

A photograph of a red suspension bridge, likely the Red Bridge in Singapore, with a semi-transparent text box overlaying the upper portion. The bridge's red steel structure and suspension cables are prominent against a clear sky. Dark, out-of-focus foliage frames the top and sides of the image. A few people can be seen walking on the bridge deck near the bottom.

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Letter from the Editor-In-Chief

The Hearth Student's Journal, Volume 1, Issue 1, Summer 2025

Dear Colleagues,

It is my pleasure to welcome you to the inaugural issue of *The Hearth Student Journal*.

This journal was born from a simple idea: that students—wherever they are in the world—deserve a space to engage deeply with ideas, share their academic curiosity, and publish work that reflects both rigor and originality. What began as a conversation among peers quickly became a collective effort to build something lasting: a student-run platform that celebrates scholarly writing while remaining accessible, inclusive, and genuinely curious.



In this first issue, you'll find essays that span continents, disciplines, and perspectives—from literary criticism and scientific inquiry to historical analysis and philosophical reflection. Our members come from schools across Vietnam, the United States, China, Tanzania, Ukraine, and more, with this issue containing papers from Vietnam and the United States. What unites them is not geography, but a shared commitment to clarity of thought and meaningful expression.

As the editorial team, we've worked to ensure that every submission has been treated with care, integrity, and respect. Our review process is peer-led, and we've emphasized mentorship, transparency, and learning along the way. We're proud of the final result, and we hope this first volume not only reflects the talents of its contributors, but also encourages others to submit, read, and engage in future issues.

Thank you for joining us as we light the first flame. We hope *The Hearth* will become a warm and thoughtful space for student scholarship in the years to come.

Happy Writing!

Bui Thien Khiem
The American School Vietnam '28
Editor-in-Chief
The Hearth Student's Journal
Volume 1, Issue 1

The Air Pollution Crisis in Hanoi, Vietnam: Causes and Solutions

Anh Luu Ha, The American School Vietnam

Hanoi, Vietnam, faces a growing problem of air pollution. The best way to solve air pollution occurring in Hanoi is to introduce electric cars and switch to renewable energy. In Hanoi, the extreme daily volume of emissions released by motor vehicles is one of the biggest factors of air pollution. (BreatheSafer, 2024) As Hanoi has developed over the years, there has been a surge in new vehicles, with private modes of transportation being preferred over public. For instance, between 2008 and 2018, the number of vehicles in Hanoi tripled from 2.2 million to 6.5 million. (Vietnam News, 2025) Unfortunately, the city's infrastructure couldn't keep up with the pace of urbanization, population growth, and the increase of personal vehicles, resulting in traffic congestion. (Hanoi Times, 2025) This congestion then propagates further emissions as more cars are on the road. (Knibbs et al., 2014) Additionally, it decreases economic efficiency as everyone sitting in their cars is not actively participating in the workforce. (Hanoi Times, 2025)

Revising our energy use and transportation methods can thus improve the efficiency of the economy. This rework of our transport network will likely be controversial, as oil companies are likely to lobby against such changes. Other businesses or companies that utilize fossil fuels will likely suffer if such a change is to occur, as their profits will fall unless they also convert to clean energies.

Smaller companies may not be able to convert, and thus go out of business, greatly affecting the job market. Markets requiring cheap transportation such as shipping or driving around the city will be heavily affected as those transport methods will either become obsolete or much more expensive. Policies limiting gas-powered vehicles could lead to job displacement for workers in industries like oil, coal, and also in industries that rely on cheap oil like the taxi industry. As the economy of Hanoi continues to grow toward sustainability, it will become a growth pole attracting skilled workers from adjacent regions to Hanoi for better job opportunities. This will make adjacent regions lack skilled workers and create an unbalanced economy between Hanoi and its neighboring areas. Some social challenges in Hanoi are that citizens are very traditional and conservative. They might not agree with new methods or laws and might refuse to follow them. Since Hanoi is densely populated, it might lead to disagreements between groups of people with different opinions, making it hard to enforce rules and regulate activity. More people means more control is needed.

With Hanoi also having a very old and conservative population, new policies will be difficult to enforce. However, the diverse culture and ethnicities may be a pull factor for tourists or immigrants who might want to stay in places with a more vibrant community life. With different cultures coming together, new

cuisines, traditions, and infrastructures are made to decorate Hanoi. The social gap within Hanoi is created due to rich neighborhoods being far away from poor ones, and services focused in the wealthy areas. Inequality creates differences in values among different groups and leads to disagreements. Discrimination of different ethnicities within Vietnam also exists, especially toward immigrants moving to the city to find jobs. Discrimination in jobs can lead to blockbusting, and there is also discrimination toward the LGBTQ+ community due to old-fashioned thinking and cultures in Hanoi. Since electric vehicles as a new way of transportation could be more expensive compared to traditional gasoline vehicles, they will be less accessible for average citizens. Therefore, the government will need to introduce subsidies, tax support, and low-interest loans for EV purchases to make them more affordable. However, this creates a dependency on government aid. If the government fails to provide subsidies, the transition may slow down, leading to no long-term sustainability. The local governments at all levels had not acted on complaints until some time later, when the provincial environment police caught a company discharging untreated wastewater into the Ba Cheo canal. The provincial government invited the Institute for Environment and Resources, Vietnam National University (Ho Chi Minh City) to evaluate the damage. Lots of discussions and meetings have been opened regarding environmental policies and regulations involving the National Action Plan for Air Quality Management and the Nationally Determined Contribution (NDC) under the United Nations Framework Convention on Climate Change (UNFCCC). Because of public criticism and overseas pressures, Vietnam made a carbon neutrality pledge for 2050 and to focus on eliminating greenhouse emissions. (UNICEF, 2024) The World Bank and other international organizations called

out Vietnam for the economic and social costs of air pollution. (Vietnam Net Global, 2020)

