

LAGUARDIA COMMUNITY COLLEGE
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HONORS JOURNAL

FEATURING:

The Legacy of Troy Maxson
The Sanctuary Movement
The Morality of Gentrification
The Immoral Destruction of Tibetan Society
Solar Sail
Falling into the Sun
Sherman Alexie
Richard Rodriguez
Objectivity in Expression
Progress to Political Consciousness
Mathematics in the United States

HONORS PROGRAM JOURNAL

SPRING 2016



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Presented by

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The Legacy of Troy Maxson

BY ANTHONY PHILLIPS

The 1950s to 1960s was an impactful decade in American history. The economy was expanding, suburban homes were on the rise, and the dawning of the civil rights movement would change our nation's history. This is why the renowned playwright August Wilson places the protagonist of *Fences* at this watershed time. Troy Maxson, a 53 year old male with the principles of an independent black man, remembers a more cruel and racist time. Troy has been beaten by discrimination and poverty, thus, he has come to believe that the fate of black men will always be lower than that of their white male counterparts. His conceptions cannot keep up with a rapidly changing society of budding opportunities for African Americans. These changes become problematic for Troy because they challenge his old views and the wisdom he can impart to his offspring, Cory and Lyons, who embody a new generation full of dreamers, opportunities, and hope. Troy's attempts to understand his children and the changing times are futile due to an aggressive nature derived from childhood experiences. As a child, Troy was abandoned by his mother and abused by his father. Later he was arrested for manslaughter and deprived of playing baseball in the Major Leagues. These are among the tragic experiences that mark the way he moves through the world when the curtains open on *Fences*. Nonetheless, Troy's experiences can provide a context but not a justification for his reprehensible actions towards his wife Rose, Cory and Lyons, and Troy's brother Gabe. Readers and critics can attest to how Troy's actions place his loved ones in dire circumstances. Wilson's characterization of Troy embodies the pain African American men endured due to the scarring experiences of racism. Through Troy, the reader understands the way many black men of his generation interacted with others and the world.

At the start of *Fences*, Troy works in sanitation, comes home to eat, and then goes to sleep to repeat the cycle in the morning and does not have time for himself. However, Troy could not endure this routine any longer and had an

affair with his neighbor Alberta hoping to find pleasure and happiness again. Through Troy's actions, Wilson wanted to reveal an unfulfilling lifestyle that many African American men endured during the 20th century. Considering many African Americans were sharecroppers or otherwise poor, they struggled to sustain basic necessities in life and sought to escape their reality in various detrimental ways. Troy chose to sleep with another woman leaving Rose stranded within her marriage and put her in a compromising position. Troy does not take into account that Rose has put forth a great deal of effort to sustain their marriage and has given him her life. As Rose states, "I got a life too. I gave eighteen years of my life to stand in the same spot with you...You not the only one who's got wants and needs" (Wilson, 70-71). Rose dealt with the same plight as Troy yet, did not cheat on her husband. Even though men like Troy wanted to be loyal husbands, their lifestyle is physically and mentally draining. This would cause some to seek destructive outlets and hurt their families.

Now that Troy and Rose are no longer a couple, Rose is left without the safety net of marriage and with few options to move forward. Rose embodies the attitude of many women who during the late 1950's stayed within the same marriage while putting aside their own needs and desires to build lives around their husbands. According to Harry J. Elam Jr's "The Woman Question," "For a black woman in 1957, marriage required compromise and quite often a loss of self" (13). Elam argues that black women who became wives often anticipated a promise that their husbands would provide all the joy and comfort a woman needed in life. Evidently, black women like Rose compensated by turning to the church or other means to find fulfillment. Through Troy's actions, Wilson reveals the plight of housewives who were encouraged to stay home and care for the house and children during this time. Women became homemakers, did not venture for opportunities outside the home, and thus depended on their husbands for economic survival. In subordination to their husbands, women often would listen and obey their commands. This explains why Troy still attempts to assert dominance during his confession. He commands, "I'm talking woman, let me talk...I'm gonna be a daddy. I'm gonna be somebody's daddy" (Wilson, 66). Basically, Troy demands that Rose listens to him and accept the child he will have with Alberta. Troy shows little to no sympathy for Rose but rather demands that she accepts and understands his actions. After Alberta's death, Troy's child is born and he asks Rose to take care of the baby as if it is her responsibility. Troy doesn't consider how this new responsibility changes Rose's life while he is liberated from his duty as a parent. Due to Troy's actions, Rose no longer has a marriage and was left to care for a child she did not bear.

Failing as a husband, Troy tries to compensate by becoming a better father

to Cory. Considering Troy's dream to play major league baseball was shot down in a time of segregation he sought to protect Cory from experiencing the same racial discrimination. Troy is defeated and accepts that a black man cannot achieve certain forms of success. This is a defeatist view that new generation black men encountered when speaking to a father who lived through times of intense disenfranchisement. One can infer that Wilson sought to represent this conflict between the newer and older generation in the dispute between Troy and Cory over playing college football. Troy embodies the paradox of a loving father who seeks to improve his son's options yet will not pay attention to new opportunities. The notion of following dreams and finding purpose was unfamiliar to Troy's generation. Hard work and stability was way more valuable and important than finding purpose and joy through activities like sports.

Troy attempts to let Cory play football with a condition to have a steady job at the A&P market. When Cory fails to abide by Troy's condition, he dismisses his son's football recruiter. Cory glumly says to Rose, "Papa done went up to the school and told coach Zellman I can't play football no more...Told him to tell the recruiter not to come" (Wilson, 57). In other words, Troy deprives Cory of an opportunity to meet the football recruiter because Cory doesn't work at the A&P market like Troy wants him to. Troy wanted Cory to understand the value of hard work and earning money to support himself. Troy's thinking was common among African American fathers who insisted that job security was most important because it gave young men like Cory, a sense of stability. Without financial self-sufficiency, a black man could not make his way through life. Ironically, as a result of Troy's actions, Cory cannot attend college and is limited to few career options after his high-school graduation. When Lyons encounters Cory and apologizes for missing his graduation, he asks Cory what he's been doing. Cory responds "I'm trying to find a job" (Wilson, 81). Troy's actions deprived Cory of attaining his dream to play college football, which was the only thing Cory showed interest in and shared with his family throughout the play. Literary critic Gaylord Brewer states, "[Troy] wants his sons to have more possibilities in life yet myopically curtails options" (4). Brewer captures the irony of Troy taking away one of the few chances a young African American man had to succeed in the 1950s because he was concerned for Cory's future. Although Troy's intentions were to teach Cory a positive lesson, it actually changed the trajectory of his life causing severe disadvantages.

Another failed life lesson was imposed on Troy's oldest son, Lyons. Troy comes from generations of Southern black men who worked hard on plantations they rented to provide for their loved ones. This traditional male role is challenged by his thirty year old son's refusal to get a job to support his girlfriend Bonnie. Lyons would rather let her take care of him. Troy worries

about his son's future and at first refuses to give Lyons the money he comes to borrow in hopes that his son will attain the money on his own. Many black men of Troy's time believed they could not afford to be kind and lenient but had to be tough and make their own way through life. Considering that one can read his hesitant refusal as a lesson to teach Lyons how to survive on his own. In contrast, Lyons embodies a new age where black men follow their dreams rather than simply providing and caring for loved ones. During Troy's time, a black man's dreams were expendable and he worked to simply get by. Given Troy's plight and aggressive nature it was hard for him to express affection towards Lyons. This is shown through the process of lending money, in which Troy comes across as mocking and ridiculing Lyons while evoking a sense of authority. Troy says, "Yeah, I got it. You know why I got it? Cause I don't throw my money away out there in the streets. You living the fast life...wanna be a musician...running around in them clubs and things" (Wilson, 18). In other words, every time Lyons asks to borrow money Troy mocks him because Troy hates that his son still depends on him. This causes the unintended effect of Lyons becoming more insecure and remaining dependent upon Troy. In Peter Wolfe's "The House of Maxson" he states, "By keeping Lyons in debt, Troy can also keep bullyragging him and thus crush the self-esteem Lyons would need to challenge his father" (6). Wolfe insists that Troy feels content as a provider and bully and thus traps Lyons in a cycle that impedes his ability to assert control over his life. Consequently, Lyons does become misguided because he cashes other people's checks and ends up in jail after Troy's death.

While you can see Troy's good intentions in his loyalty to his wife and in the life lesson he imparts to his children, there is no excuse for sending his brother Gabriel to a mental institution. After cheating on Rose and having another child, Troy Maxson had to support a bigger family. Therefore, Troy's solution was to make an arrangement to send his traumatized brother Gabriel away and take half of his military pension. This is evident when Rose says, "You did Gabe just like you did Cory. You wouldn't sign the paper for Cory... but you signed for Gabe. You signed that paper" (Wilson, 75). On account of Troy's actions Gabe, a World War II veteran, was locked up in a mental institution. Troy signs a paper that was beneficial to him, but would not sign a paper that would allow Cory to play college football. Troy defends his actions by claiming he couldn't read. According to Troy, "I told you I ain't sign nothing, woman... Hell, I can't read, I don't know what they had on that paper! I ain't signed nothing about sending Gabe away" (Wilson, 75). In this case, Troy claims he was not responsible for his actions due to his lack of education and wouldn't agree to do such a thing. However, Troy had to be aware of his actions for he intentionally abuses the legal documentation to receive funds. If Troy had not cheated on Rose and created another family, Troy would have not been

motivated to send Gabe to a mental institution. Troy has no regard as to how his actions affected the life of Gabe because his immediate concern was to solve his personal problem.

In short, August Wilson in *Fences* portrays a main character who embodies the struggles of a previous era and does not accept that he and his family are living in a changing time. Troy Maxson, honestly wanted to improve the lives of his loved ones, and provided a fenced home to protect them against a cruel world. Unfortunately, he ended up creating stronger fences between himself and his loved ones. Troy ultimately became a tyrant that played and controlled his family. The loyalty to Rose was shattered, the lessons to guide Cory and Lyons were destructive, and Troy's actions caused his brother Gabe to be sent to a mental institution. All these events derive from Troy's early experiences that impeded upon his ability to demonstrate care and affection to others. Wilson made Troy the father figure that readers and audience members could come to understand. In doing so, readers get a better sense of similar legacies much like Troy Maxson's.

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The Sanctuary Movement: An American Civilian Opposition to U.S Foreign Policy

BY MICHAEL RIVAS

In the 1970's and 80's there was a mass migration of Central Americans to the United States. This migration was mostly from three countries, El Salvador, Nicaragua and Guatemala. The main contributors to this mass migration were armed conflicts and oppressive regimes. These Central American governments carried out heinous atrocities to civilians and put these countries through civil wars. The United States did not welcome these new immigrants with open arms. The Central Americans believed they were entitled to asylum because of the United States' involvement in their home countries. Neither Ronald Reagan nor the American government wanted this. As a result of this denial of refugees, the Sanctuary Movement was born. The Sanctuary Movement demonstrated American civilian opposition against U.S foreign policy in Latin America. Groups of churches banded together to give the refugees asylum despite the agenda of the U.S government. This paper will analyze article sources from the 1980's, the book, *Seeking Refuge: Central American Migration to Mexico, the United States, and Canada* and the book, *Transformation of the American South & the Iraq War*, in order to better understand the Sanctuary Movement and make connections to present day immigration policies. These articles were chosen because they are synchronized with the events that unfolded during the time of the movement and covered the trial and conviction of Stacey Lynn Merkt, who was one of the main leaders of the movement.

Central Americans, especially those from Nicaragua, El Salvador and Guatemala were marginalized by the Reagan and Bush administration. Maria Cristina Garcia argues this in her book *Seeking Refuge: Central American Migration to Mexico, the United States, and Canada*. She states, "Thus, while the United States publicly supported safe haven for nonconventional refugees in theory, the Reagan-Bush administration excluded the Central Americans from any such consideration" (Garcia 94). The United States

government granted asylum to refugees from Africa, the Middle East and most parts of Latin America. However Reagan/Bush made it especially hard for Central American people to be granted asylum. The percentages of Central Americans granted citizenship were incomparable to their other Latin American neighbors. Garcia would argue that the reason for this marginalization of the Central American refugees was because the American government did not want to show defeat or weakness. In other words, the Reagan/Bush administration funded and supported the conflicts in Central America. From the administration's point of view, the acceptance of refugees would have been detrimental to the United States' elite power over Latin America, thus there was a complete rejection of Central American refugees by the United States. In spite of this lack of support from the government for refugees, many American citizens were supporters and had a different agenda.

Pro-refugee activists and advocates were well aware of the violations the government had implemented, when accepting Central American Refugees, in spite of immigration laws. In response to this a civil disobedience movement, called The Sanctuary Movement was created. This movement permeated throughout the U.S as a show of support for the Central American refugees. Talks of sanctuary emerged in places like Arizona and California. Garcia states, "Meanwhile, hundreds of miles away, in the San Francisco bay area, several local churches congregations were discussing the same issues and also debating the idea of sanctuary, they too voted to establish safe houses for Central American refugees" (Garcia 99). This statement makes clear that there was a growing consensus among the American people to grant refugees political asylum. Members of this movement defended their actions by claiming they were helping refugees for humanitarian purposes. In a New York Times article titled Churches and U.S Clash on Alien Sanctuary Robert Reinhold states, "Members of many established churches say, however that their efforts are humanitarian acts to protect people from persecution, torture and death in their homelands" (Reinhold). Some may say that the Sanctuary Movement had good intentions in terms of providing refuge to those Central American people in need however the U.S government was very much against the movement.

Regardless of the lack of governmental support, many people sided with the refugees and were willing to put their freedom on the line for the movement, some actually did. People involved with this movement were incarcerated and fined for illegally helping Central Americans cross the border and helping situate them in the United States. The sanctuary workers justified their actions by stating the refugees had no choice but to come to

the U.S or else they would face atrocities in their homeland. The Reagan administration wanted to inhibit American people from helping the Central American refugees. The administration perceived the movement as a threat. Garcia states, "Just as Kirkpatrick, Haig and others portrayed some of the assassinated clergy of Central America as guerrilla sympathizers who got what they deserved, justice department officials portrayed sanctuary workers and other peace activist as naïve and miss guided at best, political extremist and terrorist at worst" (Garcia 104). The government was deliberately trying to constrain the Sanctuary Movement and its cause. In spite of this criticism, the Sanctuary Movement received continued support and persevered to a certain extent. There were many cases of conviction during the first initiatives to crack down on the movement.



In one popular case of trial and conviction, Stacey Lynn Merkt was arrested while driving El Salvadorian refugees to San Antonio Texas. She was charged with conspiracy to transport illegal aliens and sentenced to six months in prison. In addition to the arrest of Merkt, there were multiple arrests throughout the country.

