "overwhelmingly" face legal ramifications and violence for actual or perceived sex work compared to their white counterparts (Campaign to Decriminalize Sex Work, 2022). While there is

very limited research and data available on the ratio of transgender sex workers to cisgender sex workers, a recent United States based systematic review found around 24-75% of trans women reported having participated in some form of sex work (Argento, E., Goldenberg, S., & Shannon, K., 2019). Transwomen are also 1.8 times more likely to experience sexual violence than cisgender women, and face higher rates of police violence, discrimination and harassment (NCAVP, 2013). Sexuality and gender identity often intersect with racial identity when concerning sex work. A recent survey conducted by the National Transgender Discrimination Survey found that transgender people of color were "four times more likely to engage in sex work than their white counterparts" (Fitzgerald, et. Al., 2015). Female sex workers have a high prevalence of substance use, with studies estimating 35-65% of sex workers in the United States use injection drugs (Argento, E., et. al., 2019). While mental health is difficult to quantify, as high as 74% of sex workers have experienced or are experiencing severe depression, anxiety, or PTSD (Argento, E., et. al., 2019). Female sex workers also have a much higher prevalence of homelessness and food instability (Sherman, S. G., et al., 2021). A 2021 study on restless sleep among female sex workers found that 62% of the participants experienced homelessness and 61% experienced food insecurity, both within the last six month (Urquhart, G. J., et. al., 2021). The decriminalization of sex work would reduce violent police interactions and allow for an emphasis on prosecuting discrimination and hate crimes, substance use and harm reduction care, mental and physical health care, and resources for homelessness and poverty, as opposed to emphasizing their status as sex workers.

Occupational Hazards

Occupational health and rights should also be considered when understanding the relevance of the decriminalization of sex work in public health. Federal law entitles workers to a safe workplace, and sex workers are denied the right to workers' protection under law because of their status as a criminalized profession. Sex workers are repeatedly and globally subjected to abuse, human rights violations, and murder (Deering, et. al., 2014). Stigmatization plays a significant role in this problem and recognizing a sex worker's right as a job holder will reduce this stigma and allow protection and compensation under the Occupational Safety and Health Administration. Sex work is a valid occupation, but the criminalized aspect of the work fails to provide parameters for safety and protection in the workplace. While sex work is performed by consenting adults, it is important to understand that it does not always "imply a free choice by individuals.... [M]ost paid work, including sex work, involves varying degrees of coercion, exploitation, resistance, and agency" (Cecilia Benoit, S. Mikael Jansson, Michaela Smith & Jackson Flagg, 2018). Be-

cause sex work is real work, occupational hazards should be considered in hopes of prioritizing the health and safety of sex workers through policy change.

Where and how a sex worker conducts business first comes to mind when addressing occupational safety. Sex work location can be broken up into two major categories: indoor and outdoor, or street-based, settings. Movement between the two often exists with sex workers finding clients in bars or online and moving to a secondary or even tertiary location. Outdoor, or street-based, sex work is associated with a much higher risk of workplace violence. Globally, 45-75% of sex workers reported at least one instance of workplace violence within their lifetime (West BS, Montgomery AM, Ebben AR; Liz Hilton and Empower Thailand, 2021). More concerningly, between 32% and 55% of cisgender women working in mostly outdoor settings have reported workplace violence in the past year, and transgender women are at a much higher risk for both violence and homicide (Platt, et. al., 2018). Criminalization pushes sex workers to conduct work in private, removed settings when working on the street and increases the risk of violence from both the police and clients.

Besides workplace violence, the physical impacts of sex work must be considered. Concerning sexual and reproductive health, sex workers are at an increased risk of contracting HIV and STIs, getting pregnant, and often face a heightened maternal morbidity and mortality risk (West BS, et. al., 2021). Increased abortion care needs and access must also be factored in. Physically, sex workers are at a risk for repetitive stress injuries to wrists, arms, shoulders, jaws, knees, feet, and backs because of repeated sex acts, working in high heels, and lack of access to adequate beds and comfortable locations to conduct work (West BS, et. al., 2021). Chronic stress and repeated trauma is linked to a heightened risk of heart disease, diabetes, and other chronic illnesses.

Altercations with police are the most consistently reported occupational risks for sex workers because of their status as criminalized people. Fear of arrest and threat of police harassment keeps sex workers from carrying condoms, which increases the risk of contracting or spreading STI's (Platt, L., et. al, 2018). Decriminalization and a supportive or neutral police presence has been suggested to increase sex workers' negotiating power, perceived and actual safety, and better access to justice (Platt, L., et. al, 2018). Not only does police presence in a criminalized setting put pressure on sex workers to make poorer decisions regarding behavior and increase anxiety, but it also puts them at risk of physical harm at the hands of the policing force. A Chicago study reported that 24% of female sex workers who had been raped identified a police officer as the perpetrator (Sawicki, D. A., Meffert, B. N., Read, K., & Heinz, A. J., 2019). Another qualitative study following police officers as they interacted with

sex workers found frequent degradation of sex workers through language in both professional and casual settings, along with intimidation tactics (Footer, K. H. A., et al., 2020). Policing bodies often acknowledge that decriminalization is the only answer to sex work, which they refer to as the "revolving door" because of its pervasiveness (Footer, K. H. A., et. al., 2020). Exploitation by police officers and other law enforcers is a recognized factor in criminalized settings across the globe, and shame and stigmatization increase the prevalence of such exploitation and violence.

Societal Shame and Access to Care

Sex is a taboo subject within the United States and many Western countries. Criminalization has also skewed sex work as a negative occupation staffed by criminals. This combines to create a negative, harmful societal opinion on sex work, which prevents sex workers from obtaining medical needs and can contribute to harmful internalized shame. Shame stems from laws, regulations, and policies that dictate sex work as an illegitimate source of income procured through highly stigmatized acts. This social stigma and shame are magnified when compounded with STI and HIV-related stigma and substance use stigma. Social stigma allows for violence, and sex workers are highly vulnerable to homicide because of this; in the United States alone, sex workers' homicide rate is 17 times that of the general population (Decker, M. R., et al., 2015). Shame causes stigma, and stigma allows for violence.

Violence against women remains a huge public health problem within the United Sates, and because 80% of sex workers in the United States are women, this problem extends to sex workers and is exacerbated by the illegality of their profession. Violence is defined "as the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community that results or has a high likelihood of resulting in injury, death, sexual or psychological harm, maldevelopment or deprivation of liberty" by the World Health Organization (WHO, 2013). Globally, 736 million women have been subjected to either intimate partner violence or non-partner sexual violence within their lifetime (UN Women, 2021). This is one in three women. A study conducted in 1998 found that of their target population of 130 San Franciscan sex workers, 82% had been physically assaulted, either by clients or because of their occupation, and 68% had been raped while working. As of 2021, this study is 23 years old, but the data is still relevant (Farley M., Barkan H., 1998). Broad internet accessibility has also increased accessibility for buyers to locate and purchase sex work. A reduction of exposure to violence has also been linked to a decrease in HIV/AIDs infections among sex workers (UN Women, 2021). The decriminalization of sex work will create a less hostile environment and prevent exposure to potentially threatening or harmful situations. Decriminalization will also allow women to seek help and support without fear of criminal charges or incarceration.

Shame, both perceived and actual, negatively impacts access to care. Sex workers globally face denial of care, including HIV testing and treatment, and discrimination from healthcare workers if they reveal their occupational status (Decker, M.R., et. al., 2015). Care can be refused outright or lack the nuances necessary to treat sex workers as both unique individuals and with respect to their profession. Many sex workers are reluctant to disclose their occupation for fear of prejudice or judgment, and many might avoid testing for fear of losing work or further criminalization if they test positive for an STI or HIV (Decker, M.R., et. al., 2015). Seeking care might also cost money that some sex workers cannot afford to lose. A 2021 qualitative study found that almost all the participants faced experiences of stigmatization when accessing care, resulting in a lack of trust in the healthcare system (Singer, R. B., et al., 2021). Stigma can come from health care providers, administrative staff, other patients, friends, and family. Another quantitative study from 2021 found that of the 370 participants, 41% reported a barrier to accessing care (Tomko, C., et al., 2021). Besides barriers caused by actual or perceived stigma, general barriers like access to transportation, cost, childcare, office hours, wait times, and lack of education can prevent sex workers from accessing much needed care.

Disease and STI Exposure

Reproductive and sexual health, along with communicable disease treatment, is pertinent to the occupation of sex work yet it is widely underrepresented in research and public health interventions. Covid-19 and HIV have especially impacted sex workers. Sexual health is almost always confined to HIV/AIDs prevention in the context of sex work, but a wider scope of information and resources need to be accessible for sex workers to promote autonomy, safety, and healthy decision. The Center for Disease Control and Prevention states that sex workers are "at increased risk of getting or transmitting HIV and other sexually transmitted diseases (STDs) because they are more likely to engage in risky sexual behaviors," which can be defined at sex with multiple partners, absence of contraceptives and prophylactics, or drug use (CDC, 2019). There is an extreme lack of data on reproductive and sexual health needs of those involved in sex work because of its criminalization, but that does not negate the need for such resources.

The Covid-19 pandemic had a unique impact on sex workers in the United States and globally. The often-times intimate nature of sex work put sex workers at an increased risk for contracting Covid-19, and many sex workers continued to work despite lockdowns because sex work acted as their only source of income. A

qualitative study found that more than a quarter of their respondents utilized personal protective equipment, including masks, while doing sex work (Rogers, B. G., et al., 2021). The ability to mask consistently or at all greatly depends on the ability to access a large stock of adequate masks to replace after each encounter, which many sex workers cannot afford because of financial barriers. Covid-19 had a major impact on the lives and livelihoods of sex workers (Rogers, B. G., et. al. 2021). Sex workers were not considered a vulnerable population and therefore did not receive expedited or early access to vaccination despite the high-contact nature of their work because of its current criminalization.

Sex workers are at a heightened risk for contracting sexually transmitted infections outside of HIV, including chlamydia, gonorrhea, and trichomoniasis. Structural vulnerabilities and the nature of sex work both impact the transmission of STI's. In a study of 385 sex workers, more than a quarter of the study population tested positive for chlamydia and gonorrhea (Sherman, S. G., et al., 2021). While data on the prevalence of STI's is scarce because of the criminalized nature of sex work, research suggests that prevalence for chlamydia, gonorrhea, and trichomoniasis ranges from 1% to 15%, depending on the nature and location of the sex work in the United States (Sherman, S. G., et. al. 2021). Decriminalization would reduce barriers to care and decrease STI levels through adequate and specific treatment for sex workers.

Evidence continues to find that sex workers' unmet HIV prevention and treatment needs "significantly contribute to overall HIV transmission even within generalized epidemics," meaning the burden of disease in the sex worker population does not exist within a vacuum (Lyons, C. E., et al., 2020). Within the United States, drug usage is intrinsically related to HIV/AIDS rates in the sex worker population and must be acknowledged. Because substance use impairs decision making and perception, it is linked to a host of situations that might further facilitate HIV transmission. These situations include but are not limited to multi-substance use, client, police, and stranger perpetrated violence, reduced or ineffective condom usage, and unsafe locations (Shannon, K., et. al., 2018). Most significantly, a 2015 study found that decriminalization of sex work could avert 33-46% of all HIV infections globally in the next decade (Shannon, K., et al., 2015). If policy makers were truly concerned with curbing the HIV/AIDS epidemic, decriminalization of sex work would give precedence to most other prevention strategies because of its cost-effective manner and broad impact.

Why Decriminalization is the Answer

Today, with increasing acceptance of sex and sexuality and widespread inter-

net accessibility, sex work is facing some progressive pushes as well as threatening blows. In 2018, President Donald Trump signed Public Law 115-164, better known as FOSTA-SESTA, which stands for the Fight Online Sex Trafficking Act and the Stop Enabling Sex Trafficking Act (Blunt, et. al., 2020). Despite the valiant and necessary purpose of the acts, sex workers have been targeted through the act and are facing several consequences. The act puts pressure on Internet platforms to censor their users and many platforms have put into effect broad user bans to avoid the possibility of federal punishment or attempted legal compensation from individuals. A recent study conducted by Hacking//Hustling, a collective of sex workers and allies, found that the acts take a heavy toll on sex workers. Online-based sex work is the most common form of sex work, and the survey found that the "dismantling of an online-based sex work environment has played a role in the increased economic instability for 72.45% of the online participants of this survey, with 33.8% reporting an increase of violence from clients" (Blunt, et. al., 2020). FOSTA-SESTA seeks to increase online safety, yet 99% of sex workers surveyed said the acts did not make them feel any safer (Blunt, et. al., 2020). Legislation needs to be put in place that centers the voices of victims of sexual trafficking and coercion, but it cannot subsequently target sex workers in the process.