This pressure led the government to create new sustainability laws. These actions all resulted from international pressures that the Vietnamese government had to face due to them harming their own citizens' health and worsening environmental damage, which incited more global climate change. This also led to media coverage and Vietnamese citizens criticizing their government, which finally pushed them to take some actions on the issue. Air pollution has a huge negative environmental impact on Hanoi. (UNICEF, 2024) It directly pollutes the air, not only contributing to bad air quality but also releasing dangerous emissions into the atmosphere that make the air toxic to breathe in. Pollutants in the air trap carbon and other greenhouse gases, further accelerating climate change. (EPA, 2025) This increases Earth's temperature and causes global warming, leading to a loss of biodiversity as animals and plants are unable to adapt quickly enough to environmental changes. (IPCC, 2022) Due to Hanoi's growing economy, urbanism has become more prominent as people move from rural to urban areas in search of jobs, opportunities, and better living conditions. Transportation in Vietnam has made it more accessible for people to migrate in and out of cities, further encouraging migration to Hanoi. Innovations in communication have allowed businesses to grow and expand, creating pull factors that lead to overcrowding and loss in ecosystems as the city expands. This issue will be solved through moving funds to form campaigns and help organizations centered around helping the environment to have access to resources to renew energy around the city. With the development and rise of electric cars, advertising and marketing to the public can discourage oil-fueled cars and usher in a new era where electric cars are used everywhere powered by solar energy. Renewable energy will also be introduced as a

replacement for coal and other non-renewable energy sources in power plants across Hanoi. Major industries will switch to harvesting their energy through natural sources like solar, wind, and hydropower. The government of Vietnam has claimed to have tried to solve this problem but has failed, since most of the funds at the time were spent on developing the economic capital of Vietnam, Ho Chi Minh City. (UNDP, 2010) The lack of funds has delayed the solution to air pollution in Hanoi, and there are no significant attempts to solve it. (World Bank, 2022) Despite the government's program to remove industrial facilities from the inner districts, around 200 facilities remain to be relocated. (DTiNews, 2019) There have been policies put out to help solve air pollution in Hanoi, but very few policies address the main problem of private transportation. (VnExpress, 2024) There are other plans that advocate for the reduction of waste or cleaning the ocean, which is beneficial because less waste means less trash like plastic that harms the Earth's biodiversity. However, these plans are missing the point. While they help reduce pollution, they are not as effective as our plan because they are repeatable, meaning the problem never ends. You have to recycle and clean constantly to keep areas clean. Our plan is a short-term strategy that will change everything permanently, including our lifestyle. It is more effective for solving air pollution because switching to renewable energy means we won't waste energy, and changing oil-fueled cars to electric ones eliminates the root cause of air pollution—oil. (Alternative Fuels Data Center, 2018)

Our solution ties into several United Nations Sustainable Development Goals (UN SDGs).

SDG 3: Good Health and Well-being – By reducing air pollution in Hanoi, our plan improves public health by lowering respiratory diseases, heart conditions, and

illnesses caused by toxic emissions.

SDG 7: Affordable and Clean Energy – Encouraging the use of electric vehicles will attract investments into the renewable energy industry, helping to replace coal and other fossil fuels with solar, wind, and hydropower.

SDG 13: Climate Action – By reducing greenhouse gas emissions, our plan contributes to slowing climate change and reducing Hanoi's carbon footprint.

SDG 11: Sustainable Cities and Communities – Our plan supports sustainable urban development by reducing fossil fuel reliance and increasing clean infrastructure.

Our plan is more sustainable than others because it targets the root of the problem—fossil fuel dependence—and ensures a long-term shift to clean energy, rather than repeating clean-up cycles. Environmental push and pull factors in Hanoi include over 9.2 million vehicles, which create traffic and poor air quality. (Vietnam News, 2025) Private car ownership increases by 10% annually. (Vietnam News, 2025) This is a push factor because it overcrowds the streets and worsens air quality, causing transportation delays and health issues. Hanoi's air quality index reached 305 this year, which is extremely unhealthy (a healthy AQI is between 0–50). (Vietnam News, 2025) This also acts as a push factor, as it creates an unsafe environment for residents. To start sustainable development in Hanoi, future urban planning should include renewable options to combat air pollution. Promoting sustainable transportation and expanding public services will discourage private vehicle use. Mixed-use development and walkable neighborhoods can reduce commuting distances. Public transit like buses, trams, and metros must be expanded to become cheaper and more accessible. (World Bank, 2021) Bike-sharing programs should be implemented, and houses should be built with solar panels to reduce fossil-fuel reliance. (Hanoi Times, 2023; Reuters, 2024) Green