In spite of these arrests, the movement continued to grow. Reinhold states, "The network of aid to Central American refugees is growing rapidly as coalitions of human rights, solidarity and legal aid groups join the Sanctuary movement" (Reinhold). The number of resources grew, as the movement grew. As the movement grew, so did the implementation of governmental strategies to ultimately end the movement.

The growth of the movement resulted in a relentless governmental opposition. The Sanctuary workers severely critiqued the United States' strategy on the refugee crisis. They questioned the government's denial and deportation of Central American refugees. In fact, their efforts promulgated information criticizing the United States for breaking international law. In Crackdown on Sanctuary Lindie Bosniak and Jane Rasmussen state, "In 1981 the office of the United Nations High Commissioner for the Refugees (UNHCR) found that the United States has engaged in a "systematic practice" of returning Salvadorians to their country, regardless of the merits of their claims for asylum" (Bosniak and Rasmussen). This is a direct

violation of United Nations Law, which bans refugees from being deported if persecution is deemed to be inevitable upon return to their homeland. Despite being guilty of breaking international law, the United States' strong opposition to the Sanctuary Movement was not derailed. In addition to the capture of movement leaders, the U.S government implemented a strategy that was designed to debilitate the movement. Government officials would capture illegal aliens and incarcerated them in holding facilities far away from their initial location. This prohibited the sanctuary workers from rescuing illegal aliens. This strong opposition crippled the movement. However the movement was successful in critiquing U.S foreign policy and consequently influenced the American civilian population's ideas about foreign policy. This newly constructed view point deviated from the U.S elites.

Although there was a strong governmental opposition towards the Sanctuary Movement and a strong suppression in the form of arrests of the movement leaders, the movements was able to influence the American public. Bosniak and Rasmussen state, "forcing the Reagan Administration to make public "the sinister nature of its deportation policy" (Bosniak and Rasmussen). This means, the movement promulgated the United States' strict and authoritarian foreign policy, as well as changed the minds of the American people when it came to the acceptance of refugees. So regardless of the strong opposition against the movement, the message of the movement permeated throughout the U.S and some El Salvadorian refugees were granted asylum via a law passed.

In spite of adversity, Central Americans persevered with seeking asylum. Many lawsuits were filed in the 80's and 90's, against the United States government for civil rights violations. These lawsuits did very little, Garcia states "None of these lawsuits. Halted the deportation of Central Americans; they just delayed the inevitable. As one Official from the asylum Policy and Review Unit stated, the avoidance of guerrilla activities did not serve grounds for asylum" (Garcia 110). The policy and Review Unit was not convinced that civil war was compelling reason for asylum. As a result, less people applied for asylum and more people just lived here illegally. However the Temporary Protected Status Act was passed. Which provided El Salvadorians with temporary asylum. After the TPS expired they are eligible for Deferred Enforced Departure and finally they were able to apply for asylum once the DED expired. This was a big victory for the Sanctuary Movement, even though this act was only applicable to El Salvadorian refugees.

The American government did not want Central American Refugees seeking asylum in the U.S. Regardless of this, the Sanctuary Movement

persevered and fought for the citizenship/asylum of Central American refugees. These people were willing to sacrifice their freedom for this cause. The Bush/Reagan administration saw this as a threat and implemented ways to inhibit the people's show of support.

In the present day United States of America, Hispanics make up the fastest growing minority, mostly due to the shift in the American economy. American companies are moving to the south because of cheaper labor and less unions, as a result southern cities are a new destination for incoming immigrants. In the book, *Looking South: Race, Gender, and the Transformation of Labor from Reconstruction to Globalization*, Mary E. Frederickson states, "In 2009, foreign car manufactures became the corporations infusing new life into former textile towns like Spartanburg, South Carolina, and West Point Georgia" (Frederickson 190). The attraction to the American south by immigrants was not self-induced, they were following the shift in the American economy. In the midst of the migration of immigrant workers to the American south, there has been a governmental backlash to the growing Hispanic population in the U.S.

Discrimination, bigotry and inequality are a part of everyday life for Hispanic Americans. Frederickson states, "The Southern Poverty Law Center documents abuses that include wage theft, discrimination, hostility, racial profiling, sexual violence and harassment by racist groups" (Frederickson 200). While the Hispanic population has made a home in the American south, governmental resistance to Latino immigration has also grown. This is clearly supported by Frederickson, "Resistance cuts both ways, and while there has been intense opposition to the Latino presence in the region, there has also been a long history of Latino resistance to the oppression they have met across the border" (Frederickson 205). Throughout the course of history there has been a heavy resistance to oppression in Latin America. There have been cases of uprisings in Cuba by Fidel Castro and Ernesto "Che" Guevara, uprisings in Nicaragua, El Salvador, Guatemala and the list goes on. This history of resistance to oppression has been detrimental to the migration of Latin Americans in the United States. In the past the oppression led to the Sanctuary Movement results, in the present in the form of recent anti-immigration laws.

Over the years the American public has been increasingly accepting of Hispanics including in the American south and all states that border Latin America, in spite of the historical notions of the American south harboring racist ideals from the eras of slavery and segregation. The American government implemented strict immigration laws in the 1980's towards Latin

America however in present day southern states, people from Latin America are prevalent. Frederickson argues for a changing America, an America that is becoming more cultured and more integrated with neighboring countries. Frederickson states, "Cooder's music, steeped in history, invokes a sense of Pan-Americanism and a new "new south" that stretches from California to Cuba, from Texas to Virginia. This new south is a place that transcends borders, a place where no matter what, "hope remains when pride is lost" (Frederickson 183). In other words, the American south is becoming a place that is more inhabited by people of Latin American descent. Although the American public's acceptance of people from other counties is something worth mentioning and conducive towards a better life for immigrants it does not rectify governmental resistance to immigrants from Latin America.

The anti-Central American refugee policies in the 1980s and recent immigration laws are methods that have been used to reject immigrants from Latin America. During the 1980's, activists and advocates banded together in order to combat these anti-refugee policies. Governmental anti- Latin American immigrant ideology still exists today and is implemented in the form of anti-immigration laws, wage theft, discrimination, racial profiling and sexual violence. This paper analyzed article sources covering the Sanctuary Movement, looked into the Stacey Lynn Merkt conviction, analyzed Latino population growth in the American south and some of the adversities they have to overcome. The Sanctuary Movement's opposition from the American government sparked groups of American people to take matters into their own hands and harbor refugees. This type of resistance to anti-immigrant policy is still needed today.

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The Morality of Gentrification

BY GREGORY STUBITS

My earliest memories of Long Island City are from those rare occasions when my mother would take my older brother, my sister and I to visit my father at his job. Dad worked at a company called Sossner Steel Stamps, Co. in Long Island City, a business that created metal dyes and steel stamps used to engrave everything from jewelry - those 14k Gold engravings you might find on your watch or necklace - to soda can tops telling you how much money you will get back when you recycle. Sossner, which is now a Greeting Card Company (Photo 1), was housed in a rundown, filthy old factory on Twenty Ninth Street and Forty First Avenue, across the street from St. Patrick's Church (Photo 3) and a few blocks from the Queensboro Bridge, where as soon as you walked into the building you would breathe in particles of dust and metal flecks which were rampant in the air.

In the early nineteen-seventies workers were not encouraged to wear respirators, nor did they present any to their visiting children to wear, to protect their health. It is ironic that one of the companies that is now renting the building where Sossner Steel Stamps used to be are Environmental Consultants that will help you rid your home of harmful toxins (Photo 2). Although there are still many factories that have survived in Long Island City, it is only a matter of time until the entire neighborhood becomes a shadow of its former self. New, luxury condominiums and office centers are being constructed daily (Photo 4). This paper will examine the moral dilemmas raised by gentrification and the effects it has on the historical preservation of architecture, the psychological and financial stressors that gentrified communities place on those that do not possess great wealth and the benefits that redevelopment can bring to a once less than desirable neighborhood.



Long Island City circa 1980. The area was undeveloped at this time. You can see freight train tracks with the Manhattan skyline in the background. Source: Gary Vollo

Long Island City has been in transformation ever since it was settled in the early seventeenth century by Europeans. Back in the nineteen eighties, for example, a large portion of Long Island City was completely undeveloped. Gary Vollo, a professor at LaGuardia Community College, has been photographing various areas of Long Island City for over thirty five years, documenting the changing landscape of the area. In 2010, Vollo together with the Greater Astoria Historical Society released a book titled *Long Island City: Then & Now*, which illustrates the evolution of Long Island City by comparing archival photographs taken between 1870-1920 with photographs taken by Vollo from the present. Vollo showed me a photograph (not in the book), that just happened to be open on his desktop at the time that I visited him, which he shot in 1980. The photograph was taken on Forty Eighth Avenue down by the water and displays the Manhattan skyline in the background and freight train tracks in the foreground (Photo 5). If you found yourself in that location today you would only recognize it by seeing the Empire State Building on the other side of the water. What was once a forsaken area is now the site of Luxury Apartments on the waterfront with views of the Manhattan skyline (Photos 6).

Although it is necessary for land developers to turn their sights on once desolate areas in order to create housing for a growing population, it is not ethically justified for a financial corporation to demolish a landmarked

building in order to turn a profit. This is exactly what was happening to the New York Architectural Terra Cotta Works Building on Vernon Boulevard in 1998. Citibank attempted to sell the building - a 106 year old structure - to make a meager three million dollars. Debbie Van Cura, president of the Greater Astoria Historical Society argued, "It's appalling Citibank spends more of its assets on [acquiring] something new" - referring to Citibank's \$82 billion merger deal with Travelers Group - "instead of protecting what is there" (Daily News).

In addition to having a negative effect on the history of a community by destroying some of its oldest architecture, gentrification can have an even more devastating effect on people who can no longer afford to live in or take part in certain activities in these redeveloped areas. According to the CDC, "special populations are at increased risk for the negative consequences of gentrification" which include "shorter life expectancy, higher cancer rates, more birth defects, greater infant mortality and higher incidence of asthma, diabetes and cardiovascular disease (cdc.gov). Unfortunately in the world we live in those with money have all the power, those with no money are left with no voice and are made to feel inferior. When a neighborhood goes through the gentrification process, some residents of the community are no longer able to afford the increasing prices of the rent. This in turn will force current residents to seek more affordable housing in cheaper neighborhoods.

Moreover, when a neighborhood goes through the significant changes that gentrification creates it also loses its identity. Local shops are forced to close down; sometimes they will relocate to another neighborhood, but most of the time that business will just be gone. Sometimes a business can survive when a neighborhood goes through a great change by turning to avarice. A friend of mine who is a resident of Astoria, right on the border of Long Island City, informed me that she herself has experienced the negative effects of gentrification. She is a single mother with two children, a ten year old daughter and a fifteen year old son. Every summer since her children were very young she would bring them to an organization in the neighborhood designed to keep inner-city kids off of the street where they could learn how to be productive members of society and learning positive reinforcement. But two years ago when she went there to sign them up for the summer, she was in disbelief when she learned of the exorbitant price increase. A representative from this well-known organization told her the reason for the drastic price increase was because they were targeting higher income families to be more representative of the new demographic of the surrounding neighborhood. Now they are sending the message to the community that says, we don't really care about helping disadvantaged children, we just want to make more.

This establishment is just a few blocks away from the Queensbridge Houses, a housing project where mostly low-income families live. This raises the issue of ethical egoism at least in the case of my friend and her unfortunate experience with this organization. Instead of helping children stay off the streets and teach them valuable life lessons, which is what the organization was founded upon, they are only concerned with their own self-interest. An ethical egoist needs to satiate their own personal wants and desires, usually something materialistic, and does not care if other people get hurt in the process of them achieving their goal. The end result is that neighborhood children, from low-



income families, no longer have a place to go where they can receive positive influence and motivation from mentors which could enable them to become more productive members of society.

A recent photo which shows residences and roads where formerly there were only freight train tracks. Source: Gary Vollo

Although there are many negative effects of gentrification on a community, there are some positive benefits as well. A neighborhood such as Long Island City consists of mostly factories so in this type of neighborhood there are far fewer residents that will be displaced from their current homes and in need of finding a cheaper place to live. Amy Twigge-Molecey argues in her article, "Exploring Resident Experiences Of Indirect Displacement In A Neighbourhood Undergoing Gentrification: The Case Of Saint-Henri In Montréal", how gentrification is a positive thing and states, "In their quest to reimagine and re-appropriate large tracts of urban areas that have been rendered obsolete by deindustrialization, cities are increasingly moving towards mega-projects that combine diverse activities including recreation, culture, shopping and mixed-income housing, based in large part on the idea of adaptive reuse" (Twigge-Molecey 2). One of the main differences between the way Canada gentrifies communities and the way it is done in the United States seems to have a lot to do with the cost of residences. Long Island City does not advertise "mixed-income housing" on any of the billboards that are displayed on the ever-growing number of these high-tech, glass condominiums that are being constructed. In a neighborhood like Long Island City I think that the moral theory of utilitarianism is at work, which aims to create the greatest amount of happiness for the greatest number of people.

Revitalization can be a good thing, but I believe that developers should

look to retain the current residents of the community while also attracting new ones. It is apparent that nobody wants to build housing for low-income families in the same area that higher income families live, or vice versa. I believe this is a form of racism, because most low-income families are African-American or Latino, which continues to take place because it has been going on for many years and there are no laws that prohibit land developers from upending people from their homes. Land developers usually target these neighborhoods because they believe that the neighborhoods are rundown and promote revitalization as a way to beautify the neighborhood.

The sad truth is that once people are bought out from their low rent apartments, they are never going to be able to afford to live in that neighborhood ever again. Most of the displaced will now have to find equally cheap places to live. Sharon Zukin, sociologist and author of *Loft Living, Landscapes of Power* argues, “There has



St. Patrick's church in the foreground. In the background a new luxury skyscraper is being built.

to be some interaction between people's needs and urban spaces but what's really crucial is that we try to even the playing field for the people who can't pay high rents, the people who don't get good public services, and the people who can't escape right because we all live in the city together. I think what city dwellers really appreciate is the diversity of the city and you can't have diversity if everybody is a college-educated gentrifier” (Bigthink.com). But for now, where are all these displaced families supposed to go? And what neighborhood is going to be targeted next? This is something I think about more and more when I see all the new buildings being constructed in Long Island City and it makes me feel that gentrification is eventually going to threaten my own way of life. I currently live in a low-cost apartment complex in Woodside and I see old building being torn down and new developments starting to move closer to where I live every day. I can't help but think that it is only a matter of time until I myself fall victim to gentrification which will put me out on the street searching for a cheaper place to live. Any recommendations of where to start looking?