There is hope in the American public for a push towards decriminalization. A recent survey conducted by the American Civil Liberties Union found that 52% of Americans support the decriminalization of sex work, and two-thirds of voters between the ages of 18-32 believe sex work should be decriminalized (Wheeler, 2020). This shows the shift from conservative ideology to a more sex positive society. Congresswoman Ayana Pressley, among others, has supported the decriminalization of sex work in efforts to reduce mass incarceration (Wheeler, 2020). On April 21st, 2021, the district attorney of Manhattan released a statement stating they will no longer prosecute sex work (Bromwich, 2021). Manhattan joins "Baltimore, Philadelphia and other jurisdictions that have declined to prosecute sex workers" (Bromwich, 2021). There has also been a push to create more inclusive care when addressing sex workers, and the American College of Obstetricians and Gynecologists "supports increasing awareness about the health risks, preventive care needs, and limited health care services for female sex workers" (ACOG, 2017). Most notably, the World Health Organization (WHO), the Global Network of Sex Work Projects (NSWP), the Joint United Nations Program on HIV/AIDS (UNAIDS), the United Nations Development Program (UNDP), the United Nations Population Fund (UNFPA), and Amnesty International all call for "the full decriminalization of sex work as necessary to promote the health and human rights of sex workers" (Krüsi, A., D'Adamo, K., & Sernick, A., 2021). The decriminalization of sex work would

significantly reduce the burden of disease presented by sex workers. Despite the increases in support of decriminalizing sex work, legislation is still put into place that severely harms the individuals involved in the profession, especially legislation that targets sex trafficking and coercion.

Conclusion

The decriminalization of sex work is an imperative public health problem then concerns a wide range of related issues. These issues include violence against women, LGBTQ+ and racial minority rights, occupational health, reproductive and sexual health, health care access, health equity, sex trafficking, discrimination, incarceration, and others not explicitly mentioned in this argument. The legality of sex work cannot remain as a moral quandary confined to the outskirts of human rights efforts because the scope of the issue is so broad. Sex worker rights are human rights, and these rights must be acknowledged to reduce stigma, violence, disease, and discrimination across all parts of society.

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PHILOSOPHY

Zambrana's Neoliberal Coloniality & Forced Indebtedness:

A Critical Examination of US-Puerto Rico Relations

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Class of 2023

ABSTRACT:

This paper utilizes Rocío Zambrana's work Colonial Debts to explore the ways the neoliberal ideology prominent in the United States has perpetuated colonialism, specifically in the context of its relationship with Puerto Rico. By claiming the island as its territory while nonetheless denying its inhabitants many of the rights afforded to Americans on the mainland, including the ability to vote for their own President, the US has manifestly exposed neoliberalism's reliance on a colonial logic which justifies and exacerbates the subjugation of Puerto Rico. Amidst the turmoil of a debilitated economy and great social inequity, prominent activist movements have emerged across both the mainland and the island, fighting for Puerto Rico's liberation from the United States' modern-day colonial project. Considering Zambrana's scholarship in addition to current political and socioeconomic events, I conclude that the United States is obligated to play a restorative role in Puerto Rico's future, which will necessitate the adoption of a decolonial framework in order to enable Puerto Rico to achieve self-determination.

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In the "Neoliberal Coloniality" chapter of her book Colonial Debts: The Case of Puerto Rico, Rocío Zambrana quotes activist and human rights lawyer Ariadna Godreau-Aubert who astutely describes that "to be in debt," is to "have something and, at the same time, to be dispossessed of something" (Zambrana, 21). This quote concisely describes, at a very simplified level of course, the present situation of Puerto Rico and its status as a territory of the United States. Being deemed part of America, yet stripped of many of the rights our Constitution claims to be fundamental to all Americans, Puerto Ricans are left in a state of limbo. They are given an identity while being denied its most fundamental tenets, while simultaneously having the identity that they find most salient and reflective of their culture devalued. This oppressive relationship between the US and Puerto Rico has become increasingly criticized over the years due to activists on the island and the mainland alike publicly fighting for Puerto Rican autonomy, as well as calling out the economic warfare that America has been waging against the territory. Zambrana explores the interconnectedness between colonialism and the forced indebtedness of the colonized, and thus provides us with a useful framework for understanding how and why the United States uses Puerto Rico to its advantage, as well as how it slyly shields itself from blame for its actions by embodying the core tenets of neoliberalism in the context of colonization.

Zambrana defines neoliberalism as: "a set of economic policies that, from the 1970s onward, sought to shift the cost of social reproduction from the state to populations" with some of its main tenets being "privatization and subcontracting of public services, taxation, and expenditure that favor enterprise and the rich, and the deregulation of the financial sector" (Zambrana, 25). Neoliberalism is only possible under capitalism, and capitalism requires the presence of debt to survive. To account for this debt, "neoliberalism turns the state into an apparatus of capture that serves the rich, corporations, and creditors" while "externalizing... private and public debt: the debt of banks, firms, and the state itself," "burdening individuals who must take on debt to meet basic needs such as housing, education, and health care but must also assume public debt through regressive taxation and austerity" (Zambrana, 25). In essence, under capitalism, neoliberalism guarantees the bailing out of the richest individuals, corporations, and institutions at the top, and is able to accomplish this by burdening its citizens through the imposition of its debts onto them. This process reveals itself to be even more insidious when one realizes that this is only possible through some form of psycho-emotional manipulation. The leading individuals and institutions of debt economies foster a social culture of shame and blame directed at its citizens which takes the target off of their own backs. Zambrana describes this as the creation of the "indebted man", who is necessary for neoliberalism to thrive

during a financial crisis. Through this character of the indebted man, economies and societies in debt crises are able to push the rhetoric that "indebtedness is tantamount to culpability. The subject of the debt is the subject of guilt" (Zambrana, 25). With this psychological framework embedded into society, the neoliberal state is able to shift the blame off of its institutions and onto its citizens, purporting rhetoric that those who rely on forms of government assistance in order to survive in these times of crisis are 'lazy,' 'looking for handouts,' and are 'unwilling to work' or just simply 'need to work harder.'

In Rafael Bernabe's article "Punitive Neoliberalism in Puerto Rico," he explores how this intentionally skewed ideology enables those in power to promote policies of austerity, which entails (among other things) the slashing of social programs in order to combat debt: "According to this logic, the problem is laziness, not capitalism or colonial capitalism; the poor, not the system that impoverishes them; welfare, not the system that does not generate employment" (Bernabe, 2017). This ideology thus manages to "exonerate capitalism while blaming others—indeed blaming some of its victims— for its consequences," which is a complete "misrepresentation of reality" (Bernabe, 2017). This rhetoric **shifts focus from the fact that no** matter how hard the residents work to overcome their circumstances, they are still unable to thrive due to the oppressive and morally corrupt policies imposed upon them, not due to their own unwillingness or incompetence.

Bernabe introduces two concepts he dubs "punitive neoliberalism" and "financial melancholia," which are very closely intertwined. In William Davies' article "The New Neoliberalism," punitive neoliberalism is defined as "the justification of austerity as punishment, a deserved punishment for past excesses that must be administered regardless of other considerations ... Capital, which has caused the crisis, becomes the moral authority, the arbiter of probity whose absolution we must seek" (Davies, 2016). Financial melancholia results from the psychological framing of blame and subordination to the moral authority of capital. The term describes when people "internalize the guilt for their situation of over-indebtedness, who blame themselves for it in spite of evidence that speaks to the contrary and who feel they deserve punishment for it" (Davies, Montgomerte, & Wallin, 2015). It is easily understandable how this mindset is able to take hold in subjugated places like Puerto Rico, but it is very dangerous, as this is the mindset that "best corresponds to an attitude of acceptance toward the policies of austerity typical of punitive neoliberalism" (Bernabe, 2017). An additionally harmful fact Bernabe highlights is that "this is the mentality incessantly promoted by editorialists, columnists, commentators and analysts," which has compounded Puerto Rico's voicelessness, and has helped to erase the facts of the situation in the territory (Bernabe, 2017).

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Let us pause here to examine more of the facts of what the American federal government has imposed upon Puerto Rico. Acquired by the United States in 1898, the island has since remained under US governmental control, despite not being granted comprehensive Constitutional rights, including the right to vote for the executive government who they must answer to and accept the commands of. There is a long, deep history of the United States repeatedly hurling new detrimental economic policies at the island, regularly putting Puerto Ricans in positions that require them to take on even more debt in order to pay off the initial debt they are expected to shoulder. Additionally, US Congress has stripped Puerto Rico from the right to declare bankruptcy, eliminated their tax credits (which has led to the loss of 80,000 Puerto Rican jobs), and increased their sales tax to 11% (Kaske, 2017). At the same time that taxation rates are crushing Puerto Rican individuals and small businesses, the island is often deemed a 'tax haven' for ultra-wealthy and powerful Americans, as they are only required to pay an income tax of 4%, and they are not taxed at all on dividends nor on capital gains on the island (Kaske, 2017). This is staggeringly different from the federal income tax rate of 37% and thus continues to incentivize wealthy Americans to extract resources from, and increase their power and influence in Puerto Rico (Wood, 2022). But of course those costs of production, business, and labor don't magically disappear-they instead fall onto the Puerto Rican people, accomplishing neoliberal coloniality's goal to absolve blame from those responsible for the debt crisis by slinging the blame onto the colonized. Zambrana discusses the key role that taxation plays in debt economies such as the one the US has imposed on Puerto Rico, quoting Italian sociologist and author Maurizio Lazzarato: "By determining who must pay (certainly not those responsible for the crisis) and where the money must go (to the creditors and the banks responsible for the crisis), taxation ensures the wholly political reproduction of an 'economy' which by itself would be incapable of functioning" (Zambrana, 22). Zambrana emphasizes the crucial "link between debt and guilt central to a debt economy," as the "moralization of debt as the production of guilty subjects and populations who must pay" aids the occupying nation in "exploiting difference, intensifying hierarchies, [and] producing distinct modalities of violence" (Zambrana, 30).

These actions can be interpreted as economic acts of coloniality, which bolster America's power and status as colonizers of the territory. Turning once again to the commentary of Ariadna Godreau-Aubert, she describes "indebted life" as "the continuation of colonial life," and states that the colony of Puerto Rico itself "happens", or is manipulated to remain a subjugated territory, due to "repeated acts of capture" (Zambrana, 44). Thus, debt functions as a colonial tool, a mechanism of "capture," "predation," and "extraction," all of which are key aspects of physical/

political colonialism that we are typically more familiar with (Zambrana, 22). Zambrana and Godreau-Aubert both express that the debt imposed on Puerto Rico and its people is especially insidious and violent because it falls the heaviest on those who "must take on debt to meet basic needs such as housing, health care, and education," as well as disproportionately affect poor Black women (Zambrana, 23).

This has all come to a head in recent news when the Puerto Rican Self-Determination Act was introduced in Congress in 2021. The Act outlines a potential roadmap for the people of Puerto Rico "to vote on the political status (e.g., statehood) of the territory" (Puerto Rican Self-Determination Act. H.R.2070. 18 Mar 2021). Democracy Now!'s coverage of the Act's movement throughout Congress highlights some important American judicial context surrounding it. Broadcaster and investigative journalist Juan González explains that there have been four Supreme Court cases heard and ruled on in less than the past six years all pertaining to the US-PR relationship, and in all four of them, the Court has ruled against Puerto Rico and their attempts to claim their autonomy. González informs viewers that in April 2022 the Supreme Court ruled 8-1 in United States vs. Vaello-Madero that "Congress' decision not to extend Supplemental Security Income (SSI) to Puerto Rico did not violate the constitutional right to interstate travel" because their "rational basis for that decision" was that "residents of Puerto Rico [are] exempt from paying federal taxes" (Oyez, 2022). This holding made clear that Puerto Ricans are not entitled to claim full SSI unless they move (or move back) to the mainland. The man at the center of the *Vaello-Madero* case lived and paid taxes in the US for many years and then later moved to Puerto Rico, which triggered the sudden stripping of his eligibility to receive SSI benefits. Additionally, he was informed that he was now indebted \$28,000 to the US. In his Democracy Now! report, González cites a tweet from Congresswoman Alexandria Ocasio-Cortez, whose maternal side of the family was born in Puerto Rico, sharply condemning the hypocrisy of court decisions such as these: "2022 Imperialist Neo-colony Vibes: when my cousins can be drafted into war by a government they don't even have a right to vote for and denies them benefits, yet that same gov can exploit their land into a tax haven for crypto billionaires & tax evaders" (Ocasio-Cortez, 2022). Justice Sonia Sotomayor, who González points out not only was born in Puerto Rico, but also conducted her research while at Yale and Princeton on US-PR relations, issued the only dissenting opinion, arguing that "there is no rational basis for Congress to treat needy citizens living anywhere in the United States so differently from others. To hold otherwise, as the Court does, is irrational and antithetical to the very nature of the SSI program" (González/ Sotomayor, 2022). Much more unexpectedly, Justice Neil Gorsuch, who González points out is typically one of the most conservative justices on the bench, issued a

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separate opinion that González described as "one of the clearest and most eloquent statements exposing US colonialism that's ever been issued by a Supreme Court justice," at least in his lifetime (González, 2022). Gorsuch espoused that the insular cases used as precedent when deciding *Vaello* have allowed the US to "rule Puerto Rico and other territories" despite "hav[ing] no foundation in the Constitution, and rest[ing] instead on racial stereotypes" (González/Gorsuch, 2022). The Justice condemned these insular cases as "legal underpinnings of American colonialism," which "provide legal justification for the United States to hold other nationalities and territories under its control" (González/Gorsuch, 2022). It is notable that one of the Supreme Court's most conservative justices would issue such an indictment of the American government. Gorsuch's sentiment was then bolstered three months later by the United Nations Special Committee on Decolonization's approval of a resolution that "declar[ed] the right of the people of Puerto Rico to their self-determination and independence," applying increased pressure on Congress to alter Puerto Rico policies (Córdova, 2022).