infrastructure and strong waste management policies (reduce, reuse, recycle) are also necessary to address practices like burning waste. Hanoi should adopt the principles of new urbanism by creating walkable, mixed-use communities that reduce dependence on private vehicles. Building more greenbelts and parks will also create a cleaner and healthier city environment. Tourism in Hanoi can become more sustainable by promoting ecotourism. (Hanoi Times, 2023) Unmanaged tourism has led to environmental degradation and cultural erosion. (Reuters, 2024) By enforcing responsible tourism practices, Hanoi can protect biodiversity and ensure a clean environment for future visitors. During urbanization, domestic migration emerged across Vietnam. (UNFPA, 2009) Millions of workers moved from central Vietnam to the south for better opportunities. (UNFPA, 2009) Hanoi, as a growing economic center, attracted millions seeking jobs and improved living conditions. (UNFPA, 2009) Introducing electric vehicles and switching to renewable energy will help tackle the air pollution in Hanoi. (BreatheSafer, 2024) Air pollution in Hanoi is caused by the surge in private transportation and the large number of power plants. (BreatheSafer, 2024) To solve this issue, Hanoi should introduce electric vehicles to reduce emissions from vehicles and switch to renewable energy to power its industrial plants. (Alternative Fuels Data Center, 2018) This solution is effective because it addresses the root cause of pollution and will reduce carbon emissions over time, leading to cleaner air and a more sustainable future. (World Bank, 2023)

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From Whip to Whisper: The Decline of Autocracy in *Animal Farm*

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What happens when those in power neglect their responsibilities and rule through fear rather than care? The book *Animal Farm* by George Orwell is an allegorical portrayal of the Russian Revolution and the rule of the Communist Party led by Joseph Stalin through different animals. It follows and narrates the lives of many characters, but the character that started the whole ordeal of this story is Mr. Jones. He is portrayed as a violent and often reckless individual who eventually fades into obscurity and irrelevancy later in the story, as he represents Tsar Nicholas II. Orwell uses him to critique traditional autocratic and oppressive regimes, as those cause huge economic inequalities and human rights violations, being the root cause for countless revolutions. His changes in power and influence throughout the story show the decline of outdated and oppressive systems, as people are often angered and resentful of them.

Mr. Jones, early in the story, shows aggression and violence to the animals to control, trying to scare them into obeying his growing discontent with the farm. In one scene, in a fit of rage from animals singing the *Beasts of England*, "He seized the gun, which always stood in the corner of his bedroom, and let fly a charge of number 6 shot into the darkness" (Orwell, 5). When Mr. Jones shot "a charge of number 6 shot into the darkness," it implies that he often used violence to do the action rather than defusing the situation through other means. The word 'seized' emphasizes Jones's violent nature. By quickly grabbing the shotgun, Orwell underscores his aggressive and controlling tendencies. Being

assertive and controlling implies he is often reckless, blasting his shot into the darkness. Such behavior can usually cause unintended consequences and be discriminatory, resulting in the dissatisfaction of many animals.

Therefore, Orwell portrayed him as a violent and often reckless individual at the beginning of the book. In the middle of the book, Mr. Jones' grip on power is slowly deteriorating as he is desperately attempting to get it back. After he had been thrown out of his farm by the animal, he sat in the "taproom of the Red Lion at Willingdon, complaining to anyone who would listen of the monstrous injustice he had suffered (Orwell, 12). After the rebellion, Mr. Jones, from a feared and somewhat respected individual, has now been ousted to a random pub, as when Orwell says, "complain," it reflects Jones's faltering mental state as a once-controlling and authoritative man transitions himself into a state of helplessness. This act symbolizes his disempowerment, as he no longer has any authority over the farm, which has now been yielded back to the animals, as now he is now ignored and a scornful figure. Thus, the action of him complaining started to show us the shift from an authoritarian character to a character with little to no relevance.

Subsequently, as the story progresses to its ending, Orwell writes, "Truth to tell, Jones, and all he stood for, had almost faded out of their memories" (Orwell, 31). In the minds of the animals, he is completely irrelevant, as they had completely forgotten what life was like before the revolution. When Orwell wrote "Faded Out of

Their Memories," he underscored how Mr. Jones has lost almost all his bit of significance in the lives of the animals, thus showing the complete decline of his power and influence throughout the story. Throughout the story, Mr. Jones has seen his grip on power and influence completely eroded from a reckless and often violent individual to memories that the animals can't even seem to remember.

Despite his decline in relevance, Mr. Jones is still used as an excuse by the pigs. They justify their actions and intentions by threatening and guilt-tripping the other animals. This is seen when Squealer is convincing and manipulating the other animals, being compatible with the pigs sleeping in bed, as he says, "You would not rob us of our repose, would you, comrades? You would not have us too tired to carry out our duties? Surely none of you wishes to see Jones back?" (Orwell, 21). Squealer here appeals to fear by comparing the fact that the pigs may not sleep in bed with the return of Mr. Jones, since when Squealer says "rob," he is insinuating that the animals are stealing and denying the pigs their rest as he claims they are the brain workers of the farm. It guilt-trips the animals into believing that they are depriving the pigs of their rightful rest and are running the future of Animal Farm by protesting against the idea of the pigs sleeping in beds every night to rest. Guilt-tripping the animals would thus invoke them with a sense of duty, as they felt like it was necessary and quintessential for them to support these new privileges, as they were deemed necessities for the farm to function properly.