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SPRING 2016

HONORS PROGRAM JOURNAL



Socratic Dialogue: The Immoral Destruction of Tibetan Society

BY PEMCHHIKI SHERPA

An Issue I Would Be Willing to Die For: Throughout history people of high moral character have faced punishment, imprisonment and even death rather than forsake their guiding principles. In Socrates's case, he was unwilling to renounce his commitment to searching for wisdom, examining himself and others, and exhorting others to live virtuously and attend to their souls. Other people have been unwilling to renounce their religious beliefs; surrender their commitment to personal and political freedom; behave in a way that they considered to be immoral.

Think about your deepest convictions that you would be willing to face imprisonment or death for. Imagine yourself in a court setting, similar to Socrates, in which you have one final chance to persuade your accusers that you do not deserve to die, even though you are unwilling to renounce your beliefs. Then compose a Socratic dialogue between you and your accusers in which you use penetrating questioning and compelling logic to make your case. Readers of this dialogue will act as your jury, deciding whether you have made a strong enough case for yourself to survive, or whether you will be condemned.

The following dialogue is a difficult one. Dorje is a Tibetan person in exile. When China took over he fled Tibet along with his family and friends. Later, he came to Tibet to take part in the civil disorders. He broke some windows and then surrendered to the police. He understands that the only way of struggle is a peaceful concept of the Middle Way but he wants to be heard. The Chinese party is represented by a government official named Zheng, a diplomat voicing the official China.



Gazing on Potala – the royal palace where the Dalai Lama used to reside – Chinese soldiers salute what is now Chinese headquarters.

Dorje -- We had to leave our homes and flee across mountains for our lives. The remaining Tibetans now have to live under a completely different regime, a hostile one. The opposition was regarded as a separatist movement and brutally dealt with. How can you justify what happened? I have the right to demand justice and do so in Tibet.

Zheng -- Let us start from the beginning. China is a unified state that has been ruled by alternating dynasties of different ethnic groups of the united family of peoples of China for thousands of years. Concerning Tibet, we claim that since the Yuan Dynasty, Tibet has always been formally dependent on the central government of China. Our current understanding of Tibet as part of China was inherited from the Qing Empire through Republican China, and from there moved to communist China. During the period of the Republic of China (1911-1949), the control over Tibet was lost, and in 1951, on the basis of a written agreement of 17 articles, Tibet was returned to the bosom of a single family of the Chinese peoples. That is our firm position and you must understand that formally it is infallible. All the great powers are on our side.

Dorje -- Tibet was an independent state throughout its two thousand years of history. In the days of the Mongol Yuan Dynasty and the Manchu Qing between a unique relationship of spiritual mentor and secular patron developed between the Tibetan rulers on side and the Mongol Khans and the Manchu emperors on the other side. It must be emphasized that these relations took

place between the Tibetans and Mongols and Manchus, and so the Chinese government is not entitled to assert its authority over Tibet, based on these relationships. I repeat that until 1951, Tibet was a fully independent state. Therefore, from the Tibetan perspective, the introduction of troops of the People's Liberation Army of China into Tibet in 1951 was an act of aggression and illegal occupation of Tibet.

Zheng -- Well, our position is quite different. We view old old Tibet as the embodiment of the brutal regime of the feudal class, and the People's Liberation Army freed Tibet and brought happiness and prosperity to the Tibetan people.



With Tibetan monasteries as a backdrop, a company of Chinese soldiers stand in a show of force.

Dorje -- I am aware of that position that we consider mere propaganda. We know the old Tibet as a harmonious society where religion flourished, while there was consent and mutual understanding between the higher and lower classes, and the economy was self-sufficient and could easily meet the needs of the population

Zheng -- We have strong evidence to believe the circumstances were quite different: poverty, gangs, lack of education. We could not let it continue like this in the lands that have a Chinese population and historically are Chinese. And what you did was a crime that can be classified as terrorism.

Dorje -- I can agree that some of this is true. The problem is that we did not have a chance to reform ourselves. The policies of the Chinese government are favorable to Han migrants, while Tibetans are marginalized, the environment



In a unique form of blasphemy, a camera designed to spy on Tibet's citizens and identify any evidence of protest is concealed in a Tibetan prayer wheel.



Tibetans engage in daily prayers while Chinese soldiers patrol the streets, guns at the ready.

of Tibet is deteriorating, the Tibetan way of life disappears, the religion and culture of the Tibetan people are gradually fading away. Could you sit still if your home town would be occupied, the school closed and half of the population beaten and sent away?

Zheng -- I understand that there are no black and white situations. Yes, the Chinese are coming to live and work in Tibet, but that is their right. This is a Chinese territory in accordance with all possible international norms. Maintaining the culture of the people is what people need and must do on their own. You will have to be punished for what you did. Do you see any possible compromise?

Dorje -- I am glad we came to practical questions. I agree that so far we have only voiced the official position of our governments. State propaganda takes place in both camps. We understand that to require the return of an independent state in terms of realpolitik would be a futile attempt. But now we have no way to get to discuss these questions, other than here in prison. That is the reason I came here and got in trouble. There was no intention to cause harm. Believe me, I am not a terrorist.

Zheng -- You don't seem to be one. You are lucky nobody was injured. However, let's say that we see the dire situation of certain groups of the Tibetan population. Help me to understand what is really important to you. I heard about the concept of the middle way ...

Dorje -- The Middle Way approach is the Buddhist doctrine. It represents the middle ground, not extremes. Currently, in the political context of Tibet, this means: one extreme is what Tibet represented until 1959, and the other extreme is Tibet is now under Chinese occupation. Therefore, to find the

middle way, we are aiming at an autonomy or self-government, by which we could keep our cultural identity under Chinese sovereignty, and the Chinese do not have to worry about the state sovereignty, as we know that for China it is very important. And for Tibetans it is very important to keep the Tibetan way of life, Tibetan Buddhist culture. For more than 1400 years, we have practiced Buddhism. And for Tibetans it is very important to maintain a Buddhist way of life, which has the potential for worldwide distribution. So if there is a solution for the Tibetan people with the help of the Middle-Way Approach to get a genuine autonomy, the Tibetan people will be able to preserve their culture and religion, a way of life and the environment, and all this will be part of a larger Chinese culture. There will be a fusion of Tibetan culture with a large Chinese civilization and the peaceful coexistence with the Chinese government, the Chinese people and the Tibetan people will be possible. This is the basic principle of the Middle Way Approach and a motivator, which formed the basis for its adoption.

Zheng -- Yes, Tibetans already have such an autonomy. What else do you need?

Dorje -- That's the problem. Reading the Chinese national Constitution, any constitutional law expert says that this is a very good constitution. However, in China, there is also the constitution of the Communist Party. And this constitution is more important than the national constitution. Thus, there is a kind of parallel government that does not care for the existence of formal autonomy. Ultimately, it is the Communist Party that decides upon such questions. Therefore, in practice there is no autonomy, this autonomy exists on paper only. This is the reason why the Tibetans in Tibet do not understand why we are striving for autonomy, if China already has the so-called Tibetan Autonomous Region. This is the biggest problem. The Chinese government cares most about sovereignty. But we appeal to you with the words that we are not seeking independence. We say that we are not demanding separation, we want to achieve a true autonomy. We repeat these words as a Tibetan mantra, but the Chinese are constantly calling us separatists and the Dalai clique. But you behave like a gangster clique. The regime established in Tibet is not humane.

Zheng — They are allegations. Let's not exchange unfounded judgements. You are not in the position to do so. Anyway, what do you mean?

Dorje — All the big cities have surveillance cameras mounted everywhere, and Tibetans are required to have a high-tech ID cards with electronic chips. This means that if you show it in any department store or checkpoint, they will

know exactly where you are, as this is actually a mapping device carrying all of your biometric data. It is reminiscent of North Korea or East Germany, isn't it. Looks like an apartheid regime. We have friends and families living here and we know about the bias.

Zheng — But it is the 21st century. Technology does advance at a tremendous pace. Many states use the modern means of control. The philosophy of Buddhism puts progress above all. Your leader, Dalai Lama, said that if the science refuted any tenet of Buddhism, he would readily take the side of science ... Besides, why do you think that only the Tibetans are under control. Chinese living there use the same cards.

Dorje — But how do you explain that if you go into any of the major monasteries, you'll see a military garrison just outside the gates. Total control of the Chinese Communist Party extends to the daily lives of Tibetan monasteries, and the procedure for recognition of the reincarnation of Buddhist leaders. Recently in Beijing, party officials involved in the legislative session made attacks on the Dalai Lama concerning the issue of reincarnation.

Zheng — We regard Tibet as a source of instability. The military ensure overall safety. The question of reincarnation is more complicated. You know that the communist ideology celebrates atheistic views. Nevertheless, we respect the religious freedom of Buddhist communities. We do not prohibit rebirth, we just want to be aware of these "plans" to avoid fraudulent reincarnation. Now I fully understand your position. Your actions will be considered hooliganism but you will be punished for it.

This conversation can go on but nothing will be achieved. Chinese officials are guided by the communist ideals. Their loyalty to the party is above personal opinion. That is why a constructive dialogue is not possible. The Tibetan problem occupies a special place in the inter-ethnic relations of the People's Republic of China. However, it is conceptualized differently, and thus the interpretation can vary dramatically. In the Chinese paradigm, the Tibet problem is the invention of separatist-minded Tibetan diaspora and forces in Tibet hostile to the Chinese regime. It is the problem of the historical and political status of Tibet. At the heart of the main paradigms of the Tibetan issue is the conflict over the status of Tibet with respect to China, expressed in different forms, especially in the struggle for the right of representation, or, in other words, the ideological the struggle for the right to represent the Tibetan people and their history.

After the Tibetan uprising and the flight of His Holiness the Dalai Lama

XIV and his government to India in 1959, China destroyed the developed political, economic and social system of Tibetan society, building a new socialist system instead. 50 years have passed since Tibet has been on the path of socialist construction in the framework of the unitary Chinese state, but still the question remains. Is it possible to achieve "Great Creation" on the ruins of the "Great Destruction"?

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Author's note: These sources were recommended by friends of mine who are still living in occupied Tibet, living and suffering under the harsh rule of the Chinese military. I found the accounts to be honest, informative, and heart-breaking, all of which I sought to communicate in my Socratic Dialogue.



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HONORS PROGRAM JOURNAL



Channeling Solar Radiation Through the Use of a Solar Sail

BY SOFIA VILLACRESES

Abstract

We investigate the potential of solar radiation as a means to enhance interplanetary travel. We begin by examining the force. Then we estimate the radiation force on a typical spaceship and compare it to the gravitational force exerted by the sun on the same spaceship. We found that the effect of the solar radiation is too small to be an additional method for powering space travel, however, for small spaceships the radiation force should be taken into account if one wants to improve the accuracy in the trajectory of spacecraft in an interplanetary venture at a level of 0.01%.

Introduction

In recent years there has been great advances in science and technology which has enabled humanity to explore the depths of space. Now, a new era of human exploration of space is beginning where the idea of sending humans to colonize other planets, namely Mars, is being put in motion. Given the fact that in the future human lives will be at stake, it is of the utmost importance to explore new ways to improve our current way of interplanetary travel. A step that can be taken is to improve the trajectory of spacecrafts to planets. One force we may want to consider is solar radiation through a sort of "sail". Even though the force produced by solar radiation is small, it can still have a sizeable impact on the trajectory of spacecrafts because the vast distances between celestial objects can affect accuracy.

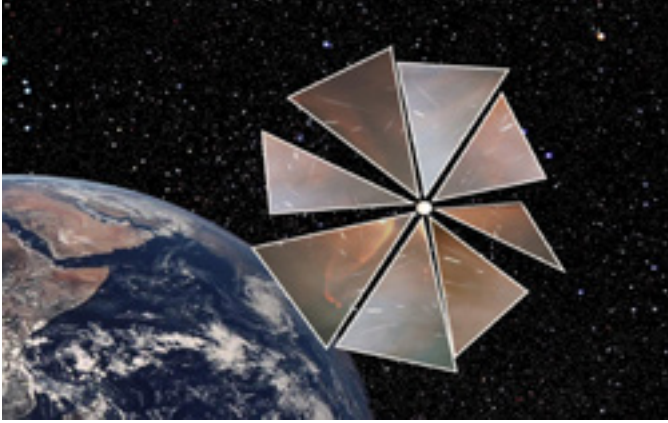


Figure 1: Solar Sail

Theory outlines

The force on any surface (sail) due to the absorption or re ection of the solar radiation can be calculated as

$$F_{\gamma} = \eta \left(\frac{N_{\gamma}}{t} \right) P_{\gamma} ,$$

where, depending on the material used to build the sail, $\eta = 1$ for a black body sail (the light is absorbed) and $\eta = 2$ for a mirror sail (the light is reflected), P_{γ} is the momentum of one single photon, and N_{γ}/t is the number of the photons hitting the sail every second. The number of photons can be related to the intensity of the solar radiation as

$$\frac{N_{\gamma}}{t} = \frac{IA}{E_{\gamma}} ,$$

here I is the intensity of the light, A is the area of the sail, and E_{γ} is the energy of one single photon. For a $A = 1 \text{ m}^2$ sail near the Earth where the solar radiation intensity is about $I = 1.37 \text{ kW/m}^2$ and for $E_{\gamma} = 3.44 \times 10^{-19} \text{ J}$ (this energy corresponds to the light of yellow color for which the solar radiation

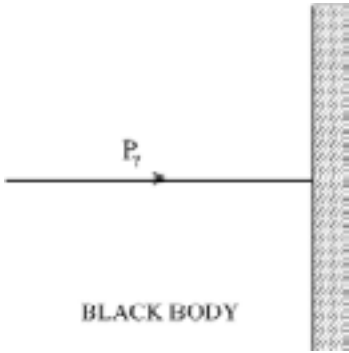


Figure 2: Light is absorbed.

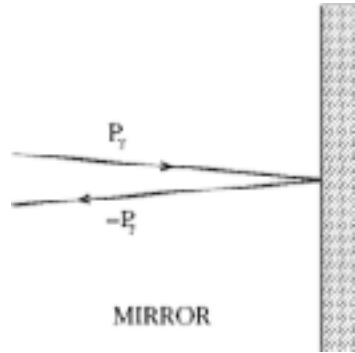


Figure 3: Light is reflected.

has the peak of intensity – the Sun is a yellow type star), we can get

$$\frac{N\gamma}{t} \approx 4 \times 10^{21} \frac{\text{photons}}{\text{second}},$$

which gives us the number of photons hitting the sail every second.