Gorsuch's indictment of the American government for its racially-motivated decisions against Puerto Rico relates to philosopher Nelson Maldonado-Torres' quote in Zambrana's "Neoliberal Coloniality". Maldonado-Torres writes, "coloniality is the articulation of existence in light of a race/gender hierarchy that marks bodies and populations as disposable" (Zambrana, 23). Furthermore, he states that the violence associated with colonialism "stem[s] ... from an ongoing coloniality that adapts race/gender/class according to capital's changing needs" (Zambrana, 23-24). The disposability of Puerto Ricans in the eyes of the American federal government is beyond evident. America claims Puerto Ricans as their people, but only in ways which will benefit themselves. Once the Puerto Rican people make their needs apparent, they can no longer be dismissed faceless pawns, and therefore become nuisances to America. Rather than treat Puerto Ricans as one of their own (which America literally forced them to be), the nation's response is to regard their voices as inconsequential. One of the most egregious ways America renders Puerto Ricans voiceless is by refusing to extend to them the right to vote in many federal elections, including for the President. Furthermore, as we have seen in recent court cases, Americans risk being stripped of the benefits they would be afforded on the mainland the moment they commit the grave mistake of moving to the territory.

The strange identity paradox this creates relates to a reference made by Frantz Fanon to Jean-Paul Sartre in his seminal work *Black Skin, White Masks*. Fanon himself first claims that "it is the racist who creates the inferiorized," and then cites Jean-Paul Sartre's example: that it is the anti-Semite who creates the Jew (Fanon, 73). This is absolutely not to suggest that Jews or any other ethnic or racial group

and their culture, history, and values do not really exist or are irrelevant. Rather, this suggests that those in power are the ones who are often able to construct their identities for them, distinguishing those groups from themselves, effectively 'other-ing' them in society. This has tangible effects when it comes to geopolitical policy decisions as well as social relations, which can lead to acts like hate crimes. Fanon includes this commentary in his response to psychologist Octave Mannoni's theory that colonized people in the Caribbean hold an innate dependency complex. Deeply embedded in their psyche, Mannoni posits, colonized peoples are in need of, and even subconsciously desire, the arrival and rule of colonizers, as they are inherently inferior and incapable of self-sufficiency. Similar to Sartre's assertion that it is the anti-Semite who creates the Jew, it is America who creates a destabilizing non-identity for Puerto Ricans. They are certainly not treated as American in practice, yet they are still labeled as such when it is politically and economically convenient for the mainland. In order to reconcile these conflicting circumstances, America constructs a non-identity of non-Whiteness and non-Americanness, which is assigned to those regarded as American property. It is easy to see how this colonial logic and method of categorizing subjugated people quickly folds in on itself and reveals itself to be a sham.

Through the continued enactment of political and economic policies which have systematically deprived Puerto Ricans of their autonomy and opportunities to flourish (economically or otherwise), America has imposed upon Puerto Rico a form of extended colonialism cloaked in unincorporated territorial management. Through its emphasis on the indebtedness of the colonized and the mindset of financial melancholia, the American neoliberal project has forced Puerto Rico into a sort of purgatory, defined by a constructed non-identity in which they are both American and not, depending on the policy and depending on the best interest of the government on the mainland at any given time. The Puerto Rico Self-Determination Act, which has been introduced but has not yet been passed in the House or the Senate, has the potential to finally make moves towards undoing the legacy of neoliberal coloniality which is suffocating the territory. Potential reforms put forth to expedite this process by Bernabe include reevaluating and negotiating what remains of Puerto Rico's debt with the three priorities of "protecting pensions, essential public services, and retaining resources required for economic renewal," as well as "adopt[ing] an economic reconstruction plan centered on reinvesting profits generated in the Island that must include a reconsideration of the existing tax-exemption policies" (Bernabe, 2017). Bernabe states that this must be "sizabl[y]" funded by Congress, a move which would signify an assumption of accountability for putting the territory in this position in the first place. Remedying this shameful history

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will be a challenging, gradual process, but the Puerto Rico Self-Determination Act, Justice Gorsuch's opinion in *US vs. Vaello-Madero*, and increasing media coverage of activism that transcends both geographic and ideological borders gives us a glimpse into what the future of US-PR relations could potentially look like. To make things right, the United States must play an active, supportive, and restorative role in moving Puerto Rico closer towards achieving self-determination and liberation from the grip of neoliberal coloniality.

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Biology

The Immunological Implications of Gut Microbiota Alterations

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Class of 2023

ABSTRACT:

Within the past decade, the gut microbiome has increasingly emerged as a site intimately linked with systemic health. Containing the highest concentration of bacteria in the human body, the gastrointestinal (GI) tract has been demonstrated ad nauseam to modulate both physical and psychological health. As such, gut microbial functions have been increasingly researched in both in vitro and in vivo contexts, especially as it pertains to immune function. In the wake of a post-pandemic world, a deeper understanding of immune health is imperative, particularly if it can be modified by environmental factors. Hence, this review will investigate the mechanistic details underlying gut-microbiota alterations in the context of gut-immune crosstalk, gut-neuronal influences, and the implications of voluntary fasting through the lens of immunity.

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Introduction

1.1 Gut Microbiome Background

The gut microbiome refers to the mammalian gastrointestinal (GI) tract containing trillions of microbes: bacteria, archaea, eukaryotes, viruses, as well as their combined genomes, transcripts, and metabolites1. The developmental origin of the human gut microbiome initiates during embryonic development at which point bacteria begin to populate the GI tract². Microbial diversity in the gut continues to evolve and adapt until at least the age of five. It is well-characterized that gut microbial diversity and colonization patterns are both unique to each human and heavily influenced by mode of delivery, gestational weight, birth weight, antibiotics use, and diet, among other factors3. Beginning in childhood and continuing well beyond, proper regulation of the gut microbial ecosystem plays a critical role in host nutrient metabolism, drug metabolism, maintenance of structural integrity of the gut mucosal barrier, immune function, and protection against pathogens⁴. In summary, the gut microbiome is intimately linked with both local and systemic biological processes in humans. Dysbiosis, an alteration in natural microbial flora, in the gut can contribute to the pathogenesis of a large range of intestinal and extraintestinal disorders⁵.

1.2 Gut Neuro-immune Anatomy

Over evolutionary history, the mammalian gut has evolved to maximize its surface area to enhance digestive processes. An example of this development includes villi, lumenal projections arising from intestinal epithelial cells that serve to raise the surface area to volume ratio to increase the quantity of nutrients that are subject to absorption. Each villus contains its own capillary bed and lacteal supply so that nutrients can be absorbed directly into the bloodstream and lymphatic system, respectively. Underneath these beds includes the submucosal layers and the muscularis externa, a layer innervated by the submucosal plexus — a branch of the enteric nervous system (ENS). The aforementioned anatomy is elucidated in Figure 1. The ENS is the intrinsic nervous system of the gastrointestinal tract, capable of bidirectional communication with the central nervous system (CNS). Such dynamic communication enables the ENS to play a critical role in integrating information to regulate gut movement, fluid exchange, local blood flow, and immune function⁶.

A multiplicity of immune cells are able to play a role at the GI tract via lymphatic transport. Most notably within the scope of innate immunity, muscularis macrophages (MMs) are resident immune cells within the muscularis externa capable of effecting a protective response against invading pathogens through phagocytic mechanisms. However, the critical role of MMs has been demonstrated to go

beyond basic protection from pathogens; for instance, a depletion in gut MMs has shown heightened neurodegeneration and reduced gastrointestinal motility⁷. Thus, it can be ascertained that MMs play a broad role in modulation of the Gut Neuro-immune axis.

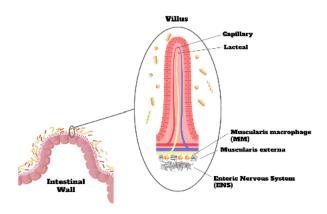


Figure 1 | Graphical representation of relevant gut neuro-immune anatomy numerous interactions between human gut microbiota and immunity

Exploring Gut Neuro-Immune Fuction

2.1 Emerging Immune-Gut Crosstalk

2.1.1. Gut-macrophage interactions

Muscularis macrophages have been discovered to be critical in maintaining homeostasis in the gut. These highly specialized phagocytes serve this function by responding to metabolic changes, tissue damage, and microbial invasion, all while performing tissue-specific functions to support surrounding cells and structures⁸. Due to the various niches that macrophages can occupy within the intestines, they can be found at each layer of the gut, with the largest concentrations found in the villi, muscularis externa, and submucous plexus – a branch of the ENS that aids in facilitating intestinal motility, secretion across the mucosal surface, and blood flow⁹. Beyond these functions, however, muscularis macrophages (MMs) – have been demonstrated to be indispensable in maintaining the physiological integrity of the gut in a process mediated by gut microbiota. For instance, ENS MMs are known to produce growth factor bone morphogenic protein 2 (BMP2) which signals the ENS to drive intestinal motility; the increase in intestinal motility increases production of macrophage colony stimulating factor-1 (CSF-1), a key cytokine

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(secreted immune cell protein) that promotes MM differentiation and survival¹⁰. Fascinatingly, a recent study demonstrated the aforementioned pathway is tuned by the gut microbiota because administered antibiotic treatment, known to deplete gut microbiota, resulted in a significant decrease of MM BMP2, reduced peristaltic motility (repeated contraction and relaxation to enhance digestion), and reduced MM survival¹⁰. Thus, crosstalk between the gut microbiome and MMs plays a crucial role in preserving normal physiological functions of the GI tract.

2.1.2. Gut-mast cell interactions

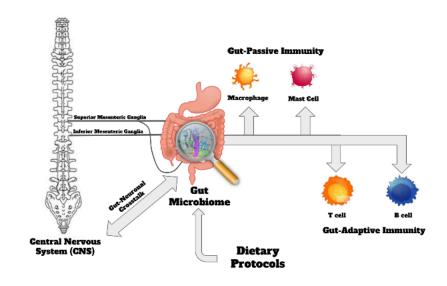
Mast cells (MCs) are present in all layers of the GI tract, enabling neuro-immune crosstalk easily. Mechanistically, this interaction is mediated through a few means. First, MCs secrete mediator proteins that lead to hypersensitivity of the nervous system. Secondly, and more importantly, chronic stress mediated via the nervous system can result in MC activation and modulate paracellular and transcellular permeability¹¹. For patients diagnosed with irritable bowel syndrome (IBS) – often characterized by an intestinal barrier dysfunction – MC activation correlates with reduced tight junction expression and thus increased permeability. Furthermore, bacterial insult by species like Listeria monocytogenes and Staphylococcus epidermidis in the gut have been shown to increase MC degranulation, an exocytic process where MCs release histamine and matrix degrading proteases, indicating a proinflammatory response¹². Such increases in the proinflammatory response and membrane permeability in IBS patients are correlated with increased colonic mast cells, often co-localized with enteric nerves, demonstrating the substantial interlinks between mast cell immunity, the nervous system, and the gut.

2.1.3 Gut-T-cell interactions

Although T-cells, a class of adaptive immune cells, can be found circulating throughout the human body, the gut microbiome plays an especially crucial role in their development and function. In regards to driving the thymic development, colonization of the gut with segmented filamentous bacteria (SFBs), an epithelial-resident commensal that colonizes the ileum mucosa and lumen as well as the follicle-associated epithelium of the Peyer's patches, have been shown to induce the development of SFB-specific TH17 cells and shortly after in the mesenteric lymph nodes¹³. Additionally, recent literature focusing on bacterial migration to other organs has revealed that SFBs are able to migrate from the gut to, most notably, the thymus as shown through 16S DNA sequencing¹³, demonstrating both the scope of interactions between gut microbes and the immune system.

2.1.34 Gut-B-cell interactions

Adaptive immune responses are also tied with gut microbial alterations. Mechanistically, it has been demonstrated that gut bacteria are involved in B cell differentiation, maturation, and activation ¹⁴. For instance, commensal signals in the gut are capable of initiating the differentiation of IL-10 producing B cells and IL-10 producing IgA+ plasma cells (differentiated B-cells) that circulate and exert regulatory functions ¹⁵. Conversely, B cells are also able to bind to gut commensal bacteria and may be involved in establishing the newborn's microbiome, as demonstrated by mouse models that showed SIgA modulates bacterial epitopes (portions of the antigen to which an antibody binds), modifies bacterial metabolism, and downregulates bacterial genes involved in the production of oxidative byproducts ¹⁴.



 $\begin{tabular}{ll} \textbf{Figure 2} & | \textbf{ Graphical representation of the numerous interactions between} \\ \textbf{ human gut microbiota and immunity} \\ \end{tabular}$

3.1 ENS-Gut Signaling Mediated via Ahr

Aryl hydrocarbon receptor (Ahr) is a ligand-activated transcription factor present in various autosomal cells, including those composing the gut. Its role is to couple environmental chemical stimuli with adaptive responses, such as detoxification, cellular homeostasis, or immune responses¹⁶. In the case of the gut, Ahr is capable of responding to a variety of dietary and microbial metabolites. Recent

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evidence suggests that the ENS is able to "sense" the presence of microbiota through expression of Ahr, and that successful neuronal Ahr signaling is critical for upregulating peristalsis of the intestines¹⁰. This has been demonstrated by experiments that conduct neuron-specific deletions of Ahr or constitutive overexpression of its negative feedback regulator CYP1A1, which result in reduced peristaltic activity of the colon similar to that observed in microbiota-depleted mice¹⁷. In other words, gut microbiota play a key role in the production of molecules that shape ENS-gut interactions and influence motility and overall function of the gut.