Thus, the pigs equated disapproval of their privileges to allowing cruelty, oppression, and violence to return to Animal Farm. Earlier in the book, when the pigs are excusing themselves to eat apples and drink milk, Squealer exclaims to the animals, "Do you know what would happen if we pigs failed in our duty? Jones would come back!" (Orwell, 11). Again, the pigs are exerting control over other animals by deeming the privileges of being able to eat apples, which are quite rare within the farm, as a necessity. When the Squealer says, "Jones would come back," he is

implying that "Jones," who is a symbol of fear and tyranny, is going to return to their home, where they will get exploited and oppressed. This appeals to the animals' shared trauma, as it is the land where they grew up and is deeply attached to their hearts. Then, when Squealer said "would come back, he implied Jones was coming back to haunt the farms once again, ruining their hard-earned freedom that they had paid with blood to earn. Therefore, when Squealer said, "Jones is coming back," he was not merely referring to the return of their oppressor. Instead, it serves as a direct threat to the animals, implying that any dissent against the pigs' newly established privilege would inevitably bring back Mr. Jones, betraying their friends and, most importantly, all the ideals of the rebellion even with his decline into irrelevancy.

Lastly, Mr. Jones's change throughout the story is based on the historical allegory of Tsar Nicholas II, who ruled Russia with an iron grip. At the story's beginning, Mr. Jones is portrayed as a reckless and oppressive character. When his cows break the door as they are seriously underfed, "He and his four men were in the store-shed with whips in their hands, lashing out in all directions" (Orwell, 6). By whipping the cows, "lashing out in all directions," it implies that Mr. Jones is a brutal and aggressive individual who is authoritarian—solidifying his approach to using violence rather than caring for their needs. It symbolizes its attempts to stay in power, as at this stage, the animals were already showing signs of rebellion. This mimics that of Tsar Nicholas II in his actions against revolutionary attempts that were attempted against him, such as the 1905 revolution. When presented with peaceful protestors demanding the Tsar to improve their working conditions through a petition, however, according to the Russian Presidential Library, "The fire was opened against the pushing demonstrators, and panic started." (Russian Presidential Library: Bloody Sunday). The aftermath of the massacre was shocking. It shows how the Tsar used violence, simply as a measure to solve a situation, rather than more peaceful and rational ones. Even though during the

demonstration, the Tsar didn't directly order the troops to fire, he still sent them there to deal with the protestors. This action was reckless and showed his tendency to use oppressive means to achieve his objectives, along with a disregard for the potential consequences.

Later in the book, after the animal's rebellion has been a resounding success, and they are now ruling over the farm, Mr. Jones and his men try to take back the farm; however, "within five minutes of their invasion they were in ignominious retreat by the same way as they had come" (Orwell, 13). His invasion here was a spectacular failure, where 15 armed men lost to animals who were inferior to them within just 5 minutes. It mirrors that of Tsar Nicholas with the Mensheviks, attempting to take back the country through the Russian Civil War after the Bolsheviks had taken control of the country.

However, their efforts were crushed by the Red Army after 3 years of brutal fighting and 2 of light resistance, as it was virtually ended by the "evacuation of 150,000 soldiers and civilians by sea from Crimea" (Ray, paragraph 6). The disorganization of the Mensheviks' army symbolizes the failure of the Tsar as the Red Army crushed them. It shows the ineffectiveness of the counterrevolutionary efforts and his inability to change and accept the fact that times have now changed, signaling his ultimate downfall. These actions, thus, show both their brutality and discontent with the place where the Tsar and Mr. Jones once ruled and their inability to accept the new situation. The inability to adapt to change thus shows Orwell's critique of autocratic regimes, often displaying violent suppressions and causing huge economic inequalities, and are often forgotten, becoming

irrelevant. Therefore, the character of Mr. Jones is often seen as a direct portrayal of Tsar Nicholas the 2nd throughout the Russian Revolution and the Civil War, with his brutality and aggression towards his compatriots trying to grapple with his faltering power.

With that, Orwell implies to the readers that characters like Mr. Jones are the breeding ground for communism to form. He critiques regimes like that of the Russian Empire that can collapse from their brutality; other regimes can simply fill in the power vacuum left behind. Jones symbolizes the failing leadership of autocratic regimes and their reliance on violence from their failure to address widespread suffering. That breeds hope for equality and justice for all forming communistic societies; however, it's susceptible to high levels of corruption, as seen with the pigs. Orwell uses this narrative to underline the contemptuous nature of power, informing the readers that replacing one oppressive regime with another isn't solving the fundamental problem.