Combining Eqs. (1) and (2) we can get the following expression for the radiative force on a solar sail

$$F\gamma = \eta \left(\frac{I}{c} \right) A = P_{\text{rad}} A,$$

where $c = E\gamma/P\gamma$ is the speed of light and $p_{\text{rad}} = \eta I/c$ is the pressure caused by the photons or radiation pressure. Near the Earth the radiation pressure calculated for a black body sail is about $p_{\text{rad}} = 4.6 \times 10^{-6}$ Pa, and since force and pressure are related, this pressure yields a resulting force on a 1m^2 sail due to solar radiation of $F\gamma = 4.6 \times 10^{-6}$ N. When $F\gamma$ is calculated for a mirror sail, the results presented would increase by a factor of two as a result of some photons being reflected by the mirror. Given this, a mirror sail would be more effective than a black body sail.

It is important to note that the intensity of the sunlight is inversely proportional to the distance from the Sun squared, $I \sim 1/d^2$, so we can write a more general expression for the radiative force exerted by the solar radiation on a sail

$$F\gamma \text{ (in N)} = 4.6 \times 10^{-6} \eta \frac{A \text{ (in m}^2\text{)}}{d \text{ (in AU)}^2},$$

where A is the area of the sail measured in m^2 and d is the distance from the sail to the Sun measured in AU. This new general equation allows one

to make an interesting comparison between the radiative force (5) and the gravitational force exerted on the spacecraft/sail by the sun, which can be presented as

$$F_G = G \frac{M_{\odot} m}{d^2}$$

where $M_{\odot} = 2 \times 10^{30}$ kg is the mass of the Sun, d is the distance from the sail to the Sun, and m is the mass of the sail. The gravitational force (6) can be presented in a similar way to Eq. (5) form

$$F_G \text{ (in N)} = 5.9 \times 10^{-3} \frac{m \text{ (in kg)}}{d \text{ (in AU)}^2}$$

where 5.9×10^{-3} is basically the free fall acceleration towards the Sun measured in m/s^2 if the sail is at 1 AU distance from the Sun. When a ratio of F_{γ} and F_G is taken, it is important to note that area and distance will cancel, and the result will be left only with respect to effective area of the sail and its mass. This means that as you get further or closer from the sun, the force produced by the photons and the gravitational force of the sun will increase or decrease by the same factor. So, this ratio is not dependent on distance

$$\frac{F_{\gamma}}{F_G} = 0.78 \times 10^{-3} \eta \frac{A \text{ (in m}^2\text{)}}{m \text{ (in kg)}}$$

To be a little more realistic let's take the mass of the spacecraft carrying the sail as $m = \rho AL$, where L is the effective width of the ship and ρ is the typical useful density, or the carrying capacity, of the ship which ranges from 10 kg/m^3 to 100 kg/m^3 . We can get

$$\frac{F_{\gamma}}{F_G} = 0.78 \times 10^{-3} \eta \frac{1}{\rho L}$$

Results

For a spaceship with a mirror type sail ($\eta = 2$), with the useful density of $\rho = 10 \text{ kg/m}^3$, and the effective length of $L = 1 \text{ m}$ we get the ratio between the gravitational and radiation forces at exerted on the ship at a level of

$$\frac{F_{\gamma}}{F_G} = 1.56 \times 10^{-4} = 0.0156\%.$$

If the length of the ship and/or its density increases then the influence of the solar radiation will decrease as well.

If we consider the motion of a microscopic particle (grain) of ice with $\rho \sim 1000$ kg/m³ and the size of $L \sim 0.1$ mm we will get a stronger effect due to the solar radiation

$$\frac{F_y}{F_G} = 1.56 \times 10^{-2} = 1.56\%.$$

Conclusion

Based on the results obtained, solar radiation would not be an effective alternative of fuelling space travel since the force produced by the photons is too small and decreases when the size and the density of the ship increase.

However, solar radiation must be taken into account if one wants to improve the accuracy of the navigation of space probes. This depends on several factors. First is the measurement system used for determining the position and speed of a probe. Second is the location from which the measurements are taken. Third is an accurate model of the solar system, and fourth are the models of the motion of a probe. While it is not always possible to increase the accuracy of the first three factors, the last factor can and should be taken into account at the highest possible accuracy. Our calculations showed that solar radiation changes the motion of an average space probe at a level of 0.0156%.

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Falling into the Sun

BY ALISON VALBUENA

Abstract

In this research project we determine the time that the Earth will take to fall into the Sun if it suddenly stops orbiting. In order to calculate the time required, we consider the Earth to be released from rest at 1 AU from the Sun. The Earth begins to fall due to the Sun's gravitational force, which increases as their separation distance decreases as $1/d^2$. We found that the Earth will take about 65 days to reach the surface of the Sun under these conditions. Using the results of this work we calculate the time of collision between our Milky Way galaxy and Andromeda galaxy.

1 Introduction

Despite the fact that stopping the Earth from revolving around the Sun will never happen, this topic is interesting to demonstrate how powerful is the interaction of gravity forces between the Earth and the Sun. Moreover, it is known that Andromeda galaxy is moving towards Milky Way galaxy and eventually these two galaxies are going to fuse. Being this such a major issue, it is important for us to know the exact time this event will happen. For that, we will use the results of this research to estimate the time of collision.

Newton's law of gravity states that every particle attracts any other particle with a force that is proportional to their product of their masses and inversely proportional to the distance between them.

We begin by determining the gravitational force exerted on the Earth by the Sun and the potential energy of the Earth in the Sun's gravitational field. Then, we find the velocity of the Earth as a function of the distance between the Sun and the Earth. Finally we integrate the Earth's velocity and find the time of the fall.

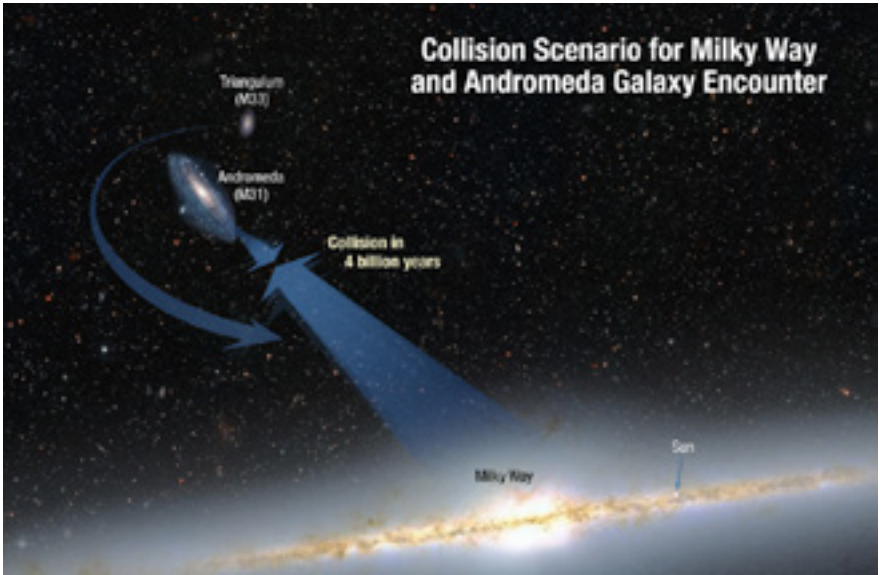


Figure 1: Illustrated scenario before the collision between Milky Way and Andromeda galaxies.

Theory Outlines

To find the time taken by the Earth to fall into the Sun we need to know the velocity of the Earth v as a function of the distance r

$$t = \int \frac{dr}{v(r)}.$$

The Earth starts to fall from $r = 1 \text{ AU} \approx 1.5 \times 10^{11} \text{ m}$ until it reaches the Sun's surface $r = R_{\odot} \approx 7 \times 10^8 \text{ m}$.

From Newton's Law of Gravitation, the force between the earth and the sun is given by

$$F = G \frac{M_{\odot} m}{r^2}.$$

The motion of a particle of mass m , the earth, in an external Gravitational field produce by a heavier particle, the Sun, can be described by a gravitational potential as

$$U(r) = -G \frac{M_{\odot} m}{r}.$$

The total energy of the particle is conserved so

$$\frac{mv^2}{2} - G \frac{M_{\odot} m}{r} = \text{const}$$

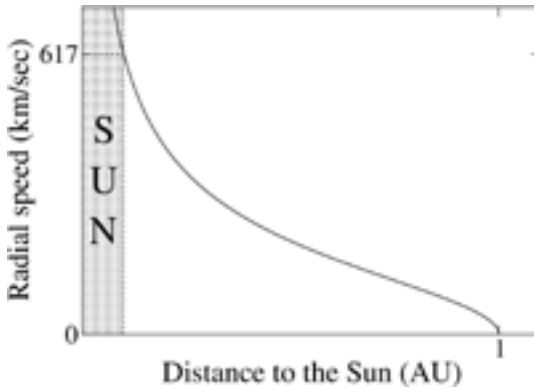


Figure 2: The radial speed of the Earth v as a function of the distance to the Sun r , see Eq. (6). The speed is equal zero at $r = 1$ AU and reaches 617 km/sec at the surface of the Sun.

from which we can get

$$\frac{v^2}{2} = \frac{C}{r} + \text{const},$$

where $C = GM_{\odot}$.

The Earth's velocity v as a function of the distance between the Earth and the Sun is

$$v = \pm \sqrt{\frac{2C}{r} - \frac{2C}{R}},$$

where $R = 1$ AU, see the Figure 1.

Substituting the expression for velocity into Eq. (1) we have

$$t = \int_{R_{\odot}}^R \frac{dr}{\sqrt{\frac{2C}{r} - \frac{2C}{R}}}.$$

The radius of the Sun is much less than the orbital size of the Earth, $R_{\odot} \ll R$, so we can simplify the integral (7) and obtain the following expression for the time of fall

$$t = \frac{\pi}{2} \frac{R^{\frac{3}{2}}}{\sqrt{2C}},$$

where $R = 1\text{AU} = 1.5 \times 10^{11}$ km, $C = GM_{\odot} = 1.327 \times 10^{20}$ N · m²/kg. The final result is

$$t = \frac{\pi}{2} \frac{R^{\frac{3}{2}}}{\sqrt{2C}} \approx 65 \text{ days}.$$

According to Kepler's third law the radius of a planetary orbit R related to its orbital period T as

$$R^{\frac{3}{2}} = T \frac{\sqrt{GM_{\odot}}}{2\pi}.$$

Substituting Eq. (10) into Eq. (9) we obtain

$$t = \frac{T}{4\sqrt{2}} = 65 \text{ days},$$

where $T = 365.25$ days.

Eq. (11) tells us that the time of falling is directly proportional to the orbital period of the Earth. Then we know that the average distance of any planet from the Sun is proportional to the period, which helped us comprehend that the further away any planet is from the sun the longer it will take to fall. Now using equations (8) and/or (11) we calculate the time required for each planet in the solar system to fall into the Sun.

Results

Table 1: Times of fall onto the Sun's surface for various celestial bodies.

Celestial body	Orbital size (in AU)	Orbital size (in km)	Orbital Period	Time
Mercury	0.39	5.834×10^{10}	87.96 days	15.7 days
Venus	0.72	1.082×10^{11}	224.70 days	39.7 days
Earth	1.0	1.496×10^{11}	365.25 days	64.6 days
Mars	1.52	2.278×10^{11}	686.98 days	121 days
Jupiter	5.20	7.784×10^{11}	11.862 yrs	2.10 yrs
Saturn	9.54	1.427×10^{12}	29.457 yrs	5.21 yrs
Uranus	19.18	2.869×10^{12}	84.011 yrs	14.8 yrs
Neptune	30.06	4.497×10^{12}	164.8 yrs	29.1 yrs
Pluto	39.53	5.914×10^{12}	247.7 yrs	43.9 yrs

In this work we obtained the following expressions to calculate the falling time

$$t = \frac{\pi}{2} \frac{R^{\frac{3}{2}}}{\sqrt{2GM_{\odot}}},$$

where R is the radius of the orbit and M_{\odot} is the mass of the Sun, and

$$t = \frac{T}{4\sqrt{2}},$$

where T is the orbital period of the planet. We used these equations to calculate the time for each celestial body to fall into the Sun's surface. As is shown in Table 1, Terrestrial planets such as Mercury, Venus, Earth and Mars, have short orbital size and orbital period, therefore, it takes days for them to fall into the Sun. As the Jovian planets have greater orbital size and period, they take years in their journey to the Sun. Our main results gave us insightful concepts about gravitational forces, such as the negligibility of the mass of the Earth compared to the solar mass, and the proportionality of the time required for each planet to fall with respect to their orbital period and size.

Now we estimate the time of collision between two titans in the universe, Andromeda galaxy and our home Milky Way galaxy. To do this we can use Eq. (12) where we need to replace the initial distance R with the distance between the galaxies, $R = 2.5$ million light years, and the mass M with the total mass of both galaxies, $M = M_{\text{Milky Way}} + M_{\text{Andromeda}} \approx 2.5 \times 10^{15} M_{\odot}$. With this approach we got the collision time about 8 billion years. This estimation is not accurate since Eq. (12) assumes that the initial relative velocity between the galaxies is zero. However, the actual speed of Andromeda galaxy relative to us is 110 km/sec. Taking into account the initial non zero relative velocity between the galaxies the collision time is now estimated to be about 4 billion years.

We conclude that based on our calculations Andromeda galaxy will collide with our home Milky Way galaxy in about 4 billion years.

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Identifying Pain: The Journey of Sherman Alexie

BY JONATHAN MORALES

The tribulations of life can be overwhelming. These situations, although always unwanted, end up being the primary tool used to shape what we become. Sherman Alexie, esteemed poet, filmmaker, and writer, entered the world of literature by accident. Alexie was completely unaware that he could write about his pain until reading this line in the poem, “Elegy of the Forgotten Oldsmobile” by Adrian C. Louis: “The reservation of my mind.” He read these words for the first time and overnight he knew he was going to be a writer (Nygren 151). This moment began his journey toward confronting misrepresentation. It occurred to him that perhaps a reservation Indian could actually be heard and that writing was an outlet for his, and by extension his culture’s, suffering. Since the inception of his writing career, Alexie has made it his mission to clearly represent the reality of the reservation Indian and more importantly finding the key to identity. In his short story compilation *Blasphemy*, narratives such as “War Dances” and “Breaking and Entering” center on the power of (mis)representation. Introducing tormented characters defining others, but ultimately only defining themselves (Wyman 238). In an earlier work, *Reservation Blues*, the blues idiom usually related to African-Americans is extended to “Spokane Indian characters whose personal histories still offer the personal catastrophes” found “in traditional Blues material” (Douglas 198). Alexie conceptually intertwines these three stories by demonstrating the power of (mis)representation and by indicating how only suffering, both cultural and personal, is what truly defines identity.