4.1 Neuronal Influence Upon Gut Microbiota

Prior to this point, this review has described indirect neuronal influences upon the gut microbiota through the lens of neuro-immune crosstalk. However, there is evidence to suggest that the nervous system can directly influence the gut microbial composition. For instance, 16S rRNA gene sequencing of intestinal microbial communities of gut-innervating pain sensory receptor-depleted mice were revealed to have significantly less segmented filamentous bacteria, thus reducing small intestine colonization resistance against Salmonella infection and with it immunity¹⁸.

Furthermore, the vagus nerve, a portion of the parasympathetic nervous system running from the brain to the intestine and controls mood, immune responses, digestion, and heart rate, has been demonstrated to be intimately linked with gut bacteria^{19,20}. For instance, commensal gut species like Lactobacillus rhamnosus have been shown to reduce stress-induced corticosterone and anxiety and depression-related behavior, while not changing behavior in vagotomized (vagus nerve removed) mice²¹. As explored at length in the past few decades, anxiety and depression are both known to induce a low-chronic inflammation status and thereby increase the likelihood of the patient acquiring infections, metabolic diseases, and even cancer²². These studies only further establish a deep set link between the gut microbiome, nervous system, and systemic immunity.

5.1 Gut-Immune Effects of Fasting

Intermittent fasting (IF) has emerged in recent years as a significant tool for weight loss and restoration of health, vigor, and stability to one's life. The scientific and medical community have long established the relevance of the IF practices to strengthening immunity. However, it is only recently that researchers are learning that the beneficial impacts of IF upon immune function is, at least in part, mediated by the gut microbiome. For instance, a recent study found that in mouse models induced with experimental autoimmune encephalomyelitis (EAE), a mouse

model form of multiple sclerosis, IF protocols ameliorated clinical severity of EAE, enhanced gut microbial diversity, supported antioxidative metabolic pathways, decreased pro-inflammatory IL-17 producing T cells, and supported regulatory T cells²³. However, the reasoning to support that the gut microbiome at least partially mediated these effects is derived from a study that showed fecal microbiota transplantations (FMTs) from mice undergoing IF resulted in improved EAE in immunized recipient mice on a normal diet compared to FMTs from control mice. In short, EAE mice undergoing IF protocols demonstrated improved symptoms at least partially mediated via alterations in gut flora²⁴. This breadth of Gut Neuro-immune crosstalk is graphically displayed in Figure 2.

In a similar vein, Ramadan fasting, a religiously observed daily dry fasting from dawn to sunset during the holy months of Ramadan in Islam, has been demonstrated in clinical trials to alter gut microbiota by impacting bacterial taxa and genes that result in an increase in the production of short-chain fatty acids (SCFAs) as well as Clostridiales order bacterial species^{25,26}. SCFAs are positively correlated with gut barrier integrity, nutrient digestion, and immune regulation while Clostridiales strains have been recently shown to lower tumor burden in both mouse models and human trials with colorectal cancer (CRC), an effect mediated through intratumoral infiltration and activation of cytotoxic CD8+ effector T cells^{27,28}. Overall, microbiome changes associated with fasting have been demonstrated to have far-reaching effects in both immune and neurological contexts.

Conclusion

This review has shown the various mechanistic alterations mediated by the gut-immune axis. Furthermore, it has been shown that the nervous system, in both innate and adaptive capacities, is intrinsically tied with gut microbiota. Voluntary lifestyle decisions such as fasting are linked to changes in gut microbial composition, thereby impacting immune function. Overall, this review provides a snapshot into the intimate relevance of microbes in the GI tract with systemic immune function and may potentially provide insight into emerging treatment options of various immune disorders by inducing alterations, in one of many ways, at the microbial level of the gut. Lastly, the review serves to shed awareness onto the relevance of gut health in quality of life and its symbiotic relationship with its hosts. Potential future directions of research within this field include investigating the pervasiveness of neuro-immune crosstalk, as a deeper understanding of their biochemical and cellular pathways in the gut microbiome could yield dividends in devising therapeutic strategies to enhance health. Emerging technologies in microbiota analysis should also be applied to procure better insight into the biological mechanisms underpin-

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Media & Communications

Hip-hop: The Transnationality and Gender Fluidity in Suboi's Music

Sarah Bui Class of 2023

ABSTRACT:

Suboi, one of the first female Hip-Hop artists in Vietnam, has received international recognition and is considered Vietnam's Queen of Hip-Hop. By comparing lyrics and music videos from her first album, Walk (2010), and her latest album, No Ne (2021), as well as her publicity interviews, this research discusses how Suboi's music develops from a form of refuge to self-realization. This analysis also examines how intersectionality, transnationality, and nationalism shaped and impacted her music from her early career as a female Vietnamese artist. By highlighting the self-identification and feminism expressed in Suboi's music, the essay discusses Hip-Hop/Rap music as an emancipatory platform for Asian women to explore complex relationships between identities and music and challenge social norms.

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Well-known internationally as Vietnam's Queen of Hip Hop, Suboi is one of the very first female Hip-Hop artists in Vietnam. By comparing lyrics and music videos from her first album "Walk" (2010), her latest album "NO NE" (2021), and her publicity interviews, this paper discusses how Suboi's music has been developing from a form of refuge to self-realization and women empowerment as well as how intersectionality, transnationality, and nationalism forms and impacts her music career from an early age. The self-identification and feminism manifested in Suboi's music render Hip Hop/Rap music an emancipatory platform for Asian women to explore complex relationships between social identities and music while raising awareness about current issues.

Cultural appropriation and racial affiliation opinions are circulating around the authority to practice Hip-Hop regarding the genre's history of being a powerful voice for the Black community against oppression. In this essay, I would like to focus on how Hip-Hop as a popular music genre and a multifaceted culture empowering Asian feminism in Vietnam is demonstrated through Suboi's music.

1. Theme I: Hip-Hop's transnationality and nationalism

Thanks to its universality of becoming a voice for the repressed in the urban setting, Hip-Hop culture, which started in New York City around the 1970s, has expanded outside the borders of the U.S. to inspire people around the world. In his work "Represent Race, Space, and Place in Rap Music," Murray Forman studies the importance of physical and geographical space in Hip-Hop. Forman argues that the "spatial discourse" which happens in the "hood" has a tremendous effect on the artist's identity and music (66). Simply put, the Rap artists and their representation are formed and nurtured by the community and the culture of people living in the "hood" tying the history of Hip-Hop and Rap to sentimental places. In many Rap songs, Rappers frequently mention or "shout out" the place they grew up in an attempt to communicate their appreciation of and their struggles in the environment (Foreman, 73). The infusion between the "insistent emphasis on support, nurture, and community" with the "grim representations of ghetto life" becomes the core message of the genre (Foreman, 73). To be considered respectable Hip-Hop practitioners, Rappers must successfully "translate topophilia (love of the place) and topophobia (fear of the place) into lyrics for wider dissemination" (Foreman, 73). In other words, a place or a "hood" essentially confirms Hip-Hop artists' identity; thus, it is fundamental for later Rap artists to continue this tradition of talking about their environment, meaning being "real" in the Rap game. Being exported to different countries with different cultures, the central values of Hip-Hop, including themes and styles, have evolved and transformed in various ways. Yet, many foreign Rap artists still put the emphasis on places and their groups to "explicitly advertise their home environments" and "structure their home territory into titles and lyrics," constructing a new internally meaningful Hip-Hop cartography as a result (Foreman, 73). That is, the proudly yet ashamedly mentioned home by artists around the world significantly contributed to the global development of Hip-Hop, thus consistently adding a transnational and intersectional meaning to the genre.

Matsue quoted Sharma in their work that the reason Asian communities are able to understand Hip-Hop and "Blackness" is that they "identify themselves as another repressed minority" (16). In other words, Hip-Hop/Rap serves as a powerful tool for protesting against unfairness and discrimination towards other minority groups around the globe, becoming very appealing to the youth, especially those living in a similar challenging transitional period in Vietnam as Suboi. Although strongly rooted in the Black American community, Hip-Hop has become more and more transnational as the voice of the minority to address their struggles and experiences pertaining to their personal hardships. Coming from an impoverished family in a patriarchal society, Suboi represents the marginalized group of working-class women suffering from sexism and classism. Hip-Hop articulates a new platform for her and her peers, who are from the other side of the ocean, to talk about these hardships, struggles, and current issues in the place they are living in.

Born and raised in Ho Chi Minh City, the biggest city in Vietnam with a population of nine million, Suboi grew up in the diverse and dynamic urban scene, bearing some resemblances to New York City. Still, the restrictions of a Communist Asian country were heavily imposed on her generation. Suboi's name is the combination of "Su"—her nickname—and "boi," as in "tomboy," because of her boyish look. She started singing in a metal band at seventeen when she discovered Rap through Linkin Park, Will Smith, and Rakim. Vietnam, specifically Saigon, registers as Suboi's "hood," in which her love for Hip-Hop was formed. The artist was born in 1990, only four years after Vietnam's major economic reforms, known as Doi Moi, which were launched in 1986 to boost the country's underperforming economy. In 2000, The Bilateral Trade Agreement marked a key step in the historic reconciliation between the United States and Vietnam after the Vietnam War. Following the historical Agreement, strict controls over private enterprise were loosened, opening the doors to foreign trade and investment. Additionally, with the rise of Internet coverage and the popularity of music charts such as MTV, Hip hop culture arrived in Vietnam and has become the inspiration for many Saigonese youngsters. Many

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adolescents picked up beatboxing, skateboarding, and breakdancing on the street to socialize and rebelliously communicate their desire after a long time of living under the government's strict censorship of arts and entertainment. Suboi's generation, those born after Doi Moi, is categorized as a "transitional generation" due to the many social changes they grew up with. These social, cultural, and economic developments consequently created a huge gap between her generation and the previous ones, who grew up in and survived the war, inevitably generating many conflicts and misunderstandings. In the interview with The Guardian, Suboi shared, "No one knew what Rap was when I started, so I didn't know how Vietnamese people would react to it," leading to her primary seeking for inspiration from American artists and many self-discoveries in the early phase of her career (Hodal).

The images of gritty streets and iconic buildings of Ho Chi Minh City (or Saigon—as the locals still proudly call it) are often displayed side by side in Suboi's music videos, illustrating the ironic contrast between the fabulous city life with the "ghetto" life of working migrants. She highlights this identity of living in the liminal space and connecting to her "hood." The close-up of her "Saigon" tattoo that keeps appearing in many of her music videos presents her pride in the city she grew up in.





(Still images from Music Video Walk).

In the album "NO NE" (2021), the song CONG (literally meaning "Work" in Vietnamese) provides an intimate look into daily life in Vietnam into which Suboi's "topophilia and topophobia" are well-translated. (73)

Lyrics (written in or translated to English)

I'm a young Vietnamese lady; who's this?

Real Saigonese pop showbiz doesn't fit!

Work is just work itself

Work plus friendship — it's better to work

Work done, we all split

Work with friends, it's worth 100 chapters

Work with a full stop, it's a plus

Work won't stop anyone from volunteering

Work till the end of the month, more envelopes

Work brings us to an end

Give them all the work, to be dumped away

Meaning/Analysis

Suboi proudly introduces herself as a "young Vietnamese lady" and "real Saigonese" as an attempt to "shout out" to her "hood." From the early songs, the fact of being Saigonese is constantly emphasized to showcase her connection with not just her community, but the Vietnamese urban culture of which legacy she inherits. However, in the following line, Suboi often feels like an outsider to Vietnamese showbiz as she is not the type of artist that would fit in the Vietnamese music scene. As stated above, there are some social expectations in which an appropriate demeanor is highly valued. In other words, she feels like the music scene is a restricted box in which Suboi and her music do not fit. Yet she has no intention to conform, and she usually challenges these limitations in her songs. Perhaps, the order of placing "don't fit" after "showbiz" can be read as the narrow-minded and limited showbiz does not fit into her dream of being a Hip-Hop musician. She refers to herself as "real," which means authentic, a core value in Hip-Hop, and that is the answer to why she thinks people would not completely understand and accept her true self.

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No, I don't need a name for our friendship

The middle fingernails are french tips

They did not eat with me when I failed

Now I get up again saying, "Hi Tèo!"

We don't need a label for our friendship

Smart or not, and no need to prove ourselves like Trang Quynh

No need for nights waiting for someone's phone

Speed dial number one eye, I'm the phone agency

The more talk, the less work, the more boring

The more you control, the less control you have

In the next part, she discusses capitalism and the ethical issue of productivity. With the rapid economic development and cultural revolution of Ho Chi Minh City in the past few years, Suboi reveals a society where people merely come to each other for benefits, not from love or care, and everyone is exploited and taken advantage of for the sake of money. She thus questions true happiness and morality amidst the city's unbelievable changes. With the exponential growth of a city's financial state, capitalism controls and manipulates every single aspect of people's lives. People consequently work non-stop and spend all of it as a part of consumerism.