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The influence of French Imperialism in the early 19th to 20th century on the written Vietnamese language

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Background Information

Before the French came, Vietnam had been ruled by neighboring China for hundreds of years, but after centuries of resistance, the Vietnamese people overthrew their Chinese rulers and became independent. At the time, the Vietnamese language mainly consisted of the traditional chữ Hán (Chinese characters) and chữ Nôm (Vietnamese-based logographic script). In the 1800s, Vietnam became a French colony under the name of Cochinchina. The imperialism lasted six decades and significantly impacted factors such as Vietnamese culture, language, and education. Although the French justified their colonization as an ongoing responsibility to “civilize” the peoples of Southeast Asia, they were primarily driven by economic motives like access to raw materials and cheap labor.

Introducing the Research Question

This essay will explore the research question, “What was the influence of French Imperialism in the early 19th to 20th century on the development and widespread use of the written Vietnamese language?”

Following the signing of the Treaty of Saigon in June 1862, France gained complete control and divided Vietnam into one colony (Cochinchina) and two protectorates (Tonkin and Annam). As the

colonization progressed, the French soon realized that Chinese characters were an obstacle to their rule due to their association with Confucian values, so they opted to restructure the education and political system. They only selected and prioritized officials proficient in both Mandarin and French, and the education system was entirely taught in French, with courses exploring French geography, history, and literature. The French even imposed their language at the royal court, replacing Chinese – which had historically been the language of administration and education in Vietnam. The Creation of the Vietnamese Language: Although there are contradicting arguments on who created the language, the Embassy of the Socialist Republic of Vietnam in the USA states that the Vietnamese national language characters were produced by some Western evangelists, including Alexandre de Rhodes, a French Jesuit missionary who created the Vietnamese–Latin–Portuguese dictionary, laid the groundwork for the Vietnamese language, and perfected a romanized script called Quốc Ngữ. (Socialist Republic of Vietnam, 2024.)

However, according to the Alexandre de Rhodes Church and Museum in Phu Yen, Vietnam, Rhodes only refined the Romanized script, which was initially created in the 17th century by a group of Catholic missionaries. These missionaries had adapted the Vietnamese Nom and Chinese characters into

a Latin-based script, combining elements of Portuguese, Italian, and ancient Greek to make it easier for them to teach and spread Christianity. In the 19th century, more French colonists cooperated with some Vietnamese intellectuals like Trương Vĩnh Ký to transcribe the Vietnamese language using the Latin alphabet. In a research paper from Can Tho University, it is noted that Trương Vĩnh Ký was a huge contributor to the development of the national language (Quốc Ngữ), applying his lifelong research in lexicology inspired by other Southeast Asian countries (Nguyen, 2022). As the first teacher of the language and editor of the first Vietnamese-language newspaper Gia Định, he advocated for widespread adoption of Quốc Ngữ through education. He also believed the Quốc Ngữ script could place Vietnamese “on par” with French, English, and other Southeast Asian languages, making its people “comparable with the great powers” of the five continents (Nguyen, 2022, p. 112).

However, the Quốc Ngữ language only rose to dominance after the French forcibly “popularized” it for the populace. Although it was created and had been refined for around 100 years, the Vietnamese people initially did not know it and did not use it (as Westerners did). Based on Gail P. Kelly’s research, in the 1880s in Cochinchina the French colonial government sought to replace all indigenous schools with French-controlled ones that taught Vietnamese written in Roman characters and were staffed by pro-French personnel (Kelly, 1977, p. 98). Basic textbooks were also translated into Quốc Ngữ alphabets by Trương Vĩnh Ký and other Vietnamese intellectuals at the Cochinchina Main School of Primary Education (Kelly, 1977, p. 99).

At that time, the majority of Vietnamese people could only speak their language with little knowledge of reading or writing, so the new Latin-based script was much easier to write and read than the Chinese and Nôm systems. The American

Journal of Educational Research has stated that Quốc Ngữ was a huge contributor to the eradication of illiteracy in Vietnam in the 20th century (Hien, 2020, p. 210).

Additionally, as the chief editor of Gia Định, Trương Vĩnh Ký also played a significant role in spreading the use of Quốc Ngữ by writing about topics readers could relate to (Hien, 2020). Socioeconomic Differences & Government Policies: As pro-French sympathizers and the elite class emerged, the new generation of Vietnamese intellectuals became more familiar with French, and some did not even know the traditional scripts (Chinese and Nôm) of their past. Moreover, the French replaced traditional Confucian civil examinations with their own education system, disrupting the old civic structure by marginalizing traditional leaders and Confucian practices while fostering a new elite fluent in French. This created a government system that favored colonial interests. The French imposed Quốc Ngữ (and French) on business reports, political documents, and official laws – forcing the language’s widespread use in urban areas but neglecting rural regions and marginalizing ethnic minority languages. According to one study of French-Vietnamese educational culture, these policies entrenched divisions between city and countryside (Ngo and Bui, 2024, p. 70). (The marginalization deepened societal divides and weakened Vietnam’s broader national cohesiveness as colonial systems prioritized France’s interests over those of the majority.)

Drawing Conclusions

Based on research by L’atelier An Phu Education, although the Romanized script was initially created for the benefit of Western missionaries, it also significantly improved literacy rates in Vietnam because it was easier to learn than the traditional scripts (L’atelier, 2024). However, the French adaptation of the

language for colonial purposes also contributed to cultural decline, as some Vietnamese intellectuals became pro-French and “whitewashed,” losing knowledge of their own classical scripts. Elites and pro-French individuals gained access to better education (as they were allowed into some French schools), while much of the rural population remained illiterate, highlighting deep socioeconomic divides (L’atelier, 2024).