The multi-layered “War Dances” focuses on an existentially troubled Spokane Indian narrator coping with his alcoholic father’s terminal illness. As the narrator interacts with other characters in the story, “he finds himself interpreting their identities and even inserting himself into their souls as a type of embedded fiction writer within the story itself” (Wyman 241). Alexie uses this technique to highlight the ease with which an individual can be misrepresented.

Nonetheless, the narrator foolishly tries to identify those around him and immediately fails in clearly producing any type of truthful representation. An example of this is the fictionalizing of a nurse's thoughts. After being declined a thin blanket for his ill father, the narrator assumes the nurse's "irritation" was to be



expected and that "it never really was about the extra blanket" (Alexie, *Blasphemy* 46). The narrator then absurdly calls her "cruel" for not being swift about the situation and concludes, "I know she didn't want to be cruel, but she believed there was a point when doctors should stop rescuing people from their own self-destructive impulses" (Alexie, *Blasphemy* 46). The narrator feels his father is "self-destructive," but doesn't dare declare this as his own thought. By using "she" instead of "I," the narrator avoids guilt, at the expense of misrepresenting someone else. Not only does the narrator completely fabricate the nurse's thoughts, but also simultaneously expresses his own personal feelings about his father. Thus, the narrator projects his personal suffering and only accomplishes identifying himself rather than the nurse. The power of (mis) representation is even further perpetuated when the narrator recalls going to an elderly Indian woman's lecture on indigenous literary identity, which he found ironic since she was "speaking English to a room full of white professors" (Alexie, *Blasphemy* 49). The narrator realizes that "she was dying of nostalgia. She had taken nostalgia as her false idol – her thin blanket – and it was murdering her" (Alexie, *Blasphemy* 50). The Indian woman uses the preconception of Indian heritage as her "thin blanket" to shield her from reality, which ends up "murdering" her identity. The narrator diagnoses the Native-American mind as so deeply fractured that it desperately clings on to a time where Indian identity was once pure. Powerful misrepresentations, created by colonization, have assaulted Native-American psyche to the point where they no longer know what really defines them. Instead they desire to be what they once were since identity was certain then. This longing is what "murders" the woman in the narrator's eyes, but just as with the nurse, the narrator instead reveals an aspect of his pain – his personal longing for the past, a past he believes truthfully represents his identity.

Another primary example of misrepresentation in "War Dances" and its effects is the exit interview section formed by the narrator for his father.

Composed of confrontational cultural questions such as, “Is it true that the only literary term that has any real meaning in the Native American world is road movie” (Alexie, *Blasphemy* 68), the narrator utilizes questions such as this in an attempt to frame his father with an identity that he himself is unsure of being fictional or reality. The narrator unknowingly pleads to know if social misrepresentations are what define him and he looks at his father for the answers. The literary critic Sarah Wyman concludes that, “as in any interview or colonizing representation, details in the questions posed reflect the concerns and preoccupations of the interviewer more authentically than they ever could the father himself” (241). This exemplifies how the narrator assumes to be confronting his father’s manufactured identity, but in reality he is only confronting his own personal identity plagued with misrepresentations. Hence, based on these examples, the narrator fails to truthfully represent others and instead, influenced by grief and suffering, truthfully frames his own shattered identity instead.

In another short story, “Breaking and Entering,” media is the primary dictator of identity as film-editor George Wilson struggles to reach some clarity about what truly represents him. After confronting a young African-American intruder, Wilson ends up swinging a small aluminum bat in self-defense and mistakenly kills the teenage boy. This rash decision leads to his immediate misrepresentation as a “murderous white racist” in the media (Wyman 240). Wilson’s first reaction is to correct this assumed misidentification by calling the press. However, as Wyman notices, “when he corrects the record by insisting on his Spokane identity, he has to deal with the appalling liberal spin in which his moral dilemma over manslaughter is rescripted as the result of his own exploitation as a Native person” (240). For Wilson, this begins his descent into a portrayal of him that fundamentally holds no truth-value for what he’s done. His “fellow liberals spoke of my [Wilson’s] lateral violence and the destructive influence of colonialism on the indigenous, while conservatives lauded my defensive stand and lonely struggle against urban crime” (Alexie, *Blasphemy* 260). Wilson attempts to embrace his misrepresentations based on “indigenous” pain since they free him from the torment involved with his situation. He hopes that these false portrayals represent his identity. Although he desperately wants the fabricated news to be his reality, nothing can define who he is except for his suffering. Spending time re-playing the horrible moment in his head, Wilson comes to the revelation of what he really is:

Oh, Althea [intruder’s mother], why the hell was your son in my house? And oh, my God, it was a Little League baseball bat! It was only twenty inches long and weighed less than three pounds. I could have hit one hundred men in the head – maybe one thousand or one million – and not done anything more

than given them a headache. But on that one day, on that one bitter afternoon. I took a swing – a stupid, one-handed, unlucky cut – and killed a kid, a son, a young man who was making a bad decision but who maybe had brains and a heart and soul enough to stop making bad decisions. Oh, Jesus, I murdered somebody’s potential. Oh, Mary, it was self-defense, but it was still murder. I confess: I am a killer. (Alexie, *Blasphemy* 261)

In this emotional culmination, Wilson’s true identity can no longer be hidden by the fictionalization of the media. As the quote demonstrates, no false portrayals or excuses could ever erase the weight of his trauma. Wilson knows what he really is, “a killer,” regardless of being Spokane or white. Thus, although Wyman reports the shift in identity based on representation (240), what is neglected in her analysis is that despite false representations, Wilson’s suffering becomes the key factor in defining his identity.

There is a segment in “Breaking and Entering” that extends suffering to all marginalized cultures. During the moments when Wilson is avoiding the truth, he starts mentally arguing against the African-American mother’s cultural stance: “I was a reservation Indian who had been plenty [screwed] myself by generations of white men. So, Althea, do you want to get into a pain contest? Do you want to participate in the Genocidal Olympics? Whose tragic history has more breadth and depth and length?” (Alexie, *Blasphemy* 261). Interestingly enough, Wilson’s questioning seems to connect the mother’s cultural suffering to his own. The “pain contest” he refers to is not something he willingly participates in, but rather it is what defines his marginalized culture. This extends to how the cultures are represented in society. Further, he identifies that it is also an affliction prevalent in both African-Americans and Native-Americans. In an interview carried out by Åse Nygren, Alexie claims, “the fact is that you cannot separate our [marginalized cultures] identity from our pain. At some point it becomes primarily our identity” (156-157). In this regard, Alexie clearly parallels not only the importance of suffering in defining cultural identity, but additionally, the interchangeability of the pain inflicted on marginalized cultures.

In the novel *Reservation Blues*, Alexie revisits an established African-American idiom and attempts to generate a Native American perspective while additionally recreating the essence of the blues. The paralleling of suffering begins when Robert Johnson, an African-American blues singer, arrives on a Spokane Indian Reservation and hands Thomas-Builds-the-Fire his guitar. The critic Douglas Ford notes that this metaphorical process is “Alexie sensitizing us to the expressive possibilities that developed when Europeans, Africans, and Native Americans began sharing, if not peacefully, the same continent” (198).

Conventionally, the blues has always originated from the experiences of Africans in America. Alexie in this scene, and throughout the novel, attempts to highlight the hybridity of the blues to better define it as an idiom that can be shared within broken cultures (Ford 202). Hence, Alexie transforms the blues into a form of representation, not bound by cultural restrictions, that accurately encompasses suffering – in both a cultural and personal level. An example of this reinvention is one of the final chapter's starting sections, which always contain song lyrics, emphasizing "the blues as the novel's chosen idiom" (Ford 198). The blues song grimly ends, "Indian girl found naked by the river, shot twice in the head. One more gone, one more gone, and our world fills with all our dead." In this line, Alexie manages to express the personal grief affecting his characters using the blues, while simultaneously commenting on the larger scale mental and physical "death" of Indians. (*Reservation Blues* 246). In *Reservation Blues*, Alexie emphasizes the dissonance begun by colonization, but defined by pain and ultimately representing those that have endured it. Alexie makes it clear that the cultural destruction happening in America has breached many different cultures. However, this collective suffering is what ends up identifying and uniting these marginalized cultures. To Alexie, the experiences plagued with suffering are what truthfully represent and indicate identity.

The complexities in broken cultures are endless, but Sherman Alexie has defined himself as a storyteller capable of producing narratives that "demonstrate the need to give suffering a language" (Nygren 150). This is due to the fact that (mis)representation has become such a large issue for indigenous cultures. As seen in "War Dances," the narrator's representation of his father was based on cultural stigmas that have been in place since colonization. He used these social determiners to identify his father from a twisted perspective. To the narrator, this fractured representation was his Native-American reality. However, in determining these feelings, the narrator was able to clarify just how deeply these false misrepresentations afflict him. It highlighted that the narrator couldn't separate his identity from his suffering. In "Breaking and Entering," Wilson had no sense of identity. He embraced the representations defining him in the media in an attempt to escape reality, but ultimately, the pain of being a murderer became his primary identifier. Alexie expands this painful grasp to all marginalized cultures in *Reservation Blues*, where he speaks on the blues being an outlet for broken cultures, rather than just African-Americans. It becomes apparent that these skewed representations are not a creation of indigenous individuals. Rather, they are the manifestations of the afflictions deteriorating the mental state of suffering cultures. Alexie uses his trauma narratives to breach cultural barriers and challenge misrepresentations – he recognizes that only someone's pain can clearly identify them. He attempts to give voice to those that need it most, the marginalized, and in particular to Native-Americans, but by extension, to all who have suffered.

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Richard Rodriguez's Chapter "Complexion" in *Hunger for Memory* as a Process of Differentiating Between His Two Opposing Identities

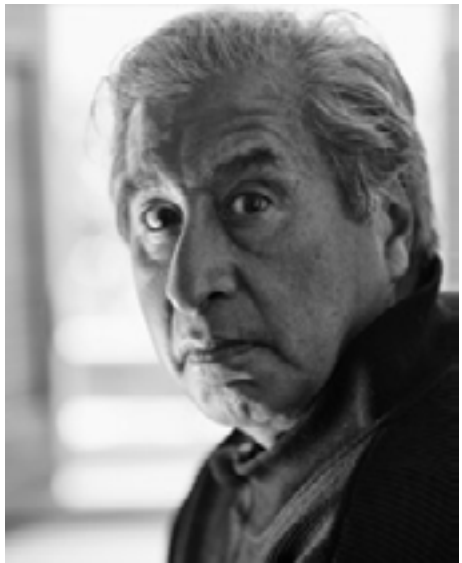
BY SARAH SERON

In many ways, Richard Rodriguez's *Hunger for Memory* is the result of his complex mind with an even more complex analysis of his own life. The single most highlighted theme throughout the book is that of language, but there is one more important aspect of Rodriguez's adolescence that remains enticing. In the chapter "Complexion," Rodriguez speaks specifically of the many issues he experienced as a child having dark skin. Although his complexion seems to be the grand topic of the chapter, the reader could easily overlook a significant underlying message. The chapter focuses on childhood experiences building upon each other to create an intense self-consciousness that Rodriguez cannot quite seem to shake, but there are a few positive details resulting from his lack of confidence through the years. Through intense analysis of the connection between silence and the Spanish language and examining many forms of his reflection, Rodriguez differentiates between the negative identity the Spanish language forces on him, and the powerful identity the English language provides.

If there is one thing Rodriguez was not made to be fond of, it is the silence that, to him, seems to consistently accompany the Spanish language. Spanish was not always paired with silence in his life, but according to "Complexion," the Spanish language faded invariably from the moment English became the primary language spoken in his home. But how is it possible to speak of silence and language as one? In other words, what exactly is this "silence?"

To elaborate, there are many instances in the chapter where the reader may detect a form of silence when Rodriguez is explaining his interactions with his immediate and extended family, with classmates and teachers, and with his colleagues. All of these instances occur after Rodriguez's assimilation into

the English world as an English-speaking-only child. Rodriguez introduces this motif of silence in a brief paragraph, which highlights some of his experiences with racial slurs in public. Significant is this part of the chapter, as Rodriguez seems to really want his readers to visualize his experiences with the power and confidence of the English language. For example: in one instance, a boy yells a racial slur to Rodriguez. He is so embarrassed that he cannot reply or defend himself, and Rodriguez explains: "(Those times I happened to be with white grammar school friends, they shouted back..." (Rodriguez 125). With parenthesis



accentuating this short and simple line, Rodriguez conveys the confidence his white friends possess. In cases like the aforementioned, his white friends save him from the silence he has obtained from his family's fear of inferiority, furthering his desire for the power the English language continuously seems to provide (Fine 122). He demonstrates his lack of confidence because he has not yet fully assimilated into the English-speaking world and knows nothing but to remain silent with his self-consciousness and feelings of powerlessness.

Furthermore, Rodriguez comes to fear the silence that he experiences on so many occasions, but later he discovers that this fear is unnecessary, as it does not, in fact, directly relate to his dark complexion. Growing up, he is constantly taught to fear his dark complexion because it is a prerequisite for menial labor like los braceros; the men whom Rodriguez believed to be powerful in the physical sense, but had no voice in the English world, essentially making them powerless in the community which they reside (Rodriguez 122). As a boy, Rodriguez admired los braceros because of their physical freedom. He coveted their ability to embrace their dark skin, willing their bodies to darken even further under the sun. Laura Fine explains los braceros as "an escape from [Rodriguez's] hatred of his body" (124). In addition, he knows that, according to his family, the poor Mexican males are not necessarily silent, but certainly are not supposed to express their emotions through language (Rodriguez 138). Because of Rodriguez's love of language and literature, he feels he has already defied this "rule" of the Mexican male, but if he is destined to do menial labor

like los braceros, he will be forced to abide by the silence (Rodriguez 137). He witnesses this when he comes face-to-face with los braceros at a construction job one summer in college. It is during this section of the story that silence is mentioned most. When the contractor of his construction job hires Mexican laborers to conduct a small job, Rodriguez cannot help but to watch them and notice the silence among them, both while they work and take breaks. The silence Rodriguez witnesses is not simply silence in relation to language; their silence signifies inferiority and powerlessness when amongst powerful white males. Although Rodriguez no longer remembers much Spanish, the contractor asks him to translate a request to the workers. When Rodriguez makes an effort to speak to the men in Spanish, they give little in response, and the silence intensifies as Rodriguez searches for words to continue conversation, to assimilate with the men he so admired as a boy due to their physical freedom and courage to violate the fear of the intense sun. It is in this very moment of silence with los braceros that Rodriguez realizes he no longer has to fear the silence that he believed was connected with his dark complexion. He is different from them simply because he cannot imagine himself being a physical laborer, and he has already discovered the “secret” of the rich people, which is that of the English language (Rodriguez 131, 148). Rodriguez is well assimilated into the English-speaking world, and he has broken the barrier of the silence. The fear of the silence associated with Spanish, los braceros, and the disadvantaged life is no longer a concern for him; English has opened the door to his success. Equally important in understanding Rodriguez’s process of assimilation into the English-speaking world is his process of embracing his dark complexion.