Suboi moves on to discuss traditional moral values, which seem to be neglected in modern life. She criticizes the bad habits of Vietnamese people and addresses her haters for being nosy, judgy, stereotypical, and greedy. Suboi's sarcastic presentation of the lyrics "middle fingernails are French tips" converts the inappropriate gesture into an oppositional yet ambiguous and elegant attitude, proving her intelligence to avoid censorship. She continues judging people who only befriend her when she is at the prime of her career, those who are too pretentious, those who are only good at speaking, and those who only call her when they need help. She argues that these people do not focus on their performance, thus creating low-quality products. Sharing her experience of being a famous Rapper, she disclosed the difficulty of finding honest people and trusting them as her confidants.

25 for life, not a cookie-cutter bitch. "Artists are rubbish in this society"

Those guys sing these choruses over and over again

Stereotypes not my social life

In fact, you better say goodbye to this genocide

I might make a little bit of money

Every day out with a bag of cookies

I was hungry, worry bout the blurry future

All I knew was to make it in a hurry

So how do I see my destiny when the number of negativities speaks to me

Everyday "Fuck what they know!"

I believe the answer you know

Suboi once explained the lyrics in the interview that she has been told that dreams die at the age of 25; however, she proves that everyone's timeline is different and there is no shortcut to success. Patriarchal society plants a ticking clock in a woman's body and forces her to get everything done on time; otherwise, after 25, she is not desirable anymore, thus becoming a failure. Suboi usually mentions the fact that some famous Black female musicians continuing to do Rap even in their 40s motivates her to keep practicing Hip-Hop as long as she wants. She attacked the old-fashioned idea of Vietnamese people not respecting singing artists for having unstable jobs and were usually mistaken as prostitutes like geisha. In Suboi's opinion, the stereotypes against people working in the art industry are a crime, thus being very much equivalent to the "genocide" of their dreams and artistry. CONG is her answer to all the negative comments and stereotypes coming at her from her early career when she started making money to be able to survive. Still, she has never given up.

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You are some fucked up homie But I ain't give up, homie

You got your world I got my world I would never judge ya, homie. When you get high on ya ego,

Oh ain't you tired people

Cuz I don't need the title to read the bible

Just wanna be enlighten yo

You fly far.

Still, you can't recall yesterday

Forgave too many people, many people over-react

What kind of smile is that destructive

By calling her haters "homie," a word commonly referred to people from the same "hood" in Hip-Hop, Suboi opens an honest yet mocking conversation, suggesting that everyone should have their way of doing things without judgment. She also criticizes those who live their life too fast and always look for "the grass on the other side of the hill" ("fly far"), those who are ungrateful for their heritage and culture ("cannot recall yesterday"), and the hypocritical and calculated ones ("a destructive smile").

Suboi makes abundant use of humor, satire, and irony in both the lyrics and her Rapping tone, exposing the reality of society to public scrutiny.

The applicability of Hip-Hop culture to the context of Vietnamese society, which she is both proud and ashamed of, is musically and visually exhibited in Suboi's music, proving the transnationality of the genre.

Furthermore, not only does the love-hate relationship with the "hood" indicated in her music, the flexibility and fluency in using both English and Vietnamese languages depending on different situations imply various meanings and generate a dual identity for Suboi, thus, suggesting self-image fluidity. Before that, not many female artists had the opportunity to have an independent voice due to the local values of modesty and obedience that informed the performance. However, with the rise of US-UK popularity in music, especially Hip Hop, among the Vietnamese youth, Suboi had a chance to teach herself English by Rapping along with Eminem and many famous Rappers. She admits that her English is awful and rude because everything Eminem does is cursing. The wildness and freedom that the genre is renowned for simultaneously inspire her and create a safe space for her thoughts and opinions. Many studies have shown that the second language gives

the users emotional distance, which immensely helps with emotional expressions and storytelling. Being a Vietnamese girl means being taught to be submissive and quiet to conform to patriarchal gender expectations. Having her own voice allows her to comment on the social issues and restrictions imposed on Vietnamese people for a long time, exceeding the social gender norms and challenging social orders as well as traditional gender construction. English, which is the preferred language in Hip-Hop due to its root in the U.S., helps Suboi walk a fine line between strict censorship in Vietnam and artistic freedom. When it comes to expressing her love and emotions in music, she prefers English as (A) English is more well-known for explicitly verbal love and care expression compared to Vietnamese, where love and care are usually implied through actions, and (B) English gives her the emotional distance to say what has always been buried. In her first album, six out of eight songs were written in English; for example, in her music *Walk*, she wrote:

"As I young Vietnamese I do believe

Traditional of family is the key

It's something real, it's something true

It's something for me who tryna move on

A tons of holdback clog me up" (Walk)

In some interviews, she explains that even though she has a lot of thoughts about life and society, it was hard for her to effectively and verbally communicate all of them, so she weaved into her music instead. Since the very first day of her career, music, and Rap specifically, has become her place of refuge where she finds her power and freedom to make sense of and talk about challenges in her life. As in the lyrics of Walk, she wants to escape from all the social and cultural limitations and responsibilities in order to discover her identity and do what she wants. Still, she tremendously appreciates the culture and family values she inherits. The song represents the voice of Vietnamese youth being free-spirited and unapologetically outspoken about their desires.

From Walk (2010) to CONG (2022), the meanings of language usage have tremendously altered. At the beginning of her career, English was favored over Vietnamese as the need to communicate her hardships and struggles to her peers, who share the same problems and are more likely to understand the language. The ability to use foreign languages differentiates her generation from previous ones. Therefore,

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with the English language and American culture, she could avoid the older audience questioning her artistic representation of being a Rapper and her controversial comments on society. In her latest album, "NO NE," as the audience can see in CONG, the proportion of the English language has significantly decreased. The fact that English lyrics are only used in a few lines and the hook implies Suboi's acceptance and comfortability with Vietnamese identity, suggesting her global approach to her music. For example, the English hook, "I'm a young Vietnamese lady who's this?/ Real Saigonese pop showbiz don't fit!" is a self-introduction and her environment's advertisement, mostly targeting a global audience. The languages in Suboi's music eventually serve the purposes of emotional communication, international attraction, and national promotion. The liminal space between despise and respect, English and Vietnamese language, and internationalism and nationalism, in which Suboi is situated, forms a very complex and complicated identity as a Vietnamese female Hip-Hop artist.

2. Theme II: Hip-Hop as an approach to women's agency and gender fluidity

The ambiguity and duality in Suboi's music are also signified in her gender performance. In their influential text titled "Performative Acts and Gender Constitution," Judith Butler (1988), an American philosopher and gender theorist, establishes the idea that "Gender identity is the stylized repetition of acts through time" (520). In other words, the gender concept could be considered a historically, socially, and culturally constructed performance combining various collective established acts. By performing these acts, a body can identify with and be perceived as a gender. Nevertheless, gender is neither an individual choice nor the strictly imposed "script" but is also open to interpretation (Butlet, 526). Butler, therefore, points out that gender, instead of being fixed and determined, can be transformed and expanded over time in many ways. The aforesaid gender script in Vietnam is harshly formed and controlled by a patriarchal society in which women are expected to be gentle, modest, respectable, and belonging to the domestic sphere. Often, they are not allowed to speak up about their opinions. Hip-Hop, with its characteristic of hegemonic masculinity and public space, modifies and expands the gender performance of female musicians to a certain extent. As an act of rebellion and trying to fit into the Hip-Hop culture, Suboi picks up a masculine and arrogant attitude which is a part of the "gangster style" in some of her earliest songs, discussing the gap between the rich, poor, and marginalized people dreaming of a better life. Hip-Hop and its masculine identity allow Suboi to exceed certain gender expectations of having masculine traits, thus suggesting gender fluidity.



(Still images from Music Video Walk).

On the other hand, Butler also articulates, "as a strategy of survival, gender is a performance with clearly punitive consequences" (522). While raising their voices regarding social issues, Suboi, like many other female Hip-Hop artists working in a male-dominated industry, has to face inevitable consequences for breaking traditional regulatory acts of adult females, such as criticisms and identity crises. Being a Rapper puts Suboi in the position of constantly displaying herself on stage and inviting public attention. She got severely skinny-shamed, even during pregnancy, which made her very uncomfortable with her looks. Still, Hip-Hop gives her the courage to raise awareness of it and even talk back to these comments. In "Tèn ten girls," a song of her featuring another young female Rapper TLinh who was in the final round of the biggest Rap competition in Vietnam, she wrote: "Thân tôi mỏng lét, như con phụng gầy" (loosely translated as "My body is thin, like a skinny phoenix"). Though she fails to conform to social beauty standards for being "too thin," she still claims herself a phoenix, the queen of all the birds. By comparing herself to a phoenix, Suboi claims back the power of "Vietnam's Queen of Hip-Hop" she has in music. On a similar note, she often integrates these negative comments into her songs. She uses humor and irony as a tool to answer these doubts about her success and talents, such as in the analyzed song above, CONG.

Suboi even attacks the gender stereotypes referring to women as an oppositional stance towards gender inequality. The music video for "N-Sao?"—a very Vietnamese way of sassily saying "So what?"—includes many street symbols of Saigon

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and the significant images of "Ninja Lead," referring to female motorbike drivers in Vietnam. "Ninja" is used because they cover their bodies like ninjas, and "Lead" is from the commonly used Honda Lead motorbike model. They wear colorful/printed "sun coats" to protect their bodies from the extreme sunlight in Vietnam. Nonetheless, "Ninja Lead" is a mocking nickname implying that Vietnamese women cannot ride a bike properly. Suboi takes it as an interesting and unique image of modern Vietnamese women which should be embraced. It signifies the mobility and agency of Vietnamese women in which they can also go out and achieve their goals instead of not just staying at home, breaking the norm that women belong to domestic space. With the music video featuring the group of "Ninja Lead" riding around Saigon with their cool poses, Suboi perhaps wants to answer those who underestimate Vietnamese women even though she prefers people to interpret her lyrics and music videos from their personal perspective, which she is eager to hear. The feminist approach to music distinguishes Suboi from other Rappers, especially male ones, who either focus on the negativity or the celebrity's luxurious life.

It is helpful to notice the transformation in gender expressions in her latest album with Suboi's shift from a masculine gangster attitude to a more feminine and gentle one through nine songs categorized into the concept of five basic tastes. By changing to a more feminine representation in some of the songs, her new images imply the liminal space between masculinity and femininity in which the female Rap artist lives. "NO NE" draws a huge difference from the earlier albums, in which she often has to toughen up to be accepted into Hip-Hop culture. "NO NE" means "Full" in Vietnam, reflecting the difficulties Suboi has endured and overcome to be able to complete a chapter in her current life. This album comes from various inspirations, one of which is using flavors as a delivery method. "Bitter" illustrates those who have been holding on to the past, "Spicy" for anger, "Salty" means experiencing sudden changes in mood, "Sour" symbolizes the wrath of a relationship, and "Sweet" represents happiness. The reformation that has healed and recreated Suboi's inner world is reflected in her voice in each work. Sensuality, healing, and the inner world register as the themes for "NO NE" and is the proof of Suboi's femininity of being nurturing, sensitive, and supportive.

One of the songs in her album, "Bet on Me," a part of "Sour," sends a message that security and trust are the firm foundation of a relationship. The music video tells the story of a mother-to-be who retreats from the hustle and bustle of Saigon for freedom and transformation in nature, portraying Suboi's feminine portrayal and the beauty of a mom-to-be. "BET ON ME" opens with a voicemail

from a homesick woman who is conflicted about returning to the city from a road trip in the country. Her complex emotion is visualized by juxtaposing still shots of Saigon cityscape and a series of serene natural settings. According to the director, within juxtaposition Suboi wanted to capture the "sensuality of everyday moments," such as sipping from a coconut or peeling an orange. Suboi shares that she has been transitioning from a frustrating and upset vibe to more peaceful and feminine music after having a child. The music video illustrates Suboi, even with her pregnancy, still a very independent woman riding the motorbike to her retreat. Continuing with the motif of presenting Ho Chi Minh City, this time she slowly and patiently observes her beloved city while riding away. Each house, each building, and each road gradually disappears behind her in addition to the fact it was shot on a 16mm film, evoking some sense of nostalgia yet renewal in correlation to the change of her self-identity. In the natural environment, each delicate touch and gesture she has with her belly and body evokes sensuality within femininity and fertility. The beauty of a pregnant woman singing about her being capable of loving and demanding a healthy relationship is gracefully embraced through the visuals. The gentle depiction of a pregnant woman Rapping about her love for her child and her boyfriend in a natural setting exposes a considerable contrast to Hip-Hop's tradition of being on the gritty urban street, fast and arrogant. Suboi's femininity does not recommend compliance with the traditional gender structure. Yet, the women's agency over her social and artistic representation and the possibility of gender performance being transformed and expanded, not fixed and determined.









(Still images from Music Video BET ON ME).

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3. Conclusion:

By commenting on the current societal issues and conveying personal emotions and hardships in her songs, Suboi continuously stays "real" to the genre while using her powerful voice and influence to support Vietnamese women. The liminal space in which love and fear, Vietnamese and English language, Vietnamese and American culture, as well as masculinity and femininity, is effectively incorporated to: (1) be loyal to the Hip-Hop culture of embracing the artist's origin and (2) claim her multifaceted and layered position and identity as a female Vietnamese artist in Hip-Hop, proposing the transnationality, gender fluidity, and women empowerment of the genre.