In conclusion, French imperialism had a profound and long-lasting impact on the development of the Vietnamese language. Quốc Ngữ did not become the official writing system until the early 20th century under French colonial rule, and only then did Vietnam fully modernize its written language and achieve higher literacy. However, the imposition of the Latin alphabet also led to a decline and division in national culture, linguistics, and tradition, leaving a complex legacy that continues to shape Vietnamese identity. From words like 咖啡 (kafēi) to cà phê and lastly café, the resulting modern Vietnamese language became a unique hybrid reflecting Vietnam’s intricate history (Saigoneer, 2013).

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Profiting from the Past: A Case for Conditional Colonial Reparations

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Throughout the 18th through 20th centuries, imperialism was rampant. Imperialist countries such as Britain, France, and Belgium went nearly unchecked in their colonization, forcing many weaker countries into submission and exploiting their resources. It is clear looking back upon this era that it was an exceedingly dark period of world history. Under the rule of these empires, millions were exploited, killed, and put into servitude. These crimes have produced the question of whether or not the modern-day countries should pay reparations for the harm done to their former colonies.

Many advocate for reparations of the economic sort, that former imperial powers should assist those colonies to become players on the modern world stage. Others may argue that the past is in the past and we should leave it there in order to move on. It is a controversial subject, but the narrative that past is past must be challenged. How can we leave something in the past if it is still affecting us now and affecting how we live on a day-to-day basis? So, to avoid bringing up unnecessary issues from the past that have already been resolved, we instead compromise.

The nations that were imperial colonizers during the 18th, 19th, and 20th centuries should owe reparations to the peoples and countries they colonized only if it can be proved that they are still profiting from those colonies or that the colonized countries

are still feeling the repercussions of colonization.

There are many examples of countries that owe their past colonies reparations; take the DRC, Democratic Republic of Congo, for example. Between 1885 and 1960 Belgium colonized the DRC (formerly the Congo). Under Belgian rule, the Congolese people were over-worked, exploited, brutalized, and murdered, and their resources were drained dry and stolen. Because of these acts and the way the Belgians ruled, the Congolese state became unstable, and it took years for them to gain the strength to fight back and earn back their well-deserved independence. But when they did break free, they failed to organize themselves properly enough to stabilize from the sudden power imbalance and shift of authority. One historical article writes, "Under Belgian rule in the nineteenth and twentieth centuries, the country's natural resources were looted, and its people enslaved, beaten, and killed in massive numbers."

The period around independence in 1960 was marked by intense and often violent Congolese bids for power and succession, caught up in tensions" ("History of Instability and Conflict", 2025). In fact, the DRC is still in conflict as well as "political instability, a lack of infrastructure, centuries of both commercial and colonial exploitation, and little widespread development since independence", and it continues to this day ("DR Congo Country Profile", 2011). With this information, one could argue that because

the DRC is still feeling the shockwaves from its period of colonization, Belgium should be obligated to pay reparations for its actions.

Another example of countries that owe their past colonies reparations is Britain and the many countries it colonized. During the height of imperialism, Britain was one of the most powerful imperialist nations in the world, eventually ruling approximately fifty-six sovereign countries and more than one hundred colonies spanning the globe. Though Britain has long separated from those colonies, it still benefits from many of them up to the present day. One way it benefits—though it may seem small—is the British Museum. While it may appear to be nothing more than a museum in London, the institution makes “around 11.2 million dollars a year” and holds over eight million artefacts, a majority of which come from abroad (“Annual Trading Income of the British Museum”, 2023). Many of these objects were “acquired in a variety of ways”; the most common “way” was through colonization (“Contested Objects from the Collection”, 2025). A vast number of the Indigenous and historical artefacts in the collections were stolen from the territories Britain dominated. One article notes that “the museum's most remarkable pieces are the most controversial and tend to have originated from overseas”, and another observes that “the British Museum is one of the world’s largest museums, hosting over 8 million artefacts, many of which have been obtained during the colonial age of the British Empire” (Sau, 2023) (Thomas, 2024).

Countries whose artefacts were taken—Egypt, Australia, Ethiopia, China, and many more—have asked, even demanded, that the British Museum return these items, but almost none have been returned. The Parthenon Marbles, for instance, have been contested for years; the Greek government has “laid firm claim on the Parthenon Marbles and demanded their return. The matter seemed close to resolution in 2023 but remained in a

deadlock” because the Museum refuses to part with the sculptures (Pietroni, 2025). Another example is the Rosetta Stone, whose Egyptian campaigners “demand its return, saying that the British Museum's holding of the stone is a symbol of Western cultural violence against Egypt” (Thomas, 2024). Because Britain is still profiting from these artefacts, it follows that Britain owes reparations to the nations whose cultural heritage it continues to monetize.

Since it’s been proven that Britain is still gaining—making money—from its colonies, we can conclude that Britain owes reparations to the countries from which it still holds artefacts. The objects Britain has stolen continue to generate revenue every day they remain in the British Museum, and each day Britain refuses to return them is another day it owes reparations to the nations that rightfully claim those artefacts.