All throughout his life, Rodriguez had been exposed to constant disapproval of having a dark complexion. The source of this disapproval is from women such as his mother, sister, and aunts (all of the Mexican culture). On many occasions, Rodriguez would overhear his aunts and mother gossiping about their concerns of having dark skinned children, offering one another home-remedies to lighten the skin; Rodriguez made a point to include the fact that one of these remedies risked abortion (Rodriguez 124). Even his sister, the only other member of his family with a dark complexion like his own, conveyed that she, too, was afraid of having a dark skinned child (Rodriguez 124). It is understandable that with all of this conspiring by the women in his family, he would feel so hateful and self-conscious about his dark complexion. In addition to hearing his aunts and sister speak of their fears, his mother was constantly reminding Rodriguez to wear a towel over his shoulders or a hat on his head in order to keep from getting too dark (Rodriguez 121, 128, 133). One can only imagine the kind of psychological effects this would have on his self-image. He claims that, by nature, his complexion did not concern him; he knew it would not destine him to menial labor and was not afraid

of the public racial slurs, but he merely lacked confidence in his appearance (Rodriguez 134). Knowing this simple fact allows an assumption that the fear Rodriguez felt of his dark complexion was embedded in him because of his family's incessant comments and beliefs. He felt that if all of the women in his family disliked his dark complexion then there was obviously something wrong with him. It would be difficult for most children to feel attractive in the midst of a childhood full of such negative remarks. Furthermore, he could not help but compare his deep complexion with his father's and brother's lighter complexions. In one occurrence, he is made especially aware of his mother's dislike for a dark complexion when he witnesses his mother admiring his father when the family goes swimming. Rodriguez watches his mother's face and eyes as she displays her desire for her husband, then turns to Rodriguez moments later only to tell him once again to cover himself with a towel (Rodriguez 133). This very memory verified Rodriguez's negative self-image and feelings of unattractiveness to women. This becomes evident with Rodriguez's inability to approach female students throughout his teenage years (Rodriguez 136). A sense of unattractiveness combined with a skin complexion comparable to los pobres – the poor – and their social and economic status leaves little hope for Rodriguez, but there is one motif throughout the story that explains the process of Rodriguez's realization that his complexion will not define his identity.

Although his complexion and sense of unattractiveness seem to diminish the possibility of success, one of the most important thoughts to keep in mind is that through the chapter Rodriguez does not imagine himself stuck in the disadvantaged life. In every moment that he is faced with his reflection, whether by mirror or sweat, he is reminded of the fact that he has always imagined an attractive lifestyle for himself. Rodriguez was always fascinated with how rich people lived, how they obtained their wealth, and how he could obtain this wealth. He tells of the times he was invited to his white friends' homes for dinner and play, and in one particular case, he remembers seeing the Mexican gardeners with dark complexions. One gardener draws his attention as he looks up at Rodriguez, the gardener's face "glossed by sweat," watching him enter the white family's home (Rodriguez 132). Rodriguez cannot clearly see his reflection in the man's sweaty face, but he knows he is similar to the gardeners, and possibly doomed to their disadvantage because of the familiar complexion. Rodriguez goes on to tell about the dinner and his watchful eye as he examines the delicacies of the wealthy home. As he is saying his good-byes, he is faced again with his reflection, but this time it is clearer as he sees his dark complexion in the beautiful mirror in the hall as he exits (Rodriguez 132). Although he is similar to los braceros and los pobres because of the dark complexion he cannot seem to peel his eyes from in his reflection, Rodriguez knows, indirectly, that he is different from them because he possesses the single most important aspect

of identifying with the power and obtaining the wealth of the English world: the English language. The motif of his reflection through mirror and sweat is brought up again at the end of the chapter when Rodriguez describes how he studies his physical appearance in a mirror. After years of confusion and hatred toward his dark complexion, he no longer fears what he could have become. He studies his middle-class body, which represents his middle-class lifestyle. His day-to-day life consists of running nearly naked, unafraid of the sun singeing his dark skin, dressing well for the day, staying in wealthy hotels, and receiving compliments regarding his complexion (Rodriguez 146). He studies this in his mirror, as clear as it always was in the fancy mirrors in the homes of his rich white friends.

Despite beliefs that a dark complexion would doom him to the life of a *bracero*, Rodriguez had obtained the single aspect needed to alter the rest of his life. At this point, *los pobres* are much more similar to his parents than they are to Rodriguez, as he essentially has the power of the English language that his powerless parents could never obtain (Fine 125). It is the sweat, though, that helps him to realize how clearly the mirror reflects him. Rodriguez exposes one last incident with sweat when he is face-to-face with *los braceros*, *los pobres* at his construction job. When the Mexican laborers finally gather their equipment and drive away, their silence remaining a lesson for Rodriguez, he “shuddered, [his] face mirrored with sweat” (Rodriguez 149). He has finally had the chance to witness the true identities of the dark complexioned laborers he watched with such admiration growing up. He shudders from all of the fear that was embedded in him for so many years as a boy, and he sees for the last time his blurred and distorted reflection through sweat. His construction job will be the last time he will sweat from physical labor because he is not destined to a menial job or a disadvantaged life. It is through this experience that he realizes the difference between his reflection in the mirrors of the white friends’ homes and the sweat of *los pobres* from their physical work. This experience confirms his idea that he has never been fated to a poor lifestyle. The single similarity between Rodriguez and *los pobres* is simply their dark complexions. Rodriguez’s love for language and desire to assimilate into the English-speaking world was always what changed his so-believed “destiny.” Surely this was the moment that defined his ideas of the negative identity the English language would do away with.

As a result of the silence in compliance with the Spanish language, and differing views of his complexion in the Spanish- and English-speaking worlds, Rodriguez was able to differentiate, and later choose, between the identities the opposing cultures offered. On the one hand, the Spanish language that Rodriguez grew up with in his first few years was to him a loud, intimate

language with many admirable sounds. It offered him love and acceptance from the outside world. At home, he was “accepted” (although in many ways, he was not) because his family was not yet assimilated into the English-speaking culture, their Spanish-speaking home offering comfort and closeness as they were excluded from English together. What Rodriguez did not realize is that it was his Spanish that kept him separated, but this was not the case for very long. As soon as Rodriguez began the process of assimilating with the English-speaking world, he also began to realize the burdens and fears of his physical appearance that the Spanish culture rooted in him. His Spanish-speaking family caused his belief that he may be destined for a life so unwanted because of his complexion and his love of language and literature. Yet when he was younger, he believed that the very same language was what tied him to his inseparable family. The loss of this intimate connection is crucial in order to obtain a public identity and public voice (Lim 527). It is also a crucial part of losing the negative image of himself due to his dark complexion.

On the other hand, even with his dark complexion, many of his experiences of acceptance for who he is in English were much the opposite of his disapproval in Spanish. In fact, in English he is often praised for the very aspects that are shamed in Spanish. He mentions that when he was in the house, he abided by the formal quality of the Hispanic male that his mother speaks of, but outside of the house and in the classroom, he spoke tremendously, and this seemed to make his teachers think he was “bright” (Rodriguez 139). Therefore, his love of language is reinforced in English, violating the formal male quality (Fine 123). To maintain this public reassurance and voice, he must continue speaking. He must continue to full assimilation into the English language. In addition to his love of language, even to this day, his complexion has become a symbol of his luxurious life. What was once a fear has now become a highly desired aspect in his new English-speaking community. He has escaped the judgment of his dark skinned childhood and moved into a culture that views a dark complexion as a luxury.

As Rodriguez differentiates between his two identities, he lives in a world of bilingualism that he prefers not to admit to. Although he tries so hard to be of one culture, one language, and one identity, he remains between the two. Some believe this to be a sort of bilingualism (Lim 521). In some ways this is true, because Rodriguez can never truly abandon his past culture and complexion; they will always remain with him. As Tomas Rivera puts it: “[he] exists between two cultures, but he believes it more important to participate in one world than the other” (32). No matter how well Rodriguez assimilates into the English language and community, he will always be Hispanic. He will always hold Spanish as his intimate voice, but he chooses to settle in the identity that praises him most. He chooses to dwell in the community and language that provides an escape from the negative identity his Spanish community rooted in him.

In summary, Rodriguez's process of assimilation may have been a long-endured journey, but in the end, he developed the ability to differentiate between two identities: English and Spanish. Even though he may be conducting a form of bilingualism in the sense that he must exist between these two identities, he makes it clear that he wants no part of his Spanish identity. He must forfeit his Spanish identity as much as he can in order to maintain the public voice that the English language has provided for him, especially if it entails the loss of silence and negative beliefs of a beautiful complexion.

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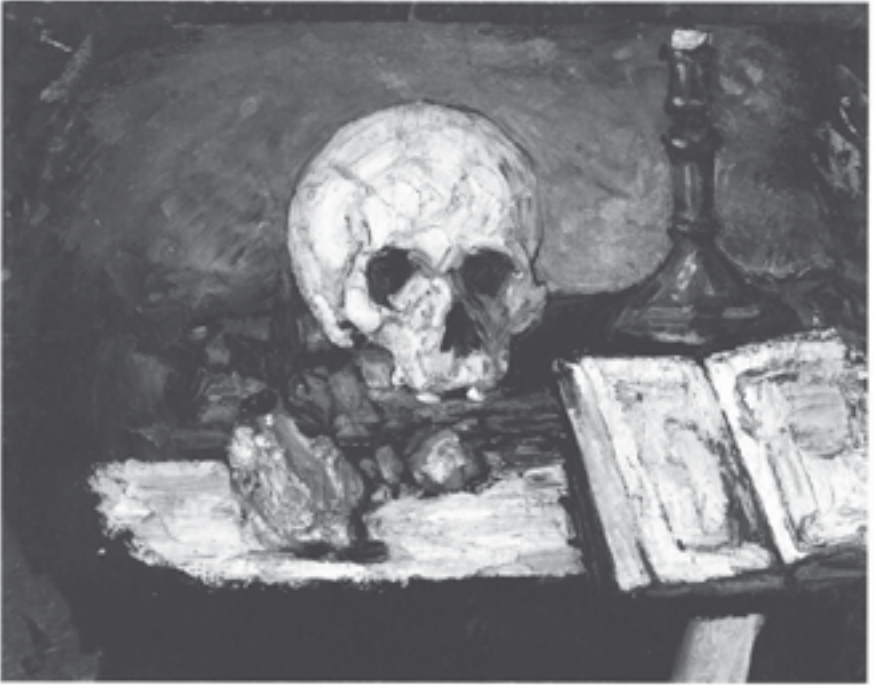


Objectivity in Expression: Depictions of Sheer Existence

BY ARNOLD ROZON

The expressive nature of creativity tends to naturally embed subjective themes and tones* into most forms of art. Imagine that a painter gradually strokes his brush against the ivory colored surface of his canvas, his emotions, ideas and personal biases all fuse with the paint and are amalgamated into the ultimate composition. While seemingly poetic, this did not seem inspire the late poet Rainer Maria Rilke who seemed to have become enamored with a concept of depicting being or something simply as it was. Enter objective expression. In a series of letters to his wife, Rilke links two particular artists whose work encompasses his notion of objective expression in art: "Une Charogne," or "The Carcass," a poem by Charles Baudelaire, and the post-impressionist paintings of Paul Cezanne. Luke Fischer dissects Rilke's fascination with objectivism in his book *The Poet as Phenomenologist: Rilke and the New Poems*. Fischer argues that for Rilke, the beauty of objective artwork is that they simply ". . . reveal the existence of things, the facticity of their being-there." (Fischer, 152). The importance of objective expression is championed by Rilke, and in turn by Fischer, to be vital to the development of art because it is the only manner of depicting or expressing that remains impartial in its representations and portrayals of any subject; it remains free of human bias and, most importantly, free of any subjective human emotion. Objective expression is a transcendental concept that stretches the limits of traditional human understanding of creative expression as it compels the artist to present sheer existence in its most candid form.

In "The Carcass," Baudelaire describes a generally grotesque subject — a rotting animal corpse left on the side of a road — to his lover or companion, while convincingly avoiding any infusion of personal bias or emotion in regards to the subject: "The flies buzzed and droned on these bowels of filth / Where an army of maggots arose, / Which flowed with a liquid and thickening stream / On the



Paul Cezanne, Still Life with Book, Candle, and Skull. Oil on canvas, 1866.

animate rags of her clothes" (Baudelaire, 17-20). Despite the lavish description, Baudelaire shrewdly tip-toes around any suggestive imagery that may invoke feelings of disgust, though regardless, the reader certainly might unconsciously arrive at this juncture. Baudelaire's objective writing appears to be a direct resistance to his emotional unconscious. As he continues to casually detail the decomposing flesh in this somewhat neutral tone, he takes his objectivity a step further by suggesting that his lover too will one day resemble the rotting pile of animal flesh:

And you, in your turn, will be rotten as this:
Horrible, , O filthy, undone,
sun of my nature and star of my eyes,
My passion, my angel in one! (Baudelaire, 33-36)

Baudelaire's use of objective description, appears to come full circle here as he boldly equates the object of his affection with the rotting carcass. These two subjects on opposite ends of the human emotional spectrum are being regarded in the same light; they both simply are without repercussion or bias.

No existence is being characterized as "superior" to the other, they both simply exist. That's as impartial and objective as it gets, really.