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Media & Communications

The Futures We Cannot Imagine: Social Media and Capitalist Realism

Juliet Deane

ABSTRACT:

In this paper, I apply Mark Fisher's theory of Capitalist Realism to online subculture, activism, and performance; Capitalist realism being the theory that it is easier to imagine the end of the world than the end of capitalism, which leads to those living under capitalism to be incapable of imagining alternatives to the current system. I argue that this phenomenon can be applied to the public's current relationship with social media. The paper identifies the user's desire for a world where aesthetics and social movements cannot be co-opted by capitalism but cannot imagine a world without social media. The user then continues to try and outsmart the system through subversion, not realizing that even silicon valley was once considered countercultural and that all online countercultures will be repurposed into capitalist aesthetics at the end of their trend cycle. I establish this theory by examining the aesthetics of social justice infographics, the rise of "alternative" social media, and the constantly shifting goalpost of authenticity.

Social media as we know it today is approximately ten years old, and yet for many younger millennials and members of Gen Z, life without it is unimaginable. While social media was sold to users as a vehicle for social connection, entertainment, and networking, it has always been a capitalist endeavor. Mining and selling user data to governments and corporations was the top priority of the Silicon Valley moguls who created these platforms. As the adage goes, "If it is free, you are the product" (Kapida, 2020, p. 336). Users now have some understanding that they are being watched, even if it is just through watching their home page become more and more curated over time. They use this knowledge to try and reject, reform, or reinvent the current social media landscape, but their efforts fall flat. The language of these movements is incorporated into the algorithm and is used to create more sophisticated and intelligent tracking technology. Challenging capitalism on a capitalist platform is futile. As Audre Lorde said, "The master's tools will never dismantle the master's house" (Lorde, 1984, p.8).

British theorist Mark Fisher defines capitalist realism as a phenomenon that makes it easier to imagine the end of the world than the end of capitalism (Fisher, 2009). It is a feeling of stagnation that permeates the minds of the people living under this unique form of authoritarianism and affects the cultural exports from capitalist society. Although our complete understanding of this as a society is new, we do understand that social media is an export of capitalism. It is a product that can be engaged with, but it is also a place where people live out parts of their lives, share ideas, develop relationships and thus, create identities.

Capitalist realism impacts us psychologically; it affects the ways we seek gratification, our relationship with media, and our self-concept. When one cannot imagine a future without exploitation, climate catastrophe, and a government with no interest in the well-being of their citizens, those citizens may be prone to thinking in short-term ways and seeking out pleasure while they still can. While this theory applies to cultural, political, and media studies, Fisher describes capitalist realism as more of a "pervasive atmosphere" than a theory, an environment that its victims are all forced to live in due to the lack of a collective imagination of a world where we are free. A similar phenomenon has begun to occur with social media. The ways social media users attempt to reform, change, or rebel shows a lack of collective imagination of an alternative to life without it. This multifaceted connection is part of why people hang onto this product that is hurting them and continue on the doomed endeavor to reform and create an environment on social media removed from performativity, the attention economy, and any reminders that their presence on the platform is for data mining in the eyes of Silicon Valley. This paper will focus on how the environment of capitalist realism permeates the way users engage critically with social media in the areas of activism, social media alternatives, and the presentation of self (Fisher, 2009).

One way this capitalist realism-esque phenomenon has shown up in the past few years is with the prevalence of online activism. Although discussions of anti-capitalism and social justice on the internet are by no means new, Mark Fisher rose to prominence as an anti-capitalist blogger himself. The spreading of activist and leftist messages to a public audience in an attempt to educate Instagram followers is a fairly new occurrence. Terry Nyuguen writes about the rising phenomenon of the sharing of infographics in her article How Social Justice Slideshows Took Over Instagram (Nyuguen, 2021). Nyuguen dates this phenomenon to the early summer of 2020 when the George Floyd was killed by the police, and his death was recorded and shared to social media. Protests erupted in the streets, demonstrators were gassed, detained, and beaten, and footage of this was also shared widely. As the world watched in horror on Instagram, pastel infographics about racial justice spread like wildfire. Their creators copied the aesthetics of millennial direct-to-consumer brands that have found popularity on Instagram, attempting to use corporate branding principles to advance racial justice messages in the algorithm. The infographics covered topics like white privilege, defunding the police, and ways to be a non-optical ally, and were meant to be reposted to the viewer's Instagram stories. Although accusations of virtual signaling have been made in regard to these infographics and have merit, the pervasive environment of capitalist realism and the prevalence of media that functions like these infographics could explain why many Instagram users posted them in good faith, thinking they were making a difference (Nguyen, 2021).

Fisher argues that capitalism, unlike other forms of authoritarianism, works best when no one defends it. It works best this way because capitalism is good at co-opting anticapitalism. He uses the Pixar movie *Wall-E* as an example of this, "A film like Wall-E exemplifies what Robert Pfaller has called 'interpassivity': the film performs our anti-capitalism for us, allowing us to continue to consume with impunity. The role of capitalist ideology is not to make an explicit case for something in the way that propaganda does, but to conceal the fact that the operations of capital do not depend on any sort of subjectively assumed belief" (Fisher, 2009, pp. 16-17). Infographics amplify interpassivity in the same way that Wall-E does, as a form of media that performs anti-capitalism or activism, so the user who posts them does not have to. They bring the user's attention to devastating problems. Instead of motivating the viewer to protest, strike, or redistribute wealth, it encourages them to share the infographic to their story. For the twenty-four hours that the infographic sits on an Instagram story, it performs for the user, signaling this person's beliefs to

those who view it (Ngyuen, 2021).

Fisher also argues a point made by Slavoj Zizek that capitalism prioritizes belief over behavior, meaning that media centered around belief is easily co-opted by the establishment (Fisher, 2009). Although infographics are a means of spreading information, when shared on a platform centered around personal identity, they exist to express the user's beliefs, even though the user feels as if they are spreading awareness for a social justice cause. The lack of real-world activism by the user sometimes represents a lack of care. However, for people who post these in good faith, it may represent an inability to express social justice or anti-capitalist sentiments through behavior instead of belief. It is difficult for the user to picture an alternative to this empty form of resistance (Fisher, 2009).

Despite the level of influence Silicon Valley has on society, its most successful exports have reached a bit of a tipping point in the past year. Meta laid off 11,000 employees in early November of 2022 (Satarino & Mac, 2022), around the time that Elon Musk bought Twitter for 44 billion dollars, and subsequently laid off 75 percent of the company, changed verification into a pay-to-play system, and made so many poor choices that he is now being sued for labor law violations. (Ding, 2022). Instagram also made some misfires that by prioritizing Reels over photos, seemingly trying to mimic Tik Tok, which led to discontent from users of the app. On July 26, 2022, Adam Mosseri, the head of Instagram, shared a video explaining the changes coming to the platform to an irritated user base (Dellatto, 2022). In the wake of this irritation, BeReal, a photo app that does not have advertisements and does not sell data, shot to the top of the app store charts, suggesting user discontent with Instagram. People were looking to fill the void that Instagram was creating. BeReal has no filters; a timer goes off for all users to take a picture,, on both the front and back phone camera simultaneously, and followers are told when a picture is a retake or posted after the two-minute deadline. It seemed to fill the void that Instagram was creating by answering to advertisers instead of listening to user feedback. However, Brooke Erin Duffy and Ysabel Gerrard argue that BeReal is not going to save us; it is just beginning a doomed life cycle that has played out many times before, noting that "researchers have noted a significant uptick in 'social media fatigue,' which they attribute in part to the pandemic. But, even the tech-weariest among us find it hard to disregard the mandate to put forward our best (digital) selves. And so, despite the pretense of novelty, BeReal represents the latest iteration in the cycle of social media sites that spring from the push-and-pull tension of authenticity and performance" (Duffy & Gerrard, 2022). The mandate to put forward our "best digital selves" is a sort of "pervasive atmosphere" in the way that Mark Fisher describes capitalist realism. Although there are some traditional mandates that force people to have a

social media presence (journalists on Twitter are an example of this), the mandate that Duffy and Gerrard are describing is usually a combination of public or peer pressure combined with a private feeling that having a public-facing persona is a required part of life at this point. Although the addictive design is a part of why people struggle to throw in the towel on social media, this mandate the user feels to put their life forward is self-enforced. The inability to rebel against this mandate may come from the user's inability to imagine an existence where their life is not evident online. This proof of existence is not necessary for a fulfilling life, but when it has become a factor in the way a person views themselves, it can be difficult to imagine the elimination of that factor. The person then finds themselves in a loop of trying and failing to limit and manage social media use, even though they are fatigued by it, and it makes them miserable (Duffy & Gerrard, 2022).

BeReal represents a capitalist realism-esque inability to see a future without social media. Haley Nahman writes about this in her essay, "Waiting on Silicon Valley." arguing that

"after 30 years of global transformation at the hands of the personal computer, I think it is ... difficult to imagine progress out of the confines of Big Tech. Big Tech CEOs once changed the world; therefore, we can only change the world with tech CEOs. It's a psychological fencing in. Social media has limited our imaginations on how to better connect, leading us to increasingly creative simulations of the real thing" (Nahman, 2022).

Big Tech created a world that is shaken up constantly, and we have little agency to stop it. We live at the mercy of moguls and can no longer imagine a world where we are not performing for our friends, families, and hypothetical fans, even though we are all sick of seeing each other perform. So why, when their power begins to dwindle, do we reinvent versions of their creations that made us miserable? Performance of self and connections with acquaintances has become such mainstays in the lives of social media users because a life without these factors is unimaginable. Although the users can identify how these performances and connections hurt them, there is a reason people are looking for Instagram alternatives; many cannot conclude that this is not a problem with Instagram, but this is a problem with social media as a whole. Any platform that asks users to post pictures of themselves or share their thoughts with an audience will run into this problem. Each time a new social media platform is created, they use these "authenticity markers" (Pooley & Sa-

linger, 2017) as a means to convince people that they are the solution to a problem that is just inherent to the medium of social media (Nahman, 2022)

Personal branding is inextricably linked to social media, and adhering to the social mandate to maintain a personal brand requires a balancing act; you must adhere to what is considered "authentic" at this moment while maintaining a coherent image and appear as if you are not performing at all. The cyclical rebellion against online performance attempts to liberate the users from rigid rules by encouraging transgression but ends the same way every time. Emma Stamm (2022) argues that

"It is to suggest that conscious self-branding — an exhausting obligation for many under current labor market conditions — is in tension with its underlying structure of ubiquitous surveillance: how strategically one chooses to present oneself now inescapably occurs within this unchosen context of being tracked and documented and predicted. The efforts to avoid detection feed the same systems, contributing to the phenomenon that they appear to resist" (Stamm, 2022).

Stamm argues that this self-obfuscation on social media can fit into the framework of capitalist realism. Social media users who use this strategy of self-obfuscation to rebel against the expectation of a glossy Instagram feed can recognize the problems within the culture but do not see disengagement from that culture as a viable option. Self-obfuscation on social media is still engagement with it, and although it acts against the social codes of clean, streamlined self-branding, it has created a new expectation; a funny, subversive, and niche online performance. This was discussed by Daisy Jones this year in her article Why Everyone's Instagram Looks Ugly Now, where she describes the current trend of celebrities posting photos of piles of garbage, blurry car GPSs, and other gross or unaesthetic content (Jones, 2022). Within a fairly short period of time, the subversive behavior of social media users was co-opted by the same celebrities who created the hyper-curated aesthetics that users felt the need to deviate from. The attempt at transgression is reabsorbed into the capitalist attention economy, and the users are left scrounging for a new way to beat the system. Again, this represents the user's inability to imagine a world in which they are not performing and not adhering to a capitalist system. Instead, they subvert their existence within the attention economy (Stamm, 2022).

Thus far, rebelling against capitalism on platforms funded by venture capitalists has not worked. Online activism becomes meaningless when it leads to alterna-

tive social media, claiming to provide the services of the previous platform without the platform's problems, having all become the thing they swore they hated. Attempts to meaningfully change social media culture have resulted in smarter and more specific branding by the capitalist actors who created the problem; all it takes is a trend forecaster noticing the trend. Breaking the cycle requires acknowledging that any well-meaning attempts to participate in activist causes on social media make it easier for Silicon Valley moguls to sell your data, resulting in targeted pride month ads instead of a revolution. Rejecting performativity for a more "authentic" alternative creates a life for the user where every moment is potential content. Attempts to be weird and esoteric online will only inform new microtrends for fast fashion companies to sell to users. It does not matter how radically the movement began; if it is posted on social media, curated for a grid, and plays well into a narrative, it can be co-opted, and the people holding the cards will find a way to funnel it back into the neoliberal hellscape. If social media users want to see the end of surveillance capitalism, the attention economy, and the mental health problems that come with social media, seeing disengagement as an option is vital.

Building activist communities in real life centered around tangible goals, not just the vague and easily co-optable goal of "awareness," is the first step. Community care not only aids activist causes, but it also helps with self-concept. Shifting focus away from an individualistic existence or view of the self may help address the general malaise social media users often feel. Social media requires users to see themselves as a brand that must be distinct and separate rather than a community member, despite the messaging the platforms use around "connection." Thinking only about how one is seen is not a fulfilling way to move through the world. Even personal acknowledgment that the self is fluid and changed by people and circumstances that it could never be atomized accurately, much less authentically represented in a photo dump, is a step in the right direction. Shifting personal views away from the frameworks that Silicon Valley created is the key to imagining alternatives to both capitalism and social media.