Now we have established situations in which an imperialist state owes reparations because its former colonies still feel the consequences of imperialism and situations in which reparations are due because the imperialist continues to benefit from past colonies. But what about cases where reparations are not warranted? One example is Hong Kong’s relationship with Britain. From the early 1840s to the 1990s, Britain seized Hong Kong to exploit its trade routes and resources. Unlike many other colonies, however, Hong Kong actually benefited from imperialism. British rule brought “key infrastructure and the rule of law” and fostered “rapid economic growth and an increase in the standard of living” (Wong, 2018) (Whitlock, 2019). As a result, Hong Kong is now “considered to be one of the world’s most advanced financial, trading, and transportation centers and ... the bridge between both China and the West and Asia and the rest of the world” (Whitlock, 2019, p. 5).

All of this is not to say that Hong Kongers faced no struggles during

colonization. They endured “the track record of violence pursued under the empire” and “colonial military leaders [who] employed violence as a means of stifling potential opposition” (Wong, 2018). Yet despite these hardships, Hong Kong emerged without many lasting negative effects. Yes, English is more widely spoken and some British cultural influences remain, but that does not mean Hong Kong lost its own culture. Today Hong Kong prospers, and Britain no longer exploits its resources. Consequently, Britain does not owe Hong Kong reparations, because it is neither still profiting from past imperialism nor leaving Hong Kong with ongoing harm.

Lastly, these are all examples of past imperialism, but what about more recent events? In Eastern Europe, Russia is waging war on Ukraine without legitimate justification. Russian officials invoke historical ties to Ukraine and the Soviet Union, yet this is merely a thin pretext for imperialist ambitions. Scholars note that “Russian imperialism, with its deep historical roots, has been offered as one of the main explanations for Russia’s military aggression against Ukraine ... [and] the formal inclusion of the occupied territories of Ukraine into Russia in September 2023 only emphasized the unique role of Russian imperial consciousness in explaining the causes of the war” (Sonin, 2024). If Russia is the imperialist power and Ukraine the colony, can we predict whether reparations will be required? This guideline for deciding reparations applies only to past imperialism; current conflicts must be addressed through contemporary political mechanisms rather than by projecting long-term effects that have yet to unfold.

In closing, although every imperialist-colony relationship differs, we can evaluate reparations by one rule: nations that colonized others in the 18th, 19th, and 20th centuries should owe reparations only if they are still profiting from those colonies or if the colonized nations continue to suffer repercussions from colonization.

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A Comparative Analysis of Thorium and Uranium as Nuclear Fuels

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In recent years, the development of nuclear energy has become a crucial point of interest to policymakers and scientists alike. One method of generating nuclear energy that has gained attention is using thorium as a fuel source instead of uranium. Thorium reactors are a safer, more sustainable, and cost-effective alternative to traditional uranium reactors. This essay aims to analyse the advantages of thorium reactors over uranium and evaluate their potential to replace traditional nuclear reactors.

Firstly: Safety. In the first place, uranium reactors were used over thorium reactors not because of their effectiveness, but because there was already research into nuclear weapons, which could be reused, and because plutonium was produced, which can be used in bombs. (World Nuclear Association, 2020) Thorium reactors use thorium to produce energy in a way similar to uranium reactors. Thorium cannot be used to produce energy on its own, but after receiving a neutron from plutonium-239, it transmutes into Uranium-233, which is used to produce energy. (World Nuclear Association, 2020) One of the best methods of making a thorium reactor is a Molten Salt Reactor (MSR). These reactors use salt solutions as both fuel and coolant, meaning the boiling point is higher. This means the reactor can withstand more heat and can produce more energy. (World Nuclear Association, 2021) Uranium reactors work similarly to coal, by heating water so it becomes steam, which then turns turbines.

This is done via fission, which can be triggered in many ways.

Thorium is also much easier to mine than uranium. There are only 3 parts per million (PPM) of uranium in the earth's crust, while there is 10 PPM of thorium, meaning it is much cheaper to get. (Health Physics Society, 2018) Not only that, the decay chain of uranium leads to radon-222, a toxic, radioactive gas, which requires expensive ventilation to clear away. Though radon is also released in the thorium decay chain, the isotope released, radon-220, has a much shorter half-life and is also produced in smaller amounts, since they produce less high-energy alpha particles like radon-222 and 220, meaning less ventilation is required. (USGS, 2004).

Uranium also has to be enriched. 99% of the uranium in the crust is uranium 238, which is fertile, meaning it cannot produce energy on its own. (USDRC, 2023) Uranium 238 needs to undergo enrichment to become uranium 235, which is fissile, meaning it can produce energy. Gas centrifuges are used to enrich uranium for both nuclear power and nuclear weapons. The process takes advantage of the slight difference in mass between uranium-238 and uranium-235 isotopes, with the latter being the desired isotope for use in nuclear reactions. Gas centrifuges work by spinning a cylinder containing a stream of uranium hexafluoride gas at high speeds, creating a centrifugal force that separates the two isotopes. The lighter uranium-235

accumulates near the center of the cylinder and can be siphoned off for use, while the heavier uranium-238 remains towards the outer edges. This process is repeated multiple times in a cascade of centrifuges until the desired level of uranium-235 enrichment is achieved. (USNRC, 2020) Thorium does not need enrichment and only needs one neutron from Pu-239, U-235, or U-233, which, though radioactive, are still much safer due to the small amount required.