Rilke wrote highly of the work of Cezanne in his letters to his wife and proclaimed him the major inspiration for his fascination with the practice of objectivity in art. In October of 1907, he writes to Clara Rilke and describes his seething admiration for some Cezanne's still-life works with grandiose proclamations such as, "... suddenly one has the right eyes. I notice more and more what an event this is" (Fischer, 153). Rilke feels as if Cezanne, like Baudelaire, mastered the ability to "say the very being of things, and reveal the things themselves." Maurice Merleau-Ponty wrote extensively about Rilke and Cezanne. What Rilke truly reveres, and Merleau-Ponty elaborates on, is Cezanne's ability, like Baudelaire, to demonstrate "objectivity without the sacrifice of one's individual perception..." which is "especially noteworthy in view of the psychological strength of subjective urges, thereby testifying to the magnitude of his eventual transcendence of them." (Merleau-Ponty, 166) Like Baudelaire through his poem "The Carcass", through his paintings* Cezanne ascended to a new level of philosophy in art. Through his distinct landscapes, still-lives and portraits, he "brings the very being of things before our eyes; they show the things themselves and say 'here it is!'" (Fischer, 152) As opposed to some of his art contemporaries, whose idealized imagery is riddled with personal emotion and subjectivity in their aesthetic, Rilke comments that Cezanne developed a very special gift of seeing things objectively in his portraits. He describes Cezanne's objective vision as "a dog seeing into a mirror and taking its appearance for that of another dog" (Fischer, 143) Writing to his wife, Rilke boasts the amazing aesthetic of one of Cezanne's self-portraits, and specifically comments on his depictions of facial features that Rilke himself finds reduced of all subjective emotional bias. It is also imperative to understand that Cezanne's art is constructed without him at all presuming himself superior to his emotions and inward (unconscious) subjectivity. To Rilke, the work of Cezanne is so "matter-of-fact", so geometric, so idealized and so impartial towards its subjects (whether they be scenery, people or vegetation) that any emotion ultimately derived from viewing the work is not by any means, presented directly but is instead meant to be inferred (if at all) when thinking critically about the work. To both Cezanne and Rilke, this is groundbreaking, almost revolutionary, because the mere concept of "expression" is so contingent on one's personal emotions and ideals that it's remarkable Cezanne and Baudelaire developed the ability to separate the two.

Objectivity in expression is not easily accomplished. Harnessing the ability to awaken emotional responses to themes in one's work without directly stating

or depicting those emotions, especially in a visual art, requires a great deal of skill. It's clear that reality exists outside of the human mind, and in order to express oneself objectively, one must tap into that reality by being impartial in their creative expression. It is imperative for the artist to separate his own ideas and opinions from the observations he or she makes. That is precisely the genius of "The Carcass", the predecessor of all forms of objective expression in the eyes of Rilke. The irony of this, of its objectivity, is that one of the central themes of the poem is love. Baudelaire professes his love for his companion (or lover) at the conclusion of the poem and promises to preserve them once they too are rotting like the corpse. He does so all while avoiding any emotional or subjective discrepancies in his language. Still, he does this quite euphorically in his tone: "That I have kept the form and the divine essence / Of my decomposed love!" (Baudelaire, 39-40). Perhaps the unique intrinsic quality of "The Carcass" as a poem is its ability to exemplify the pinnacle of human emotion, love, while remaining completely objective in its depictions of just about anything else. The art of Paul Cezanne, who interestingly enough could recite "The Carcass" in its entirety before his death, fostered the visual embodiment of these concepts. I imagine him, aging, reclusively painting in his studio, gradually dabbing small brush strokes on the ivory colored surface of his canvas. His emotions, ideas and personal biases, all locked away internally. Instead, with his brush held firmly and his watchful eyes on the subject, he works patiently and judiciously to ensure he captures the very essence of his subject's being.

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The Progress towards Political Consciousness

BY VERLISHA PHILLIP

An individual can be aware of their oppressed position and the injustices they face, however if they do not understand their history, why and how they were brought into subjection, and do not have the tools to free themselves from enslavement then their awareness is useless; knowledge without understanding and application is vain. In the films *Salt of the Earth* and *Cesar Chavez*, the farmers and miners are able to see the treatment they are receiving is far past inhumane, but they feel powerless because they do not recognize their own purpose. Political consciousness is formed by the oppressed cultivating methods to regain a sense of self within history and society; ridding themselves from their oppressor's authority. In both films discussed in this essay, the final scene indicates that the oppressed have begun their journey toward political consciousness, recovering their humanity.

H.J. Biberman's 1954 film, *Salt of the Earth*, is set in Zinctown, New Mexico, where both Anglo and Mexican American men are miners under the company Delaware Zinc. The Mexican American's workers are subject to dangerous working conditions and unsanitary living conditions for low wages as opposed to the Anglo-American workers who receive higher wages, and better working and living conditions. These unjust terms set the platform for the strike, causing the formation of the picket line. Throughout the film the Mexican Americans are divided amongst themselves, gender being the biggest disunion; in the beginning women were the only advocators for sanitary living conditions because they took care of the house, and experienced firsthand these horrible circumstances. The women pleaded with the men to include, sanitation, in their strike demands; however, the men refused and told the women to stay in their place, which is quite ironic seeing that the men were also pleading with the mine owners, whom also refused to negotiate because they felt the miners were not



Diego Rivera, Mexican Worker.
Charcoal on Paper, 1930s.

returned to the picket line. While hunting, Ramon begins to ponder on the argument that he had with his wife the night before, he remembers Esperanza stating that she didn't believe that they, the women and the miners, were getting weaker, but rather she felt they were gaining strength, and the actual ones who were truly losing strength were the mine owners and the police. Back on the picket line, the women and children are alerting others about the eviction that is taking place while the sheriffs are removing the furniture from the house; as the news spreads, the crowd outside Ramon's house increases. The men arrive and join the group of men, women, and children that have gathered around in support. The sheriff feeling overwhelmed and outnumbered gives up and the eviction is stopped. The officers and mine owners admit that they will have to negotiate a settlement. Ramon, who was opposed to the women being a part of the movement, now praises and thanks his wife, the men and the women for their dignity, realizing that if they all stand together they can accomplish more and go further. In this film, the characters were more ignorant to both their own individual positions in society as well as their position as a group; thus rendering them powerless against their oppressors. In the *Cesar Chavez* film the Mexican-American farmers have more of an advantage than the miners, because their leaders are educated, they have the tools to eliminate the authority the buyers have over them, yet they struggle with reaching political consciousness due to a lack of support.

Diego Luna's *Cesar Chavez* (2014), depicts the way in which Chavez

experienced the injustices of farmworkers at an early age when his family had to move from Arizona to California due to the Depression. They were previously farm owners but due to the lack of jobs, they became farmworkers. In 1935, the National Labor Relations Act, was enacted by Congress that protected worker's rights and allowed them to join unions and bargain collectively; however, farmworkers were excluded from this protection. Chavez decided to join the CSO, Community Service Organization, and learned how to organize people, and returned to the fields in 1962 to begin organizing workers who wanted to see a difference. Chavez and Dolores Huerta and other members create a credit union that is supported by donations; Chavez and the Members of the UFW, begin to boycott Delano Grapes specifically. They gain coverage for their cause by doing a 300-mile pilgrimage and interviews and TV appearances, as the UFW gained attention, the profit for the growers declined; however, things shifted after President Kennedy is assassinated.

The scene that is an immediate subject of this essay occurs after President Nixon promises the owners that he will sell their grapes in Europe, and the remainder will be bought from the Department of Defense for the soldiers. Although those around him feel defeated, Chavez is determined to continue fighting; he brings his campaign to Europe. Dolores Huerta and other members of the organization advise Chavez to focus on human laws because Europe still protects the rights of workers. While in Great Britain (Britain), the UFW gains the support of the Transport and General Workers Union (whom endorses the UFW boycott); as more people are aware of the injustices the farmers are fighting against, the UFW, begin to gain support throughout Europe from various religious groups, as well as the Pope. Chavez does a radio interview with BBC, and he meets with the longshoremen, who refuse to dock and unload ships with Delano grapes. He even goes as far as dumping crates of grapes out into the water. All of these events cause a decline in Delano grapes, resulting in a loss of money for the growers. Their grapes were no longer being sold and many farmers joined the strike, and stopped working (by the end of the film, there are no farmers in the field). One grower is seen, walking through the fields examining the grapes, which have dried up. The growers, feeling frustrated, decide to negotiate with Cesar Chavez and the UFW.

Political Awareness was achieved in the movies, through different methods. In *Salt of the Earth*, the Mexican- Americans made progress towards political consciousness because the men were able to acknowledge that women always had a vital role within history and society. The women joined the picket line in place of their husbands, and the husbands were forced to take care of household duties, this switch of roles caused the men to see from the women's perspectives. Once they were able to extend respect towards the women, the

Mexican-Americans became aware of their role and position within society. In *Cesar Chavez* the farmers made progress towards political consciousness through various political, economic, and cultural strategies. The farmers had already acknowledged their role in society, and the leaders of the movement were more learnt in economics and politics. The farmers used their knowledge of the economy and politics to place the growers in a position that brought them to the level where farmers were acknowledged.

The scenes from *Salt of the Earth* and *Cesar Chavez* are both the final scenes of the movie, and they were selected because it wasn't until the supporters of each movement gathered together that they were able to see change. For example, in *Cesar Chavez* the women, white housewives, stopped buying Delano grapes, yet that did not sway the growers to negotiate, some workers went on strike, they walked from Delano to Sacramento, they used a lot of political – the three-hundred-mile pilgrimage –, cultural – the cartoons in newspaper –, and economical, the boycott, strategies; however, they remained unsuccessful, unable to effectively and consistently pressure the growers into a negotiation. The growers however tried to use their wealth and power to suppress the farmworkers, the ideology of white supremacy in *Cesar Chavez* was blatant, an example would be when President Nixon orders all Delano grapes to be sold overseas because it was being boycotted in America. In the *Salt of the Earth* scene, the cave, according to Plato's "Allegory of the Cave" is the oppression of the women. The "shadows", dominant ideology, are both sexism and patriarchy, there is a struggle with gender stratification, and this is due to the belief from both the mine workers, the owners, and the police force feel that the women are inadequate without men.

In *Salt of the Earth*, white supremacy was also present. The owners and sheriffs, felt authorized, due to the benefits and privileges that their economic and political power embodied, to suppress the Mexican-American miners into submission. Close to the end of the scene the only competing ideology remaining, is white supremacy, but it quickly diminishes when the Mexican-Americans become self-aware. The prisoners in the scene would be the men. Their eyes were still filled with pride and they were in capable of realizing that in order to be successful in the strike and in anything the women have a key role to play. The chains that are holding back the men are both institutional and cultural; during this time, it was a traditional norm for women to take care of the home while the men went out and worked. It was not common for women to take on men's roles and vice versa; this not did not only occur in the Mexican-American community, but these roles that men and women had were shared throughout various societies. When the women joined together and fought for their rights, it was seen as abnormal. The men were ashamed to break the

status quo, seeing their wives fighting alongside them. In the last scene, the men have begun the process of riding themselves of old cultural and institutional ideologies, such as sexism, feeling that women are inadequate to perform the jobs typically given to a man. Ramón's attentiveness to his wife's words is a prime signal of a transformation, before he would have simply shrugged her off, but now he has been affected by her words. After becoming enlightened and coming out of the cave, Ramon then goes back into the cave in order to help the other men see that they do, in fact, need the women. There was an Anglo-American woman within the group and although she still experiences sexism, it is not blunt compared to the sexism faced by Mexican-American women. The Anglo-American woman's husband is able to see that his wife serves a greater purpose that lies beyond the confinement of a house, but he does not apply his knowledge.

In "Tired of playing Monopoly" Donna Langston argues that "Women who have backgrounds other than white middle-class often experience compounded, simultaneous oppressions" (401). It is evident that in the film the Mexican-American women were oppressed not only by the political figures but also from their husbands. The Anglo miner's wives were working class as well, but the oppression against them wasn't as strong as it was against the Mexican-Americans. The Anglo's even received better sanitation, a demand that the Mexican-American women wanted to implement into the cause of the strike. Even after the strike, the women still struggled to gain the full support and acknowledgement and struggled to make it to the forefront. According Carl R. Weinberg "The reluctance of the filmmakers to present these issues more honestly stemmed, in part, from deep ambivalence of Mine-Mill's members about the leading role of women" (43). The actual miners were not comfortable or certain about allowing women to lead as they led, they weren't sure how the public would take to it. Also another probable reason could be that they didn't want to give any more women, a similar idea or agenda, they feared the numbers of women. Due to these and many other emotions, the filmmakers were hesitant to promote the women's labor activism and diluted their role in the film. In William Greider's "Work Rules" he states that "The socialization of powerlessness is probably by far more damaging to politics ..." (254); Greider is saying, if those who seem powerless were to gather together, they'd be able to impact politics in a detrimental way. They'd be able to successfully achieve their objectives. Throughout the film the men and women fought against the company separately, but it wasn't until they came together as one that they finally won the strike. Standing alone, they were small, powerless groups; together they had more than the company owners and the sheriff.

The Chicano's place a lot of emphasis on unity, they believe that there

shared set of interests could transcend ideology and partisanship (Beltran, 45). An economical goal was to rid the land and their communities of the exploiters, reclaim their identity and culture by developing their own resources and economy. They want to be able to rely upon themselves. They wanted to make their own fair and humane economy where materialism was not placed before humanism. Beltran cites poet Alurista's reconceptualization of Aztlan "...love for our brother makes a people whose time has come and who struggles against the foreigner "gabacho" who exploits our riches and destroys our culture Cristina Beltran writes "(43). Beltran states that in El plan, "the group unity produced by nationalism represents the "common denominator" that will lead to mass mobilization and organization" (44); the Chicanos agree that in order to be freed from oppression, exploitation, and racism they have to be independent politically, culturally, economically, and socially. In order to gain this independence, they must control their land, community, culture, and political life.

In conclusion, in his Master-Slave Dialectic, G.W.F. Hegel depicts the struggle of humanity. The dialectic is in the form of a narrative; two people meet on a deserted island, when they meet they both begin to think of ways to dominate each other, and get into a life or death struggle. Eventually, one of the two people will surrender, choosing life over freedom out of fear of death. According to G.W.F. Hegel, the master in this story will have a false sense of superiority and the slave will have a false sense of inferiority, when in fact the master also feels inferior, through their labor, the slave will begin to recognize that the master's survival is dependent on their submission. The slave will then give the master a choice, to live peacefully or to go their separate ways. Hegel argues that this struggle occurs because every human being wants recognition from an individual that see as equal, reciprocity or mutual understanding, and trust.

Hegel states that humans are interdependent on one another. The slave would not be freed until s/he realizes that they are a necessity to the master, once this is discovered, the slave then has a goal to cause the master to see their humanity. General consciousness becomes political consciousness when the oppressed works to find ways to understand themselves and the cause the masters to do the same. In both films, the miners and farmworkers are aware that they are living in unfair conditions, and that things must change, but it is not until they join together, share ideas, and develop strategies that they begin to move towards that change. Political awareness is shaped when the oppressed not only acknowledges that s/he is being oppressed, but also when they begin to create their own resources and strategies in order to be freed. Political consciousness is shaped when the "slave" begins to educate themselves

granting themselves liberation. When the slave breaks free from fear. In *Salt of the Earth*, the miners gained political awareness through the unification of themselves and the union.