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POLITICAL SCIENCE

The Criminalization of Poverty and the Disproportionate Impact on Black Americans

Cydney Wilson Class of 2023

ABSTRACT:

The American criminal justice system currently operates in a way that inherently discriminates against who are impoverished and towards Black Americans. This paper explores the criminalization of poverty by focusing on the cash bail system and pre-trial detention, felon disenfranchisement, and unfair sentencing practices which are often racially targeted (especially for nonviolent drug-related crimes, the punishment of which spurs from the implementation of the war on drugs). Consequences of these practices are also discussed, such as harm to families and familial structures and disparities in civic engagement. The paper goes on to explore less harmful alternatives to these systems, such as releasing individuals on their own recognizance, implementing and following a framework of offenders by placing offenders on a scale of violent crimes, and pursuing awareness of the practice of jury nullification, where jurors choose not to convict based on principle. Ultimately, this paper concludes that poverty is criminalized by the current practices of the criminal justice system and that Black Americans are harmed by unfair practices at increasingly disproportionate levels leading to broad societal inequities.

Kalief Browder, a Black teenager, was just 16 years old when he was charged with the crime of stealing a backpack. He spent three years incarcerated due to being unable to afford to pay a 3000-dollar bail, forcing him to spend his teenage years behind bars, two of which were spent in solitary confinement (Johnson 30). After being abused by older inmates and prison guards, he was unable to mentally recover following his release, leading him to take his own life. Browder's alleged crime was nonviolent, and he maintained his innocence despite repeatedly being offered plea deals (Bennett 316). However, the true reason for Browder's incarceration was his inability to meet the demands of the cash bail system. The cash bail system is intended to allow the release of those awaiting trial while simultaneously attempting to guarantee that defendants appear for their cases. However, the way it currently operates punishes those with less financial resources. In other words, it criminalizes poverty. This criminalization of poverty has long-term and often irreversible consequences such as prevention from engaging in civic activities like voting and causing the destruction of families. These consequences are often more severe for people of color due to America's ongoing history of systemic racism.

Browder's case is particularly striking, but it is unfortunately not unique in the American criminal justice system. As many as 500,000 people currently reside in jails across the country waiting for their cases to be heard—more than the entire incarcerated population of many other countries (Curiel). Statistics from the United States Bureau of Justice found that, in 2015, "People in jail had a median annual income of \$15,109 prior to their incarceration, which is less than half (48%) of the median for non-incarcerated people of similar ages. People in jail are even poorer than people in prison and are drastically poorer than their non-incarcerated counterparts," (Rabuy). Those in jail awaiting trial are often incarcerated due to their status as impoverished, rather than the crime they are alleged to have committed. Oftentimes, people are awaiting trial for non-violent crimes, such as drug possession. This type of pretrial detention disproportionately impacts people of color, who are more likely than white people to be held on bail for low-level offenses, and who are altogether more likely to be charged for crimes relating to drugs (Curiel). This is, in large part, due to systemic racism and structures which exist to further marginalize people of color. Many of these structures were a result of white America's fear of high crime rates, which spurred the inception of President Nixon's War on Drugs, consequently fueling increased policing and incarceration. The actions taken by Nixon and subsequent presidents to crackdown on the drug use of Americans is heavily correlated with an increase in incarceration rates, particularly those of Black Americans (Gould 286).

Targets of punishment and poverty management are often racially selected,

and policies are often designed to oppress those of marginalized backgrounds. As a result of systemic racism deriving from the country's history of enslavement, there is a lengthy history of over-policing in communities of color that has extended into the twenty-first century. Additionally, due to the inability to build up generational wealth because of barriers imposed by the aforementioned systemic racism, communities of color tend to live in urban centers, which are often further targets of increased policing and the belief that strong criminal justice mechanisms will decrease crime. This belief is demonstrated by Nixon's actions spurring the War on Drugs and the legislation that followed. During this period, "Historic prison expansion project and the overwhelming focus of criminal justice intervention within racialized districts of urban disadvantage" was simultaneously occurring (Miller 574). Higher policing in impoverished communities of color leads to higher arrests for the non-violent crime of drug possession.

Nearly half of all arrests in America in the several decades preceding 2013 were for formal drug charges, with nearly two thirds of those convicted being Black men arrested for low-level drug offenses (Miller 574). In tandem with the War on Drugs, a series of legislative actions were passed, such as the 1986 Anti-Drug Abuse Act signed under President Nixon. This act established mandatory minimum sentences for federal drug offenses, which disproportionately and severely impacted Black Americans. The act included a provision which sentenced those caught with five grams of crack cocaine, more commonly used by Black Americans, to five years in prison, while the same punishment was implemented for those caught with 500 grams of powder cocaine, more commonly used by white Americans (Enders 367). This is another instance of the criminalization of poverty in a racialized fashion, as crack cocaine is easier to obtain and often cheaper than powder cocaine, while having very similar effects. Black Americans are consistently incarcerated for drug-related crimes that often go unnoticed or ignored when committed by white Americans. This is demonstrative of the country's history of enslavement and consequent over policing and hyperincarceration. This excessive incarceration exacerbates the racial wealth gap as Black Americans are unable to make progress on closing the generational disparities they already face.

Excessive incarceration also leads to disparities in civic engagement, which is limited for those who are or have been incarcerated. Criminalizing poverty has long-term impacts via voter disenfranchisement, which is the prevention of certain groups of people from engaging in voting activities. Because incarceration disproportionately impacts people of color, voter disenfranchisement does as well. Felon disenfranchisement—which encompasses laws and policies preventing convicted felons from being able to vote—connects the criminal justice system to

voter engagement, legally barring about 19 million Americans with a felony record from being able to vote (Demleitner 1276). There are varying numbers of disenfranchisement from state to state, but these numbers are often higher in Southern states, particularly those with high populations of people of color. It is evident that "Our criminal justice system is dramatically and disproportionally racially skewed... By 2016, in a fair number of states, over 20% of the voting age minority population, largely African Americans, were barred from voting," (Demleitner 1281). The consistent prevention of people of color—particularly those who are impoverished—from being able to vote leads them to being unable participate in legal avenues to changing American justice systems. Voting is a central way to make change in America. Withholding this ability is deeply harmful, as it continues to further perpetuate a cycle of incarceration, with Black Americans being unable to vote in their interests for candidates who might be in favor of criminal justice and voting reform. While it may be common knowledge that felons lose the right to vote, both while incarcerated and following their release, those in jail awaiting trial who have yet to be convicted are still legally allowed to vote but physically unable to: "Felon disenfranchisement impacts large groups of individuals, mainly those currently imprisoned, pre-trial detainees, and those under supervised release," (Demleitner 1277). This means that those awaiting trial who are unable to afford a monetary bail are, in addition to being incarcerated, disenfranchised and unable to vote in elections.

Pretrial detention as a result of cash bail and the criminalization of poverty result in the significant alteration of—and long-term harm to—familial structures, particularly those of people of color and those who are impoverished. The Prison Policy Initiative conducted a survey of inmates in local jails and found that "over half of the people in jail who could not make bail were parents of children under 18," (Sawyer). The study also shows that pretrial detention has increased by 31% since 2000 and 2016 (the year the study was conducted), and that in this same time frame the incarceration rate of women has risen 26% (Sawyer). While incarcerated and unable to post bail, these parents are unable to provide financially or emotionally for their children. Depending on the availability of support present for children whose parents are incarcerated, severe detrimental consequences are likely to be imparted on these children. Due to the fact that Black people are disproportionately incarcerated, this separation impacts a greater number of children of color than white children. Dorothy E. Roberts in "Prison, Foster Care, and the Systemic Punishment of Black Mothers" explains the entanglement of systems of punishment with the foster and childcare systems: "By attributing poor black families' hardships to maternal deficits, the child welfare system hides their systemic

causes, devalues black children's bonds with their families, and prescribes foster care in place of social change and services," (Roberts 1490). It stems from deeply rooted systemic racism that the state and its surrounding apparatuses, including the criminal justice system, would prefer for those unable to post bail—particularly Black mothers—to wait in prison for trial rather than to be with their children. As a result of increasing rates of incarceration and the inability to post bail, more and more Black children are separated from their families. This is a significant consequence of the criminalization of poverty. Cash bail systems have resulted in "many poor defendants awaiting trial from a jail cell instead of being with their families, working, or preparing their criminal cases," (Johnson 83). This only further contributes to the cyclical nature of the cash bail system, as defendants with no steady source of income will be seen as less likely to contribute to their communities and those who have been unable to adequately prepare a criminal defense will be more likely to remain incarcerated following their trial.

There are a variety of alternatives to cash bail which may prevent many of the aforementioned circumstances from occurring, particularly preventing cases like Browder's from repeating themself. One of these alternatives has seen success. In the mid-1960s, the Manhattan Bail Project emerged, advocating for defendants to be released on their own recognizance rather than be held awaiting bail. The Project assessed which defendants were less likely to flee based on ties to the community and suggested that these defendants be released to await trial; only 1% failed to appear in court (Johnson 45). While the Bail Reform Act of 1966 did pass, making pretrial release more attainable for low-level, non-violent crimes, it was ostensibly overturned over the course of the next few presidencies. The 1984 Bail Reform Act, passed under President Richard Nixon, "shifted the focus of pretrial detention away from the concern of undermining the presumption of innocence and towards the use of pretrial detention as a means of regulating the safety of the community," (Johnson 48). Those with less monetary and communal ties were therefore more likely to be seen as a threat, and more likely to remain incarcerated. Looking at Nixon's other policies from the War on Drugs era, this is likely racially motivated as well, attempting to "protect" other communities namely, white communities— rather than protecting the rights of those who have been accused of committing crimes.

Solutions have been proposed that would begin to undo some of the harms perpetrated by the cash bail system. One of these is Paul Butler's framework of offenders, which places violent offenders, nonviolent offenders and malum prohibitum offenders on a scale which results in different consequences for the crimes they have committed. Butler explains that non-violent or victimless crimes

shouldn't result in jail-time, "For nonviolent malum in se crimes such as theft or perjury, nullification is an option that the juror should consider," (Butler 13). Jury nullification is the idea that juries may choose not to convict and thus return a "not guilty" verdict even if the defendant is guilty according to the law. Even still, a trial would have to occur to get to the point of jury nullification, which many defendants don't get for years. Butler refers to the previously discussed example of crack cocaine, and the way in which Black defendants have often been disproportionately punished for it, despite it being a victimless crime: "The crack cocaine case is simple: Because the crime is victimless, the proposal presumes nullification. According to racial critiques, acquittal is just, due in part to the longer sentences given for crack offenses than for powder cocaine offenses," (Butler 14). Pursuing jury nullification is one way to circumvent the racism purported by the cash bail system, as it will allow for an end to unjust incarceration on the basis of racism.

The criminal justice system in America operates in a way that is oppressive to those on the lower end of the socioeconomic scale, particularly those who are Black and impoverished. These identities have been criminalized by the presence of the cash bail system, which requires a monetary payment for the ability to engage in activities that are often taken for granted by those who are not in these marginalized groups, such as voting and taking care of one's family. Despite this, America continues to use the cash bail system, all while there are alternatives to the cash bail system, such as releasing defendants on their own recognizance, and avenues to avoid further harm, such as jury nullification. The harms which are consistently perpetrated by the cash bail system, and which criminalize poverty and race are catastrophic and ongoing, creating lasting effects and inequities that will continue to further racial disparity for centuries if not addressed.

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English

Beyond Linear:

Time's Evolution in the Picture Stories from *Passionate Journey* to *Wild Pilgrimage* to *Here*

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ABSTRACT:

The evolution of linear time in graphic novels starts at the genre's inception. Early woodcut novelist Frans Masereel plays with non-linear time in *Passionate Journey*. Influenced by World War I and the emerging film industry, the novel breaks expectations of a linear narrative by removing the protagonist. Following in Masereel's footsteps, Lynd Ward's woodcut novel, *Wild Pilgrimage*, deconstructs linear time even further. By portraying dreamlike fantasy sequences, the protagonist of *Wild Pilgrimage* is periodically taken out of real time. His loss of time and experiencing of fantasy time is linear but evolves on the concept. Linear time in Richard McGuire's *Here* is nonexistent. *Here* pioneers the concept of flat time, a nonlinear form of storytelling that delivers on the promise of graphic storytelling.

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In graphic novels, the binary of the future and the past need not be so black and white. Graphic novels are free from linear time in a way that traditional novels cannot be. Language must be read in a certain order, from left to right or up to down. But a picture can be "read" in any order, in any way. One person might see the sun in the left corner first and someone else might look at the person in the center before anything else. Neither person is wrong. They each have their own unique way of interpreting images. Furthermore, each person can choose how long to look at an image before moving on. There is no set amount of time someone needs to spend with a picture to understand it or have an opinion on it. This simple fact destroys any notion of linear time in images and thus any attempt at linear time in graphic novels is in tension with the medium itself. As picture stories grew from woodcut novels to the modern graphic novel, this tension became a part of the story instead of something that needed to be worked around. Frans Masereel's Passionate Journey is an early woodcut novel that starts to play with nonlinear time. Wild Pilgrimage by Lynd Ward takes this even further with the introduction of fantasy sequences. Linear time truly collapses in Richard McGuire's Here, a natural extension of the nonlinear image where nonlinear thought is not only encouraged but built into the narrative. An understanding of the dynamics of nonlinear time is necessary to understand the graphic novel. By looking at picture stories over time, the destruction of linear time can be seen in how various artists confront the problem of images' relationship to time and ultimately come to embrace it.