Thorium reactors are also much safer than uranium reactors. Because U-235 can create energy on its own, in the event of a meltdown, there will be catastrophic complications, since the U-235 will continue to produce heat and radiation. This is what caused events such as Chernobyl. With a well-designed thorium reactor, a potential meltdown could easily be discovered, and the driver material removed by having a plug under the liquid thorium which melts in certain conditions to allow thorium to drain away from the plutonium, which leads to very little danger. This would most likely not do much damage to the reactor, and only minor repairs would be necessary. (Thorium MSR Foundation, 2016)

Even if thorium escaped, it would prove much less of a hazard than uranium, since it is much less radioactive. (NIH, 1998). Uranium reactors also produce much more waste, which includes radioactive isotopes of cesium, strontium, radon gas, spent reactor fuel, and plutonium. (USNRC, 2019) All of these elements are toxic, and are very hard to store. Leaks into the environment are disastrous. Radon, for example, needs to be stored deep underground to avoid it leaking into the atmosphere. Waste from thorium is less toxic than that of uranium, and in some cases can be reused. (HAL, 2005) Additionally, it is much harder to weaponize materials and waste from a thorium reactor compared to a uranium one. Thorium on its own cannot be weaponized, so the only risk is the small amount of plutonium 239 in the

reactor. Waste produced is also fertile, meaning it cannot be used in weapons either. (Dylan Hem, in Uranium for Nuclear Power, 2016) Meanwhile, both the waste and fuel of a uranium reactor can all be weaponized by anyone who can get them, and knows how to make a bomb. Generally, Thorium reactors are safer in cases of meltdowns and are hard to weaponize.

Thorium reactors are also much more cost-effective. Because of how easy it is to mine, very cheap to do so. The current cost to mine one pound of uranium is 67.10 USD, compared to the 66 of thorium. (Department of Energy, 2015) Since there is less radon released in thorium ore, less ventilation is required, making it both cheaper and safer. Compared to uranium, thorium can also provide much more energy. Comparing the amount of thorium needed with coal, Nobel laureate Carlo Rubbia of CERN (European Organization for Nuclear Research), estimates that one ton of thorium can produce as much energy as 200 tons of uranium or 3,500,000 tons of coal. With a thorium breeder reactor, large amounts of fissile material are created as it runs, meaning very little extra fuel would have to be added, as long as the driver is present. (RALPH W. MOIR and EDWARD TELLER, 2003). Thorium reactors are clearly more effective and cheaper than uranium ones.

With so many advantages of thorium, some countries are developing thorium reactors. China has been leading the way in developing thorium-based nuclear power technology, with several thorium reactor projects currently underway.

One such project is the Thorium-Based Molten Salt Reactor (TMSR) project in the Chinese city of Wuwei. This reactor uses liquid fluoride thorium salt as fuel, which is less likely to melt down or produce dangerous radioactive byproducts than traditional uranium-based reactors. (World Nuclear News, 2022) Another project is the TMSR-LF (Liquid Fluoride)

demonstration reactor, which is expected to become operational in 2024. The TMSR-LF reactor will have a capacity of 2 megawatts and be used to test the performance and safety of the liquid fluoride thorium fuel system. China's investment in thorium reactor technology stems from the potential benefits of thorium, such as its abundance, improved safety, lower waste production, and lower risk of nuclear proliferation. China aims to achieve commercial-scale thorium energy production by 2040 and reduce its reliance on fossil fuels. These thorium reactor projects demonstrate China's commitment to advancing renewable energy sources and highlights the potential for thorium-based nuclear power as a clean energy solution for the future. India is also planning to start development of thorium reactors, as they have the largest amount of thorium reserves worldwide, with 963,000 tonnes of it. (USGS, 2011) India has one of the largest reserves of thorium in the world, and its Department of Atomic Energy (DAE) has been researching thorium-based nuclear reactors for over 60 years. According to a report by the World Nuclear Association, India aims to have 30% of its electricity generated from thorium by 2050. (World Nuclear Association, 2023)

Many other nations are also developing thorium technology, and it is clear it may be the energy of the future. The use of thorium is attractive as it produces less waste and is less prone to the risk of nuclear proliferation compared to traditional uranium-based nuclear reactors. However, the technology for producing energy from thorium is still in development and faces several challenges before it can be commercially viable.

In conclusion, thorium has several advantages over uranium when it comes to its use as a fuel for nuclear power plants. While uranium remains the most commonly used fuel, it is prone to several drawbacks, including higher potential for nuclear proliferation, radioactivity hazards, and waste

management issues. Thorium, on the other hand, is more abundant, less dangerous, and produces less waste. Additionally, thorium reactors are inherently safer due to the way the fuel works, and the process of thorium fuel production is less complex and less expensive than uranium. Despite the challenges that may arise in implementing thorium as a viable alternative, it is clear that the benefits of this fuel far outweigh its drawbacks, and it has the potential to revolutionize the way we think about nuclear energy.

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