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Mathematics Education in the United States

BY YEAMIN AHMED

Abstract

Mathematics is one of the fundamental branches of knowledge. It is known as the 'universal language'. People has been practicing mathematics over two thousand years. In 21st century, mathematics plays an important role in science, technology and business fields. A complete and updated mathematics education system is required for the development of a nation. The article is focused on mathematics education in the US, major problems in mathematics education and possible solutions for those issues.

Introduction

Mathematics is known as the language of 'nature.' Once a famous German mathematician named David Hilbert said, "Mathematics knows no races or geographic boundaries; for mathematics the cultural world is one country." A quality mathematics education is a key requirement for a skilled and knowledgeable human resources. However, the mathematics education in the US is broken and incomplete. Public schools in the US are teaching mathematics with a very limited syllabus. The Problem of US mathematics education begins in elementary school, becomes severe in middle/high school and lasts forever. Due to the traditional teaching method and limited syllabus, students can't learn sufficient analytical math skills in school. In next few part, the problem regarding teaching mathematics and limitations of syllabus in the US high school will be discussed.

Background: Mathematics curriculum in the US

The basic mathematics education in the US has widely varied from state to state. Every state set own curricula by local school district. Since there is no federal standard,

it causes a big difference in basic mathematics education among 50 states. For several reasons, the mathematics education in the US is always a hotly debated issue, but the crisis in mathematics education became severe in the 90's. The turning point was the beginning of 'math war', a debate over modern mathematics education, textbooks and curricula in the United States. In 1986, National Council of Teachers of Mathematics (NCTM) established a Commission on Standards for School Mathematics with a view to carry out mathematical procedures in a world where mathematics is rapidly growing and create a set of standards to guide the revision of the school mathematics curriculum. In 1989, the commission published a report named 'Curriculum and Evaluation Standards for School Mathematics' consisting of three major recommendations: introducing a curriculum which will represent mathematics as an active learning process, expanding the syllabus by emphasizing more on quantitative knowledge than the traditional sequence, and developing the application of technology in mathematics by changing mathematical problems and solution method. (*Curriculum and Evaluation Standards for School Mathematics*, NCTM, 1989, Page 1.) The debate 'math war' started as a reaction of these major recommendations. The major point of the debate was over traditional mathematics and reform mathematics philosophy and curricula, which differ significantly in objective and content. NCTM was an influential supporter of reform while many of other scholars across the country went against the reform. Another important point of the debate was over how spontaneously children should be taught skills based on formulas or algorithms for solving problems versus a more inquiry based procedure in which students are introduced to realworld problems that help them develop fluency in number sense, reasoning, and problemsolving skills. For example, according to Standards based education reform, all students have to take substantive mathematics like basic algebra and trigonometry; however, traditional mathematics curriculum was tracking only the collegebound and the most advanced junior high school students to take algebra. To neutralize the situation, in January 1998, U.S. Education Secretary Richard Riley announced for an end to the 'math wars'; in October 1999, the U.S. Department of Education recommended to the nation's 15,000 school districts a list of math books. Many of books in this list had been sharply criticized by mathematicians and parents across the country. Within a month of that release, at about 200 university mathematicians including seven Nobel laureates signed an open letter to the Education Secretary calling upon his department to withdraw those recommendations. (*A Brief History of American K12 Mathematics Education in the 20th Century*, James Royer). The immediate effect of the 'math war' was the introduction and widespread distribution of new math textbooks consisting of radically diminished content, an inadequacy of basic math concept and analytical skills. As a result, a huge difference in curricula had been observed

in different school districts and a new debate over mathematics education evolved. Beginning from 2000 to 2009, several attempts were made to reform the mathematics curriculum and teaching method. Unfortunately, none of those could successfully reform the curriculum. However, some of the initiatives defused the debate, but did not put an end to it. The recent success came in 2010. A new initiative was taken by NCTM in 2008 to develop a 'Common Core Standard' with a purpose to provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. In 2010, NCTM officially released the standard by claiming that, the standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that young people need for success in college and careers. Fortunately, 45 out of 50 states agreed to set their basic curricula on the common core state standards beginning in 2015.

Problems in mathematics education in the US

'Common Core Standard' brought a significant change in the US mathematics curriculum. It introduced a common mathematics curriculum throughout the whole country. Going beyond traditional sequence, 'Common Core Standard' offered a progressive curriculum and teaching method. However, the US syllabus has not made satisfactory progress in term of global standard. Mathematics education system is different in US than anywhere in the world. The syllabus for mathematics in US is far apart from any other developed country in Europe or Asia. According to Common Core Standards, three major things should be focused in 5th grade are developing fluency with addition, subtraction, multiplication, division of fractions, extending division to 2-digit divisors; developing understanding of operations with decimals to hundredths and developing fluency with whole number/decimal operations and developing understanding of volume. (*Common Core State Standard Initiative*, grade 5.) The present US curriculum is teaching kids in a limited syllabus without relating lessons to application while, for example the south Asian countries provide students with a brief elaborate syllabus consisting of analytical learning and its application. From this observation, it is clear that, the US syllabus is limited and it is different from the syllabus of many developing countries in south Asia. Another important issue is presenting content in a short cut way other than main stream mathematics. In elementary school, 'check and guess' is a very common question format found in maximum books. It's a special type of word problem related to division and multiplication. But instead of using the basic operation of mathematics, books urged Student to guess an answer randomly then put the guessed number in a box and check if it satisfies the conditions or not. This procedure encourages student to use their sense

of predictions beyond the mathematical operations. In future, when those students will be asked to be precise with calculation, the 'check and guess' system won't work anymore for them. The students who are being rewarded for their excellent 'check and guess' skill will find themselves with an empty head in college. This kind of problems are making students confused. Where problem can be logically solved by using basic mathematics operations there a time consuming alternative procedure is being used to solve a simple problem. In most cases, those textbooks are confusing, uninspiring and incredibly inefficient. The procedures of testing math skills are weak in the US curriculum. Some evaluation standard indicates the expertise in mathematics as a lower priority than the expertise in advance reading and writing skills. For example, 'Ability to Benefit (ATB)' test is an exam from NYS department of education for the students who graduated high school outside the US. Students who hold a high school diploma from abroad have to face this exam to be qualified for 'Tuition Assistance Program.' The test has three parts – mathematical reasoning, reading skills and writing skills. It's really ambiguous that, passing mark for reading and writing skills are 55 and 60 while passing mark for mathematical reasoning is just 34 out of 100 (ATB Test Handout, NYS, 2015). It indicates the tendency of the US curriculum to lower the bar when it comes to math.



In terms of teaching method, analytical and conceptual teachings are necessary for better understanding. However, a teacher should choose the easy and most effective way to explain students. Many of the times, students have been taught in a preformed and age old style which makes things sophisticated. Mr. Alon Amit, Ph.D. is a high school teacher

in Nevada and official of the 'Mathematical Association of America' interviewed Mr. Neil Agarwal, a current lawyer who was a middle school teacher in earlier life in New York. Mr. Amit published a part of Mr. Agarwal's interview in his article "What's Wrong with Math Education in the U.S." According to Mr. Alan, Mr. Agarwal stated, "I was a 7th and 8th grade math teacher. From my experience, it seems that the basic problem with math education is the lack of focus on the fundamentals. Let me give you an example: Most teachers taught $2(x+y)$ using dolphins. They would draw two

dolphins traveling from the 2 to the x and the y. This was meant to indicate that we distribute the 2 to get $2x + 2y$. Teaching this way allows kids to answer that specific construction of problem, integer (variable + variable) = integer * variable + integer * variable, but not much else. What happens when the kid sees $(x+y) 2$ or $(x+2) (y+2)$? The dolphins can only allow a child to guess at what to do in these new circumstances. Rather, if the teacher had taught that $2(x+y) = (x+y) + (x+y)$, therefore giving the students some insight as to how and why the distributive property works, then kids might be more able to approach new circumstances and prevail by force of logic rather than speculation.' This is one of many examples how students are learning things in a way which is limiting their thinking capability. Expertise in mathematics depends on conceptual and analytical reasoning. But the US teaching method has been emphasized more on solving problem than clarifying the basic concept. Based on the discussion above, there are some significant limitations of the US curriculum:

1. Limited syllabus.
2. Confusing math books.
3. Insufficient practical life related example.
4. Lack of analytical and conceptual teaching method.

Possible solutions to develop mathematics education

In term of solution, critics are divided into two major groups. One group of scholars prefer to look at foreign syllabi consist of analytical and conceptual mathematics skills and modify the US syllabus according to their standards or even better. The idea was first proposed in 2000, right after the end of 'math war.' On March 21, 2000, Valerie Strauss, staff writer of the Washington Post published an article named 'Looking East for Math Techniques: Approach Initiated in Japan, Singapore Guides U.S. Pupils.' In his article Ms. Strauss insisted to adapt math syllabus from the eastern countries like Singapore, Korea and Japan by explaining the properties of their leading mathematics curriculum. He claimed, 'While the United States may be the envy of the world in many things, math education is not one of them. An extensive international study in the late 1990s confirmed that in that (mathematics) subject, U.S. students are well behind the world's leaders: Singapore, Korea and Japan.' (Tuesday, March 21, 2000; Page A11). However, while the idea of looking at foreign syllabus was appreciated by some scholars, another group of scholar refused it. They claimed that, the US shouldn't need to copy syllabi from others; The US should reform their education system and introduce a new mathematics curriculum by its own. Jacob L. Vidor, professor of economics at Duke University strongly criticized the policy of adapting curriculum from foreign countries in his article named 'Solving America's Mathematics Education Problem.' He said, 'The United States need not import its science and engineering innovators, however. It need not borrow a faddish curriculum from a foreign

context.' (Policy Implications, Edition 2012). Both of the group of scholars agreed on one point that, it's mandatory to reform present education system. For mathematics, a common nationwide syllabus would be the best choice. It's necessary to include more mathematics lessons in high school. The contents should be designed with an aim to inspire students to develop math skills by going beyond of passing exam tendency. The teachers should be trained on a regular basis. It's important to change teaching system in school. Finally, Education department should regularly update mathematics syllabi. Practical life based example should be updated in yearly or biyearly basis.

Conclusion

A quote from David Hilbert could be a good choice to conclude the article. David Hilbert said that, "A mathematical theory is not to be considered complete until you have made it so clear that you can explain it to the first man whom you meet on the street." The objective of learning mathematics is understanding it in such a way that it can be implied in future uses. Studying mathematics for passing exam is not a worth learning. It's the time to think about our current crisis in mathematics education and find out a possible solution for it.

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Contributor Biographies

ANTHONY PHILLIPS will be the first in his family to complete his college education. He chose to pursue a major in psychology after becoming aware that underprivileged children and adolescents lack sufficient support, guidance, and resources during their formative years. He hopes to transfer to NYU or Binghamton university to earn his bachelor degree and continue on course to obtain a PH.D. in counseling psychology.

MICHAEL RIVAS was born and raised in Brooklyn, NY. He studied Liberal Arts: Social Science at LaGuardia. It is his last semester here; he has been offered admission at the University of Pennsylvania and look forward to attending in the fall of 2016. On Michael's spare time, he enjoys writing, Brazilian Jiu-Jitsu, volunteering and Thursday night dinner dates with his friends.

GREGORY STUBITS is studying Liberal Arts at La Guardia with a particular focus on film studies, music, creative writing, and photography. He plans to transfer to Brooklyn College CUNY where he will major in Film Studies. His goal is to create his own film production company which will nurture creative individuals as they collaborate to write, produce, and direct and score films that convey meaning, substance and purpose.

PEMCHHIKI SHERPA was born and grew up in Nepal, and came to the United States to further my education. She will be graduating from La Guardia and transferring to Baruch College, CUNY. Her goal is to double- major in Accounting and Social Science. She is planning to become a CPA and then work to help make Nepal a better place, especially for women and children. She ultimately hopes to work with Maiti Nepal, a non-profit organization to Nepal dedicated to helping victims of sex trafficking in the future.

SOFIA VILLACRESIS was born in Quito, Ecuador and she came to this country when she was eleven years old. Currently her major is Environmental Engineering but she hope to transfer to NYU in the future to study civil or mechanical engineering. Her interests include mixed martial arts, bouldering, and any other type of physical activity that helps her stay in shape.

ALISON VALBUENA is from Colombia, majoring in Environmental Engineering. She chose this major since she believe that her analytical and creative skills can contribute to create tools that can make a healthier environment. She currently conducts research at Newtown Creek waterway. For the future, she plans to transfer to Stony Brook or City College.

JONATHAN MORALES is a Liberal Arts: Math and Science major currently in his third semester at LaGuardia. Dropping out of high school to help his family financially, Jonathan has come back, motivated, and ready to achieve. He has maintained a 4.0 GPA and actively participates in the HSAC. Jonathan hopes to transfer to Cornell for Applied Economics. His interests include: classic literature, fiction writing, fitness, and card games.

SARAH SERON is a part-time student majoring in Liberal Arts: Mathematics and Science at LaGuardia Community College with interests in writing, education, deaf communications, and health studies. Sarah hopes to transfer to New York University after receiving an associate's degree at LaGuardia.

ARNOLD ROZON is a graphic designer and sports junkie born and raised in Uptown Manhattan. Over the past few years he's worked very diligently, designing for a variety of industries from community newspapers to niche museums all while attending LaGuardia CC. Upon graduating in June 2016, he hopes to further his education and his vocation by studying abroad in Western Europe. If that doesn't work out, he plans to attempt to reach the stratosphere via homemade hot air balloon.

VERLISHA PHILLIP is a nineteen-year-old student, is currently majoring in Criminal Justice. She plans to transfer to John Jay to study for her bachelor's degree, upon graduating LaGuardia. Verlisha aspires to be a lawyer, working in different fields, but specifically immigration law. She enjoys writing, and aims to be a published author someday.

YEAMIN AHMED is from Bangladesh, currently majoring in Electrical Engineering at LaGuardia. Being involved with social work, Yeamin once organized a free school with the intention of teaching basic mathematics and health science to poor lower class children at his hometown. Being passionate about teaching, Yeamin has worked as mathematics tutor in different places including LaGuardia. Upon graduating this Fall 2016, he plans on transferring to The City College of New York.

REMY PATRICK LAVILLA is a Philippine native aspiring to be a world renowned entrepreneur. He is currently studying Accounting in LaGuardia. Further, he is an active member of the Honors Student Advisory Committee and an ambassador of the President's Society. Patrick plans transferring to Baruch for his Bachelors.

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