Frans Masereel was the first woodcut novelist and therefore the first to realize the problem of time. His work was deeply influenced by early film, a linear medium: "Masereel's emblematic use of the crude woodcut over the ore refined wood engraving, which allows for more exact lines, is a constant reminder of both medieval art and early film" (Willett, 126). His use of "the crude woodcut" could be seen as an attempt to control time and force it into a linear flow. More simplistic designs mean that a person can flip quickly through his books and still get the whole story. By following a single character as they go through their story, Masereel limits time to a single point of view; the reader experiences time roughly as the character does. Masereel was also deeply influenced by World War I as "in the aftermath of World War I, Masereel was seen as giving voice to a people haunted by 'the spectacle of death'" (Antonsen, 154). Sense of time became warped during the war as mass suffering created a different perception of time in the populace. By focusing on a linear sense of time, it could be said that Masereel is attempting to bring back order to a disordered world. His audience would have been looking for straightforward time as well as something that is easily understood. Masereel achieves this through his woodcut novels specifically by ignoring the written word but still adhering to linear time. On the differences between images and writing, Gottfried E. Lessing writes "all bodies, however, exist not only in space, but also in time" and "actions, on the other hand, cannot exist independently" (Lessing). Lessing identifies the difficulty of telling a story with images. However, while Lessing argues that paintings can never be as important or as interesting as poetry, he also highlights the way Masereel uses sequenced images to tell a story. If bodies exist in time and actions cannot exist alone, then Masereel uses his woodcuts to show a body moving through time by their actions.

As his work was influenced by film, the way Masereel tells stories relies on a filmic sense of time. Film guides the audience's eye. A filmmaker can decide how long to linger and how quickly to move on from any particular moment. Masereel differs his level of detail to achieve the same effect. In Passionate Journey, time is shown to be linear, at least on the surface. There are no flashbacks or flash forwards but rather one thing happening after another in real time, much like early film. An early sequence in the book offers little detail, encouraging a reader to move quickly. The protagonist stands alone in a crowd (Masereel, 4) and then on a busy street (5) followed by two more images of him in a crowd once more (6-7). The details in these planals give just enough to convey what is going on and who is important without giving enough time for a reader to linger. Therefore, the fast paced environment of the city is conveyed in the same way it would have been in a film. Though time is still linear, it is being skillfully manipulated by Masereel. At the end of the story, Masereel complicates time even further. When the protagonist leaves society behind the imagery takes a turn. In the last image, there is more detail in the background than there has been in almost every other image. Here, the protagonist is shown to be beyond human as he stands larger than life amidst a star field and his face has turned into a skull (165). The detail makes the reader linger on this last image, taking in everything that is going on. This image is also different from the rest of the panels in the novel; the protagonist himself is now out of time. The rest of the story sees him interacting with others on a normal time scale but now through death, as shown by his change in looks, he is out of time. He has moved onto a different plane of existence. Masereel complicates the linear prescription of time, but he leaves it open ended. The protagonist is out of time, but because this is where the story ends, the audience does not get to follow the protagonist beyond linear time.

Lynd Ward's woodcut novels stray from linear time. In *Wild Pilgrimage* he uses red printed sections to denote the inner life of the protagonist. There are multiple realities laid on top of each other: "These red engravings operate on varying levels of consciousness - from fantasy, waking dream and traumatic memory

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to premeditated action and political commitment" (Scott). In each red sequence, time shifts and breaks from the previously linear narrative. Ward uses color to signify this change in consciousness and prescription of time. This is a departure from Masereel's work as well as Ward's earlier work. By including color, Ward is able to build on the genre and suggest more complex notions of time. There is more than one type of time happening in *Wild Pilgrimage*. In a way, he is ahead of his time. He looks forward to what graphic novels will become: "Ward is thus undertaking a radical experiment in reader response, a project whose aims might be more legible through the lens of contemporary graphic narrative" (Ball). Instead of guiding the reader through a safe linear sense of time, Ward uses the unexpectedness of color to create uneasiness in the reader which is expanded upon by the uncomfortableness of nonlinear time. This is further enforced by the nature of the narrative. The protagonist doesn't experience completely linear time which makes it harder for the reader to trust him and what is truly happening.

Wild Pilgrimage follows the story of a worker as he escapes his life and job and runs away from society to live with a hermit before returning to lead a failed worker revolution. The red dream and daydream sequences offer a window into his mind as he makes the choices that will lead him to his ultimate end. Prior to the first red sequence, the protagonist is seen gazing at the factory (Ward, 7). He is setting up the daydream to come. The red daydream shows the protagonist in a series of fantastical situations such as in a forest made of smoke stacks (8), in a jail (10), falling off a cliff (11), and laying among thick ropes (12). The sequence ends with the protagonist sneaking up on a naked woman in the woods (13). On the panel after the sequence, the protagonist is walking through the woods, very far from where he was before it started (14). The images in the daydream are not directly connected to each other; it is not clear if each red panel is linear. Time seems to matter less now. There is also lost time as the protagonist is in a completely different place at the end of the sequence than he was at the beginning. This complicates the notion of linear time found in Masereel's work. The moment after the red sequence clearly comes after the moment before but the amount of time that has passed between these two moments is unclear. The reader is left to wonder exactly what has happened during the time the protagonist was daydreaming. How far has he walked, does he know where he is going, how much time did he spend thinking about each red image, was there more to each red image than is shown? Time briefly stops and stutters. There is space for the amount of time and the meaning of time to be interpreted. It throws the audience off which adds to the overall "wildness" of the novel.

Ward's departure from strictly linear time helps him tell his story. Through

these red sequences, he is able to show the inner life of the protagonist. In the final red panel, the protagonist holds up the decapitated head of a factory boss that looks eerily similar to his own face (105). He has been dreaming about overtaking the upper class, but as the final sequence shows, the protagonist fails. The final image shows the protagonist dead after a failed revolution, his body one of many dead (108). The audience knows what he wanted to happen because it was shown in red, but they also see what happened in reality. Time is skewed in that it could be said that this red image was the last thought that the protagonist had as he died. The protagonist died possibly thinking he was successful or dreaming of the day when he would be successful. This complex idea, where Ward can present the reader with two ideas at once, layers time on top of itself. There are now two prescriptions of time: the protagonist's and the reader's, breaking from Masereel's single sense of time. While both creators complicate linear time, Ward goes further to decouple storytelling from linear time.

Graphic novels have the unique ability to complicate linear time. *Here* by Richard McGuire takes this concept to its logical extreme. The book is built on the idea that time is no longer linear and, in fact, has collapsed to the point where everything that has ever happened is happening all at once. Events that happened centuries apart take place on the same page. Characters that should not know of each other's existence seem to respond to each other. Even the smallest details follow this structure:

The attention to the diegetic sensory field -- to minor mundane sounds, textures if materials, small details of the sensorium -- is extended to the manipulation of the print objects, their varying modes of arresting attention and varying position of focal elements, differences in size, folding, the limited transfer of reading methods from one to another. (Orbán, 244)

On every level, McGuire rejects linear time in place of a flat type of time. This flat time shows how various times are related and certain things are repeated over and over again. Flat time shows things not in a random order, but in order of theme. The audience is encouraged to look at time all at once instead of at things happening one after another. Instead of showing one or two perspectives of time like Masreel and Ward, McGuire shows many possible perspectives of time.

Here is a book that teaches the audience how to read it. Flat time is not a concept most people are familiar with so McGuire cleverly lays out exactly how a

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reader should go through his book. He complicates the traditional ways comics are read "by adding to the familiar left-to-right and up-and-down reading of comics a third 'in-and-out' direction of overlapping palimpsests of framed historical space" (Greenberg). Flat time cannot read like linear time. By using windows in an "in-and-out" direction, McGuire makes it easier for readers to understand flat time. His clearly labeled years in the corner of each window show the audience what he is doing, but the audience still has control over where they look first. Instead of varying the level of detail to focus audience attention like Masereel, McGuire accounts for the nonlinear nature of images by building it into his work. By fully embracing how time works together with images, McGuire is able to flatten time in order to tell many stories at once.

McGuire's use of flat time was a new concept when he first published *Here*. In *Understanding Comics*, Scott McCloud argues that comics and graphic novels are "juxtaposed pictorial and other images in deliberate sequence, intended to convey information and/or to produce an aesthetic response in the viewer" (Mc-Cloud, 9). However, McGuire troubles this idea. Flat time is neither a "deliberate sequence" nor is it necessarily "intended to convey information" other than all of this was "here" so to speak. To reduce Here to something that only "produce[s] an aesthetic response in the viewer," is to ignore exactly what McGuire is doing with flat time. Here is beautiful but to say it is only beautiful overlooks how McGuire plays with time in order to tell multiple stories on top of and inside of each other while also telling the single story of a single place over time. McCloud fails to account for the possibility of nonlinear storytelling in his definition of comics despite the fact that comics are the perfect form for nonlinear stories. By focusing too heavily on what comics have been, McCloud does not look to the future of what is possible. He cannot imagine an "in-and-out" direction in comics or graphic novels, only the more traditional "left-to-right and up-and-down." Here challenges everything comic and graphic novels have been up until that point.

Because *Here* begins so unassumingly, its use of flat time doesn't become clear right away. The single place that *Here* highlights is most often shown as a suburban living room. First, there is a crib in 1957 (McGuire, 1). This signals that there has been or will soon be a birth, but there is also a deeper meaning: "This year, 1957, is also McGuire's own birth year, reminding us that the artist was here -- and might not have been! -- through knowledge of that autobiographical connection is not necessary to enjoy the novel" (Lake, 146). By starting the story in his own birth year but not showing a baby, McGuire reminds the audience that while there are many people here there are also many people missing. He might have been here or many others might have been here or will be here. Only a small

portion of flat time is seen. McGuire therefore shows that flat time is much bigger than what can be tackled in a single book. In a way, he is admitting to his own shortcomings as a creator. By starting off the book this way, McGuire slowly introduces his readers to the idea of flat time while showing that he is only revealing a piece of it. The first window looks at a cat in 1999 overlaid on the living room in 1957, however this time there is no crib and instead there is a woman (McGuire, 4). The woman says "hmm... now why did I come in here again?" (4). By having this first window look in on a cat, McGuire shows that even things that seem unimportant are part of flat time. The cat is nothing special, but it was here, or it will be here so a window opens. Flat time means that both the woman and this cat can exist at the same instance and neither is more important than the other.

The location of the book is also only a small section of flat time. Time can be made flat in any space, but McGuire chose to set *Here* and thus flatten time in this specific place. Time can be flat in any space and yet this specific location in the American mid-Atlantic region is what Here focuses on. Time becomes less important than the location: "While it is tempting to think of the physical location as that which provides the unity of the novel [...] that is not the case. The house (meaningless without its inhabitants) is what provides it" (Lake, 151). While the location is what allows for time to be flattened, it is not what unites the stories thematically. Life is the overarching theme of *Here*. McGuire could have shown windows to death and destruction, apocalypse and hopelessness, but instead the windows open up to life and hopefulness. The latest point in time is a scene of flowers and birds in 22,175 (McGuire, 136). In linear time this would come after the apocalyptic scene of a nuclear wasteland in 2313 but McGuire shows it after the window to 22,175 (140). Therefore, because of flat time, the audience knows what comes after the apocalypse. Life is still possible. In fact, even in the nuclear waste, there are people trying to clean it up. They won't live to see the fruits of their labor, but flat time means that the audience knows. Flat time means there is no end nor beginning, but rather the knowledge of everything all at once.

By building on top of what came before, McGuire creates flat time in *Here*. This can be seen as the next step from Ward's dual perspective on time and Masereel's filmic sense of time. Each creator builds on what has come before them while also being influenced by their own time. Without Masereel and Ward, McGuire could not utilize flat time. Both Masereel and Ward attempt to direct the attention of the reader either by varying detail or through color, but McGuire allows for the reader to choose how they look at an image. The windows do not necessarily have more or less detail than other parts of the page and while there are different color palettes used, no one color palette stands out from the others. Instead the reader is

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free to spend as much or as little time on each page, looking at each window. They are given the freedom to piece together the story as much or as little as they please. This is the true end goal of flat time. It does not elevate a single story but many; it is not given over to guiding the thoughts of an audience. It simply is. Flat time gives power to the reader, allowing them to decide what is important and where to linger. It rewards close attention, allowing a reader to recreate linear time from flat time though each reader's linear time will be unique.

Time's evolution in graphic novels shows the unique way that telling stories with pictures can communicate ideas to an audience. From near complete linear time to the complete abandonment of it, graphic novels have always played with time. Creators as early as Masereel played with time even if he was limited by his own time period. Ward took the next steps towards nonlinear time by using dream sequences to show more than one perspective on time. McGuire created flat time, a way to collapse time at a single place into a single moment where any point in time might come to the forefront without warning. With every step in this evolution, each creator trusts the audience more and more to put together the story themselves. The destruction of linear time means the complete and total trust in the audience. Telling stories with pictures perhaps was always headed for this point as pictures themselves are nonlinear, something that all of these creators were clearly aware of. Masereel's protagonist defined linear time even if his audience could not. Ward invites the audience to experience time at two levels, but is unable to truly break linear time. McGuire flattens time and thus breaks the linear narrative that graphic novels had been following. As the graphic novel takes on new forms and new ways of storytelling, the reader finally gets to follow the story beyond linear time.

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Featuring essays by

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